ASCII Object Reference
SERVOSTAR 300 and S700

Revision 2.14

Previous versions

Description	Edition	
Beta Basic Edition	REV 1.0 beta	11.05.04
Basic Edition	REV 1.0	03.05.05
New Commands and amendments	REV 1.1	11.10.05
New Commands and amendments	REV 1.2	02.02.06
New Commands and amendments	REV 1.3	11.09.06
New Commands and amendments	REV 1.4	23.10.06
New Commands and amendments	REV 1.5	30.10.06
New Commands and amendments	REV 1.6	03.11.06
New Commands and amendments	REV 1.7	23.11.06
New Commands and amendments	REV 1.8	15.03.07
New Commands and amendments	REV 1.9	21.12.07
New Commands and amendments	REV 2.0	30.01.08
New Commands and amendments	REV 2.1	05.12.08
New Commands and amendments	REV 2.2	18.06.09
New Commands and amendments	REV 2.3	25.02.11
New Commands and amendments	REV 2.4	21.02.11
New Commands and amendments	REV 2.5	13.11.12
New Commands and amendments	REV 2.6	13.06.13
New Commands and amendments	REV 2.7	29.07.13
New Commands and amendments	REV 2.8	08.11.13
New Commands and amendments	REV 2.9	08.05.14
New Commands and amendments	REV 2.10	28.10.15
New Commands and amendments	REV 2.11	24.03.16
New Commands and amendments	REV 2.12	05.12.16
New Commands and amendments	REV 2.13	17.11.17
New Commands and amendments	REV 2.14	15.05.18

ASCII -Command	\
Syntax Transmit	\ [Data]
Syntax Receive	\ <Data>
Type	Command
Format	Unsigned8
DIM	-
Range	0(=Master) .. 63
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Communication

Available in	S300/700
MMI	☑
CAN-Bus	☑
PROFIBUS	☑
Sercos	☐

SERCOS IDN:	
CAN Object No:	362B (hex)
PROFIBUS PNU:	1899 (dec) IND = 1 (de
DPR Objekt Nr:	299

Data Type BUS/DPR	Unsigned8
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Selection of remote address

Description

For a CAN network with several amplifiers, there is an option for using a serial connection to one of the devices (master) to communicate with all the other amplifiers. To do this, the |SCAN| command is initiated on the master device, which performs an automatic detection of all the drivess that are connected. The response to the |SCAN| command contains a list of the addresses of all the drives devices that have been detected.

Typing the backslash character followed by a drive address (\ addr) in the range of 0 to 63 selects the addressed drive for communications. Further commands sent via the serial interface are ignored by the master device, and passed on directly across the CAN bus to the activated device. The response that this device outputs to the CAN bus is diverted to the serial interface. The command, \ 0, deselects the slave device and re-activate the master.

The setting |MDRV| = 0 disables the multi link functionality.

ASCII -Command	ACC
Syntax Transmit	ACC [Data]
Syntax Receive	ACC <Data>
Type	Variable rw
Format	Integer32
DIM	>> ACCUNIT
Range	3 ..126000
Default	31400
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	velocity

Available in	S300/700
MMI	☑
CAN-Bus	☑
PROFIBUS	☑
Sercos	☑

SERCOS IDN:	136
CAN Object No:	3501 (hex)
PROFIBUS PNU:	1601 (dec) IND = 1 (de
DPR Objekt Nr:	1

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.14
EEPROM	Yes

Short Description	Acceleration ramp

Description

This variable defines the acceleration ramp for the velocity control loop. The acceleration ramp is only used for command changes resulting in a velocity increase (acceleration). |DEC| is used for braking (deceleration).

See also |ACCUNIT|

ASCII -Command	ACC_X
Syntax Transmit	ACC_X [Data]
Syntax Receive	ACC_X <Data>
Type	Variable rw
Format	Integer32
DIM	>> ACCUNIT
Range	3 ... 126000
Default	3150
Opmode	All
Drive Status	-
Start Firmware	3.07
Configuration	☑
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3877 (hex)
PROFIBUS PNU:	1687 (dec) IND = 33 (d
DPR Objekt Nr:	887

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.0
EEPROM	Yes

Short Description	acceleration ramp velocity controller 2. Set

Description

see |PARCNFG|

ASCII -Command	ACCR
Syntax Transmit	ACCR [Data]
Syntax Receive	ACCR <Data>
Type	Variable rw
Format	Integer32
DIM	>> ACCUNIT
Range	3 ..126000
Default	3150
Opmode	8
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Setting-up Mode

Available in	S300/700
MMI	☑
CAN-Bus	☑
PROFIBUS	☑
Sercos	☑

SERCOS IDN:	42
CAN Object No:	3502 (hex)
PROFIBUS PNU:	1602 (dec) IND = 1 (de
DPR Objekt Nr:	2

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Acceleration ramp for homing/jog modes

Description

This variable defines the acceleration ramp used for jogging and homing with the internal position control loop.
The entry is made in ACCUNIT. If |ACCUNIT| =0 (acceleration in ms) ACCR is defined to |PVMAX|.
When starting the homing or jog mode, the ACCR acceleration ramp can (in some circumstances) be limited by the minimum acceleration time |PTMIN|.

ASCII -Command	ACCUNIT
Syntax Transmit	ACCUNIT [Data]
Syntax Receive	ACCUNIT <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	0,1, ... , 30
Default	1
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	1.0
Configuration	☑
Function Group	-

Available in	S300/700		
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	160...2
CAN Object No:	3659 (hex)
PROFIBUS PNU:	1945 (dec) IND = 1 (de
DPR Objekt Nr:	345
Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.13
EEPROM	Yes

Short Description	Type of acceleration setpoint for the system

Description

Using this command, the systemwide acceleration type is defined. This function is used for ramps of the trajectory generator (internal motion tasks |OPMODE| 8) and also for the ramps of the speed controller.

ACCUNIT = 0 in ms up to |VLIM| or |PVMAX|
ACCUNIT = 1 Acceleration is defined in rad/sec²
ACCUNIT = 2 Acceleration is defined in rpm/sec
ACCUNIT = 3 Acceleration is defined in |PUNIT|/sec²
ACCUNIT = 4 Acceleration is defined in 1000*|PUNIT|/sec²
ACCUNIT = 5 Acceleration is defined 1000000*|PUNIT|/sec²

If ACCUNIT=1 is selected, this Bit is ignored, this means the ramps are calculated in rad/sec².

If ACCUNIT is changed, all acc/dec parameters are calculated in a different way to get the right unit. Affected are |ACC|, |ACCR|, |DEC|, |DECR|, |DECSTOP|, |DECDIS|.

The motion tasks are not affected. So, before defining a motion task ACCUNIT has to be set in right manner. If ACCUNIT is changed later, all motion tasks have to be proofed or changed !!!!

The accdec-ramps of the motion tasks are limited bei |PTMIN|.

Attention!
High acceleration corresponds to small values of |PTMIN| at ACCUNIT=0. If ACCUNIT is > 0, |PTMIN| is small if the acceleration is high.

ASCII -Command	ACTFAULT
Syntax Transmit	ACTFAULT [Data]
Syntax Receive	ACTFAULT <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	0, 1
Default	1
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	1.0
Configuration	☑
Function Group	-

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	
CAN Object No:	3503 (hex)
PROFIBUS PNU:	1603 (dec) IND = 1 (de
DPR Objekt Nr:	3

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	2.8
EEPROM	Yes

Short Description	Active fault mode

Description

The ACTFAULT command is used to specify the response of the drive if a fault occurs.
ACTFAULT=0: If a fault occurs, the output stage is immediately inhibited, the drive coasts down.
ACTFAULT=1: If a fault occurs, an Emergency Stop procedure is initiated, that consists of the following steps.
1. Switch over the controller mode to velocity control (|OPMODE|=0)
2. Change the braking ramp for the velocity control loop (|DEC|) to the emergency stop ramp (|DECSTOP|)
3. Set the internal velocity setpoint to 0 (before the ramp generator).
4. Start a timer (with time-out = 5 seconds)

As soon as the internal velocity setpoint (after the ramp generator) has reached 0, the output stage is inhibited and the original controller mode is re-activated. This will also happen if the time-out occurs before the velocity setpoint has reached 0.

comments:
In some critical error situations, the output stage is disabled immediately. Then the setting ACTFAULT = 1 has no function (see description |ERRCODE *|).

With the parameter |ERRCNFG| can be enforced on individual fault the immediate blocking of the amplifier. The setting ACTFAULT = 1 then has no function.

ASCII -Command	ACTIVE
Syntax Transmit	ACTIVE
Syntax Receive	ACTIVE <Data>
Type	Variable ro
Format	Integer8
DIM	-
Range	0, 1
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700
MMI	☑
CAN-Bus	☑
PROFIBUS	☑
Sercos	☑

SERCOS IDN:	
CAN Object No:	3504 (hex)
PROFIBUS PNU:	1604 (dec) IND = 1 (de
DPR Objekt Nr:	4

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Output stage active/inhibited

Description

The ACTIVE command returns the present status of the output stage.
ACTIVE=1 output stage is active/enabled
ACTIVE=0 output stage is inhibited/disabled

The following conditions must be met to enable the output stage, depending on the controller configuration:

1. Standard configuration (no active MainsBTB function)
- software enable set
- hardware enable set
- BTB is present

2. With active MainsBTB function (|O1MODE| or |O2MODE|=3)
- Software enable set
- hardware enable set
- BTB is present
- MainsBTB (Mains supply BTB) is present
- DC-link (DC-bus) voltage > undervoltage threshold

ASCII -Command	ACTRS232
Syntax Transmit	ACTRS232 [Data]
Syntax Receive	ACTRS232 <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	0, 1, 2
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3655 (hex)
PROFIBUS PNU:	1941 (dec) IND = 1 (de
DPR Objekt Nr:	341

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Activate RS232 watchdog

Description

The ACTRS232 command activates or deactivates the monitoring of the serial interface (RS232-watchdog).

ACTRS232=0 no monitoring of serial communication
ACTRS232=1 the RS232-watchdog is activated. The watchdog timer can be set in msec through the |RS232T| command. The watchdog must be triggered by every serial command. When the timer runs out, all movement is stopped and the warning n04 is displayed. The warning must be cancelled by the “Acknowledge fault” function.
ACTRS232=2 the RS232-watchdog is activated. The watchdog timer can be set in msec through the |RS232T| command. The watchdog must be triggered by every serial command. When the timer runs out, the present movement is stopped and ACTRS232 is set to 0. No warning is given out.

After switching on the amplifier, the RS232-watchdog is always deactivated (ACTRS232=0). When a service function is initiated via the serial interface, the PC program (or external controls) should ensure that the monitoring of the serial interface is switched on. In this way, you can be sure that if communication is interrupted or the PC crashes, the service function will be automatically terminated.

ASCII -Command	ADC0_15	Available in	S300/700
Syntax Transmit	-	MMI ☐	CAN-Bus ☐
Syntax Receive	-	PROFIBUS ☐	Sercos ☐
Type			
Format	Integer16	SERCOS IDN:	
DIM		CAN Object No:	-
Range		PROFIBUS PNU:	-
Default		DPR Objekt Nr:	
Opmode			
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.9
EEPROM	

Short Description	internal offset values

Description

internal offset values. It's not(!) allowed to change this parameters by the user

ASCII -Command	ADDR
Syntax Transmit	ADDR [Data]
Syntax Receive	ADDR <Data>
Type	Variable rw
Format	Unsigned8
DIM	-
Range	0 .. 127
Default	0
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	1.0
Configuration	☑
Function Group	Basic Setup

Available in	S300/700		
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	96
CAN Object No:	3505 (hex)
PROFIBUS PNU:	1605 (dec) IND = 1 (de
DPR Objekt Nr:	5
Data Type BUS/DPR	Unsigned8
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Multidrop address

Description

This variable defines the station address (0 to 63) for the amplifier. This address is required by the fieldbus (CANBUS, PROFIBUS, SERCOS, etc.) and for the parameter setting of the servo amplifier in a multi-axis system for an unambiguous identification of the servo amplifier within the system. You can use the keys on the front panel of the servo panel to set the station address (refer to the Installation Manual). After changing the address, all parameters should be stored in the EEPROM (see |SAVE|) and the amplifier should be switched off and on again.

ASCII -Command	AENA
Syntax Transmit	AENA [Data]
Syntax Receive	AENA <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	0 ,1
Default	0
Opmode	0, 2, 4, 5, 8
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	
CAN Object No:	3506 (hex)
PROFIBUS PNU:	1606 (dec) IND = 1 (de
DPR Objekt Nr:	6

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Software auto-enable

Description

This variable defines the state of the software enable when the amplifier is switched on. In order to enable the output stage, both the hardware enable and the software enable must be set (series AND configuration). The software enable gives an external control the option of enabling or disabling the output stage by software control, via a bus interface (CANBUS, PROFIBUS, SERCOS, RS232) or an expansion card in a slot.
0 = inactive
1 = active
When using an analog setpoint (|OPMODE|=1, 3), the software enable is automatically set when the amplifier is switched on, so that these instruments are instantly ready for operation (provided that the hardware enable is already present). When using a digital setpoint (|OPMODE|=0, 2, 4 through 8), the software enable is set to the same state as AENA at power-on.
For faults that can be reset in software after the fault has been cleared (digital input 1 or |CLRFAULT|), the software enable is set to the state of AENA. In this way, the response of the amplifier to a software reset is analogous to the power-on behavior.

ASCII -Command	ALIAS
Syntax Transmit	ALIAS [Data]
Syntax Receive	ALIAS <Data>
Type	Variable rw
Format	String
DIM	-
Range	max 8 ASCII Characters
Default	DRIVE0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Basic Setup

Available in	S300/700		
MMI	☑	CAN-Bus	☐
PROFIBUS	☐	Sercos	☑

SERCOS IDN:	142
CAN Object No:	-
PROFIBUS PNU:	-
DPR Objekt Nr:	
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Drive name

Description

The ALIAS command is used to assign a symbolic name to an amplifier. If the PC setup software is used, this name appears in the title bar of all open parameter windows.
In Multi-Drive mode (parameterizing several amplifiers that are grouped through the CAN bus) the ALIAS name can be used to give a clear assignment of the parameter window to the corresponding amplifier.

ASCII -Command	AN11NR
Syntax Transmit	AN11NR [Data]
Syntax Receive	AN11NR <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	0, 1, 2, 3, 4
Default	0
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	1.0
Configuration	☑
Function Group	-

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3699 (hex)
PROFIBUS PNU:	2009 (dec) IND = 1 (de
DPR Objekt Nr:	409

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	1.01
EEPROM	Yes

Short Description	No. of INxTRIG variable, that is changed analog

Description

The parameter AN11NR defines the number (x) of the auxiliary variable |IN1TRIG|, |IN2TRIG|, |IN3TRIG| or |IN4TRIG|, which can be changed by the analog input 2: This parameter has effect only with |ANCNFG|=11 and |ANCNFG|=12.

ASCII -Command	AN11RANGE
Syntax Transmit	AN11RANGE [Data]
Syntax Receive	AN11RANGE <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	-262144 .. 262143
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	369A (hex)
PROFIBUS PNU:	2010 (dec) IND = 1 (de
DPR Objekt Nr:	410

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Range of the analog change of INxTRIG

Description

The parameter AN11RANGE gives the change of |IN1TRIG|, |IN2TRIG|, |IN3TRIG| or |IN4TRIG|, that is caused by an analog input 2 step from 0V to 10V. The function is supported using |ANCNFG|=11 and |ANCNFG|=12.

Example:

|ANCNFG|=11
|AN11NR|=1
|IN1TRIG|=1000
AN11RANGE=500

at Analog input2 = 0V |IN1TRIG| = 1000
at Analog input2 = 10V |IN1TRIG| = 1500
at Analog input2 = -10V |IN1TRIG| = 500

ASCII -Command	AN1TRIG
Syntax Transmit	AN1TRIG [Data]
Syntax Receive	AN1TRIG <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	Long Int
Default	0
Opmode	All
Drive Status	-
Start Firmware	3.00
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3880 (hex)
PROFIBUS PNU:	1696 (dec) IND = 33 (d
DPR Objekt Nr:	896

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.1
EEPROM	Yes

Short Description	Scaling of the analog output 1

Description

With the parameter AN1TRIG, the analog value of the monitor output 1 can be scaled to a specified ratio. Irrespective of the function that has been configured with ANOUT1 for output 1, the output voltage is multiplied by the factor AN1TRIG. This corresponds to the following formula:

Output voltage = Output of the function ANOUT1 * (AN1TRIG/100%)

Example:
ANOUT1 = 1 : output of the current velocity, scaling: 10V for VLIM

AN1TRIG = 100% - output=10V for velocity=VLIM
AN1TRIG = 50% - output=5V for velocity=VLIM (this corresponds to a voltage of 10V for velocity=2*VLIM)
AN1TRIG = 200% - output=20V for velocity=VLIM (this corresponds to a voltage of 10V for velocity = VLIM/2)

have a look to |ANOUT1|, |VLIM|

ASCII -Command	AN2TRIG
Syntax Transmit	AN1TRIG [Data]
Syntax Receive	AN1TRIG <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	Long Int
Default	0
Opmode	All
Drive Status	-
Start Firmware	3.00
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3881 (hex)
PROFIBUS PNU:	1697 (dec) IND = 33 (d
DPR Objekt Nr:	897

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.1
EEPROM	Yes

Short Description	Scaling of the analog output 2

Description

With the parameter AN2TRIG, the analog value of the monitor output 2 can be scaled to a specified ratio. Irrespective of the function that has been configured with ANOUT2 for output 2, the output voltage is multiplied by the factor AN2TRIG. This corresponds to the following formula:

Output voltage = Output of the function ANOUT2 * (AN2TRIG/100%)

Example:
ANOUT2 = 1 : output of the current velocity, scaling: 10V for VLIM

AN2TRIG = 100% - output=10V for velocity=VLIM
AN2TRIG = 50% - output=5V for velocity=VLIM (this corresponds to a voltage of 10V for velocity=2*VLIM)
AN2TRIG = 200% - output=20V for velocity=VLIM (this corresponds to a voltage of 10V for velocity = VLIM/2)

have a look to |ANOUT2|, |VLIM|

ASCII -Command	ANCNFG
Syntax Transmit	ANCNFG [Data]
Syntax Receive	ANCNFG <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	-1 .. 14
Default	0
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	1.0
Configuration	☑
Function Group	Analog I/O

Available in	S300/700		
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	
CAN Object No:	3507 (hex)
PROFIBUS PNU:	1607 (dec) IND = 1 (de
DPR Objekt Nr:	7

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	2.14
EEPROM	Yes

Short Description	Configuration of analog input

Description

The ANCNFG command is used to configure the function of the analog inputs.

Since the ANCNFG variable is used for the configuration of the instrument, the controller must be switched off and then on again after the variable has been changed (use |SAVE| first).

Zustand		Description
ANCNFG=0	(Xcmd=Analog In 1)	Analog |IN1| is used as velocity setpoint or current setpoint depending on the status of |OPMODE| (velocity in |OPMODE| =1; current in |OPMODE|=3). If one of the digital inputs is selected for (|IN1MODE|, |IN2MODE|, |IN3MODE| or |IN4MODE|=8) (switch-over between Analog In 1 and Analog In 2), Analog In 1 (input=low) or Analog In 2 (input=high) have the functionality. Scaling : Analog In 1 velocity Setpoint |VSCALE1| (|OPMODE|=1) Analog In 1 Current Setpoint |ISCALE1| (|OPMODE|=3) Analog In 2 velocity Setpoint |VSCALE2| (|OPMODE|=1) Analog In 2 Current Setpoint |ISCALE2| (|OPMODE|=3)
ANCNFG=1	v_cmd=Analog In 1, Icmd=Analog In 2	Analog In 1 is used as velocity setpoint if |OPMODE| = 1 (scaling factor |VSCALE1|) Analog In 2 is used as current setpoint if |OPMODE| = 3 (scaling factor |ISCALE2|)
ANCNFG=2	Analog In 1 = nsoll, Analog In 2 = Isoll	Analog In 1 velocity setpoint Analog In 2 current feedforward scaling factor |ISCALE2|
ANCNFG=3	Xcmd=Analog In 1, Ipeak1=Analog In 2	Analog In 1 depending on |OPMODE| velocity or current setpoint (scaling |VSCALE1| or |ISCALE1|) The absolute of Analog In 2 limits the current of the drive 10V 100% of |IPEAK| 5V 50% of |IPEAK| This current limit has effect to all used |OPMODE|

ANCNFG=4	Xcmd=Analog In 1+Analog In 2	The sum of Analog In 1 and Analog In 2 is used for velocity or current setpoint, depending on |OPMODE|. |OPMODE| 1 velocity setpoint |OPMODE| 3 current setpoint
ANCNFG=5	Xcmd=Analog In 1*Analog In 2	The multiplikation of Analog In 1 and Analog In 2 is used for velocity or current setpoint, depending on |OPMODE|. |OPMODE| 1 velocity setpoint |OPMODE| 3 current setpoint Analog In 1 |VSCALE1|/|ISCALE1| Analog In 2 10V means 100% -10V means -100%
ANCNFG=6	Electronic Gearing	Analog In 1 is used as velocity or current setpoint, depending on |OPMODE| Analog In 2 is used as scaling factor for electronic gearing (|OPMODE|=4). |VSCALE2| is used to define a correction factor in %. e.g. |VSCALE2|=20 (means 20%) Analog In 2= +10V GEAROeff=|GEARO| * 1.2 Analog In 2= -10V GEAROeff=|GEARO| * 0.8 Analog In 2= 0V GEAROeff=|GEARO|
ANCNFG=7	Analog In 1 = Isoll, Analog In 2 = Nmax	Analog In 1 is used as current setpoint |(ISCALE1|) (|OPMODE| has to be set to 3). Analog In 2 limits the velocity of the motor Analog In 2=10V, Nmax=(|VSCALE2|) If the velocity of the motor is greater than Nmax, the velocity is limited.
ANCNFG=8	Analog In 1 = Psoll	Analog In 1 is used as a analog position setpoint (only available in |OPMODE|=5). The working distance is defined by |SRND| and |ERND|. Analog In 1 = 0V Position = |SRND| Analog In 1= +/-10V Position = |ERND| When the drive is switched on, the reference point is not set and the drive does not move. The |OPMODE| can be set to 5. The a reference move can be starte bs digital input. After that, when the homing move is finished, the input can be set to zero again and then the drive moves automatically to the given analog position. |POSCNFG| has to be "0" (linear axes type).
ANCNFG=10	Reserved	
ANCNFG=11		Change of an |IN1TRIG|, |IN2TRIG|, |IN3TRIG| or |IN4TRIG| variable via the Analog In 2. The corresponding Number (x) of the trigger variable is set by |AN11NR|. The range of the parameter change is defined by |AN11RANGE|. The change of the analog in 2 acts directly (update time 1 to 10ms), see also |AN11NR| and |AN11RANGE|.
ANCNFG=12		Internal change of an |IN1TRIG|, |IN2TRIG|, |IN3TRIG| or |IN4TRIG| variable via the Analog In 2. The corresponding number (x) of the trigger variable is set by |AN11NR|. The range of the parameter change is defined by |AN11RANGE|. The change of the analog in 2 actsafter a rising edge at digital inputx, see also |AN11NR| and |AN11RANGE|.

ANCNFG=13	Xcmd=Analog In 1, Ipeak1=Analog In 2	Analog In 1 depending on |OPMODE| velocity or current setpoint (scaling |VSCALE1| or |ISCALE1|) The absolute of Analog In 2 limits the positive current of the drive 10V 100% of |IPEAK| 5V 50% of |IPEAK| The negative current is not effected. In the positive direction, the acceleration current is limited and in the negative direction the deceleration current. This current limit has effect to all used |OPMODE|
ANCNFG=14	Xcmd=Analog In 1, Ipeak1=Analog In 2	Analog In 1 depending on |OPMODE| velocity or current setpoint (scaling |VSCALE1| or |ISCALE1|) The absolute of Analog In 2 limits the negative current of the drive 10V 100% of |IPEAK| 5V 50% of |IPEAK| The positive current is not effected. In the negative direction, the acceleration current is limited and in the negative direction the deceleration current. This current limit has effect to all used |OPMODE|

ASCII -Command	ANDB
Syntax Transmit	ANDB [Data]
Syntax Receive	ANDB <Data>
Type	Variable rw
Format	Float
DIM	mV
Range	0.0 .. 10000.0
Default	0
Opmode	1, 3
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Analog I/O

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	
CAN Object No:	3508 (hex)
PROFIBUS PNU:	1608 (dec) IND = 1 (de
DPR Objekt Nr:	8

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Dead band of the analog velocity input signal

Description

This variable suppresses small analog input signals by setting a dead band zone in which signals are ignored. This function is useful with |OPMODE|=1 (without higher-level position control). Depending on the operating mode, this parameter applies to analog input 1 or analog input 2 (depending on which setpoint input is used as the source for the velocity value). See |ANCNFG| for additional information.

ASCII -Command	ANHFACT1	Available in	S300/700
Syntax Transmit	-	MMI ☐	CAN-Bus ☐
Syntax Receive	-	PROFIBUS ☐	Sercos ☐
Type	-		
Format	-	SERCOS IDN:	
DIM	-	CAN Object No:	-
Range		PROFIBUS PNU:	-
Default		DPR Objekt Nr:	
Opmode			
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	internal parameter

Description

This parameter is internal and is not documented. It could be a customized or test/service parameter.

It is not allowed to change this parameter!

ASCII -Command	ANHFACT2	Available in	S300/700
Syntax Transmit	-	MMI ☐	CAN-Bus ☐
Syntax Receive	-	PROFIBUS ☐	Sercos ☐
Type	-		
Format	-	SERCOS IDN:	
DIM	-	CAN Object No:	-
Range		PROFIBUS PNU:	-
Default		DPR Objekt Nr:	
Opmode			
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	internal parameter

Description

This parameter is internal and is not documented. It could be a customized or test/service parameter.

It is not allowed to change this parameter!

ASCII -Command	ANIN1
Syntax Transmit	ANIN1 [Data]
Syntax Receive	ANIN1 <Data>
Type	Variable ro
Format	Integer32
DIM	mV
Range	-10000 .. 10000
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Actual values

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	P 3034 ...5
CAN Object No:	3509 (hex)
PROFIBUS PNU:	1609 (dec) IND = 1 (de
DPR Objekt Nr:	9

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Voltage at analog input 1

Description

The ANIN1 command returns the present value of the voltage at the analog input analog input 1.

ASCII -Command	ANIN2
Syntax Transmit	ANIN2
Syntax Receive	ANIN2 <Data>
Type	Variable ro
Format	Integer32
DIM	mV
Range	-10000 .. 10000
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Actual values

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	P 3034 ...5
CAN Object No:	350A (hex)
PROFIBUS PNU:	1610 (dec) IND = 1 (de
DPR Objekt Nr:	10

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Voltage at analog input 2

Description

The ANIN2 command returns the present value of the voltage at the analog input SW2.

ASCII -Command	ANIN3
Syntax Transmit	ANIN3 [Data]
Syntax Receive	ANIN3 <Data>
Type	Variable ro
Format	Integer32
DIM	mV
Range	-10000 .. 10000
Default	0
Opmode	All
Drive Status	
Start Firmware	3.75 / 5.02
Configuration	☐
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	38A0 (hex)
PROFIBUS PNU:	1728 (dec) IND = 33 (d
DPR Objekt Nr:	928
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.3
EEPROM	No

Short Description	Voltage at analog input 3 (POS I/O)

Description

Only S700

The ANIN3 command returns the present value of the voltage at the analog input analog input 3.

ASCII -Command	ANIN4	Available in	S300/700
Syntax Transmit	ANIN4 [Data]	MMI ☐	CAN-Bus ☐
Syntax Receive	ANIN4 <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable ro		
Format	Integer32	SERCOS IDN:	
DIM	mV	CAN Object No:	38A1 (hex)
Range	-10000 .. 10000	PROFIBUS PNU:	1729 (dec) IND = 33 (d
Default	0	DPR Objekt Nr:	929
Opmode	All		
Drive Status			
Start Firmware	3.75 / 5.02		
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.12
EEPROM	No

Short Description	Voltage at analog input 4

Description

The ANIN4 command returns the present value of the voltage at the analog input analog input 4.

ASCII -Command	ANOFF1
Syntax Transmit	ANOFF1 [Data]
Syntax Receive	ANOFF1 <Data>
Type	Variable rw
Format	Integer16
DIM	mV
Range	-10000 .. 10000
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Analog I/O

Available in	S300/700
MMI	☑
CAN-Bus	☑
PROFIBUS	☑
Sercos	☑

SERCOS IDN:	
CAN Object No:	350B (hex)
PROFIBUS PNU:	1611 (dec) IND = 1 (de
DPR Objekt Nr:	11

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Analog offset for analog input 1

Description

This variable compensates for the offset voltages of CNC controls and the analog input 1 |ANIN1| . It can also correct an analog offset from external controls.

ASCII -Command	ANOFF2
Syntax Transmit	ANOFF2 [Data]
Syntax Receive	ANOFF2 <Data>
Type	Variable rw
Format	Integer16
DIM	mV
Range	-10000 .. 10000
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Analog I/O

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	350C (hex)
PROFIBUS PNU:	1612 (dec) IND = 1 (de
DPR Objekt Nr:	12

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Analog offset for analog input 2

Description

This variable compensates for the offset voltages of CNC controls and the analog input 2 |ANIN2| . It can also correct an analog offset from external controls.

ASCII -Command	ANOFF3
Syntax Transmit	ANOFF3 [Data]
Syntax Receive	ANOFF3 <Data>
Type	Variable rw
Format	Integer16
DIM	mV
Range	-10000..10000
Default	0
Opmode	All
Drive Status	
Start Firmware	3.75 / 5.02
Configuration	☐
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	38A2 (hex)
PROFIBUS PNU:	1730 (dec) IND = 33 (d
DPR Objekt Nr:	930
Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.3
EEPROM	Yes

Short Description	Analog offset for analog input 3 (POS I/O)

Description

Only S700

This variable compensates for the offset voltages of CNC controls and the analog input 3 |ANIN3| . It can also correct an analog offset from external controls.

ASCII -Command	ANOFF4
Syntax Transmit	ANOFF4 [Data]
Syntax Receive	ANOFF4 <Data>
Type	Variable rw
Format	Integer16
DIM	mV
Range	-10000..10000
Default	0
Opmode	All
Drive Status	
Start Firmware	3.75 / 5.02
Configuration	☐
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	38A3 (hex)
PROFIBUS PNU:	1731 (dec) IND = 33 (d
DPR Objekt Nr:	931
Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.3
EEPROM	Yes

Short Description	Analog offset for analog input 4 (POS I/O)

Description

Only S700

This variable compensates for the offset voltages of CNC controls and the analog input 4 |ANIN4| . It can also correct an analog offset from external controls.

ASCII -Command	ANOUT1
Syntax Transmit	ANOUT1 [Data]
Syntax Receive	ANOUT1 <Data>
Type	Variable rw
Format	Integer8
DIM	
Range	0 .. 9
Default	0
Opmode	All
Drive Status	-
Start Firmware	3.00
Configuration	☑
Function Group	

Available in	S300/700		
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	387E (hex)
PROFIBUS PNU:	1694 (dec) IND = 33 (d
DPR Objekt Nr:	894
Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	2.9
EEPROM	Yes

Short Description	Configuration of the Analog Output 1

Description

Only S700

Configuration of analog output 1. The actual value is read via |MONITOR1|. The output provides various analog command values or actual values, depending on the selection in the operator software. Output resistor 2.2kOhm.

Zustand	function	description
0	off	no output at monitor output 1
1	n_actual	output of actual speed value (10 V = |VLIM|)
2	I_actual	output of actual current value (10V = |IPEAK|)
3	n_cmd	output of speed setpoint (10V = |VLIM|)
4	I_cmd	output of current command value (10V = |IPEAK|)
5	PE	output of position error (10V = |PEMAX|)
6	slot	output of the DPR-value throuht the monitor 1 (with DPR-Slotkarte). ab |FW| >= 5.38
7	PFB	the actual position is set to the analog output. The scaling refers to the modulo-value |ERND|-|SRND|. the output value is calculated by: ANOUTx = 10V * (|PFB|-|SRND|)/(|ERND|-|SRND|) if |SRND| is 0, the range of |ERND| is +/-10V. If |SRND| is unequal 0, the range is output is asymmetric. with |PFB|=|SRND| the output value is = 0 and |PFB|=|ERND| the output vale is = 10V.
8	U_const=x	the constant value of |AN1TRIG| (in mV) is set to analog output 1
9	I2T	output of I2T (10V = 100%)

ASCII -Command	ANOUT2
Syntax Transmit	ANOUT2 [Data]
Syntax Receive	ANOUT2 <Data>
Type	Variable rw
Format	Integer8
DIM	
Range	0 .. 9
Default	0
Opmode	All
Drive Status	-
Start Firmware	3.00
Configuration	☑
Function Group	

Available in	S300/700		
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	387F (hex)
PROFIBUS PNU:	1695 (dec) IND = 33 (d
DPR Objekt Nr:	895

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	2.9
EEPROM	Yes

Short Description	Configuration of the Analog Output 2

Description

Only S700

Configuration of analog output 2. The actual value is read via |MONITOR2|. The output provides various analog command values or actual values, depending on the selection in the operator software. Output resistor 2.2kOhm.

Zustand	function	description
0	off	no output at monitor output 2
1	n_actual	output of actual speed value (10 V = |VLIM|)
2	I_actual	output of actual current value (10V = |IPEAK|)
3	n_cmd	output of speed setpoint (10V = |VLIM|)
4	I_cmd	output of current command value (10V = |IPEAK|)
5	PE	output of position error (10V = |PEMAX|)
6	slot	output of the DPR-value throuht the monitor 2 (with DPR-Slotkarte). ab |FW| >= 5.38
7	PFB	the actual position is set to the analog output. The scaling refers to the modulo-value |ERND|-|SRND|. the output value is calculated by: ANOUTx = 10V * (|PFB|-|SRND|)/(|ERND|-|SRND|) if |SRND| is 0, the range of |ERND| is +/-10V. If |SRND| is unequal 0, the range is output is asymmetric. with |PFB|=|SRND| the output value is = 0 and |PFB|=|ERND| the output vale is = 10V.
8	U_const=x	the constant value of |AN2TRIG| (in mV) is set to analog output 2
9	I2T	output of I2T (10V = 100%)

ASCII -Command	ANZERO1
Syntax Transmit	ANZERO1
Syntax Receive	ANZERO1
Type	Command
Format	Command
DIM	-
Range	-
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Analog I/O

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	350F (hex)
PROFIBUS PNU:	1615 (dec) IND = 1 (de
DPR Objekt Nr:	15
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Zero analog input 1

Description

This command can be used to start the automatic offset correction for the analog input 1. The setpoint at analog input 1 should be short-circuited before using this command. After the command has been carried out, the offset value that was determined is available in the |ANOFF1| parameter. To save this value permanently in the EEPROM, you should use the |SAVE| (save to EEPROM) command.

The function can adjust an offset of max. 75 mV.

ASCII -Command	ANZERO2
Syntax Transmit	ANZERO2
Syntax Receive	ANZERO2
Type	Command
Format	Command
DIM	-
Range	-
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Analog I/O

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3510 (hex)
PROFIBUS PNU:	1616 (dec) IND = 1 (de
DPR Objekt Nr:	16
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Zero analog input 2

Description

This command can be used to start the automatic offset correction for the analog input 2. The setpoint at analog input 2 should be short-circuited before using this command. After the command has been carried out, the offset value that was determined is available in the |ANOFF2| parameter. To save this value permanently in the EEPROM, you should use the |SAVE| (save to EEPROM) command.

The function can adjust an offset of max. 75 mV.

ASCII -Command	ANZERO3
Syntax Transmit	ANZERO3
Syntax Receive	ANZERO3
Type	Command
Format	Command
DIM	
Range	-
Default	-
Opmode	All
Drive Status	
Start Firmware	3.75 / 5.02
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	38A4 (hex)
PROFIBUS PNU:	1732 (dec) IND = 33 (d
DPR Objekt Nr:	932
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.3
EEPROM	No

Short Description	Zero analog input 3 (POS I/O)

Description

Only S700

This command can be used to start the automatic offset correction for the analog input 3. The setpoint at analog input 3 should be short-circuited before using this command. After the command has been carried out, the offset value that was determined is available in the |ANOFF3| parameter. To save this value permanently in the EEPROM, you should use the |SAVE| (save to EEPROM) command.

The function can adjust an offset of max. 75 mV.

ASCII -Command	ANZERO4
Syntax Transmit	ANZERO4
Syntax Receive	ANZERO4
Type	Command
Format	Command
DIM	
Range	-
Default	-
Opmode	All
Drive Status	
Start Firmware	3.75 / 5.02
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	38A5 (hex)
PROFIBUS PNU:	1733 (dec) IND = 33 (d
DPR Objekt Nr:	933
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.3
EEPROM	No

Short Description	Zero analog input 4 (POS I/O)

Description

Only S700

This command can be used to start the automatic offset correction for the analog input 4. The setpoint at analog input 4 should be short-circuited before using this command. After the command has been carried out, the offset value that was determined is available in the |ANOFF4| parameter. To save this value permanently in the EEPROM, you should use the |SAVE| (save to EEPROM) command.

The function can adjust an offset of max. 75 mV.

ASCII -Command	ARHPD
Syntax Transmit	ARHPD [Data]
Syntax Receive	ARHPD <Data>
Type	Variable rw
Format	Float
DIM	
Range	0 ... 10
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3607 (hex)
PROFIBUS PNU:	1863 (dec) IND = 1 (de
DPR Objekt Nr:	263

Data Type BUS/DPR	Float 32
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Damping high pass filter

Description

ARHPD is the high-pass damping of the velocity-loop filter.

For a detailed description of how to set up the velocity-loop filter, see |BQMODE|.

ASCII -Command	ARHPF		Available in	S300/700	
Syntax Transmit	ARHPF [Data]		MMI	☐	CAN-Bus ☑
Syntax Receive	ARHPF [Data]		PROFIBUS	☑	Sercos ☐
Type	Variable rw				
Format	Float		SERCOS IDN:		
DIM			CAN Object No:	3608 (hex)	
Range	0 ... 4000		PROFIBUS PNU:	1864 (dec) IND = 1 (de	
Default	1000		DPR Objekt Nr:	264	
Opmode	All				
Drive Status	-				
Start Firmware	1.0				
Configuration	☐		Data Type BUS/DPR	-	
Function Group			Weighting 10^3		

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Frequency limit high pass filter

Description

ARHPF is the high-pass frequency of the velocity-loop filter.

For a detailed description of how to set up the velocity-loop filter, see |BQMODE|.

ASCII -Command	ARLP2
Syntax Transmit	ARLP2 [Data]
Syntax Receive	ARLP2 [Data]
Type	Variable rw
Format	Float
DIM	Hz
Range	0 ... 1500
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3609 (hex)
PROFIBUS PNU:	1865 (dec) IND = 1 (de
DPR Objekt Nr:	265
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Low pass filter

Description

ARLP2 is the cut-off frequency of an additional 1st-order low-pass filter for the velocity loop. If If ARLP2 is set to a value > 0, the filter is activated, otherwise it is turned off.

Low-pass filters are used to suppress signals of higher frequencies (e.g. resonances and noise). Applying a low-pass filter to the velocity loop leads to an undesired phase lag above the filter's cut-off ferquency besides the desired signal attenuation. This leads to a degradation of phase margin. Thus, the velocity-loop bandwidth is always < 0.5 times the low-pass cutt-off frequency.

For a detailed description of how to set up the velocity-loop filter,see |BQMODE|.

ASCII -Command	ARLPD	Available in	S300/700
Syntax Transmit	ARLPD [Data]	MMI ☐	CAN-Bus ☑
Syntax Receive	ARLPD [Data]	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Float	SERCOS IDN:	
DIM		CAN Object No:	360A (hex)
Range	0 ... 10	PROFIBUS PNU:	1866 (dec) IND = 1 (de
Default	0	DPR Objekt Nr:	266
Opmode	All		
Drive Status	-		
Start Firmware	1.0		
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Damping low pass filter

Description

ARLPD is the low-pass damping of the velocity-loop filter.

For a detailed description of how to set up the velocity-loop filter,see |BQMODE|.

ASCII -Command	ARLPF
Syntax Transmit	ARLPF [Data]
Syntax Receive	ARLPF [Data]
Type	Variable rw
Format	Float
DIM	
Range	0 ... 4000
Default	160
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	360B (hex)
PROFIBUS PNU:	1867 (dec) IND = 1 (de
DPR Objekt Nr:	267
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Frequency limit low pass filter

Description

ARLPF is the low-pass frequency of the velocity-loop filter.

For a detailed description of how to set up the velocity-loop filter, see |BQMODE|.

ASCII -Command	ASMWAIT
Syntax Transmit	ASMWAIT [Data]
Syntax Receive	ASMWAIT <Data>
Type	Variable rw
Format	Integer32
DIM	ms
Range	0 .. 2000
Default	100
Opmode	All
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3868 (hex)
PROFIBUS PNU:	1672 (dec) IND = 33 (d
DPR Objekt Nr:	872
Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.1
EEPROM	Yes

Short Description	Forced delay of the velocity command value for induction machines

Description

Forced delay of the velocity command value for induction machines.
An induction machine has to be magnetized before it can generate torque.
ASMWAIT sets a forced delay time, during which the velocity command value is kept at 0 after the drive is enabled. When the machine is completely magnetized, it can start with full torque.

Operation without brake (MBRAKE = 0):
Q-current is allowed directly after enabling the drive, to keep the shaft from moving too much.

Operation with brake (MBRAKE = 1):
TBRAKE0 inhibits Q-current, to prevent machine from working against the brake, before it is lifted completely.
ASMWAIT < TBRAKE0: After enable, velocity command and Q-current are kept ant 0 for the duration of TBRAKE0. The brake is lifted immediately. Magnetization begins before the end of TBRAKE0 (defined by ASMWAIT).
ASMWAIT > TBRAKE0: After enable, velocity command and Q-current are kept ant 0 for the duration of ASMWAIT. Magnetization begins immediately. The brake is being lifted before the end of ASMWAIT (defined by TBRAKE0).

ASCII -Command	AUTOHOME
Syntax Transmit	AUTOHOME [Data]
Syntax Receive	AUTOHOME <Data>
Type	Variable rw
Format	Integer8
DIM	
Range	0,1
Default	0
Opmode	8, 4
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	1.0
Configuration	☑
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	36D7 (hex)
PROFIBUS PNU:	1671 (dec) IND = 17 (d
DPR Objekt Nr:	471

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Automatic homing

Description

The Command AUTOHOME selects, if the homing procedure will be started automatic.

AUTOHOME=0 no automatic homing prcedure started

AUTOHOME=1 After the drive is enabled the homing procedure |MH| is started automatic

FW > 1.31
AUTOHOME=2 After the drive is enabled the homing procedure |MH| is started automatic, in case it was not already set .

ASCII -Command	AVZ1
Syntax Transmit	AVZ1 [Data]
Syntax Receive	AVZ1 <Data>
Type	Variable rw
Format	Float
DIM	ms
Range	0.2 .. 100.0
Default	1
Opmode	1
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Analog I/O

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3511 (hex)
PROFIBUS PNU:	1617 (dec) IND = 1 (de
DPR Objekt Nr:	17

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Filter time constant for analog input 1

Description

Filter time constant for analog input 1. (62.5µs Update Rate)

ASCII -Command	AVZ2
Syntax Transmit	AVZ2 [Data]
Syntax Receive	AVZ2 <Data>
Type	Variable rw
Format	Float
DIM	ms
Range	0.2 .. 100.0
Default	1
Opmode	1
Drive Status	-
Start Firmware	3.07
Configuration	☐
Function Group	Analog I/O

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	387A (hex)
PROFIBUS PNU:	1690 (dec) IND = 33 (d
DPR Objekt Nr:	890

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	2.1
EEPROM	Yes

Short Description	Filter time constant for analog input 2

Description

Only S700

Filter time constant for analog input 2. (62.5µs Update Rate)

ASCII -Command	BCC
Syntax Transmit	BCC
Syntax Receive	BCC <Data>
Type	Variable ro
Format	Integer16
DIM	-
Range	-
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	363A (hex)
PROFIBUS PNU:	1914 (dec) IND = 1 (de
DPR Objekt Nr:	314

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	EEPROM check sum

Description

The BCC variable returns a checksum for the parameter area of the serial EEPROM.
When a |SAVE| command is carried out, all the internal parameters of the amplifier are saved in this area, in ASCII format. The checksum is obtained by summing all the stored bytes, and is recalculated with every |LOAD| or |SAVE| command. It is only intended for the detection of EEPROM errors.
But it can also be used to detect whether the data set that is present in the controls matches the data set that is stored in the servo amplifier.

ASCII -Command	BCCOT
Syntax Transmit	BCCOT [Data]
Syntax Receive	BCCOT <Data>
Type	Variable ro
Format	Integer16
DIM	-
Range	-
Default	-
Opmode	All
Drive Status	-
Start Firmware	2.14
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3895 (hex)
PROFIBUS PNU:	1717 (dec) IND = 33 (d
DPR Objekt Nr:	917

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.2
EEPROM	No

Short Description	EEPROM check sum without life time counter

Description

The BCCOT variable returns a checksum for the parameter area of the serial EEPROM without operation hour counter data. When a |SAVE| command is carried out, the internal parameters of the amplifier are saved in this area, in ASCII format. This checksum is obtained by summing the stored bytes, and is recalculated with every |LOAD| or |SAVE| command. This variable can be used to detect changes of drive parameters.

ASCII -Command	BISSCNFG
Syntax Transmit	BISSCNFG [Data]
Syntax Receive	BISSCNFG <Data>
Type	Variable rw
Format	Integer16
DIM	-
Range	-32768 .. 32767
Default	0
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	5.06
Configuration	☑
Function Group	-

Available in	S300/700
MMI ☐	CAN-Bus ☑
PROFIBUS ☑	Sercos ☐
SERCOS IDN:	
CAN Object No:	38B7 (hex)
PROFIBUS PNU:	1751 (dec) IND = 33 (d
DPR Objekt Nr:	951
Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.8
EEPROM	Yes

Short Description	configuration parameter for BiSS-C

Description

This parameter is used together with |FBTYPE| = 33. It defines how many bits are used for the position (or resolution) of the unidirectional communication of the BiSS-C feedback. Furthermore it defines the ative level of the error and warn bits in the frame.

From the BiSS spezification the error and warn bits were activ at ‚0'. If it's necessary to inverse the bits you should add the followings bits.

Error – Bit
0x40 (64) active ‚1'

Warn – Bit
0x80 (128) active ‚1'

ASCII -Command	BISSREVOL	Available in	S300/700
Syntax Transmit	BISSREVOL [Data]	MMI ☐	CAN-Bus ☑
Syntax Receive	BISSREVOL <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer16	SERCOS IDN:	
DIM	-	CAN Object No:	3922 (hex)
Range	0 ... 32	PROFIBUS PNU:	1858 (dec) IND = 33 (d
Default	0	DPR Objekt Nr:	1058
Opmode	All		
Drive Status	Disabled + Reset (Coldstart)		
Start Firmware	6.02		
Configuration	☑	Data Type BUS/DPR	Integer16
Function Group		Weighting 10^3	

Last Change of this Object	2.14
EEPROM	Yes

Short Description	Number of multiturn bits for a BISS-C encoder

Description

This parameter defines the number of multiturn bits for BISS-C encoder

BISSREVOL=0 single turn

ASCII -Command	BQMODE
Syntax Transmit	BQMODE [Data]
Syntax Receive	BQMODE <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	0...4
Default	1
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3666 (hex)
PROFIBUS PNU:	1958 (dec) IND = 1 (de
DPR Objekt Nr:	358
Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	1.3
EEPROM	Yes

Short Description	Filter selection

Description

Zustand	Short Description	Description
BQMODE=0	filter turned off	
BQMODE=1	compatibility mode	In this mode, the filter is selected due to the settings of |ARLPF|, |ARHPF|, |ARLPD| and |ARHPD|. The filter is selected as follows: |ARLPF| > 0,|ARHPF| > 0,|ARLPD| = |ARHPD| = 0 : PID-T2 filter (1st-order lag compensator) |ARLPF| > 0, |ARHPF| > 0, |ARLPD| > 0, |ARHPD| ≥ 0 : notch /bi-quad |ARLPF| > 0, |ARLPD| > 0, |ARHPD| = |ARHPD| = 0 : 2nd-order low-pass (n/a) |ARLPF| = |ARHPF| = |ARLPD| = |ARHPD| = 0 : filter turned off
BQMODE=2	PID-T2 filter (1st-order lag compensator)	The PID-T2 filter is only activated if the following conditions are met: |ARLPF| > 0, |ARHPF| > 0. PID-T2 filters can be used effectively to reduce the torque ripple and resonances from the motor, gearbox and a coupled load. The transfer function is |TF|

BQMODE=3	notch / bi-quad filter	The notch / bi-quad filter is only activated if the following conditions are met: |ARLPF| > 0, |ARHPF| > 0, |ARLPD| > 0, |ARHPD| ≥ 0. Notch filters an be used to suppress single resonances because they offer a high attenuation for a small frequeny range. However, even small deviations between filter frequency and resonance frequency degrade the effect of this filter type dramatically. This high paramter sensitivity makes notch filters difficult to set up. Bi-quad filters can be used effectively to compensate for resonances in a two-mass servo system. If set up properly, this filter type helps to increase the stability margins which allows for a higher gain and thus a higher bandwidth of the velocity loop. The transfer function is |TF| Note: If ARLPF = ARHPF, ARLPD > 0 and ARHPD = 0, the filter acts as a notch filter, otherwise it acts as a bi-quad filter.
BQMODE=4	2nd-order low-pass filter	The 2nd-order low-pass filter is only activated if the following conditions are met: |ARLPF| > 0, |ARLPD| > 0. For general examples of low-pass filter usage, see |ARLP2|. If a 1st-order low-pass filter exhibits too much phase lag below the cutt-off frequency or too little signal attenuation above the cutt-off frequency, a 2nd-order low-pass filters can be used to improve the behavior. The transfer function is |TF|

ASCII -Command	BTIME	Available in	S300/700
Syntax Transmit	BTIME [Data]	MMI ☐	CAN-Bus ☐
Syntax Receive	BTIME <Data>	PROFIBUS ☐	Sercos ☐
Type	Variable rw		
Format	-	SERCOS IDN:	
DIM	ms	CAN Object No:	-
Range	63 .. 2046	PROFIBUS PNU:	-
Default	512	DPR Objekt Nr:	
Opmode	all		
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	Discharge time of the DC link at INxMODE 62

Description

Discharge time of the DC link at INxMODE = 62

ASCII -Command	BUILDRK	Available in	S300/700
Syntax Transmit	BUILDRK [Data]	MMI ☐	CAN-Bus ☑
Syntax Receive	BUILDRK <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer8	SERCOS IDN:	
DIM		CAN Object No:	3850 (hex)
Range	0, 1	PROFIBUS PNU:	1648 (dec) IND = 33 (d
Default	0	DPR Objekt Nr:	848
Opmode	All		
Drive Status	Disabled + Reset (Coldstart)		
Start Firmware			
Configuration	☑	Data Type BUS/DPR	Integer8
Function Group		Weighting 10^3	

Last Change of this Object	2.12
EEPROM	-

Short Description	calculation of RK

Description

SO = location
S = memory (where the standard controller parameters are stored)
SF = System Flash
OG = upper limit of RK (16384 + 500 = 16884)
UG = Lower limit of RK (16384 - 500 = 15884)

BUILDRK = 0
- automatic determination of RK is deactivated
- the RK value from S will be used

BUILDRK = 1
- automatic determination of RK is activated
- the RK value is used in SF (if valid)
- if the RK value is not valid in the SF, then RK from S is used as the start value and optimized
- the calculated RK value is stored in the SF every 60 minutes.
- RK value is always only changed in small steps and approximated to the optimum.

An automatic determination of RK is carried out only at 1000 rpm revolutions, i. The acceleration and deceleration phase is used for optimization.
- Automatic determination of RK is started as soon as the motor has rotated at least 360 °.

Important:
For an RK determination to be performed, the motor must be able to rotate at least one rotation.

Note:
RK value in the SF does not override the RK value in S

ASCII -Command	BUILDRP	Available in	S300/700
Syntax Transmit	-	MMI ☐	CAN-Bus ☐
Syntax Receive	-	PROFIBUS ☐	Sercos ☐
Type	-		
Format	-	SERCOS IDN:	
DIM	-	CAN Object No:	3851 (hex)
Range		PROFIBUS PNU:	1649 (dec) IND = 33 (d
Default		DPR Objekt Nr:	849
Opmode			
Drive Status	Disabled + Reset (Coldstart)		
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	internal parameter

Description

This parameter is internal and is not documented. It could be a customized or test/service parameter.

It is not allowed to change this parameter!

ASCII -Command	BUSP0
Syntax Transmit	BUSP0 [Data]
Syntax Receive	BUSP0 <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	-2147483648 .. 2147483647
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	385B (hex)
PROFIBUS PNU:	1659 (dec) IND = 33 (d
DPR Objekt Nr:	859
Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	Yes

Short Description	fieldbus configurationsvariable

Description

SERCOS:
IDN 97 lower 16 BIT
IDN 98 upper 16 BIT

CAN: (Firmware >=2.51)
The Bits 0 ..7 are used to enable different warnings. Default state is no warning message on the bus communicaion.

Bedeutung der Bits:
Bit 0: Emergency if Hardware-disable is set when CANopen - satus is OPERATION ENABLE, Error Code 0x7181
Bit 1: Warnung n06 (software-limit switch 1 active), Error Code 0x8683
Bit 2: Warnung n07 (software-limit switch 1 active), Error Code 0x8684
Bit 3: Warnung n08 (bad motion task used), Error Code 0x8681
Bit 4: Warnung n09 (no referencepoint set), Error Code 0x8685
Bit 5: Warnung n10 (PSTOP reached), Error Code 0x8686
Bit 6: Warnung n11 (NSTOP reached), Error Code 0x8687

ASCII -Command	BUSP1
Syntax Transmit	BUSP1 [Data]
Syntax Receive	BUSP1 <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	-2147483648 .. 2147483647
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	36E5 (hex)
PROFIBUS PNU:	1685 (dec) IND = 17 (d
DPR Objekt Nr:	485

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	Yes

Short Description	fieldbus configurationsvariable (CAN or Sercos)

Description

Configuartion for CANopen/EtherCAT:

Bit 0: Firmware >= 2.51
The Bit 30 of setting COB-IDs for Tx-PDOs are checked. The drive sets the bit and waits for write zyklus of COB - Identifier withset Bit 30.

If a drive (with Firmware < 2.51) has been replaced, the warning n17 (| STATCODE *|) is displayed after the exchange. A synchronized fieldbus is guaranteed again, after saving the parameter BUSP1 = 1.

Configuartion for Sercos:

BUSP1 gives the status of the drive. The bit 3 can be written by the drive and can be saved. If the bit is set, Modbus+ network errors are indicated at the drive.

default: T3 = 450µs ati 500µs cycletime

T3 = T2 + 50 us fix at 250us cycletime!
Priority for T3 at 500 us:
1. BUSP1 Bits 16 - 27
2. BUSP1 Bits 8 - 12
3. T3 from controller

Configuration for CANopen - behavior:

Bit definition:
Bit 0: Firmware >= 2.51
The Bit 30 of setting COB-IDs for Tx-PDOs are checked. The drive sets the bit and waits for write zyklus of COB - Identifier withset Bit 30.

ASCII -Command	BUSP10
Syntax Transmit	BUSP10 [Data]
Syntax Receive	BUSP10 <Data>
Type	Variable ro
Format	Integer32
DIM	-
Range	0 .. 15
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	36EE (hex)
PROFIBUS PNU:	1694 (dec) IND = 17 (d
DPR Objekt Nr:	494

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	No

Short Description	debug fieldbus variable for EtherCAT

Description

The parameter BUSP10 displays the actual valid mapping-numbers (Bits 0...7 Sollwert, Bits 8..16 Istwerte).

ASCII -Command	BUSP11
Syntax Transmit	BUSP11 [Data]
Syntax Receive	BUSP11 <Data>
Type	Variable ro
Format	Integer32
DIM	-
Range	0 .. 15
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	36EF (hex)
PROFIBUS PNU:	1695 (dec) IND = 17 (d
DPR Objekt Nr:	495

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	No

Short Description	debug fieldbus variable for EtherCAT

Description

The parameter BUSP11 displays the actual value of CoE control Bits 0...7) und status word (Bits 8...16).

please have a look to |BUSP9|

ASCII -Command	BUSP12
Syntax Transmit	BUSP12 [Data]
Syntax Receive	BUSP12 <Data>
Type	Variable ro
Format	Integer32
DIM	-
Range	0 .. 15
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	36F0 (hex)
PROFIBUS PNU:	1696 (dec) IND = 17 (d
DPR Objekt Nr:	496

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	No

Short Description	fieldbus configurationsvariable

Description

This parameter is internal and is not documented. It could be a customized or test/service parameter.

It is not allowed to change this parameter!

ASCII -Command	BUSP13
Syntax Transmit	BUSP13 [Data]
Syntax Receive	BUSP13 <Data>
Type	Variable ro
Format	Integer32
DIM	-
Range	0 .. 15
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	36F1 (hex)
PROFIBUS PNU:	1697 (dec) IND = 17 (d
DPR Objekt Nr:	497

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	No

Short Description	fieldbus configurationsvariable

Description

This parameter is internal and is not documented. It could be a customized or test/service parameter.

It is not allowed to change this parameter!

ASCII -Command	BUSP14
Syntax Transmit	BUSP14 [Data]
Syntax Receive	BUSP14 <Data>
Type	Variable ro
Format	Integer32
DIM	-
Range	0 .. 15
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	36F2 (hex)
PROFIBUS PNU:	1698 (dec) IND = 17 (d
DPR Objekt Nr:	498

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	No

Short Description	fieldbus configurationsvariable

Description

This parameter is internal and is not documented. It could be a customized or test/service parameter.

It is not allowed to change this parameter!

ASCII -Command	BUSP15
Syntax Transmit	BUSP15 [Data]
Syntax Receive	BUSP15 <Data>
Type	Variable ro
Format	Integer32
DIM	-
Range	0 .. 15
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	36F3 (hex)
PROFIBUS PNU:	1699 (dec) IND = 17 (d
DPR Objekt Nr:	499

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	No

Short Description	fieldbus configurationsvariable

Description

This parameter is internal and is not documented. It could be a customized or test/service parameter.

It is not allowed to change this parameter!

ASCII -Command	BUSP16
Syntax Transmit	BUSP16 [Data]
Syntax Receive	BUSP16 <Data>
Type	Variable ro
Format	Integer32
DIM	-
Range	0 .. 15
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	36F4 (hex)
PROFIBUS PNU:	1700 (dec) IND = 17 (d
DPR Objekt Nr:	500

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	No

Short Description	fieldbus configurationsvariable

Description

This parameter is internal and is not documented. It could be a customized or test/service parameter.

It is not allowed to change this parameter!

ASCII -Command	BUSP2
Syntax Transmit	BUSP2 [Data]
Syntax Receive	BUSP2 <Data>
Type	Variable rw
Format	Integer32
DIM	10 ms
Range	-2147483648 .. 2147483647
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	36E6 (hex)
PROFIBUS PNU:	1686 (dec) IND = 17 (d
DPR Objekt Nr:	486
Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	Yes

Short Description	fieldbus configurationsvariable

Description

This parameter defines the time-out of the Modbus communication in 10ms steps. If the drive gets no interrupt from the board in that time, the drive is disabled and the communication in |BUSP1| is displayed as faulty.

SERCOS:
IDN 15 Telegram typ in Byte 0
IDN 32 Main operation mode in Byte 2

ASCII -Command	BUSP3
Syntax Transmit	BUSP3 [Data]
Syntax Receive	BUSP3 <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	-2147483648 .. 2147483647
Default	1
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	36E7 (hex)
PROFIBUS PNU:	1687 (dec) IND = 17 (d
DPR Objekt Nr:	487

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	Yes

Short Description	fieldbus configurationsvariable

Description

This parameter defines the direction of the address selection of the Modbus+ board in the initialization phase.
BUSP3 = 0 The address is given by the Modbus board.
BUSP3 = 1 The address is given by the drive and it's address in |ADDR|.

SERCOS:
IDN 121 Gearing input stage with data defined on motor side

ASCII -Command	BUSP4	Available in	S300/700		
Syntax Transmit	BUSP4 [Data]	MMI	☐	CAN-Bus	☑
Syntax Receive	BUSP4 <Data>	PROFIBUS	☑	Sercos	☐
Type	Variable rw				
Format	Integer32	SERCOS IDN:			
DIM	-	CAN Object No:	36E8 (hex)		
Range	-2147483648 .. 2147483647	PROFIBUS PNU:	1688 (dec) IND = 17 (d		
Default	0	DPR Objekt Nr:	488		
Opmode	All				
Drive Status	-				
Start Firmware	1.0				
Configuration	☐	Data Type BUS/DPR	Integer8		
Function Group	-	Weighting 10^3			

Last Change of this Object	2.12
EEPROM	Yes

Short Description	fieldbus configurationsvariable

Description

This parameter defines the number of data words (command), which are updated cyclic. Data, which is enabled as process data, cannot be written by the SDO channel (messaging).

SERCOS:
IDN 122 Gearing output stage with data defined on motor side

ASCII -Command	BUSP5
Syntax Transmit	BUSP5 [Data]
Syntax Receive	BUSP5 <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	-2147483648 .. 2147483647
Default	1
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	36E9 (hex)
PROFIBUS PNU:	1689 (dec) IND = 17 (d
DPR Objekt Nr:	489

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	Yes

Short Description	fieldbus configurationsvariable

Description

This parameter gives the address of the Modbus-Master for this drive. While initializing, this parameter is send from the drive to the Modbus board. The board then transmits only data to the drive, that was send from this master.

SERCOS:
IDN 123

ASCII -Command	BUSP6
Syntax Transmit	BUSP6 [Data]
Syntax Receive	BUSP6 <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	-2147483648 .. 2147483647
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	36EA (hex)
PROFIBUS PNU:	1690 (dec) IND = 17 (d
DPR Objekt Nr:	490

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	Yes

Short Description	fieldbus configurationsvariable

Description

This parameter defines the number of cyclic updated actual values in 16 bit data words, which are updated every cycle between the drive and the Modbus board.

SERCOS:
IDN 79

CAN:
Testparameter for individual bus timing - settings. In case <> 0, the setting for CBAUD isn't active
Value - range: -2^31 .. 2^31 - 1

ASCII -Command	BUSP7		Available in	S300/700	
Syntax Transmit	BUSP7 [Data]		MMI	☐	CAN-Bus ☑
Syntax Receive	BUSP7 <Data>		PROFIBUS	☑	Sercos ☐
Type	Variable rw				
Format	Integer32		SERCOS IDN:		
DIM	-		CAN Object No:	36EB (hex)	
Range	-2147483648 .. 2147483647		PROFIBUS PNU:	1691 (dec) IND = 17 (d	
Default			DPR Objekt Nr:	491	
Opmode	All				
Drive Status	-				
Start Firmware	1.0				
Configuration	☐		Data Type BUS/DPR	Integer32	
Function Group	-		Weighting 10^3		

Last Change of this Object	2.13
EEPROM	Yes

Short Description	fieldbus configurationsvariable

Description

SERCOS:

IDN117 - resolution external encoder

ASCII -Command	BUSP8
Syntax Transmit	BUSP8 [Data]
Syntax Receive	BUSP8 <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	-2147483648 .. 2147483647
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	36EC (hex)
PROFIBUS PNU:	1692 (dec) IND = 17 (d
DPR Objekt Nr:	492
Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	Yes

Short Description	fieldbus configurationsvariable

Description

BUSP8 = IDN 138

ASCII -Command	BUSP9
Syntax Transmit	BUSP9 [Data]
Syntax Receive	BUSP9 <Data>
Type	Variable ro
Format	Integer32
DIM	-
Range	0 .. 15
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	36ED (hex)
PROFIBUS PNU:	1693 (dec) IND = 17 (d
DPR Objekt Nr:	493

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	No

Short Description	debug fieldbus variable for EtherCAT

Description

The parameter BUSP9 displays the actual control (bit 0...7) and status word (bit 8...16)

please have a look to |BUSP11|

ASCII -Command	CALCCOG	Available in	S300/700
Syntax Transmit	CALCCOG [Data]	MMI ☐	CAN-Bus ☐
Syntax Receive	CALCCOG <Data>	PROFIBUS ☐	Sercos ☐
Type	Command		
Format	Command	SERCOS IDN:	
DIM	-	CAN Object No:	-
Range	-	PROFIBUS PNU:	-
Default	-	DPR Objekt Nr:	
Opmode	8		
Drive Status	Enable		
Start Firmware	2.21		
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.0
EEPROM	No

Short Description	Generate lookup table for cogging compensation

Description

Syntax:
CALCCOG [velocity] (Rotary Motors)
CALCCOG [velocity] [distance] [start position] (Linear Motors)

The CALCCOG command is used to generate a current feed-forward lookup table for the cogging compensation. The pre-requisites for rhe CALCCOG command are:
Since a motion task is used to generate motion, the drive must be in OPMODE 8
The reference point must be set.
The drive must be enabled.
No homing procedure, motion task or jog mode may be active.

For rotary motors (MTYPE ≠ 2), only one optional parameter is accepted. This parameter specifies the velocity at which the motor turns when the lookup-table entries are recorded. Only positive values are allowed for this parameter. The default velocity is 5 rpm. The recording always starts at the current position, and the traversing range is always a single revolution.
For linear motors (MTYPE = 2), three optional parameters are accepted. The first parameter specifies the velocity at which the motor moves when the lookup-table entries are recorded. Only positive values are allowed for this parameter. The default velocity corresponds to 5 pole-pair pitches per minute. The second parameter specifies the distance the motor moves along while the lookup-table entries are recorded. This is exactly therange that will be compensated when the cogging compensation is activated. The distance must be set to either of 1/4, 1/2, 1, 2, 4, .., 2^m pole-pair pitches, where m is any positive integer number. The default value is one pole-pair pitch.The optional parameter start position specifies the position from which the recording of the current feed-forward table is started. The default start position is the current position. If this parameter is given and differs from the current position, a motion task is generated to move to the designated start position at velocity VREF.

Note: Parameters can only be omitted in right-to-left order, i.e. valid command lines are:
CALCCOG [velocity] [distance] [start position]
CALCCOG [velocity] [distance]
CALCCOG [velocity]
CALCCOG

ASCII -Command	CALCHP
Syntax Transmit	CALCHP [Data] , [Data]
Syntax Receive	CALCHP
Type	Command
Format	Command
DIM	rpm
Range	0 .. 200
Default	5
Opmode	All
Drive Status	Enabled
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3512 (hex)
PROFIBUS PNU:	1618 (dec) IND = 1 (de
DPR Objekt Nr:	18
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.10
EEPROM	No

Short Description	Determining the Hiperface/ENDAT parameters

Description

This command can be used to start the automatic determination of the sine cosine parameters. To do this, the output stage must be enabled and the drive must be able to move freely. While this command is being carried out, the motor makes a full turn at the predefined velocity. During this phase, the offset parameters (|HISOFFS|/|HICOFFS|) and the sine/cosine gain factor (|HIFACT1|) are calculated. After this function has been completed, the newly determined parameters can be stored in the encoder, using the |HSAVE| command for EnDAT-, BiSS- or Hiperface feedback and also using the command |SAVE| for sine/cosine feedback.

The CALCHP function is only available when a Hiperface (|FBTYPE|=2), an EnDAT (|FBTYPE|=5 bis 8), a BiSS-(|FBTYPE|=23, 24) or a sine/cosine-feedback (|FBTYPE|=1, 3, 5 6, 7, 8, 26) is selected.

The first is to select a certain speed in rpm and the second the angle of the motor that should be moved.

E.g.: CALCHP 5 10, start CALCHP with 5 rpm and move the motor 10 degrees.

ASCII -Command	CALCMP
Syntax Transmit	CALCMP
Syntax Receive	CALCMP <Data>
Type	Command
Format	Command
DIM	-
Range	0 .. 10000000
Default	-
Opmode	All
Drive Status	-
Start Firmware	2.53
Configuration	☐
Function Group	

Available in	S300/700
MMI ☐	CAN-Bus ☑
PROFIBUS ☑	Sercos ☐
SERCOS IDN:	
CAN Object No:	388F (hex)
PROFIBUS PNU:	1711 (dec) IND = 33 (d
DPR Objekt Nr:	911
Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.0
EEPROM	No

Short Description	Cycles for commutation alignment by PID control loop

Description

CALCMP [count] command starts “count” times the commutation alignment procedure executed with the help of the PID position loop.

ASCII -Command	CALCPOSIO
Syntax Transmit	CALCPOSIO
Syntax Receive	CALCPOSIO <Data>
Type	Command
Format	Command
DIM	
Range	
Default	-
Opmode	All
Drive Status	-
Start Firmware	3.75 - 5.02
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	38A6 (hex)
PROFIBUS PNU:	1734 (dec) IND = 33 (d
DPR Objekt Nr:	934

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.4
EEPROM	No

Short Description	Initialisation of the POS I/O card

Description

Initialisation of the POS I/O card. This command has to be done once (with no X3C connector plugged in) after error F20 “POSIO data bcc error” occurred.

Only for S700: FW 3.75/5.02

ASCII -Command	CALCRK
Syntax Transmit	CALCRK [Data]
Syntax Receive	CALCRK
Type	Command
Format	Command
DIM	rpm
Range	0 .. 200
Default	5
Opmode	All
Drive Status	Enabled
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3513 (hex)
PROFIBUS PNU:	1619 (dec) IND = 1 (de
DPR Objekt Nr:	19
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.11
EEPROM	No

Short Description	Calculate resolver parameters

Description

This command can be used to start the automatic determination of the resolver parameter |RK| (sine/cosine gain factor). To do this, the output stage must be enabled and the drive must be able to move freely. While this command is being carried out, the motor makes approx. 2.5 turns at the given velocity. If CALCRK is started without parameter, the default value is used. After this function has been completed, the newly determined |RK| parameter can be stored in the EEPROM, using the |SAVE| command. This command can be used to reduce the current ripple of the motor at high velocity. It can only be used with resolver feedback.

Therefore the value of RK is: $12.000 \leq RK \leq 19.000$

A value of 16384 is the amplification of 1.0

example:
|RK|=18000 -> amplification of 1.098
|RK|=16000 -> amplification of 0.976

ASCII -Command	CALCRP
Syntax Transmit	CALCRP
Syntax Receive	CALCRP
Type	Command
Format	Command
DIM	-
Range	-
Default	-
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	1.0
Configuration	☑
Function Group	-

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3514 (hex)
PROFIBUS PNU:	1620 (dec) IND = 1 (de
DPR Objekt Nr:	20
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.11
EEPROM	No

Short Description	Calculate resolver phase

Description

This command can be used to start the automatic determination of the resolver parameter RESPHASE (resolver phase shift).

Before starting this command in the hyper Terminal, switch off the power and disable the drive. At the same time, set MSG = 2. After starting this command, the value of |RESPHASE| will be then automatically identified. If the process finishes, in the Hyper Terminal shows the value of |RESPHASE| and the information “ERR 4 feedback !”. This is normal and you can ignore it. Now, type SAVE to store the value of |RESPHASE| permanently and execute the COLDSTART.

ASCII -Command	CANDUMP	Available in	S300/700
Syntax Transmit	CANDUMP	MMI ☐	CAN-Bus ☐
Syntax Receive	CANDUMP <Data>	PROFIBUS ☐	Sercos ☐
Type	Variable ro		
Format	Command	SERCOS IDN:	
DIM	-	CAN Object No:	-
Range	-	PROFIBUS PNU:	-
Default	-	DPR Objekt Nr:	
Opmode	All		
Drive Status	-		
Start Firmware	2.15		
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	1.6
EEPROM	No

Short Description	List with CANopen communication parameter

Description

Description

The command is used to get a list with the CANopen communication parameter.

ASCII -Command	CANSDO
Syntax Transmit	CANSDO [Data]
Syntax Receive	CANSDO <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	
Default	-
Opmode	
Drive Status	
Start Firmware	2.15
Configuration	☐
Function Group	

Available in	S300/700
MMI ☐	CAN-Bus ☐
PROFIBUS ☐	Sercos ☐
SERCOS IDN:	
CAN Object No:	-
PROFIBUS PNU:	-
DPR Objekt Nr:	
Data Type BUS/DPR	INT32
Weighting 10^3	

Last Change of this Object	1.5
EEPROM	No

Short Description	Access to a CAN Service Data Object

Description

The ASCII-command CANSDO <object> <value>, where object gives index, subindex and length of a CAN-object dictionary entry, gives read and write access to a CAN-SDO.

Examples:

Write access:
CANSDO 0x2F001802 1 means object 1800 sub 2 shall be written with a value of 1 and has 1 Byte=8 Bit length. The length must be according to the type of the entry given in the object dictionary (2F = 1 byte, 2B = 2 bytes, 27 = 3 bytes, 23 = 4 bytes)

Read access:
CANSDO 0x40416000 reads object 6041 subindex 0.

For further information to SDO access refer to the CAN manual.

ASCII -Command	CARDDEL	Available in	S300/700
Syntax Transmit	CARDDEL	MMI ☐	CAN-Bus ☐
Syntax Receive	CARDDEL	PROFIBUS ☐	Sercos ☐
Type	Command		
Format	Command	SERCOS IDN:	
DIM	-	CAN Object No:	-
Range		PROFIBUS PNU:	-
Default	-	DPR Objekt Nr:	
Opmode	All		
Drive Status	Disabled		
Start Firmware	3.60		
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	
EEPROM	No

Short Description	deletes a file from the root diretory

Description

CARDDEL „Name“

Deletes the file „Name“ from the root directory of the card.

ASCII -Command	CARDDIR	Available in	S300/700
Syntax Transmit	CARDDIR	MMI ☐	CAN-Bus ☐
Syntax Receive	CARDDIR	PROFIBUS ☐	Sercos ☐
Type	Command		
Format	Command	SERCOS IDN:	
DIM	-	CAN Object No:	-
Range		PROFIBUS PNU:	-
Default	-	DPR Objekt Nr:	
Opmode	All		
Drive Status	Disabled		
Start Firmware	3.60		
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	
EEPROM	No

Short Description	display of the root directory

Description

CARDDIR

The root directory of the card is displayed with file size in brackets. Sub directories are marked with <DIR>.

ASCII -Command	CARDINFO	Available in	S300/700
Syntax Transmit	CARDINFO	MMI ☐	CAN-Bus ☐
Syntax Receive	CARDINFO	PROFIBUS ☐	Sercos ☐
Type	Command		
Format	Command	SERCOS IDN:	
DIM	-	CAN Object No:	-
Range		PROFIBUS PNU:	-
Default	-	DPR Objekt Nr:	
Opmode	All		
Drive Status	Disabled		
Start Firmware	3.60		
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	
EEPROM	No

Short Description	information about the SD card

Description

CARDINFO

Card information is displayed, e.g. the card type (MMC or SD) and the memory space.

ASCII -Command	CARDSAVE	Available in	S300/700
Syntax Transmit	CARDSAVE	MMI ☐	CAN-Bus ☐
Syntax Receive	CARDSAVE	PROFIBUS ☐	Sercos ☐
Type	Command		
Format	Command	SERCOS IDN:	
DIM	-	CAN Object No:	-
Range		PROFIBUS PNU:	-
Default	-	DPR Objekt Nr:	
Opmode	All		
Drive Status	Disabled		
Start Firmware	3.60		
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	
EEPROM	No

Short Description	save data from the drive to the SD memory card

Description

CARDSAVE <Option> “name"

Saves firmware/data component of the S700 to the card with filename "name". CARDSAVE concern the amplifier's firmware, and must therefore be operated with disabled output stage. When the command is finished, the amplifier is restarted automatically. Save and load of amplifier parameters (option PARAM) or Safety parameters (option SAFETY) can be operated with enabled output stage. Nearly all data which have been saved with the command CARDSAVE are binary coded, except the parameter file saved by CARDSAVE PARAM, that is saved as ASCII file. This file can be read and edit with the setup software DriveGUI.

ASCII -Command	CARDUPDATE
Syntax Transmit	CARDUPDATE
Syntax Receive	CARDUPDATE
Type	Command
Format	Command
DIM	
Range	
Default	-
Opmode	All
Drive Status	Disabled
Start Firmware	3.60
Configuration	☐
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☐
PROFIBUS	☐	Sercos	☐

SERCOS IDN:	
CAN Object No:	-
PROFIBUS PNU:	-
DPR Objekt Nr:	
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	
EEPROM	No

Short Description	load data from the SD memory card to the drive

Description

CARDUPDATE <Option> “name"

Loads a firmware/data component from the card to the flash Eeprom of the S700. CARDUPDATE concerns the amplifier's firmwareand must therefore be operated with disabled output stage only. When the command is finished, the amplifier is restarted automatically. Save and load of amplifier parameters (option PARAM) can be operated with enabled output stage. The command „CARDUPDATE <option> <name>“ expects for the "name" either a binary file or an S- Record file. Binary data have been usually saved before with the command CARDSAVE. S- Record files are for example the firmware file, that has been downloaded from our website.

ASCII -Command	CBAUD
Syntax Transmit	CBAUD [Data]
Syntax Receive	CBAUD <Data>
Type	Variable rw
Format	Integer16
DIM	kBaud
Range	10,20,50,100,125,250,333,500,666,800,1000
Default	500
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	1.0
Configuration	☑
Function Group	Basic Setup

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3515 (hex)
PROFIBUS PNU:	1621 (dec) IND = 1 (de
DPR Objekt Nr:	21

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Baud Rate CAN Bus

Description

The transmission rate is required by the fieldbus (CANopen) and for the parameter setting of the servo amplifier in multi-axis systems (see the Installation Manual). You can also use the keys on the front panel of the servo amplifier to set the baud rate (see the Installation Manual).

ASCII -Command	CCSAVE	Available in	S300/700
Syntax Transmit	CCSAVE [Data]	MMI ☐	CAN-Bus ☐
Syntax Receive	CCSAVE <Data>	PROFIBUS ☐	Sercos ☐
Type	Variable rw		
Format	Integer32	SERCOS IDN:	
DIM	-	CAN Object No:	-
Range	0 , 1	PROFIBUS PNU:	-
Default	-	DPR Objekt Nr:	
Opmode	All		
Drive Status	-		
Start Firmware	2.15		
Configuration	☐	Data Type BUS/DPR	Integer32
Function Group		Weighting 10^3	

Last Change of this Object	2.14
EEPROM	No

Short Description	Save / reset CANopen communication parameter

Description

Description

CCSAVE ist used to save the CANopen communiaction parameter in object area 1000h – 1FFFh into the drive or to reset the values to default.

Es sind zwei Werte zulässig:

0 – CANopen-communication parameter are set to default. The CAN COB ID's are recalculated for the set CAN address |ADDR|. The new data are active after drive restart.

1 – CANopen-communication parameter are saved into the drive.

ASCII -Command	CINPOS
Syntax Transmit	CINPOS [Data]
Syntax Receive	CINPOS <Data>
Type	Variable rw
Format	Integer16
DIM	-
Range	0 .. 3280
Default	0
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	2.51
Configuration	☑
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	386C (hex)
PROFIBUS PNU:	1676 (dec) IND = 33 (d
DPR Objekt Nr:	876

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.7
EEPROM	Yes

Short Description	Current “In Position” or “Target reached” message

Description

The CINPOS command defines the size of the Current In Position windows for the CINPOS state message (Bit 2 in DRVSTAT2). As long as the difference between the last commanded current (ICMD) and the actual current (I) is within the width of the current In-Position window (CINPOS) , a 1 is signaled, otherwise a 0. The signal change is not signaled before the new state was valid at least INPT0 milliseconds.

ASCII -Command	CLRFAULT
Syntax Transmit	CLRFAULT
Syntax Receive	CLRFAULT
Type	Command
Format	Command
DIM	-
Range	-
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3518 (hex)
PROFIBUS PNU:	1624 (dec) IND = 1 (de
DPR Objekt Nr:	24
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Clear drive fault

Description

The CLRFAULT command cancels the fault status of an amplifier. A hardware or software reset of the amplifier is carried out, depending on the type of fault that is present.
After a software reset the amplifier is immediately ready for operation, after a hardware reset the complete initialization phase must be gone through first (as for power-on).
As well as amplifier faults (display Fxx), the following warnings are also deleted.
- contouring/following error
- threshold monitoring

With the selection |CLRWARN|=1 (separate cancellation of warnings) this command will delete all warnings that are present.
A listing of all possible fault/error messages, with information on the hardware/software reset required, can be found in the description of the |ERRCODE| command.

The CLRFAULT command can either be implemented through the ASCII channel (CLRFAULT command) or via the CAN/PROFIBUS (with the “cancel fault” bit in the control word), or through a digital input (“Controller reset” function).

ASCII -Command	CLRHR
Syntax Transmit	CLRHR
Syntax Receive	CLRHR
Type	Command
Format	Command
DIM	-
Range	-
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3519 (hex)
PROFIBUS PNU:	1625 (dec) IND = 1 (de
DPR Objekt Nr:	25
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Bit 5 of status register STAT is cleared

Description

After every start-up or hardware reset of the drive, BIT 5 (0x20) of the |STAT| register is set to high. This bit is cleared by CLRHR.
Possible usage:
The Software User Interface uploads all the data stored in the drive, if the hardware reset Bit5 in the |STAT| register is set too high. When the parameter are completely uploaded, the Bit5 is set to low using the command CLRHR. The |STAT| register is monitored form the Software User Interface all the time and is checked, if it is low. When it becomes high again (drive had a reset) the Software User Interface uploads the data again.

ASCII -Command	CLRORDER
Syntax Transmit	CLRORDER
Syntax Receive	CLRORDER
Type	Command
Format	Command
DIM	-
Range	0;1 ..180; 192 .. 255
Default	-
Opmode	All
Drive Status	Enabled (only RAM) / Disabled
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700		
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	351A (hex)
PROFIBUS PNU:	1626 (dec) IND = 1 (de
DPR Objekt Nr:	26

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Deleting a Motion Task

Description

The command CLRORDER is used to delete a motion task given by the variable (e.g. CLRORDER 10, means: motion task 10 is deleted).

ASCII -Command	CLRWARN
Syntax Transmit	CLRWARN [Data]
Syntax Receive	CLRWARN <Data>
Type	Variable rw
Format	Unsigned8
DIM	-
Range	0, 1
Default	0
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	3.18
Configuration	☑
Function Group	-

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	351B (hex)
PROFIBUS PNU:	1627 (dec) IND = 1 (de
DPR Objekt Nr:	27
Data Type BUS/DPR	Unsigned8
Weighting 10^3	

Last Change of this Object	2.1
EEPROM	Yes

Short Description	Warning mode

Description

The CLRWARN configuration variable can be used to control the response of the drive if a warning occurs.

CLRWARN=0 Warnings will be displayed until the cause of the warning has been removed.
Warnings cannot be cancelled (exceptions: - contouring/following error, threshold detection).
CLRWARN=1 A warning is only displayed at the moment when it occurs (transition).
All warnings can be cancelled by the |CLRFAULT| command, or through the digital input (“Controller reset” function).

The listing of the possible warnings can be found in the description of the |STATCODE *| command.

ASCII -Command	CMDDLY
Syntax Transmit	CMDDLY [Data]
Syntax Receive	CMDDLY <Data>
Type	Variable rw
Format	Integer16
DIM	ms
Range	0 ... 160
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3670 (hex)
PROFIBUS PNU:	1968 (dec) IND = 1 (de
DPR Objekt Nr:	368
Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	1.1
EEPROM	Yes

Short Description	Command delay time for RS232

Description

The parameter CMDDLY defines a minimum delay time for answers from the drive via RS232 (ASCII). This enables the possibility for slower controller to communicate with the Drive.
The delay time CMDDLY defines the time between the last character of a ASCII string send to the drive to the first character of the answer.
The time between the characters cannot be changed, they are defined by the baud rate and the internal calculation times.
This time defines only the minimum delay time between the ASCII strings. The time can be longer, depending on the internal calculation time

ASCII -Command	COGFILT
Syntax Transmit	COGFILT [Data]
Syntax Receive	COGFILT <Data>
Type	Variable rw
Format	Float
DIM	-
Range	0...1
Default	0.1
Opmode	All
Drive Status	-
Start Firmware	2.21
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	36D3 (hex)
PROFIBUS PNU:	1667 (dec) IND = 17 (d
DPR Objekt Nr:	467

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	2.3
EEPROM	Yes

Short Description	Bandwidth factor for cogging-compensation filter

Description

The COGFILT parameter represents a bandwidth factor that is used to set up the filter that is applied to the current q-component command values recorded during generation of the cogging-compensation feed-forward table using CALCCOG. This parameter can have values in between 0 and 1. A value of 0 means that all frequency components are removed from the spectrum, a value of 1 means that no filtering is applied at all.

For more details please see the application note “Cogging Suppression” on our Wiki page.

ASCII -Command	COGMODE	Available in	S300/700
Syntax Transmit	COGMODE [Data]	MMI ☐	CAN-Bus ☑
Syntax Receive	COGMODE <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer8	SERCOS IDN:	
DIM	-	CAN Object No:	36CF (hex)
Range	0 .. 3	PROFIBUS PNU:	1663 (dec) IND = 17 (d
Default	0	DPR Objekt Nr:	463
Opmode	All		
Drive Status	-		
Start Firmware	2.21		
Configuration	☐	Data Type BUS/DPR	Integer8
Function Group		Weighting 10^3	

Last Change of this Object	2.14
EEPROM	Yes

Short Description	Cogging-compensation mode

Description

The COGMODE parameter is used to activate (value=1) / de-activate (value=0) the cogging compensation which compensates for the force / torque ripple that is caused by cogging.

since FW 5.38
COGMODE = 2 cogging operation runs in the velocity mode
COGMODE = 3 cogging operation runs in the velocity mode, it is a high-resolution cogging table created (higher accuracy).

The compensation is achieved through a position-dependent current feed-forward signal that is fetched from a table and added to the current q-component command signal. Before the cogging compensation can be used, a current feed-forward table has to be generated using the |CALCCOG| command.
Since the current feed-forward signal is related to the position-feedback |PFB|, the cogging compensation can only be used if the reference point has been set. In order for the cogging compensation to work properly, either it has to be ensured that the reference point is always located at the same position or the current feed-forward table has to be re-calculated using |CALCCOG| each time the reference point is set.

Please have a look:
|DRVCNFG3| = 0x80 (bit 7) PRD position (commutation) is used to calculate the cogging table and not PFB (position control).
This setting is useful for all rotary axes.

ASCII -Command	COGRED
Syntax Transmit	COGRED [Data]
Syntax Receive	COGRED <Data>
Type	Variable rw
Format	Float
DIM	-
Range	0.01 ... 1
Default	0.1
Opmode	All
Drive Status	-
Start Firmware	2.51
Configuration	☐
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☐
PROFIBUS	☐	Sercos	☐

SERCOS IDN:	
CAN Object No:	-
PROFIBUS PNU:	-
DPR Objekt Nr:	

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	2.12
EEPROM	Yes

Short Description	Factor for GV reduction during cogging measurement

Description

During generation of a new cogging-compensation table via |CALCCOG|, |GV| is reduced in order to prevent the current from oscillating. By default, during cogging measurement, |GV| is reduced to 10% of its regular value. For small GV values, this maybe insufficient to measure the cogging properly. Therefore, the parameter COGRED can be used to adjust the reduction of |GV| during the cogging measurement, ranging from 0.01 to 1. If the resulting reduced GV is below 0.05, it is internally limited to 0.05.

ASCII -Command	COLDSTART
Syntax Transmit	COLDSTART
Syntax Receive	COLDSTART
Type	Command
Format	Command
DIM	-
Range	-
Default	-
Opmode	All
Drive Status	Disabled
Start Firmware	1.0
Configuration	☐
Function Group	Drive Status

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3632 (hex)
PROFIBUS PNU:	1906 (dec) IND = 1 (de
DPR Objekt Nr:	306
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Drive reset

Description

Software reset (warm boot) of the servo amplifier. The servo amplifier must be disabled. The current faults are cancelled, the servo amplifier software is initialized and communications are re-established. This command has the same effect as turning the drive power off and then back on.

ASCII -Command	CONTINUE
Syntax Transmit	CONTINUE
Syntax Receive	CONTINUE
Type	Command
Format	Command
DIM	-
Range	-
Default	-
Opmode	8
Drive Status	Enabled
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	351D (hex)
PROFIBUS PNU:	1629 (dec) IND = 1 (de
DPR Objekt Nr:	29
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Continue last position order

Description

The CONTINUE command can be used to continue (and complete) a motion block that was previously interrupted by the |STOP| command. This is especially important for a motion block with relative paths.

ASCII -Command	CPHASE
Syntax Transmit	CPHASE [Data]
Syntax Receive	CPHASE <Data>
Type	Variable rw
Format	Integer8
DIM	
Range	0 .. 0x7FFF
Default	1
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	2.3
Configuration	☑
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	358B (hex)
PROFIBUS PNU:	1739 (dec) IND = 1 (de
DPR Objekt Nr:	139

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	2.13
EEPROM	Yes

Short Description	configuration of fault monitoring

Description

The parameter CPHASE configurates the error monitoring of the motor phases, I/O optioncard, feedback amplitudes (SinCos and resolver) as well the regen fault.

Have a look to |STATCODE *|

Bit	value	description
0	0x0001	=0 motor cable break supervision =1 no motor cable break supervision
1	0x0002	=0 amplitude supervision is active =1 no amplitude supervision
2	0x0004	=0 I/O card error/Warning are displayed =1 no I/O card error/Warning (since FW 5.45)
3	0x0008	=0 regen error supervision is active =1 no regen error supervision (since FW 5.67)
4	0x0010	=0 old resolver error supervision =1 extended resolver error supervision (since FW 5.78)
5	0x0020	=0 no resolver gradient check =1 resolver gradient check active (only when extended resolver error supervision active) (since FW 5.78)
6	0x0040	reserved
7	0x0080	= 1 no monitoring of the bus-off fault (F23)

ASCII -Command	CSCNFG
Syntax Transmit	CSCNFG [Data]
Syntax Receive	CSCNFG <Data>
Type	Variable rw
Format	Integer32
DIM	
Range	-2147483648 .. 2147483647
Default	0
Opmode	All
Drive Status	-
Start Firmware	5.18
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	38CA (hex)
PROFIBUS PNU:	1770 (dec) IND = 33 (d
DPR Objekt Nr:	970

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.9
EEPROM	Yes

Short Description	Configuration Variable for safety card

Description

The CSCNFG command returns the configuration options of the safety card in the form of a bit-variable.

Bit Beschreibung
0 =1 deactivates the setpoint monitoring in |OPMODE| 2+3 (otherwise OPMODE 2+3 is not possible with safety card!)
1 =1 deactivates the setpoint monitoring in all |OPMODE|
2 reserved
3 reserved
4 =1 status of motorbrake is send to the safety optioncard
5 =1 status of motorbrake is send to the safety optioncard and the drive is disabled
6..30 reserved
31 =1 |CLRFAULT| doesn't reset the safety optioncard, if there is no safety fault

ASCII -Command	CSENID
Syntax Transmit	CSENID [Data]
Syntax Receive	CSENID <Data>
Type	Variable rw
Format	Integer8
DIM	
Range	0 / 1
Default	-
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	5.00
Configuration	☑
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	38CB (hex)
PROFIBUS PNU:	1771 (dec) IND = 33 (d
DPR Objekt Nr:	971

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	2.13
EEPROM	Yes

Short Description	reactive current impression

Description

CSENID enables the impression of an reactive current (Id) if the active current portion (Iq) is not sufficient for the safety card.

The maximum value for the reactive current can be set via |CSIDMAX|. Id will be automatically reduced if Iq increases. Id is zero if Iq reaches |CSIDMAX|.

CSENID =1 will activate the reactive current impression (only if a safety card is installed).

Note: If the safety card is removed, the value for CSENID must reset to 0, otherwise a slot fault (F20) will be generated.

ASCII -Command	CSERR
Syntax Transmit	CSERR [Data]
Syntax Receive	CSERR <Data>
Type	Variable ro
Format	Integer32
DIM	
Range	-2147483648 .. 2147483647
Default	-
Opmode	All
Drive Status	
Start Firmware	5.18
Configuration	☐
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	
CAN Object No:	3892 (hex)
PROFIBUS PNU:	1714 (dec) IND = 33 (d
DPR Objekt Nr:	914
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.7
EEPROM	No

Short Description	Actual error values of the safety card

Description

The CSERR command returns the actual errors of the safety card in the form of a bit-variable.

Bit	Display	Description
0	o01	SS1, error at safety function 'Safe Stop 1'
1	o02	SS2, error at safety function 'Safe Stop 2'
2	o03	SOS, error at safety function 'Safe Operating Stop'
3	o04	SLS, error at safety function 'Safely Limited Speed'
4	o05	SSR, error at safety function 'Safe Speed Range'
5	o06	SDI, error at safety function 'Safe Direction'
6	o07	SBT, error at safety function 'Safe Brake Test'
7	o08	reserved
8	o09	reserved
9	o10	reserved
10	o11	reserved
11	o12	Digital Input, error wiring digital inputs
12	o13	Digital Output, error wiring/read back digital outputs
13	o14	Reference Voltage, error voltage monitoring
14	o15	Watchdog Test, error at watchdog test
15	o16	Memory Test, error at memory test (Flash/RAM)
16	o17	Timing Error (monitoring interrupt)
17	o18	Plausibility Position (Current), monitoring position via current signal
18	o19	Plausibility Position (Encoder), monitoring position via sensor signal (internal, external, target value)
19	o20	Plausibility Parameter, wrong drive parameter

20	o21	Plausibility Input/Config, input conditions do not match configuration
21	o22	Mismatch Data A-B, error data comparison channel A-B
22	o23	reserved
23	o24	reserved
24	o25	Flash Memory Error, error on erasing/writing flash memory
25	o26	Synchronization CPU A-B, error at chronological synchronization with channel A and B
26	o27	Watchdog, watchdog was fired
27	o28	Check Data / Parameter, check data/parameter (data communication, configuration)
28	o29	Timeout Data Transfer, timeout while transferring data/configuration
29	o30	Error CRC Calculation
30	o31	Check Device Data (serial number, version)
31	032	Error System Software (fatal)

ASCII -Command	CSIDMAX	Available in	S300/700		
Syntax Transmit	CSIDMAX [Data]	MMI	☐	CAN-Bus	☑
Syntax Receive	CSIDMAX <Data>	PROFIBUS	☑	Sercos	☐
Type	Variable rw				
Format	-	SERCOS IDN:			
DIM		CAN Object No:	38CC (hex)		
Range		PROFIBUS PNU:	1772 (dec) IND = 33 (d		
Default	-	DPR Objekt Nr:	972		
Opmode	All				
Drive Status					
Start Firmware	5.18				
Configuration	☐	Data Type BUS/DPR	-		
Function Group		Weighting 10^3			

Last Change of this Object	2.7
EEPROM	Yes

Short Description	Maximum value for reactive current command

Description

A value of 328 is equivalent to 10% DIPEAK.

See also |CSENID|.

ASCII -Command	CSIOSTAT
Syntax Transmit	CSIOSTAT [Data]
Syntax Receive	CSIOSTAT <Data>
Type	Variable ro
Format	Integer32
DIM	
Range	-2147483648 .. 2147483647
Default	-
Opmode	All
Drive Status	
Start Firmware	5.18
Configuration	☐
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	
CAN Object No:	3894 (hex)
PROFIBUS PNU:	1713 (dec) IND = 33 (d
DPR Objekt Nr:	913
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.7
EEPROM	No

Short Description	Input and output states of the safety card

Description

The CSIOSTAT command returns the input and output states of the safety card in the form of a bit-variable.

Bit Description

0 state input 'SS1 Activate'
1 state input 'SS2 Activate'
2 state input 'SOS Activate'
3 state input 'SLS Activate'
4 state input 'SSR Activate'
5 state input 'SDI Left Activate'
6 state input 'SDI Right Activate'
7 state input 'SBT Activate'
8 state output 'Ready'
9 staten output 'STO Acknowledge'
10 state output 'SOS Acknowledge'
11 state output 'SDI Acknowledge'
12 state output 'Safe Range Acknowledge'
13 state output 'SBT Acknowledge'
14 state two-pole output 'Safe Brake Control' (external brake)
15 state output 'STO SIL3' (second shutdown path)
16 state input 'SS1 SIL3/Reset'
29 brake ramp control SS2 (0=drive controlled, 1=controller controlled)
30 brake ramp control SS1 (0=drive controlled, 1=controller controlled)
31 emergency stop brake ramp at SS1 (0=not active, 1=active)

ASCII -Command	CSSTAT
Syntax Transmit	CSSTAT [Data]
Syntax Receive	CSSTAT <Data>
Type	Variable ro
Format	Integer32
DIM	
Range	0 .. 2147483647
Default	-
Opmode	All
Drive Status	
Start Firmware	5.18
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	
CAN Object No:	3890 (hex)
PROFIBUS PNU:	1712 (dec) IND = 33 (d
DPR Objekt Nr:	912
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.7
EEPROM	No

Short Description	Status information of safety card

Description

The CSSTAT command returns the internal status information of the safety card in the form of a bit-variable.

Bit Description
0 LED POWER, Status LED 'POWER' on the front panel of the safety card
1 LED RUN, Status LED 'RUN' on the front panel of the safety card
2 LED CONFIG, Status LED 'CONFIG' on the front panel of the safety card
3 LED FAULT, Status LED 'FAULT' on the front panel of the safety card
4 STO, internal state 'STO' (0 = STO inactive, 1 = STO active)
5 Download OK, successful download of the configuration file
8 STARTUP, bit is set if internal state of the safety card is 'STARTUP'
9 RUN, bit is set if internal state of the safety card is 'RUN'
10 STOP, bit is set if internal state of the safety card is 'STOP'
11 CONFIG, bit is set if internal state of the safety card is 'CONFIG'

ASCII -Command	CTUNE
Syntax Transmit	CTUNE
Syntax Receive	CTUNE
Type	Command
Format	Command
DIM	Hz
Range	500 ... 2500
Default	-
Opmode	All
Drive Status	Enabled
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700		
MMI	☐	CAN-Bus	☐
PROFIBUS	☐	Sercos	☐

SERCOS IDN:	
CAN Object No:	-
PROFIBUS PNU:	-
DPR Objekt Nr:	
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Calculate current parameters

Description

This command calculates current parameters. Set the |OPMODE| = 2 before starting.

An optional parameter for the bandwidth can be set for the tuning process.
The default data is with |FILTMODE| = 2 1800 Hz else 1200 HZ

ASCII -Command	CUPDATE
Syntax Transmit	CUPDATE
Syntax Receive	CUPDATE
Type	Command
Format	Command
DIM	-
Range	-
Default	-
Opmode	All
Drive Status	Disabled
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700
MMI ☐	CAN-Bus ☑
PROFIBUS ☑	Sercos ☐
SERCOS IDN:	
CAN Object No:	351F (hex)
PROFIBUS PNU:	1631 (dec) IND = 1 (de
DPR Objekt Nr:	31
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Program update (CAN bus)

Description

The CUPDATE command activates a function that can receive data through a CAN bus interface and save them in the program memory of the amplifier. After this function has been activated, no more commands will be accepted through the serial interface. The program PRGDOWN.EXE should be used for downloading data on the PC side. This program operates with the hardware in a handshaking procedure, and prepares the data for CAN transmission.

ASCII -Command	DAOFFSET1
Syntax Transmit	DAOFFSET1 [Data]
Syntax Receive	DAOFFSET1 <Data>
Type	Variable rw
Format	Float
DIM	mV
Range	-500 .. 500
Default	0
Opmode	All
Drive Status	-
Start Firmware	3.14
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	387C (hex)
PROFIBUS PNU:	1692 (dec) IND = 33 (d
DPR Objekt Nr:	892

Data Type BUS/DPR	Integer16
Weighting 10^3	*

Last Change of this Object	2.3
EEPROM	Yes

Short Description	Analog Offset Output 1

Description

This is an offset that is applied to the D/A converter for analog output 1. The offset value is given in internal units (counts). Scaling is as follows:

DAOFFSET1 = 2058 -10V
DAOFFSET1 = 1250 0V
DAOFFSET1 = 442 10V

|FW| > 5.00

ASCII -Command	DAOFFSET2
Syntax Transmit	DAOFFSET2 [Data]
Syntax Receive	DAOFFSET2 <Data>
Type	Variable rw
Format	Float
DIM	mV
Range	-500 .. 500
Default	0
Opmode	All
Drive Status	-
Start Firmware	3.14
Configuration	☐
Function Group	

Available in	S300/700		
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	387D (hex)
PROFIBUS PNU:	1693 (dec) IND = 33 (d
DPR Objekt Nr:	893

Data Type BUS/DPR	Integer16
Weighting 10^3	*

Last Change of this Object	2.3
EEPROM	Yes

Short Description	Analog Offset Output 2

Description

This is an offset that is applied to the D/A converter for analog output 2. The offset value is given in internal units (counts). Scaling is as follows:

DAOFFSET2 = 2058 -10V
DAOFFSET2 = 1250 0V
DAOFFSET2 = 442 10V

|FW| > 5.00

ASCII -Command	DEC
Syntax Transmit	DEC [Data]
Syntax Receive	DEC <Data>
Type	Variable rw
Format	Integer32
DIM	>> ACCUNIT
Range	
Default	
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	velocity

Available in	S300/700
MMI	☑
CAN-Bus	☑
PROFIBUS	☑
Sercos	☑

SERCOS IDN:	137
CAN Object No:	3522 (hex)
PROFIBUS PNU:	1634 (dec) IND = 1 (de
DPR Objekt Nr:	34

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.7
EEPROM	Yes

Short Description	Deceleration rate

Description

The DEC command defines the deceleration ramp for the velocity control loop. The DEC deceleration/braking ramp is only used for setpoint step changes that result in a velocity decrease (braking). The |ACC| parameter is used for acceleration.

The DEC braking ramp applies to all setpoint changes, whether they are provided in analog or digital form. Separate braking ramps (|DECSTOP|/|DECDIS|) are used for setpoint changes that are generated internally in emergency stop situations (e.g. amplifier fault, or removal of the amplifier enable).

See also |ACCUNIT|

ASCII -Command	DEC_X
Syntax Transmit	DEC_X [Data]
Syntax Receive	DEC_X <Data>
Type	Variable rw
Format	Integer16
DIM	>> ACCUNIT
Range	
Default	
Opmode	All
Drive Status	-
Start Firmware	3.07
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3878 (hex)
PROFIBUS PNU:	1688 (dec) IND = 33 (d
DPR Objekt Nr:	888

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.0
EEPROM	Yes

Short Description	Deceleration ramp velocity controller 2. Set

Description

see |PARCNFG|

ASCII -Command	DECDIS
Syntax Transmit	DECDIS [Data]
Syntax Receive	DECDIS <Data>
Type	Variable rw
Format	Integer32
DIM	>> ACCUNIT
Range	
Default	
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3523 (hex)
PROFIBUS PNU:	1635 (dec) IND = 1 (de
DPR Objekt Nr:	35

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Deceleration used on disable output stage

Description

When the output stage is disabled (removal of the hardware or software enable), the internal velocity setpoint is set to 0, using the preset DECDIS ramp. The output stage is only disabled when the actual velocity has fallen below the standstill threshold (|VEL0|). The DECDIS ramp only has an effect for motors with a configured brake (|MBRAKE|=1) or with the selection |STOPMODE|=1. With |STOPMODE|=0 the output stage is immediately disabled, and the drive coasts down.

See also |ACCUNIT|

ASCII -Command	DECR
Syntax Transmit	DECR [Data]
Syntax Receive	DECR <Data>
Type	Variable rw
Format	Integer32
DIM	>> ACCUNIT
Range	
Default	
Opmode	8
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Setting-up Mode

Available in	S300/700
MMI	☑
CAN-Bus	☑
PROFIBUS	☑
Sercos	☑

SERCOS IDN:	42
CAN Object No:	3524 (hex)
PROFIBUS PNU:	1636 (dec) IND = 1 (de
DPR Objekt Nr:	36

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Deceleration ramp for homing/jog modes

Description

The DECR command defines the braking ramp for jog mode or homing with the internal position control loop. The entry is made in ACCUNIT. If ACCUNIT=0 (acceleration in ms) DECR is defined to |PVMAX|.
When starting the homing/jog mode, the DECR deceleration ramp can, in some circumstances, be limited by the minimum acceleration time |PTMIN| (see description of the |PTMIN| parameter).

Details are shown at parameter |ACCUNIT| .

ASCII -Command	DECSTOP
Syntax Transmit	DECSTOP [Data]
Syntax Receive	DECSTOP <Data>
Type	Variable rw
Format	Integer32
DIM	>> ACCUNIT
Range	
Default	
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	velocity

Available in	S300/700
MMI ☑	CAN-Bus ☑
PROFIBUS ☑	Sercos ☑
SERCOS IDN:	P 3022
CAN Object No:	3525 (hex)
PROFIBUS PNU:	1637 (dec) IND = 1 (de
DPR Objekt Nr:	37
Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Quick stop – braking ramp for emergency situations

Description

In emergency stop situations, the internal setpoint goes to 0 using the preset DECSTOP ramp. The output stage is only disabled when the actual velocity has fallen below the standstill threshold (|VEL0|).
An emergency stop situation exists in the following cases:
- amplifier fault (with |ACTFAULT|=1)
- contouring/following error
- threshold monitoring (fieldbus devices)
- hardware/software limit switch activated
- quick stop function through the digital input (|INxMODE|=27)
- quick stop function through the fieldbus (control word)

see also |ACCUNIT|

ASCII -Command	DENA
Syntax Transmit	DENA [Data]
Syntax Receive	DENA <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	0, 1, 2
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	362D (hex)
PROFIBUS PNU:	1901 (dec) IND = 1 (de
DPR Objekt Nr:	301
Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	DPR software disable reset mode

Description

With external DPR-SLOT cards, it is possible to cancel existing instrument faults by removing the DPR software enable. This function can be activated or inhibited by using the DENA variable.

DENA=0 Removing the software enable causes a hardware/software reset of the amplifier.
The reset only takes place when a fault occurs, or the warning “contouring error” or “threshold monitoring activated” is present. (customer-specific protocol: Beckhoff).

DENA=1 Removing the software enable causes a hardware/software reset of the amplifier.
The reset only takes place when a fault occurs, or the warning “contouring error” or “threshold monitoring activated” is present.

DENA=2 No reset if the software enable is removed.

ASCII -Command	DI2T
Syntax Transmit	DI2T [Data]
Syntax Receive	DI2T <Data>
Type	Variable ro
Format	Integer 8
DIM	%
Range	0 ... 100
Default	-
Opmode	All
Drive Status	
Start Firmware	1.0
Configuration	☐
Function Group	

Available in	S300/700
MMI ☐	CAN-Bus ☑
PROFIBUS ☑	Sercos ☐
SERCOS IDN:	
CAN Object No:	3559 (hex)
PROFIBUS PNU:	1689 (dec) IND = 1 (de
DPR Objekt Nr:	89
Data Type BUS/DPR	Integer 8
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Drive I2T load

Description

This variable returns the average current as a percentage of the continuous current (see |DICONT|). The average current is filtered with a time constant of 16 seconds.

ASCII -Command	DICONT
Syntax Transmit	DICONT
Syntax Receive	DICONT <Data>
Type	Variable ro
Format	Float
DIM	A
Range	1.5 .. 20.0
Default	Hardware Defined
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700
MMI	☑
CAN-Bus	☑
PROFIBUS	☑
Sercos	☑

SERCOS IDN:	112
CAN Object No:	3527 (hex)
PROFIBUS PNU:	1639 (dec) IND = 1 (de
DPR Objekt Nr:	39

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	1.0
EEPROM	No

Short Description	Drive continuous current

Description

The continuous current rating of the drive. DICONT is depending on |VBUSBAL| for drive 403, 406, 614 and 670.

ASCII -Command	DIFVAR	Available in	S300/700
Syntax Transmit	DIFVAR	MMI ☐	CAN-Bus ☐
Syntax Receive	DIFVAR <Data>	PROFIBUS ☐	Sercos ☐
Type	Multi-line Return Command		
Format	-	SERCOS IDN:	
DIM	-	CAN Object No:	-
Range	-	PROFIBUS PNU:	-
Default	-	DPR Objekt Nr:	
Opmode	All		
Drive Status	-		
Start Firmware	2.13		
Configuration	☐	Data Type BUS/DPR	-
Function Group	-	Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	List variables with values

Description

This command produces a list of parameters with settings that differ from the default values. The list contains entries in the following form:

PARAMETER Value (Default)

PARAMETER = Parameter name
Value = the actual parameter setting
Default = the default value for the parameter

ASCII -Command	DILIM
Syntax Transmit	DILIM [Data]
Syntax Receive	DILIM <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	0, 1
Default	0
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	1.0
Configuration	☑
Function Group	-

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	362C (hex)
PROFIBUS PNU:	1900 (dec) IND = 1 (de
DPR Objekt Nr:	300

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	DPR current limit

Description

With external DPR-SLOT cards it is possible to limit the drive current through the DPR (RAM interface to the SLOT card). This function must be enabled through the DILIM configuration variable.

ASCII -Command	DIPEAK
Syntax Transmit	DIPEAK
Syntax Receive	DIPEAK <Data>
Type	Variable ro
Format	Float
DIM	A
Range	3.0 .. 70.0
Default	Hardware Defined
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700
MMI	☑
CAN-Bus	☑
PROFIBUS	☑
Sercos	☑

SERCOS IDN:	110
CAN Object No:	3529 (hex)
PROFIBUS PNU:	1641 (dec) IND = 1 (de
DPR Objekt Nr:	41

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	1.0
EEPROM	No

Short Description	Drive peak rated current

Description

The peak rated current of the drive.

ASCII -Command	DIR
Syntax Transmit	DIR [Data]
Syntax Receive	DIR <Data>
Type	Variable rw
Format	Integer16
DIM	-
Range	0 ... 2047
Default	21
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	0.87
Configuration	☑
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	43 + 55
CAN Object No:	352A (hex)
PROFIBUS PNU:	1642 (dec) IND = 1 (de
DPR Objekt Nr:	42
Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.13
EEPROM	Yes

Short Description	Direction of different actuall values

Description

The DIR variable defines the count direction for feedback information
The DIR variable can be considered as a 16-bit variable, whereby the single bits define the count direction for different feedback units.
Bit=1 means a positive direction (cw), Bit=0 a negative direction (ccw)

Bit 0 (0x01) count direction for |FBTYPE| unit (=1 positive direction)
Bit 1 (0x02)
Bit 2 (0x04) count direction for |EXTPOS| unit (=1 positive direction)
Bit 3 (0x08)
Bit 4 (0x10) count direction for |GEARMODE| unit (=1 positive direction)
Bit 5 (0x20)
Bit 6 (0x40) =1 inverse commutation
Bit 7 (0x80) =1 inverse encoder absolute position (ENDAT,HYPERFACE, BISS)
Bit 8 (0x100) = 1 inverse counting direction for analog Hall via |ANIN1|/|ANIN2|
Bit 9 (0x200) = 1 inverse counting direction for analog Hall via X1 (sinus+/sinus-)

ASCII -Command	DIRIN
Syntax Transmit	DIRIN [Data]
Syntax Receive	DIRIN <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	0...2147483647
Default	0
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	3.66
Configuration	☑
Function Group	

Available in	S300/700
MMI ☐	CAN-Bus ☑
PROFIBUS ☑	Sercos ☐
SERCOS IDN:	
CAN Object No:	389D (hex)
PROFIBUS PNU:	1725 (dec) IND = 33 (d
DPR Objekt Nr:	925
Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.4
EEPROM	Yes

Short Description	polarity of the digital inputs

Description

Defines the polarity of the digital inputs of the drive
DIRIN is a bit parameter. A single bit x of this variable is assigned to the digital input INx.
A bit state of 1 inverts the corresponding digital input.

This function is available only for the inputs |IN1|,|IN2|,|IN3|,|IN4| (|IN21|,|IN22| for S700)

ASCII -Command	DIROUT
Syntax Transmit	DIROUT [Data]
Syntax Receive	DIROUT <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	
Default	0
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	3.05
Configuration	☑
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	385F (hex)
PROFIBUS PNU:	1663 (dec) IND = 33 (d
DPR Objekt Nr:	863
Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.0
EEPROM	Yes

Short Description	polarity of the digital outputs

Description

Defines the polarity of the digital outputs. DIROUT is a bit parameter. A single bit x of this variable is assigned to the digital output OUTPUTx.A bit state of 1 inverts the corresponding digital output.

Outputs main device 2 (O1 - O2)
Outputs option card 8 (O3 – O10)
virtual outputs 8 (O11 - O18)

ASCII -Command	DIS	Available in	S300/700
Syntax Transmit	DIS	MMI ☑	CAN-Bus ☑
Syntax Receive	DIS	PROFIBUS ☑	Sercos ☐
Type	Command		
Format	-	SERCOS IDN:	
DIM	-	CAN Object No:	352B (hex)
Range	-	PROFIBUS PNU:	1643 (dec) IND = 1 (de
Default	-	DPR Objekt Nr:	43
Opmode	All		
Drive Status	Enabled		
Start Firmware	1.0		
Configuration	☐	Data Type BUS/DPR	-
Function Group	Amplifier	Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Software-Disable

Description

The DIS command sets the software enable for the output stage to 0. Depending on the configuration (see |MBRAKE|,| STOPMODE|), the drive will coast down, or be run down under control.

ASCII -Command	DISDPR
Syntax Transmit	DISDPR [Data]
Syntax Receive	DISDPR <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	0, 1
Default	0
Opmode	All
Drive Status	Disable
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3673 (hex)
PROFIBUS PNU:	1971 (dec) IND = 1 (de
DPR Objekt Nr:	371

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	-

Short Description	Disable DPR access

Description

DISDPR=1 disables the write access of e.g. Lightbus option boards to the drive. Read access is still possible. This enables the service functionality via PC even if the Bus is running.

DISDPR=0 Full access from the controller side.
DISDPR=1 Only read access.

This parameter is not stored in the EEPROM.

ASCII -Command	DNBAUD
Syntax Transmit	DNBAUD [Data]
Syntax Receive	DNBAUD <Data>
Type	Variable rw
Format	Integer8
DIM	kBaud
Range	125,250,500
Default	125
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	369F (hex)
PROFIBUS PNU:	2015 (dec) IND = 1 (de
DPR Objekt Nr:	415
Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	Yes

Short Description	DeviceNet baud rate

Description

The baud rate switch on the DeviceNet option card may be set to 0 (125 KBaud), 1 (250 KBaud) or 2 (500 KBaud). If the switch is set to a value greater than 2, the baud rate is configurable through the terminal parameter DNBAUD and through DeviceNet. If the switch is set from 0 to 2, the baud rate cannot be controlled with DNBAUD or DeviceNet.

ASCII -Command	DNDUMP	Available in	S300/700
Syntax Transmit	DNDUMP [Data]	MMI ☐	CAN-Bus ☐
Syntax Receive	DNDUMP <Data>	PROFIBUS ☐	Sercos ☐
Type	Variable rw		
Format	Command	SERCOS IDN:	
DIM	-	CAN Object No:	-
Range		PROFIBUS PNU:	-
Default	-	DPR Objekt Nr:	
Opmode	All		
Drive Status	-		
Start Firmware	1.0		
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.12
EEPROM	-

Short Description	Debugging information DeviceNet

Description

DNDUMP prints out debugging information with the status of the DeviceNet connection.

ASCII -Command	DNMACID
Syntax Transmit	DNMACID [Data]
Syntax Receive	DNMACID <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	0...63
Default	63
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	

Available in	S300/700
MMI ☐	CAN-Bus ☑
PROFIBUS ☑	Sercos ☐
SERCOS IDN:	
CAN Object No:	36A0 (hex)
PROFIBUS PNU:	2016 (dec) IND = 1 (de
DPR Objekt Nr:	416
Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	MACID (Adress) for DeviceNet card

Description

The MACID (address) switches on the DeviceNet option card may be set to a valid address from 0 to 63. If the switches are set to a value greater than 63, the MACID is configurable through the terminal parameter DNMACID and through DeviceNet. If the switches are set from 0 to 63, the MACID cannot be controlled with DNMACID or DeviceNet.

ASCII -Command	DOVRIDE
Syntax Transmit	DOVRIDE [Data]
Syntax Receive	DOVRIDE <Data>
Type	Variable rw
Format	Integer16
DIM	-
Range	0 .. 8192
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	36B6 (hex)
PROFIBUS PNU:	2038 (dec) IND = 1 (de
DPR Objekt Nr:	438

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Digital override factor

Description

If the digital Override function is selected (see |OVRIDE|=3), DOVRIDE gives the possibility to change the digital scaling.

The scaling is:

DOVRIDE=0 Motion task speed is 0 %
DOVRIDE=8192 Motion task speed is 100 %

ASCII -Command	DPRILIMIT
Syntax Transmit	DPRILIMIT [Data]
Syntax Receive	DPRILIMIT <Data>
Type	Variable rw
Format	Integer16
DIM	-
Range	0 .. 3280
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3658 (hex)
PROFIBUS PNU:	1944 (dec) IND = 1 (de
DPR Objekt Nr:	344

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	No

Short Description	Digital Limiting of the peak Current via DPR

Description

Digiatl Limiting of the peak current via DPR.

The scaling is:
DPRILIMIT=3280 Current limited to DIPEAK
DPRILIMIT=0 Current limited to 0 A

If the drive is switched on, DPRILIMIT is set to 3280 (no current limit). DPRILIMIT is not stored in EEPROM. So to enable the limit, write the data to the variable via fieldbus, RS232 or I/O command buffer.

To enable this function, DILIM has to be set to "1".

Attention: for EtherCAT SDO communication please use the object 0x2061 SubIndex 0

ASCII -Command	DPRSTATE	Available in	S300/700
Syntax Transmit	DPRSTATE [Data]	MMI ☐	CAN-Bus ☐
Syntax Receive	DPRSTATE <Data>	PROFIBUS ☐	Sercos ☐
Type	Variable ro		
Format	-	SERCOS IDN:	
DIM		CAN Object No:	-
Range		PROFIBUS PNU:	-
Default		DPR Objekt Nr:	
Opmode			
Drive Status			
Start Firmware	1.0		
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.12
EEPROM	No

Short Description	DPR state

Description

The parameter DPRSTATE is used to get debug information of the DPR based interfaces. e.g. DPRSTATE is used for phase startup and SDO communication.

ASCII -Command	DPRVAR1_16
Syntax Transmit	-
Syntax Receive	-
Type	Variable rw
Format	Integer32
DIM	-
Range	-2147483648 .. 2147483647
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	-
PROFIBUS PNU:	-
DPR Objekt Nr:	

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.9
EEPROM	Yes

Short Description	macro temp variable

Description

DPRVAR1 Object No = 422 CAN-Objekt 36A6 (hex)PROF-PNU 2022 (dec) IND = 1 (dec)
DPRVAR2 Object No = 423 CAN-Objekt 36A7 (hex)PROF-PNU 2023 (dec) IND = 1 (dec)
DPRVAR3 Object No = 424 CAN-Objekt 36A8 (hex)PROF-PNU 2024 (dec) IND = 1 (dec)
DPRVAR4 Object No = 425 CAN-Objekt 36A9 (hex)PROF-PNU 2025 (dec) IND = 1 (dec)
DPRVAR5 Object No = 426 CAN-Objekt 36AA (hex)PROF-PNU 2026 (dec) IND = 1 (dec)
DPRVAR6 Object No = 427 CAN-Objekt 36AB (hex)PROF-PNU 2027 (dec) IND = 1 (dec)
DPRVAR7 Object No = 428 CAN-Objekt 36AC (hex)PROF-PNU 2028 (dec) IND = 1 (dec)
DPRVAR8 Object No = 429 CAN-Objekt 36AD (hex)PROF-PNU 2029 (dec) IND = 1 (dec)
DPRVAR9 Object No = 430 CAN-Objekt 36AE (hex)PROF-PNU 2030 (dec) IND = 1 (dec)
DPRVAR10 Object No = 431 CAN-Objekt 36AF (hex)PROF-PNU 2031 (dec) IND = 1 (dec)
DPRVAR11 Object No = 432 CAN-Objekt 36B0 (hex)PROF-PNU 2032 (dec) IND = 1 (dec)
DPRVAR12 Object No = 433 CAN-Objekt 36B1 (hex)PROF-PNU 2033 (dec) IND = 1 (dec)
DPRVAR13 Object No = 434 CAN-Objekt 36B2 (hex)PROF-PNU 2034 (dec) IND = 1 (dec)
DPRVAR14 Object No = 435 CAN-Objekt 36B3 (hex)PROF-PNU 2035 (dec) IND = 1 (dec)
DPRVAR15 Object No = 436 CAN-Objekt 36B4 (hex)PROF-PNU 2036 (dec) IND = 1 (dec)
DPRVAR16 Object No = 437 CAN-Objekt 36B5 (hex)PROF-PNU 2037 (dec) IND = 1 (dec)

ASCII -Command	DPV17_64
Syntax Transmit	DPV17_64 [Data]
Syntax Receive	DPV17_64 <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	-2147483648 .. 2147483647
Default	0
Opmode	All
Drive Status	-
Start Firmware	
Configuration	☐
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	-
PROFIBUS PNU:	-
DPR Objekt Nr:	
Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	variable for macro or PLC program

Description

variable for macro or PLC program

DPV17 Objekt Nr = 700 CAN-Objekt 0x37BC (hex)PROF-PNU 1900 (dec) IND = 17
DPV18 Objekt Nr = 701 CAN-Objekt 0x37BD (hex)PROF-PNU 1901 (dec) IND = 17
DPV19 Objekt Nr = 702 CAN-Objekt 0x37BE (hex)PROF-PNU 1902 (dec) IND = 17
DPV20 Objekt Nr = 703 CAN-Objekt 0x37BF (hex)PROF-PNU 1903 (dec) IND = 17
DPV21 Objekt Nr = 704 CAN-Objekt 0x37C0 (hex)PROF-PNU 1904 (dec) IND = 17
DPV22 Objekt Nr = 705 CAN-Objekt 0x37C1 (hex)PROF-PNU 1905 (dec) IND = 17
DPV23 Objekt Nr = 706 CAN-Objekt 0x37C2 (hex)PROF-PNU 1906 (dec) IND = 17
DPV24 Objekt Nr = 707 CAN-Objekt 0x37C3 (hex)PROF-PNU 1907 (dec) IND = 17
DPV25 Objekt Nr = 708 CAN-Objekt 0x37C4 (hex)PROF-PNU 1908 (dec) IND = 17
DPV26 Objekt Nr = 709 CAN-Objekt 0x37C5 (hex)PROF-PNU 1909 (dec) IND = 17
DPV27 Objekt Nr = 710 CAN-Objekt 0x37C6 (hex)PROF-PNU 1910 (dec) IND = 17
DPV28 Objekt Nr = 711 CAN-Objekt 0x37C7 (hex)PROF-PNU 1911 (dec) IND = 17
DPV29 Objekt Nr = 712 CAN-Objekt 0x37C8 (hex)PROF-PNU 1912 (dec) IND = 17
DPV30 Objekt Nr = 713 CAN-Objekt 0x37C9 (hex)PROF-PNU 1913 (dec) IND = 17
DPV31 Objekt Nr = 714 CAN-Objekt 0x37CA (hex)PROF-PNU 1914 (dec) IND = 17
DPV32 Objekt Nr = 715 CAN-Objekt 0x37CB (hex)PROF-PNU 1915 (dec) IND = 17
DPV33 Objekt Nr = 716 CAN-Objekt 0x37CC (hex)PROF-PNU 1916 (dec) IND = 17
DPV34 Objekt Nr = 717 CAN-Objekt 0x37CD (hex)PROF-PNU 1917 (dec) IND = 17
DPV35 Objekt Nr = 718 CAN-Objekt 0x37CE (hex)PROF-PNU 1918 (dec) IND = 17
DPV36 Objekt Nr = 719 CAN-Objekt 0x37CF (hex)PROF-PNU 1919 (dec) IND = 17
DPV37 Objekt Nr = 720 CAN-Objekt 0x37D0 (hex)PROF-PNU 1920 (dec) IND = 17
DPV38 Objekt Nr = 721 CAN-Objekt 0x37D1 (hex)PROF-PNU 1921 (dec) IND = 17
DPV39 Objekt Nr = 722 CAN-Objekt 0x37D2 (hex)PROF-PNU 1922 (dec) IND = 17
DPV40 Objekt Nr = 723 CAN-Objekt 0x37D3 (hex)PROF-PNU 1923 (dec) IND = 17
DPV41 Objekt Nr = 724 CAN-Objekt 0x37D4 (hex)PROF-PNU 1924 (dec) IND = 17
DPV42 Objekt Nr = 725 CAN-Objekt 0x37D5 (hex)PROF-PNU 1925 (dec) IND = 17
DPV43 Objekt Nr = 726 CAN-Objekt 0x37D6 (hex)PROF-PNU 1926 (dec) IND = 17
DPV44 Objekt Nr = 727 CAN-Objekt 0x37D7 (hex)PROF-PNU 1927 (dec) IND = 17
DPV45 Objekt Nr = 728 CAN-Objekt 0x37D8 (hex)PROF-PNU 1928 (dec) IND = 17
DPV46 Objekt Nr = 729 CAN-Objekt 0x37D9 (hex)PROF-PNU 1929 (dec) IND = 17
DPV47 Objekt Nr = 730 CAN-Objekt 0x37DA (hex)PROF-PNU 1930 (dec) IND = 17
DPV48 Objekt Nr = 731 CAN-Objekt 0x37DB (hex)PROF-PNU 1931 (dec) IND = 17
DPV49 Objekt Nr = 732 CAN-Objekt 0x37DC (hex)PROF-PNU 1932 (dec) IND = 17
DPV50 Objekt Nr = 733 CAN-Objekt 0x37DD (hex)PROF-PNU 1933 (dec) IND = 17
DPV51 Objekt Nr = 734 CAN-Objekt 0x37DE (hex)PROF-PNU 1934 (dec) IND = 17
DPV52 Objekt Nr = 735 CAN-Objekt 0x37DF (hex)PROF-PNU 1935 (dec) IND = 17
DPV53 Objekt Nr = 736 CAN-Objekt 0x37E0 (hex)PROF-PNU 1936 (dec) IND = 17
DPV54 Objekt Nr = 737 CAN-Objekt 0x37E1 (hex)PROF-PNU 1937 (dec) IND = 17
DPV55 Objekt Nr = 738 CAN-Objekt 0x37E2 (hex)PROF-PNU 1938 (dec) IND = 17
DPV56 Objekt Nr = 739 CAN-Objekt 0x37E3 (hex)PROF-PNU 1939 (dec) IND = 17
DPV57 Objekt Nr = 740 CAN-Objekt 0x37E4 (hex)PROF-PNU 1940 (dec) IND = 17
DPV58 Objekt Nr = 741 CAN-Objekt 0x37E5 (hex)PROF-PNU 1941 (dec) IND = 17

DPV59 Objekt Nr = 742 CAN-Objekt 0x37E6 (hex)PROF-PNU 1942 (dec) IND = 17
DPV60 Objekt Nr = 743 CAN-Objekt 0x37E7 (hex)PROF-PNU 1943 (dec) IND = 17
DPV61 Objekt Nr = 744 CAN-Objekt 0x37E8 (hex)PROF-PNU 1944 (dec) IND = 17
DPV62 Objekt Nr = 745 CAN-Objekt 0x37E9 (hex)PROF-PNU 1945 (dec) IND = 17
DPV63 Objekt Nr = 746 CAN-Objekt 0x37EA (hex)PROF-PNU 1946 (dec) IND = 17
DPV64 Objekt Nr = 747 CAN-Objekt 0x37EB (hex)PROF-PNU 1947 (dec) IND = 17

ASCII -Command	DPWM
Syntax Transmit	DPWM [Data]
Syntax Receive	DPWM <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	0 .. 4
Default	0
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	2.13
Configuration	☑
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3676 (hex)
PROFIBUS PNU:	1974 (dec) IND = 1 (de
DPR Objekt Nr:	374

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	2.13
EEPROM	Yes

Short Description	PWM/current loop/position loop configuration

Description

The configuration parameter DPWM defines the PWM, current and position loop frequency.
Following settings are possible:

DPWM=0 PWM frequency 8 KHz, current loop 16 KHz, position loop 4 KHz
DPWM=1 PWM frequency 16 KHz, current loop 32 KHz, position loop 4 KHz (only ARM7, |FW| 3.xx)
DPWM=2 PWM frequency 16 KHz, current loop 16 KHz, position loop 4 KHz
DPWM=3 PWM frequency 8 KHz, current loop 16 KHz, position loop 8 KHz
DPWM=4 PWM frequency 4 KHz, current loop 16 KHz, position loop 4 KHz (since |FW| >= 5.39)

attention:
for DPWM = 1 or 2 (16kHz) the current is limited as follows:
|IPEAK| is limited to 60% of |DIPEAK|
for 230V devices rated current is limited to 80% of |DICONT|
for 400V devices rated current is limited to 60% of |DICONT|

ASCII -Command	DR_TYPE
Syntax Transmit	DR_TYPE
Syntax Receive	DR_TYPE <Data>
Type	Variable ro
Format	Integer16
DIM	-
Range	1 .. 8
Default	-
Opmode	-
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	352E (hex)
PROFIBUS PNU:	1646 (dec) IND = 1 (de
DPR Objekt Nr:	46
Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Gives the Output Stage Indentification

Description

This command can be used to read the drive type.

ASCII -Command	DREF
Syntax Transmit	DREF [Data]
Syntax Receive	DREF <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	0...34
Default	0
Opmode	8
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Setting-up Mode

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	352C (hex)
PROFIBUS PNU:	1644 (dec) IND = 1 (de
DPR Objekt Nr:	44

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Direction for Homing

Description

The DREF parameter can be used to define the preferred direction of motion for a homing operation and for positioning with a modulo-axes.

Bits 0..3 are used for homing, Bits 4..7 for modulo-axis (|POSCNFG|=1).

The possible combinations are shown in the table.

If a homing mode with zero puls is selected DREF should be set to 2,18 or 34.

See also |POSCNFG|

	Homing - Direction	Modulo - Direction
DREF = 0	negative	negative
DREF = 1	positive	negative
DREF = 2	shortest distance	negative
DREF =4	negative movement without reversing	>= version 1.30 DREF =4 homing direction negativ (like DREF=0),no positive movement on reference switch or limit switch This setting is only usefull for |NREF|=1,3.
DREF = 5	potitive movement without reversing	>= version 1.30 DREF =5 homing direction positive (like DREF=0),no negative movement on reference switch or limit switch This setting is only usefull for |NREF|=1,3.
DREF = 16	negative	positive
DREF = 17	positive	positive
DREF = 18	shortest distance	positive
DREF = 32	negative	shortest distance
DREF = 33	positive	shortest distance
DREF = 34	shortest distance	shortest distance

ASCII -Command	DRIVE
Syntax Transmit	DRIVE
Syntax Receive	DRIVE <Data>
Type	Variable ro
Format	Integer32
DIM	-
Range	32Bit
Default	-
Opmode	All
Drive Status	-
Start Firmware	0.71
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3677 (hex)
PROFIBUS PNU:	1975 (dec) IND = 1 (de
DPR Objekt Nr:	375

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.11
EEPROM	No

Short Description	type of the servo drive (drive family

Description

The variable DRIVE returns the type of the servo drive (drive family).

S700/S300(ARM9) only
Bit 0…7 reserved
Bit 8 = 1 230V-layout
= 0 400V-layout
Bit 9 = 1 P-layout (12A/24A)
Bit 10 = 1 ARM9 (S300)
Bit 11 = 1 support the servo pump functionality through firmware
Bit 16…31 amplifier description e.g. 712

With the parameter |VER| * or SDO-Objekt 0x1009 (for CAN or EtherCAT) the layout version in the format year/calendar week can be queried

layout-version older than 1007: S700/HW2.0/FW 3.xx.
layout-version higher/equal to 1007: S700/HW2.1/FW 5.xx.

ASCII -Command	DRVCNFG
Syntax Transmit	DRVCNFG [Data]
Syntax Receive	DRVCNFG <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	long int
Default	0
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	2.13
Configuration	☑
Function Group	-

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3672 (hex)
PROFIBUS PNU:	1970 (dec) IND = 1 (de
DPR Objekt Nr:	370

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.14
EEPROM	Yes

Short Description	Configuration parameter for additional drive functionality

Description

The configuration parameter offers the possibility to change/correct the behaviour of the servo amplifier via setting of configuration bits. A resetted bit results in the default or old behaviour of the drive.

The chosen bit combination has to be given as decimal number.

Example: If bit 2 and 5 are set the number is 2^2+2^5 = 4 + 32 = 36

Bit	significance	Description
0	0x1	reserved
1	0x2	reserved
2	0x4	reserved
3	0x8	reserved
4	0x10	reserved
5	0x20	reserved
6	0x40	reserved
7	0x80	reserved
8	0x100	= 1 A single turn absolute sine encoder is executed as a multi turn encoder. On power up the absolute position of the single turn absolute encoder is read and stored in |PFB|. Homing is not required. This setting is also used for analog hall feedbacks with setting |ENCLINES| = 1
9	0x200	reserved
10	0x400	reserved
11	0x800	reserved
12	0x1000	reserved

13	0x2000	= 1 Configuration for following tasks: At start of the following task it's checked if the planed moving distance is smaller than the deceleration distance. In case the result is positive the deceleration ramp of the active motion task is used. = 0 The following task is always started. The braking ramp can be very fast.
14	0x4000	reserved
15	0x8000	= 1 Endat-position will be read only once = 0 Endat-position will be read multiple times (up to 5). THE absolute position will be taken only if value is equal every time. see also |FBTYPE|=4
16	0x1 0000	= 1 With following tasks the acceleration ramp of it will be taken always = 0 One of the following ramps is taken: - Is the velocity of the following task greater and in the same direction, the acceleration ramp of the following task is taken - Is the velocity of the following task less and in the same direction, the braking ramp of the former task is taken - Is the velocity of the following task is in the opposite direction, the braking ramp of the first is taken and the acceleration ramp of the following task
17	0x2 0000	reserved
18	0x4 0000	reserved
19	0x8 0000	= 1 The external position |PFB0| won't be reset at end of homing = 0 The external position |PFB0| will be set to |ROFFS| at end of homing
20	0x10 0000	reserved
21	0x20 0000	= 1 no checksum verification of EQI feedback = 0 checksum verification of EQI feedback activated see also |FBTYPE| = 4
22	0x40 0000	= 1 no encoder-pulses with disabled power stage = 0 encoder-pulses also with disabled power stage
23	0x80 0000	reserved
24	0x100 0000	= 1 If bit 13 is set, the drive moves back to its target position = 0 No return
25	0x200 0000	reserved
26	0x400 0000	reserved
27	0x800 0000	reserved

28	0x1000 0000	reserved
29	0x2000 0000	reserved
30	0x4000 0000	= 1 Enhanced surveillance of SinCos amplitude. It isn't just the sum of the squares monitored but also the simple sum of the signals. Upon any breach |MAXDIFFI| the variable is incremented. Once MAXDIFFI exceeds MAXDIFF, a warning is generated n23. The variable MAXDIFFI is set to 0 every 8 minutes. When enabled, the value MAXDIFFI is a statement about the quality of SinCos signals.
31	0x8000 0000	reserved

ASCII -Command	DRVCNFG2
Syntax Transmit	DRVCNFG2 [Data]
Syntax Receive	DRVCNFG2 <Data>
Type	Variable rw
Format	Integer32
DIM	
Range	32 Bit
Default	268435456 (0x1000 0000)
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	1.0
Configuration	☑
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	36E4 (hex)
PROFIBUS PNU:	1684 (dec) IND = 17 (d
DPR Objekt Nr:	484

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.10
EEPROM	Yes

Short Description	Configuration parameter for additional drive functionality

Description

The variable is used to activate different additional functions of the drive.

Bit	significance	description
0	0x1	reserved
1	0x2	= 0 Latchfunction at digital input 1 is always activ = 1 Latchfunction at digital input has to be enabled by the controller or PLC programm with the variable ENA1P / ENA1N have a look to: |IN1MODE|=26
2	0x4	= 0 Latchfunction at digital input 2 is always activ = 1 Latchfunction at digital input 2 has to be enabled by the controller or PLC programm with the variable ENA2P / ENA2N have al look to: |IN2MODE|=26
3	-	1 = the assumption of the current pre-control of the external slot card (DPR) is activated. 0 = not accept of the current feedforward control of the external card
4..7	-	reserved
8	0x100	= 0 |ROFFSABS| – value saved in the drive EEPROM is used = 1 |ROFFSABS| is saved to the drive an read at startup.
9..13	-	reserved
14	0x4000	= 0 all warnings without n32 and n14 are reset by |CLRFAULT| = 1 all warnings without n14 and n23 and n32 are reset by |CLRFAULT|

15	0x8000	no drift, only available for |OPMODE| = 4 = 0 No drift function on master slave applications inactive = 1 No drift function is active Warning ! In case of emergency stop situations (harware, software limit switch or INxMODE=27 ...) reset on enabled drives the the motor can speed up automatic to maximum.
16	0x10000	= 0 At the end of homing (multiturn-feedback) the |ROFFSABS| is calculated and saved to EEPROM. = 1 No effect to |ROFFSABS| at the end of homing with multiturn feedback.
17	0x20000	= 0 flying change of the sine profile is set immediately = 1 forcing flying switching from sine motion tasks deceleration to 0 before following task can start
18	0x40000	|FW| >= 2.14 = 0 scope samplerate with 250 µs (4 kHz) the actual velocity value of the observer is used for the bode plot = 1 scope samplerate with 62.5 µs (16 kHz) In case of motor encoder feedback the sine cosine signal is used direct after the differentiation for the bode plot
19	0x80000	|FW| >=3.07 = 0 function |ANCNFG|=8 uses the absolut value of SW1-voltage.This -/+ 10V takes the range |SRND|...|ERND|. = 1 function |ANCNFG|=8 uses the value and the sign of SW1-voltage.This -/+ 10V takes the range |SRND| - (|ERND|-|SRND|)...|ERND|.
20	0x100000	|FW| >= 3.07 = 0 Monitoring of the SENSE-voltage aktiv (In case anexternal feedback is powered via X1) = 1 Monitoring of SENSE-voltage switched off. Turning off the monitor can be useful when an encoder is supplied externally and the internal power supply is not required. have a look to: |FBTYPE|
21	0x200000	|FW| >= 3.08 = 0 if at "STO disable" software-enable is set, by set of "AS-Option enable" the software-enable will be set automatically. = 1 at activate of "STO enable" the software-enable remains at 0 no matter of the status "AS-Option disable".

22	0x400000	S300/S700: This function may be used only from the |FW| >= 3.70/5.00 = 0 no cyclical storage of the upper 32 of the 64 potion bits = 1 save the upper 32 bits of the 64 bit position in the EEPROM. This function corresponds to the function |POSCNFG| == 2, but can also be used without modulo functionality. Attention: Due to the cyclic storage of the position values in Flash/EEPROM, the life of the memory can be shortened. Caused by saving of the 64-position every 1024 revolutions by a rotating with 3000 rpm drive, this results a cycle time of 20 seconds. The max. Number of write cycles is in continuous operation at 3000RPM: S300 with FW 3.xx: approximately 240 days S300/S700 with FW 5.xx: approximately 8800 days Activate this function with an older firmware can damage the internal flash memory.
23	0x800000	reserved
24	0x1000000	|FW| >= 3.06 = 0 |FBTYPE|=23,24 by switch on the absolute BISS-Position is read in sensor-mode. = 1 bei |FBTYPE|=23,24 wird beim Einschalten die absolute BISS-Position im Register-Mode eingelesen Diese Einstellung kann benutzt werden, falls es Probleme beim Einlesen des BISS-Gebers geben sollte.
25	0x2000000	= 0 in functions INxMODE = 43...46 the value of the compensating section is expected in INxTRIG = 1 in functions INxMODE = 43...46 the number of compensatory motion task in INxTRIG is expected.
26	0x4000000	= 0 the SinCos position detection using the digital information of the hardware counter and the "analog" information from the FPGA module. = 1 the SinCos position detection using only the information from the FPGA-detection module (debug purposes).
27	0x8000000	= 0 asynchron controlled motor field weakening = 1 asynchron controlled motor field weakening by voltage controller
28	0x10000000	
29	-	reserved
30	0x40000000	= 0 In case of error F04 or F25 an error reset will effect a hardware-reset. = 1 Every "ERROR-Reset"-Command resets a F04 or F25 error by software. For Resolver Fault, this bit has only effect on |FBTYPE| = 0 setting.

31	0x80000000	= 0 object chanel functions are executed by reading = 1 object chanel functions are executed by writing

ASCII -Command	DRVCNFG3
Syntax Transmit	DRVCNFG3 [Data]
Syntax Receive	DRVCNFG3 <Data>
Type	Variable rw
Format	Integer32
DIM	
Range	32 Bit
Default	24 (0x18)
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	3.57
Configuration	☑
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	386F (hex)
PROFIBUS PNU:	1679 (dec) IND = 33 (d
DPR Objekt Nr:	879

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.14
EEPROM	Yes

Short Description	Configuration parameter for additional drive functionality

Description

The configuration parameter DRVCNFG3 offers the possibility to change/correct the behaviour of the servo amplifier via setting of configuration bits.

Bit	significance	description
0	0x1	=1 old BISS format is activated (with 24 bits/revolution). This setting should be used with BISS encoders manufactured before 5/5/2006. =0 the position format is read out from the encoder
1	0x2	reserved
2	0x4	0 = reading of the digital input with 4 KHz 1 = reading of the digital input with 16 KHz
3	0x8	0 = current offset measurement starts after switch on the DC-bus voltage 1 = current offset measurement starts at power up the drive since FW 5.40
4	0x10	1 = software-reset for some "hard" faults without |COLDSTART|
5	0x20	reserved
6	0x40	1 = by using the latch function over EtherCat the DC is used instead the position
7	0x80	1 = using of |PRD| for cogging table (instead of |PFB|)
8	0x100	1 = motion task delay until brake off can be enabled by setting this bit.
9	0x200	reserved
10	0x400	reserved
11	0x800	reserved
12	0x1000	reserved
13	0x2000	reserved

14	0x4000	1 = motion task start in 4 KHz routine
15	0x8000	reserved
16	0x10000	1 = EtherCat XML Version 2 (motion tasks, free mapping)
17	0x20000	1 = Sercos: command break acknowledged by |STAT|=1
18	0x40000	1 = 6083/6084 only for position tasks
19	0x80000	1 = temeparture depending increase (10%) of rated current
20	0x100000	1 = position set point via |ROD| output
21	0x200000	1 = S300 no ROD-supervision
22	0x400000	0 = no analysis of INPOS-window by switch of the OPMODE's 1 = analysis of INPOS-window by switch to |OPMODE|=4 (jump of position is possible)
23	0x800000	1 = torque setpoint via object 6071 is taken directly, not in 1 ms task
24	0x1000000	1 = switches off the weakening operation (available since FW 5.17 and 3.80)
25	0x2000000	1 = by switch to |OPMODE| = 4 (Master/Slave)the internal velocity set point |VCMD| is not set to 0. (avalible since FW 5.17 and 3.80)
26	0x4000000	1 = activates a ramp correction for the table motion task stop procedure (until now active only for trapeze motion tasks). This ensures that the target position of the motion task cannot be exceeded when the motion task has been cancelled
27	0x8000000	1 = no automatic reset of the encoder-warning
28	0x100000000	1 = Activate encoder emulation output based on external encoder (PFB0)
29	0x200000000	reserved
30	0x400000000	1 = Activate cyclic EtherCAT commands with power stage disabled
31	0x800000000	1 = Allow 90° phase shift (instead of 45°) for field weakening

ASCII -Command	DRVCNFG4
Syntax Transmit	DRVCNFG4 [Data]
Syntax Receive	DRVCNFG4 <Data>
Type	Variable rw
Format	Integer32
DIM	
Range	32 Bit
Default	0
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	5.40
Configuration	☑
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	38CE (hex)
PROFIBUS PNU:	1774 (dec) IND = 33 (d
DPR Objekt Nr:	974

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.10
EEPROM	Yes

Short Description	Configuration parameter for additional drive functionality

Description

The configuration parameter DRVCNFG4 offers the possibility to change/correct the behaviour of the servo amplifier via setting of configuration bits.

Bit	value	description
0	0x1	1 = no reverse to the base position at wake&shake
1	0x2	1 = switch off the corrected calculation of PVMAX for SERCOS. The "old" calculation only works if |PGEARI| = 2^|PRBASE|, the new calculation solves this problem. When there is compatibility problems, this can be reversed through setting the bit.
2	0x4	1 = Enable the automatic reset for the SinCos module in the FPGA. By very disturbed SinCos signals, it may cause problems in the position detection. If this bit is set, the FPGA position is monitored by the help of the hardware counter. If required, the FPGA module is reset.
3	0x8	1 = monitoring by the software of the output stage fault F14. If this monitoring is active, F14 will be reported befor the hardware monitoring indicates this fault. This is a protection of the drive if the value of the current loop is worthly wrong! see also |ERRCODE *|
4	0x10	reserved
5	0x20	no monitoring of feedback fault F04 by using a digital encoder (ENDAT2.2 or BISS-C) for the second feedback

6	0x40	1 = no raise of the threshold at high regen power. To keep the regen in the DC-bus connection evenly, the threshold is increased with increasing power. This causes the regen resistor to be switched on after a delay. For drives that are not connected with the DC link, this effect can be undesirable.
7	0x80	1 = CAN/EtherCAT: the output stage is not enabled in the DS402 status "Switched On".
8	0x100	1 = EtherCAT state "Operation Enable" is only reported when the command values are accepted. This state isn't reported when the power stage is enabled (message only after the settling time has expired for the power stage).
9	0x200	1 = instead of using the zero crossing of the external feedback, the zero crossing of theprimary feedback (resolver) is used at the homing.
10	0x400	1 = no reset of the integral component of velocity controll loop if stage is inhibited. This setting can be useful to minimize slippage of suspended loads when brake control.
11	0x800	1 = improved calculation of the actual value of the speed in "hall-only mode". This function is currently not active by default (for compatibility reasons) but should be used with the new "hall-only" -applications.
12	0x1000	1 = "flying synchronization" with a rotating motor. In the initialization phase/releasing the final stage of the speed controller is synchronized to the current speed of the motor. This means that once the velocity setpoint is set to the actual value of velocity in releasing the final stage. As long as no new setpoint has been received (e.g. fieldbus, analogue or RS232) the velocity is constant. Caution: If the function is active, it can lead to drifting of the motorshaft.
13	0x2000	1 = X1 initialization for SSI reading. This function is only useful in conjunction with a macro program, if the SSI interface is to be read in the macro program without appropriate |FBTYPE|/|GEARMODE|/|EXTPOS| settings.
14	0x4000	1 = X5 initialization for SSI reading. This function is only useful in conjunction with a macro program, if the SSI interface is to be read in the macro program without appropriate |FBTYPE|/|GEARMODE|/|EXTPOS| settings.
15....31	-	reserved

ASCII -Command	DRVSTAT
Syntax Transmit	DRVSTAT
Syntax Receive	DRVSTAT <Data>
Type	Variable ro
Format	Integer32
DIM	-
Range	0 .. 0xFFFFFFFF
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Drive Status

Available in	S300/700
MMI ☑	CAN-Bus ☑
PROFIBUS ☑	Sercos ☐
SERCOS IDN:	
CAN Object No:	352D (hex)
PROFIBUS PNU:	1645 (dec) IND = 1 (de
DPR Objekt Nr:	45
Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	internal Status information

Description

The DRVSTAT command returns the internal status information in the form of a bit-variable.

Bit/Display/Level	Bit combination	Description
1 / n02 / 0	0x00000002	=1 Regen message. Is high, if the actual regen power exceeds the adjusted threshold |PBALMAX|, otherwise low.
2 / n03 / 1	0x00000004	=1 following error. Is set, if the distance between the actual position and the target position of the trajectory generator is greater than the contouring error window |PEMAX|. Is cleared by the command |CLRFAULT| or by an digital input with |INxMODE|=14. Note: Running the position modes (|OPMODE| = 4 or 8) a position following error will cause "n03".
3 / n04 / 1	0x00000008	=1 Node guarding (watch dog). Is set, if the Bus (PROFIBUS or CAN) or the Slotcard has no communication to the master for the adjusted time |EXTWD|. Is cleared by the command |CLRFAULT| or by an digital input with |INxMODE|=14.
4 / n05 / 0	0x00000010	=1 Line phase missing. Is high, if one or all of the three input line phase are lost, otherwise low.

5 / n06 / 1	0x00000020	=1 Software limit switch 1 (|SWE1|) underrun. Is set if: - the position is lower than |SWE1| - a motion task is started which has a target position lower than |SWE1|. At the same time the bit "faulty motion task" is set. the bit is cleared if: - the actual position overruns |SWE1| and a positive velocity is given - a motion task is started which has a target position greater than |SWE1|.
6 / n07 / 1	0x00000040	=1 Software limit switch 2 (|SWE2|) overrun. Is set if: - the position is higher than |SWE2| - a motion task is started which has a target position higher than |SWE2|. At the same time the bit "faulty motion task" is set. the bit is cleared if: - the actual position underruns |SWE2| and a negative velocity is given - a motion task is started which has a target position smaller than |SWE2|.
7 / n08 / 0	0x00000080	=1 Faulty motion task was started Is set, if a faulty motion task (wrong checksum) is started. Is cleared, if a valid motion task is started.
8 / n09 / 0	0x00000100	=1 No reference point. Is set, is a motion task is started without starting a refernce move before. Is cleared, if a refernce move is started.
9 / n10 / 1	0x00000200	= 1 PSTOP active. Is high, if the hardware limit switch PSTOP is active, otherwise low.
10 / n11 / 1	0x00000400	= 1 NSTOP active. Is high, if the hardware limit switch NSTOP is active, otherwise low.
11 / n12 / 0	0x00000800	=1 Default motor data loaded. Is set, if the motor number stored in the EEPROM of the drive is not the same as the motor number stored in the feedback system (EnDAT or Hiperface). By saving the drive parameter (|SAVE|) and restart the drive, the warning disappears.
12 / n13 / 1	0x00001000	=1 Slot warning (I/-expansion board). Is high, if the external 24V supply of the I/O expansion board is missing, otherwise low.
13 / n14 / 0	0x00002000	=1 Scanning for |MPHASE| (|FBTYPE|=7) Is set while start-up of the drive and is cleared after the drive was enabled and |MPHASE| was determined.
14 / n15 / 0	0x00004000	reserved
15 / n16 / 0	0x00008000	Is active, if one or more of the warnings n17...n31 are active.
16	0x00010000	=1 Motion task active. Is set, if a motion task is started (motion task, jog or homing move). Is cleared, if the action is finished or a |STOP| - command is executed.
17	0x00020000	=1 Reference point is set. Is set, if the homing move was done or a absolute encoder feedback device is used. Is cleared if a homing move is started.

18	0x00040000	=1 Home switch. Is high, if the homing switch is closed, otherwise low.
19	0x00080000	=1 In-Position. Is high, if the distance between the target position and the actual position is smaller than |PEINPOS|, otherwise low. When several motion tasks are tied together, only the last motion task enables this bit.
20	0x00100000	=1 Position latch occurred (positive edge). Is set, if a positive edge at the latch input (Input2 with |IN2MODE|=26) was detected. Is cleared, if the lachted position was read (example: |LATCH1N16|/ |LATCH1N32|).
21	0x00200000	reserved
22	0x00400000	reserved
23	0x00800000	reserved
24	0x01000000	reserved
25	0x02000000	reserved
26	0x04000000	=1 Initialization phase finished. Is set, if the initialization phase of the drive is finished (takes about 15s).
27	0x08000000	reserved
28	0x10000000	=1 Motor stand still message. Is high, if the actual motor velocity is lower than the threshold |VEL0|, otherwise low.
29	0x20000000	=1 Safety relais selected. Is high, if the safety relay of the option -AS- is switched on, otherwise low.
30	0x40000000	= Output stage enabled. Is high, if the soft- and the hardware enable is present, otherwise low.
31	0x80000000	=1 Drive has an error state. Is set, if the drive has a fault (output stage is disabled, error number is displayed). The command |ERRCODE| gives the error in plain text. The bit is cleared, if the drive is reset or the command |CLRFAULT| is send

ASCII -Command	DRVSTAT2
Syntax Transmit	DRVSTAT2 [Data]
Syntax Receive	DRVSTAT2 <Data>
Type	Variable ro
Format	-
DIM	-
Range	-
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.37
Configuration	☐
Function Group	-

Available in	S300/700
MMI ☐	CAN-Bus ☑
PROFIBUS ☑	Sercos ☐
SERCOS IDN:	
CAN Object No:	375B (hex)
PROFIBUS PNU:	1803 (dec) IND = 17 (d
DPR Objekt Nr:	603
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.3
EEPROM	No

Short Description	internal status information

Description

The ASCII parameter DRVSTAT2 extends the parameter DRVSTAT and returns the internal status information in the form of a bit-variable

Bit	significance	description
0	0x00000001	result of the |VINPOS| function As long as the difference between the last target velocity |VCMD| and the actual velocity |V| is within the width of the velocity In-Position window |VINPOS|, a 1 is signalled, otherwise a 0. The signal change is not signaled before the new state was valid at least |INPT0| msec.
1	0x00000002	=1 slave synchronised to the master This function is only available for following settings: INxMODE=42,43,51,53 or |ENGAGE|>0

ASCII -Command	DUMP
Syntax Transmit	DUMP
Syntax Receive	DUMP <Data>
Type	Multi-line Return Command
Format	Command
DIM	-
Range	-
Default	-
Opmode	All
Drive Status	-
Start Firmware	2.13
Configuration	☐
Function Group	-

Available in	S300/700		
MMI	☑	CAN-Bus	☐
PROFIBUS	☐	Sercos	☐

SERCOS IDN:	
CAN Object No:	-
PROFIBUS PNU:	-
DPR Objekt Nr:	
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	List All EEPROM Variables with Values

Description

This command produces a list of all the parameters that can be stored in the EEPROM, together with their present values. All the amplifier-specific parameters (e.g. A/D-offset values) start with a “;”(semicolon).

ASCII -Command	DUMPEMAP	Available in	S300/700
Syntax Transmit	DUMPEMAP [Data]	MMI ☐	CAN-Bus ☐
Syntax Receive	DUMPEMAP <Data>	PROFIBUS ☐	Sercos ☐
Type	--		
Format	Command	SERCOS IDN:	
DIM	-	CAN Object No:	-
Range	-	PROFIBUS PNU:	-
Default	-	DPR Objekt Nr:	
Opmode	All		
Drive Status	-		
Start Firmware	5.17		
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.4
EEPROM	No

Short Description	Control of the free mapping of EtherCat

Description

With this paramter the free EtherCat mapping can be checked

DUMPEMAP dump of the actual free mapping
DUMPEMAP * dump of all parameter which can used for the free mapping

For the free mapping totaly 64 byte can be used. The maximal number of mapped objects is 16 fast (250 µsec) + 16 slow (1 msec) per transmition direction.

S700: FW 5.17

ASCII -Command	DUMPSLNO	Available in	S300/700
Syntax Transmit	DUMPSLNO [Data]	MMI ☐	CAN-Bus ☑
Syntax Receive	DUMPSLNO <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer16	SERCOS IDN:	
DIM		CAN Object No:	35FA (hex)
Range	write 0 read 0 ... Integer16	PROFIBUS PNU:	1850 (dec) IND = 1 (de
Default	-	DPR Objekt Nr:	250
Opmode	All		
Drive Status			
Start Firmware	1.0		
Configuration	☐	Data Type BUS/DPR	Integer16
Function Group		Weighting 10^3	

Last Change of this Object	2.14
EEPROM	No

Short Description	Listing of the numerical EEProm-parameters

Description

With the command DUMPSLNO a list of the object numbers which are stored in the EEProm can be fetched step by step. The parameters are ordered the same way as in the parameter files stored by the GUI, the priorities of parameters are considered.

With “DUMPSLNO 0” the list can be resetted.

The command can be used to get all relevant for storing and restoring a parameter list of the drive.

Example:

-->DUMPSLNO

343 ; FW command

-->DUMPSLNO

194 ; PBALRES command

-->DUMPSLNO

209 ; PRBASE command

At the end of this lsit a 0 is reported.

ASCII -Command	ECATCSA
Syntax Transmit	ECATCSA [Data]
Syntax Receive	ECATCSA <Data>
Type	Variable rw
Format	Integer16
DIM	
Range	0 .. 65535
Default	0
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	3.65
Configuration	☑
Function Group	

Available in	S300/700
MMI	☐
CAN-Bus	☐
PROFIBUS	☐
Sercos	☐
SERCOS IDN:	
CAN Object No:	-
PROFIBUS PNU:	-
DPR Objekt Nr:	
Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.7
EEPROM	Yes

Short Description	holds the Configured Station Alias address

Description

The parameter ECATCSA holds the configured station alias address of the EtherCAT filedbus.

ASCII -Command	EGEARI
Syntax Transmit	EGEARI [Data]
Syntax Receive	EGEARI <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	1 ... long Integer
Default	1
Opmode	4 ... 8
Drive Status	Disable
Start Firmware	1.0
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	350D (hex)
PROFIBUS PNU:	1613 (dec) IND = 1 (de
DPR Objekt Nr:	13

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Ratio external feedback

Description

In case an external feedback system is used the ratio can be set by EGEARI and |EGEARO|. The feedbackturn are set by EGEARI the motor turn by |EGEARO|

This setting affects only to generation of command velocity.
It has no effect on the emulated respectively acquired position (ROD/SSI).

ASCII -Command	EGEARO
Syntax Transmit	EGEARO [Data]
Syntax Receive	EGEARO <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	0 ... Long Integer
Default	1
Opmode	4 ... 8
Drive Status	Disable
Start Firmware	1.0
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	350E (hex)
PROFIBUS PNU:	1614 (dec) IND = 1 (de
DPR Objekt Nr:	14

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Ratio external feedback

Description

In case an external feedback system is used the ratio can be set by |EGEARI| and EGEARO. The feedbackturn are set by |EGEARI| the motor turn by EGEARO

This setting affects only to generation of command velocity.
It has no effect on the emulated respectively acquired position (ROD/SSI).

ASCII -Command	EMRGTO
Syntax Transmit	EMRGTO [Data]
Syntax Receive	EMRGTO <Data>
Type	Variable rw
Format	Integer16
DIM	-
Range	0 ... 2147483647
Default	5000
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	36DC (hex)
PROFIBUS PNU:	1676 (dec) IND = 17 (d
DPR Objekt Nr:	476

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	defines the emergency time out

Description

EMRGTO defines the emergency time out for the |ACTFAULT|=1 and |STOPMODE|=1 operations.

After the ACTFAULT (drive error) or STOPMODE (power stage enable) conditions the drive tries
To reduce the velocity to zero. If this fails, the power stage will be disable after the EMRGTO time at the latest.
F 30 is reported.

EMRGTO = 0 then the F30 function is switched off.

New since FW 0.80:

If in 0.25 of EMRGTO time the velocity is not decrease by 0.125 the drive create an F30. This is because the default of 5 seconds could be very long if for what ever reason no speed deceleration is done.

EMRGTO can be set to 0 or values >= 10

ASCII -Command	EN
Syntax Transmit	EN
Syntax Receive	EN
Type	Command
Format	Command
DIM	-
Range	-
Default	-
Opmode	All
Drive Status	Disabled
Start Firmware	1.0
Configuration	☐
Function Group	Amplifier

Available in	S300/700
MMI	☑
CAN-Bus	☑
PROFIBUS	☑
Sercos	☐
SERCOS IDN:	
CAN Object No:	3530 (hex)
PROFIBUS PNU:	1648 (dec) IND = 1 (de
DPR Objekt Nr:	48
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Software-Enable

Description

The EN command sets the software enable for the output stage.
If the software enable and the hardware enable are set and no fault is present (the BTB contact is closed), then the output stage is enabled.
If the MAINS BTB function is activated (|OxMODE|=3), then the output stage will only be enabled when the supply power has been switched on and the charging circuit has charged up the DC bus. If the supply power is removed from an enabled instrument, then it remains enabled until the DC bus voltage has fallen below the undervoltage limit (|VBUSMIN|).

ASCII -Command	EN22A1CNT
Syntax Transmit	EN22A1CNT
Syntax Receive	EN22A1CNT <Data>
Type	Variable ro
Format	Integer16
DIM	-
Range	0 .. 65535
Default	-
Opmode	All
Drive Status	-
Start Firmware	5.91
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☑	CAN-Bus	☐
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	390D (hex)
PROFIBUS PNU:	1837 (dec) IND = 33 (d
DPR Objekt Nr:	1037

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	No

Short Description	Endat 2.2 status of additional information 1

Description

This parameter is a bit variable. When the bit is set, the associated additional information 1 is available. If the bit isn't, the corresponding information is not supported by the ENDAT2.2 encoder.

The individual bits are assigned the following information:

Bit 0 position value 2
Bit 1 - test value
Bit 2 - Temperature sensor 1 (external)
Bit 3 - Temperature sensor 2 (on board)
Bit 4 - additional sensors
Bit 5 ... 15 free

ASCII -Command	EN22A2CNT
Syntax Transmit	EN22A2CNT
Syntax Receive	EN22A2CNT <Data>
Type	Variable ro
Format	Integer16
DIM	-
Range	0 .. 65535
Default	-
Opmode	All
Drive Status	-
Start Firmware	5.91
Configuration	☐
Function Group	

Available in	S300/700
MMI ☑	CAN-Bus ☑
PROFIBUS ☑	Sercos ☐
SERCOS IDN:	
CAN Object No:	390E (hex)
PROFIBUS PNU:	1838 (dec) IND = 33 (d
DPR Objekt Nr:	1038
Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	No

Short Description	Endat 2.2 Status of additional information 2

Description

This parameter is a bit variable. When the bit is set, the associated additional information 2 is available. If the bit isn't set, the corresponding information is not supported by the ENDAT2.2 encoder.

The individual bits are assigned the following information:

Bit 0 - commutation
Bit 1 - Acceleration
Bit 2 - limit signal
Bit 3 - asynchronous position value
Bit 4 - Operating status error sources
Bit 5 - reserved
Bit 6 - Position value 2
Bit 7 - Time stamp
Bit 8 ... 15 is free

ASCII -Command	EN22AI1	Available in	S300/700
Syntax Transmit	EN22AI1	MMI ☐	CAN-Bus ☐
Syntax Receive	EN22AI1 <Data>	PROFIBUS ☐	Sercos ☐
Type	Variable ro		
Format	16 x Integer16	SERCOS IDN:	
DIM	-	CAN Object No:	2055 (hex)
Range	0 .. 65535	PROFIBUS PNU:	-
Default	-	DPR Objekt Nr:	
Opmode	All		
Drive Status	-		
Start Firmware	5.91		
Configuration	☐	Data Type BUS/DPR	16 x Integer16
Function Group		Weighting 10^3	

Last Change of this Object	2.14
EEPROM	No

Short Description	Endat 2.2 act. values of additional information 1

Description

The command EN22AI1 provides 16 numbers (separated by <space>) which are assigned to the 16 additional information 1. The value 0 is transferred for the additional information which is not supported by the encoder. With the help of the parameter |EN22A1CNT|, the valid additional information can be extracted.

from |FW|>= 6.05, this parameter can be querried with SDO object no. throught CAN/EtherCAT.

ASCII -Command	EN22AI2
Syntax Transmit	EN22AI2
Syntax Receive	EN22AI2 <Data>
Type	Variable ro
Format	16 x Integer16
DIM	-
Range	0 .. 65535
Default	-
Opmode	All
Drive Status	-
Start Firmware	5.91
Configuration	☐
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☐
PROFIBUS	☐	Sercos	☐

SERCOS IDN:	
CAN Object No:	2056 (hex)
PROFIBUS PNU:	-
DPR Objekt Nr:	
Data Type BUS/DPR	16 x Integer16
Weighting 10^3	

Last Change of this Object	2.14
EEPROM	No

Short Description	Endat 2.2 act. values of additional information 2

Description

The command EN22AI2 provides 16 numbers (separated by <space>) which are assigned to the 16 additional information 2. The value 0 is transferred for the additional information which is not supported by the encoder. With the help of the parameter |EN22A2CNT|, the valid additional information can be extracted.

from |FW|>= 6.05, this parameter can be querried with SDO object no. throught CAN/EtherCAT.

ASCII -Command	EN22CNFG
Syntax Transmit	EN22CNFG [Data]
Syntax Receive	EN22CNFG <Data>
Type	Variable rw
Format	Integer16
DIM	-
Range	0 .. 3
Default	1
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	5.91
Configuration	☑
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	390F (hex)
PROFIBUS PNU:	1839 (dec) IND = 33 (d
DPR Objekt Nr:	1039

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.13
EEPROM	Yes

Short Description	Config.parameter for ENDAT 2.2 additional information

Description

This parameter is a bit variable. Setting a bit activates the reading of the corresponding ENDAT2.2 additional information.

Bit 0 = 1 Reading in the diagnostic information (evaluation values)
Bit 1 = 1 Reading the additional information 1
Bit 2 = 1 Reading the additional information 2

Setting a bit to 0 inhibits the reading of the associated additional information

ASCII -Command	EN22DCNT
Syntax Transmit	EN22DCNT
Syntax Receive	EN22DCNT <Data>
Type	Variable ro
Format	Integer16
DIM	-
Range	0 .. 65535
Default	-
Opmode	All
Drive Status	-
Start Firmware	5.91
Configuration	☐
Function Group	

Available in	S300/700
MMI ☐	CAN-Bus ☑
PROFIBUS ☑	Sercos ☐

SERCOS IDN:	
CAN Object No:	3910 (hex)
PROFIBUS PNU:	1840 (dec) IND = 33 (d
DPR Objekt Nr:	1040

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	No

Short Description	Endat 2.2 status of the diagnostic information

Description

This parameter is a bit variable. If the bit is set, the associated diagnostic information is available. If the bit isn't set, the corresponding information is not supported by the ENDAT2.2 encoder.

The individual bits are assigned the following information:

Bit 0 - Evaluation number 1
Bit 1 - Evaluation number 2
Bit 2 - Evaluation number 3
Bit 3 - Rating number 4
Bit 4 - Evaluation number 5
Bit 5 - Evaluation number 6
Bit 6 ... 14 is free
Bit 15 - system specific data

ASCII -Command	EN22DIAG	Available in	S300/700
Syntax Transmit	EN22DIAG	MMI ☐	CAN-Bus ☐
Syntax Receive	EN22DIAG <Data>	PROFIBUS ☐	Sercos ☐
Type	Variable ro		
Format	16 x Integer16	SERCOS IDN:	
DIM	-	CAN Object No:	2054 (hex)
Range	0 .. 65535	PROFIBUS PNU:	-
Default	-	DPR Objekt Nr:	
Opmode	All		
Drive Status	-		
Start Firmware	5.91		
Configuration	☐	Data Type BUS/DPR	16 x Integer16
Function Group		Weighting 10^3	

Last Change of this Object	2.14
EEPROM	No

Short Description	Endat 2.2 actual values of the diagnostic information

Description

The EN22DIAG command provides 16 numbers (separated by <space>) that are assigned to the 16 diagnostic information. The value 0 is transferred for the diagnostic information which is not supported by the encoder. Using the parameter |EN32DCNT|, the valid diagnostic values can be extracted.

from |FW|>= 6.05, this parameter can be querried with SDO object no. throught CAN/EtherCAT.

ASCII -Command	ENCDIV
Syntax Transmit	ENCDIV [Data]
Syntax Receive	ENCDIV <Data>
Type	Variable rw
Format	Integer32
DIM	
Range	
Default	
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	5.87
Configuration	☑
Function Group	

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	
CAN Object No:	38D6 (hex)
PROFIBUS PNU:	1782 (dec) IND = 33 (d
DPR Objekt Nr:	982

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.10
EEPROM	Yes

Short Description	Divisor for the decimal places of ENCLINES

Description

Parameter ENCFIX/ENCDIV define the decimal places for the parameter ENCLINES.
Thus the linear motors are supported, which have no integer number of sinus priods cycles per polpitch. The decimal places are defined as a divisor / dividend.

Example 1: 2048.45 periods per polpitch, following settings are necessary:
|ENCLINES| 2048
|ENCFIX| 45
|ENCDIV| 100

Example 2: 1000.33333 (3) periods per polpitch, following settings are necessary:
|ENCLINES| 1000
|ENCFIX| 1
|ENCDIV| 3

ASCII -Command	ENCDIVD
Syntax Transmit	ENCDIVD [Data]
Syntax Receive	ENCDIVD <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	1 ... 2147483647
Default	100000
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	5.87
Configuration	☑
Function Group	

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3909 (hex)
PROFIBUS PNU:	1833 (dec) IND = 33 (d
DPR Objekt Nr:	1033

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	Divisor for the decimal places of ENCIN

Description

The parameter ENCFIXD/ENCDIVD define the decimal places for the parameter ENCLINES. Thus supported linear motors, which have no integer number of sinus cycles per polpitch.

The decimal places are defined as a divisor/dividend.

Example 1: following settings are necessary for 2048.45 periods per polpitch
|ENCIN| 2048
|ENCFIXD| 45
|ENCDIVD| 100

Example 2: following settings are necessary for 1000.33333(3) periods per polpitch
|ENCIN| 1000
|ENCFIXD| 1
|ENCDIVD| 3

ASCII -Command	ENCFIX
Syntax Transmit	ENCFIX [Data]
Syntax Receive	ENCFIX <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	0 .. 2147483647
Default	0
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	5.86
Configuration	☑
Function Group	

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	
CAN Object No:	38D3 (hex)
PROFIBUS PNU:	1779 (dec) IND = 33 (d
DPR Objekt Nr:	979

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.10
EEPROM	Yes

Short Description	Decimal places for the ENCLINES parameter

Description

The parameter ENCFIX/ENCDIVD define the decimal places for the parameter ENCLINES. Thus supported linear motors, which have no integer number of sinus cycles per polpitch.

The decimal places are defined as a divisor/dividend.

Example 1: following settings are necessary for 2048.45 periods per polpitch
|ENCLINES| 2048
|ENCFIX| 45
|ENCDIV| 100

Example 2: following settings are necessary for 1000.33333(3) periods per polpitch
|ENCLINES| 1000
|ENCFIX| 1
|ENCDIV| 3

ASCII -Command	ENCFIXD	Available in	S300/700
Syntax Transmit	ENCFIX [Data]	MMI ☑	CAN-Bus ☑
Syntax Receive	ENCFIX <Data>	PROFIBUS ☑	Sercos ☑
Type	Variable rw		
Format	Integer32	SERCOS IDN:	
DIM	-	CAN Object No:	390A (hex)
Range	0 .. 2147483647	PROFIBUS PNU:	1834 (dec) IND = 33 (d
Default	0	DPR Objekt Nr:	1034
Opmode	All		
Drive Status	Disabled + Reset (Coldstart)		
Start Firmware	5.86		
Configuration	☑	Data Type BUS/DPR	Integer32
Function Group		Weighting 10^3	

Last Change of this Object	2.10
EEPROM	Yes

Short Description	Decimal places for the ENCIN parameter

Description

The parameter ENCFIX/ENCDIVD define the decimal places for the parameter ENCIN. Thus supported linear motors, which have no integer number of sinus cycles per polpitch.

The decimal places are defined as a divisor/dividend.

Example 1: following settings are necessary for 2048.45 periods per polpitch
|ENCLINES| 2048
|ENCFIXD| 45
|ENCDIVD| 100

Example 2: following settings are necessary for 1000.33333(3) periods per polpitch
|ENCLINES| 1000
|ENCFIXD| 1
|ENCDIVD| 3

ASCII -Command	ENCIN
Syntax Transmit	ENCIN [Data]
Syntax Receive	ENCIN <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	16 ... 8388608
Default	1024
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	0.87
Configuration	☑
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3532 (hex)
PROFIBUS PNU:	1650 (dec) IND = 1 (de
DPR Objekt Nr:	50

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	digital feedback resolution

Description

ENCIN sets the resolution (number of square pulses) of the encoder input channel using a digital encoder as feedback unit. In case of Rotary Motors it is the number of pulses per revolution, in case of linear Motors it is the number of pulses per pole pitch.

This parameter is used for following feedback settings: |EXTPOS| = 1…4 or |FBTYPE| =12…19

FW >= 2.17
Max. ENCIN value = 8 388 608

ASCII -Command	ENCLINES
Syntax Transmit	ENCLINES [Data]
Syntax Receive	ENCLINES <Data>
Type	Variable rw
Format	Integer24
DIM	-
Range	65535
Default	1000
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	1.0
Configuration	☑
Function Group	-

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3533 (hex)
PROFIBUS PNU:	1651 (dec) IND = 1 (de
DPR Objekt Nr:	51

Data Type BUS/DPR	Integer24
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	SinCos Encoder Resolution

Description

ENCLINES sets the resolution (number of lines) of the sine encoder input channel .. In case of rotary Motors it is the number of lines per revolution, in case of linear motors it is the number of lines per pole pitch. The ENCLINES data is stored in an ENDAT or Hiperface Encoder if this feedback is used. In this case during power up process the ENCLINES data is read automatically .

Example to the ENCLINES setting on a linear motor >>> |1|

In case an external feedbacksystem is used for the position loop |ENCLINES| has to correspond with this measurement system.

ENCLINES are not saved into EnDat-Linearfeedbacks and they are also not set automatic.

ASCII -Command	ENCMODE
Syntax Transmit	ENCMODE [Data]
Syntax Receive	ENCMODE <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	0..13
Default	1
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Encoder

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	P 3011
CAN Object No:	3534 (hex)
PROFIBUS PNU:	1652 (dec) IND = 1 (de
DPR Objekt Nr:	52

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	2.3
EEPROM	Yes

Short Description	Selection of Encoder Emulation

Description

Zustand	interface	description
ENCMODE=0	X5 - (input)	Encoder Emulation swiched off - X5 is used like as input
ENCMODE=1	X5 - ROD (output)	EEO digital encoder output (RS422) output resolutions = |ENCOUT| per motor revolution (rotary motor). output resolutions = ENCOUT per motor pole pitch (linear motor).
ENCMODE=2	X5 - SSI (output)	SSI output also used for SSI input see also |GEARMODE| = 7 |SSIREVOL|
ENCMODE=3	X5 - ROD (output)	EEO digital encoder interpolation mode This mode is available with high resolution sincos feedback device . output resolutions = |ENCOUT| * |ENCLINES| lines per motor rev. (rotary motor). output resolutions = |ENCOUT| * |ENCLINES| per motor pole pitch (linear motor). Following settings are possible: 4,8,16,32,64,128
ENCMODE=4	X5 - SSI (output)	Output of the command value of the position loop over SSI interface. The position is issued in 16/16 format (16 Bit/revolution + 16 Bit for number of revolution). see also |SSIREVOL|
ENCMODE=5	X5 - SSI (output)	Output of the actual value of the position loop over SSI interface. The position is issued in 16/16 format (16 Bit/revolution + 16 Bit for number of revolution).
ENCMODE=6	-	reserved
ENCMODE=7	-	reserved

ENCMODE=8	-	reserved
ENCMODE=9	X1 - ROD (output)	ROD-output X1 (Emulation) like ENCMODE=1
ENCMODE=10	X1 - SSI (output)	SSI-output X1 (Emulation) like ENCMODE=2 see also |SSIREVOL|
ENCMODE=11	-	-
ENCMODE=12	X1 - SSI (output)	SSI-output 32Bit-Position command like ENCMODE=4 see also |SSIREVOL|
ENCMODE=13	X1 - SSI (output)	SSI-output 32Bit-actual-position like ENCMODE=5 see also |SSIREVOL|

ASCII -Command	ENCOUT
Syntax Transmit	ENCOUT [Data]
Syntax Receive	ENCOUT <Data>
Type	Variable rw
Format	Integer16
DIM	CPR
Range	-524288 ... +524288
Default	1024
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	1.0
Configuration	☑
Function Group	Encoder

Available in	S300/700		
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3535 (hex)
PROFIBUS PNU:	1653 (dec) IND = 1 (de
DPR Objekt Nr:	53

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.10
EEPROM	Yes

Short Description	Resolution Encoder Emulation (ROD)

Description

The resolution of the digital encoder output emulation (ROD)

ENCOUT defines the number of lines that are given out by the EEO (digital encoder) interfacer for one turn of a rotary motor or one pole pitch for a linear motor. The output of the following ENCMODE values are generated by the FPGA: 32, 64, 128, 256, 512, 1024, 2048, 4096 - All other values are generated by the firmware. Starting with firmware 4.94 all integer numbers between 256 and 4096 are also available (256,257..... 4095,4096).

Note: The output from the FPGA is more accurate than the output from firmware. The range of values from the FPGA should be preferred to all other permissible numbers.

|FW| >= version 0.87 negative values are possible.
Negative values are used to invert the output direction.

If multispeed resolver are used there is more than one zero pulse within 360° . There is a zero pulse to each resolver pole pair.
Example. 6 pole resolver >> 3 zero pulses

If multispeed resolver are used there is more than one zero pulse within 360° . There is a zero pulse to each resolver pole pair.
Example. 6 pole resolver >> 3 zero pulses

The zero pulse is only to resolutions of 4096 counts output.

See |REFMODE| and |ENCMODE| for information.

ASCII -Command	ENCTO
Syntax Transmit	ENCTO [Data]
Syntax Receive	ENCTO <Data>
Type	Variable rw
Format	Integer32
DIM	ms
Range	100 .. 12000
Default	2000
Opmode	All
Drive Status	-
Start Firmware	0.73
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3543 (hex)
PROFIBUS PNU:	1667 (dec) IND = 1 (de
DPR Objekt Nr:	67

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.1
EEPROM	Yes

Short Description	Encoder supply delay

Description

This parameter defines the time between the “encoder power supply on” and the reading of the encoder parameter channel.

ASCII -Command	ENCVON
Syntax Transmit	ENCVON [Data]
Syntax Receive	ENCVON <Data>
Type	Variable rw
Format	-
DIM	-
Range	0 ... 2
Default	0
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	0.73
Configuration	☑
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☐	Sercos	☐

SERCOS IDN:	
CAN Object No:	3546 (hex)
PROFIBUS PNU:	1670 (dec) IND = 1 (de
DPR Objekt Nr:	70
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	-

Short Description	power supply for the external encoder (connector X1

Description

The command ENCVON switches the power supply for the external encoder on/off (connector X1).ENCVON=1 means 5V power supply, ENCVON=2 have to be used for 12V power supply.These settings can only be used when no external encoder was configured (ENDAT or HIPERFACE with FBTYPE/GEARMODE/EXTPOS). In case of encoder configuration the power supply required by this encoder has a higher priority as the setting ENCVON. The setting ENCVON=2 (12V power supply) is only possible when the SENSE wire was not recognized.

ASCII -Command	ENCZERO
Syntax Transmit	ENCZERO [Data]
Syntax Receive	ENCZERO <Data>
Type	Variable rw
Format	Integer16
DIM	-
Range	0 .. ENCOUT-1
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Encoder

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3537 (hex)
PROFIBUS PNU:	1655 (dec) IND = 1 (de
DPR Objekt Nr:	55

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Zero Pulse Offset EEO (ROD)

Description

The ENCZERO command can be used to shift the output of the encoder emulation digital encoder zero pulse over the range of one turn. The shift is made in the clockwise direction, e.g.
|ENCOUT| 1024
ENCZERO 256
The zero pulse is given out at the 90° position.

This is also effective for SSI outputs.

ASCII -Command	ENGAGE
Syntax Transmit	ENGAGE [Data]
Syntax Receive	ENGAGE <Data>
Type	Variable rw
Format	Integer8
DIM	
Range	0...8
Default	0
Opmode	4
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	1.38
Configuration	☑
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	36CD (hex)
PROFIBUS PNU:	1653 (dec) IND = 17 (d
DPR Objekt Nr:	461

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	1.9
EEPROM	Yes

Short Description	Master -slave switch on / off

Description

The ENGAGE command is used to switch the master - slave mode on or off (synchronise)

ENGAGE= 0 Master/Slave-mode active in case of |OPMODE|=4

ENGAGE= 1 Master/Slave-mode active in case of |OPMODE|=4 and given synchronisation command ENGEDGE.

After drive switch on and ENGAGE=1 the master - slave-mode is inactive (ENGEDGE=0). To start the master - slave-mode the internal variable ENGEDGE has to be set via field bus, internal plc- program or command M ENGEDGE.

ENGEDGE can be set to different modes:

ENGEDGE = 0 No synchronisation,
Master/Slave inactive, Slave will fix the actual position

ENGEDGE = 1 Synchronisation via velocity.
The slave accelerates to the master velocity via ramp |ACCR|. If the master speed is reached ENGEDGE is set to 5 (running sync to master). The following error is without effect to ENGEDGE). This function is activated also by a going edge on for example digital input 3 with setting |IN3MODE| =42.

ENGEDGE = 2 Declutch
The slave decelerates via |DECR|. If the slave is standing still ENGEDGE is set to 0. This function is activated also by a falling edge on for example digital input3 with setting |IN3MODE| =42, 43 or 51.

ENGEDGE = 3 1 Synchronisation via velocity.
The master position is latched within the synchronisation start. The slave accelerates to the master velocity via ramp |ACCR| and eliminates the position difference. When the master speed is reached, ENGEDGE is set to 4 (position compensation) and by raising the setpoint the position difference is cancelled. If this procedure is finished ENGEDGE is set to 5. This function is activated also, if a going edge is for example at digital input 3 with configuration |IN3MODE| = 43.

ENGEDGE = 4 see ENGEDGE=3

ENGEDGE = 5 see ENGEDGE=1

ENGEDGE = 6 synchronisation via position with constant acceleration (linear).
The slave speeds up to the master velocity within a defined distance, that is given in variable M IN51MERK. It relates to the slave distance and is defined in counts (20 bit/turn => 2^20). After master position and speed are reached, ENGEDGE is set to 5 (running sync to master). This function can also be executed by a going edge on for example digital input 3 and configuration |IN3MODE| =51.

ENGEDGE = 7 synchronisation via position with customer defined profile.
The slave speeds up to the master velocity within a defined distance, that is given in variable M IN51MERK. It relates to the slave

distance and is defined in counts (20 bit/turn => 2^20). The synchronisation profile is fixed within the first lookup-table (sinus2 in case of standard-table). Nachdem die Position und Geschwindigkeit des Masters erreicht wurden, wird ENGEDGE automatisch auf 5 gesetzt (Fahren synchron zum Master). This function can also be executed by a going edge on for example digital input 3 and configuration |IN3MODE| =53.

ENGEDGE = 8…11 reserved

ENGEDGE = 12 declutching, the slave slows down via a customer given profile.
The synchronisation profile is fixed within the first lookup-table (sinus2 in case of standard-table).

If standstill is reached, ENGEDGE is set to 0 (standstill at slave).
This function can also be executed by a going edge on for example digital input 3 and configuration |IN3MODE| =53

ASCII -Command	ERESMASK
Syntax Transmit	ERESMASK [Data]
Syntax Receive	ERESMASK <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	
Default	
Opmode	All
Drive Status	-
Start Firmware	0.86
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3755 (hex)
PROFIBUS PNU:	1797 (dec) IND = 17 (d
DPR Objekt Nr:	597

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Failure reset setting

Description

The command ERESMASK describes the kind of fault reset for error messages Fxx.If the bit xx of ERESMASK is set to 1, the fault reset of the corresponding error Fxx+1 causes a hardware reset of the drive (bit=0 means a software reset of the error).
See also |ERRCODE|

ASCII -Command	ERND	Available in	S300/700
Syntax Transmit	ERND [Data]	MMI ☐	CAN-Bus ☑
Syntax Receive	ERND <Data>	PROFIBUS ☑	Sercos ☑
Type	Variable rw		
Format	Integer32	SERCOS IDN:	103
DIM	-	CAN Object No:	3638 (hex)
Range	-	PROFIBUS PNU:	1912 (dec) IND = 1 (de
Default	2^31-1	DPR Objekt Nr:	312
Opmode	-		
Drive Status	Disabled + Reset (Coldstart)		
Start Firmware	1.0		
Configuration	☑	Data Type BUS/DPR	Integer32
Function Group	-	Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	End position of modulo axes

Description

The ERND parameter is used to define the end of the range of movement for a modulo axes (|POSCNFG|=2). The start of the range can be set by the |SRND| command. All positioning operations are made in the positioning range <|SRND|...ERND-1>.
The entry for ERND is made in SI units (taking account of |PGEARI|, |PGEARO|).

ASCII -Command	ERRCNFG
Syntax Transmit	ERRCNFG [Data]
Syntax Receive	ERRCNFG <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	-2147483648 .. 2147483647
Default	83894274 (0x50002002)
Opmode	All
Drive Status	
Start Firmware	1.0
Configuration	☐
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3884 (hex)
PROFIBUS PNU:	1700 (dec) IND = 33 (d
DPR Objekt Nr:	900
Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.8
EEPROM	Yes

Short Description	behavior of the drive in the case of error

Description

The command ERRCNFG defines the behavior of the drive in the case of error massage Fxx.
If the bit number xx of the ERRCNFG parameter is set to 1, then the corresponding error message FXX+1 generates an immediately power stage disable (no matter what is the setting of ACTFAULT).

Example:
The default value 83894274 (-> 0x0500 2002) disables immediately the output stage in case of error:
F02 Fault over voltage
F14 Output stage fault
F25 Commutation Error
F27 „AS-Option“ Error

In some critical error situations, the output stage is disabled immediately. Then the setting ACTFAULT = 1 has no function.

See also command |ERRCODE|, |ERRCODE *|

ASCII -Command	ERRCODE
Syntax Transmit	ERRCODE
Syntax Receive	ERRCODE <Data>
Type	Command
Format	String
DIM	-
Range	-
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700		
MMI	☑	CAN-Bus	☐
PROFIBUS	☐	Sercos	☐

SERCOS IDN:	
CAN Object No:	-
PROFIBUS PNU:	-
DPR Objekt Nr:	
Data Type BUS/DPR	String
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Activated Fault Messages

Description

The ERRCODE command returns the clear text information about any existing faults.

See also |ERRCODE *|

ASCII -Command	ERRCODE *
Syntax Transmit	ERRCODE *
Syntax Receive	ERRCODE <Data>
Type	Command
Format	Integer32
DIM	-
Range	0 .. 0xFFFFFFFF
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Drive Status

Available in	S300/700
MMI ☐	CAN-Bus ☑
PROFIBUS ☑	Sercos ☑
SERCOS IDN:	129
CAN Object No:	385D (hex)
PROFIBUS PNU:	1661 (dec) IND = 33 (d
DPR Objekt Nr:	861
Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.13
EEPROM	No

Short Description	Output Error Register

Description

The ERRCODE* command returns the internal status information in the form of a bit-variable. A bit is set for as long as the corresponding error/fault is detected. The bit is deleted by the hardware reset of the amplifier.
Faults that are designated by the SW label can also be deleted by a software reset (function |CLRFAULT| – clear fault).

Level gives an information about the error handling in the drive.

Level 2:
A fault causes an emergency stop. The stop of the motor is done in velocity control using the emergency stop ramp (|DECSTOP|). When the motor reaches the zero velocity level (|VEL0|) (limited by max. 5 sec), the power stage is disabled. The Ready-to-Operate relay is switched off. The drive has to be reset before it can be enabled again. The fault is displayed.

Level 3:
A fault causes an emergency stop. The stop of the motor is done without feedback device (sensorless). When the motor has stopped, the power stage is disabled. The Ready-to-Operate relay is switched off. The drive has to be reset before it can be enabled again. The fault is displayed.

Level 4:
A fault causes an directly disable of the power stage. The motor has no torque (coast). The Ready-to-Operate relay is switched off. The drive has to be reset before it can be enabled again. The fault is displayed.

If the faults are at the same time assigned to the levels 2/3 and 4, decide the parameters |ACTFAULT| and |MBRAKE| on the membership of the state levels.

|ACTFAULT|=1 or |MBRAKE|=1 LEVEL 2 or 3 (Default-Setting)
|ACTFAULT|=0 and |MBRAKE|=0 LEVEL 4

Attention, please have a lookt to |ERRCNFG|:
The command ERRCNFG defines the behavior of the drive in the case of error massage Fxx. If the bit number xx of the ERRCNFG parameter is set to 1, then the corresponding error message FXX+1 generates an immediately power stage disable (no matter what is the setting of ACTFAULT). In some critical errors, the output stage is disabled immediately. This happens regardless of the settings of |ACTFAULT| and |ERRCNFG|. The error messages are separately identified in the following table.

For more information, please have a look to |ERRCODE2|

Bit/Displ./Reset/Level	Bit	Description
00/F01/SW/2,4	0x00000001	=1 Heatsink overtemperature is set, if the heatsink temperature TEMPH exceeds the max allowed threshold MAXTEMPH.

01/F02/SW/2,4	0x00000002	=1 DC-link overvoltage Is set, if the DC-link voltage exceeds the max threshold selected by |VBUSBAL|. This error leads to an immediate disable of the output stage.
02/F03/SW/2	0x00000004	=1 Contouríng error of the external trajectory (|OPMODE|=6/SERCOS) Is set, if the target speed which is given by the extrnal trajectory is higher than |VLIM|/|VLIMN|.
03/F04/HW/3,4	0x00000008	=1 Feedback error Is set, if a feedback error was detected. The drive decelerates by current controller.
04/F05/SW/2,4	0x00000010	=1 Undervoltage protection Is set, if the DC-link voltage is lower than |VBUSMIN| (only if the drive is enabled).
05/F06/HW/2,4	0x00000020	=1 Motor overtemperature is set, if the heatsink temperature |TEMPM| exceeds the max allowed threshold |MAXTEMPM|. |FW| >= 2.27 the failure is reset by software.
06/F07/HW/2,4	0x00000040	=1 if the internal electronic supply is faulty. This error leads to an immediate disable of the output stage.
07/F08/SW/3,4	0x00000080	=1 Overspeed Is set, if the velocity of the motor exceeds the overspeed threshold (|VOSPD|). The drive decelerates by current controller.
08/F09/HW/4	0x00000100	=1 EEPROM Checksum error Is set, if the data read/written from the EEPROM is not valid. There are two possibilities, that can cause this error. First is a defect EEPROM and the second is a wrong checksum in the EEPROM. In the second case, a |SAVE| can solve the problem.
09/F10/HW	0x00000200	Signal failure digital encoder input see also |SDLY|
10/F11/HW/2,4	0x00000400	=1 Brake error Is set, if the brake switch detects a fault (e.g. Brake is selected, but no brake is connected).
11/F12/HW	0x00000800	motorphase is missing (e.g. broken line)
12/F13/SW/2,4	0x00001000	=1 Ambient overtemperature is set, if the ambient temperature |TEMPE| exceeds the max allowed threshold |MAXTEMPE|.
13/F14/HW/2,4	0x00002000	=1 Output stage fault This fault can be caused by: Earth short circuit of the motor Short circuit of the motor phases Short circuit of the regen. This error leads to an immediate disable of the output stage.
14/F15/SW/2,4	0x00004000	=1 I^2tmax override.
15/F16/SW/2,4	0x00008000	=1 Mains BTB

16/F17/HW/2,4	0x00010000	=1 A/D converter error
17/F18/HW/2,4	0x00020000	=1 Regen error destroyed regen transistor regen resistor extern selected, but the internal one is used.
18/F19/SW/2,4	0x00040000	=1 DC bus breakdown (net phase missing?) (see also |VBUSLIM|, |PMODE| and |VBUSMAX|
19/F20/HW/2,4	0x00080000	=1 Slot error Error depends on the type of Slot board: 1. I/O expansion board The error is caused by a short at the output at the I/O board. 2. DPR Slot board (Beckhoff, L&B, Sigmatek) The error is generated, if the DPR interrupt fails to appear. The watch-dog time can be selected by |EXTWD|. 3. PROFIBUS Error in the initialization time. 4. S700/safety: F20 is generated if the parameter |CSENID| is set to 1 and no safety card has been detected by the firmware. There may be two cases: 1. The amplifier has a safety card. In this case, it should be checked whether the card is inserted correctly. 2. The amplifier has no safety card. In this case, the parameter CSENID should be set to 0 and the change should be saved. The error message F20 should disappear the next time the amplifier is switched on. Attention: Setting CSENID, but without an installed safety card, can lead to unnecessary heating of the motor!
20/F21/HW/2,4	0x00100000	=1 PROFIBUS handling error If the |OPMODE| is changed by another communication channel than PROFIBUS, when the drive is under control of the PROFIBUS, this error is generated. Exception: Working mode -126 for PROFIBUS. This is the safe opmode when the drive is switched on.
21/F22/HW/2,4	0x00200000	reserved
22/F23/HW/2,4	0x00400000	=1 CANopen Bus-Off Fault in CAN communication. The communication fault BUSOFF is generated by layer 2 (CAN controller). This fault can have several resons. Some examples are: Drive tries to establish communication, but there is no other node. CAN nodes have different baud rates, Bus cable defekt, reflections because of missing or wrong bus terminations, etc. A BUSOFF is displayed by the drive, if another CAN node is connected and minimum one errorfree object is generated. If the BUSOFF is generated and the drive is moving the motor, the motor is stopped using the emergency ramp and then the drive is disabled.
23/F24/SW/2,4	0x00800000	Warning generates a error message (defined by |WMASK|)

24/F25/HW/3,4	0x01000000	Commutation Error (Run-away of the motor) The drive will be directly disabled. see also |VCOMM|
25/F26/SW/2,4	0x02000000	Hardware limit switch error at homing move
26/F27/HW/4	0x04000000	=1 "-AS-Option" error If the ENABLE signal of the drive is high and the -AS-option is activated, this error is generated. This error leads to an immediate disable of the output stage.
27/F28/SW/2	0x08000000	=1 EtherCAT Error synchronisation is activated if the drive during the start up procedure isn't able to be synchronized or if the drive is in EtherCAT status „Operational“ and loose synchronize.
28/F29/SW/2	0x10000000	=1 Slotcard Error (SERCOS) is activated if the communication is disturbed or a SW enable is set via slotcard without a set HW Enable. DPR-card (EtherCAT) is activated if the communication is switched to a lower level while the drive is enabled a not supported mapping of cyclic data is refined or a SW enable is set via slotcard without a set HW Enable.
29/F30/SW	0x20000000	Emergency stop time out See also |EMRGTO|
30/F31/SW	0x40000000	Reserved
31/F32/HW/4	0x80000000	=1 System error Is set, if an error occurred in the system check of the initialization phase or a watch-dog error in the working phase. Following reasons are possible: 1. Wrong program data in the FLASH (e.g. interrupted program download) 2. Macro error (the macros could not be compiled) 3. Software watch-dog activated 4. Error with the EEPROM (read or write). 5. Macro RAM (the compilation of the MACROs detect too less RAM) When the drive is switched on, a detailed message is send via RS232. In case of F32 error try a |SAVE| command. When this procedure is finnished reset the drive.

ASCII -Command	ERRCODE2
Syntax Transmit	ERRCODE2
Syntax Receive	ERRCODE2 <Data>
Type	Variable ro
Format	Integer32
DIM	-
Range	0..55
Default	0
Opmode	All
Drive Status	-
Start Firmware	5.45
Configuration	☐
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3862 (hex)
PROFIBUS PNU:	1666 (dec) IND = 33 (d
DPR Objekt Nr:	866
Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	No

Short Description	Additional error code info

Description

In case of an error ERRCODE !=0 this variable gets an additional information about the errcor cause. At the drive the ERRCODE2 is displayed with an i followed by the number.

Zustand	Error	description
ERRCODE2 = 0	-	no additional information
ERRCODE2 = 1	F32	system fault software watchdog
ERRCODE2 = 2	F32	system fault: wrong order oth the commandtable
ERRCODE2 = 3	F32	system fault: macro conversion fault
ERRCODE2 = 4	-	reserved
ERRCODE2 = 5	F25	commutation fault: velocity control
ERRCODE2 = 6	F25	commutation fault: current control
ERRCODE2 = 7	F25	commutation fault: wrong segment of the Hall feedback
ERRCODE2 = 8	F25	commutation fault: W&S contouring error
ERRCODE2 = 9	F25	commutation fault: amplitude of W&S to high
ERRCODE2 = 10	F25	commutation fault: amplitude of W&S to small
ERRCODE2 = 11	F25	commutation fault: W&S IQ to high
ERRCODE2 = 12	F25	commutation fault: W&S wrong average
ERRCODE2 = 13	F07	The gate voltage of the IGBT drivers is missing (internal hardware error).
ERRCODE2 = 14	F07	The 15V power supply voltage is missing (internal hardware error).

ERRCODE2 = 15	F32	The firmware version is not suitable for the plugged in option card.
ERRCODE2 = 16	F04	Error while reading the BISS-position in regsiter mode.
ERRCODE2 = 17	-	reserved
ERRCODE2 = 18	F04	BISS communication fault.
ERRCODE2 = 19	-	reserved
ERRCODE2 = 20	F25	Sine/Cosine amplitude is too large
ERRCODE2 = 21	F07	15V power-supply is missing (only for 748/772)
ERRCODE2 = 22	F04	Reading the encoder data via slow data access was not possible (communication problem with the encoder)
ERRCODE2 = 23	F04	Reading the encoder data via fast data access was not possible (communication problem with the encoder)
ERRCODE2 = 24	-	reserved
ERRCODE2 = 25	F20	Reading data from the POSIO option-card was not possible. see also |CALCPOSIO|
ERRCODE2 = 26	-	reserved
ERRCODE2 = 27	F32	Corrupted flash data for the amplifier identification number.
ERRCODE2 = 28	F04	Determination of the BISS-C frame length has failed.
ERRCODE2 = 29	F29	The plugged in option card does not match with the software version of the drive.
ERRCODE2 = 30	F29	A software enable command coming from the option-card failed since the hardware enable signal is missing or the DC bus voltage is too low.
ERRCODE2 = 31	F29	The hardware enable signal has been removed while the option-card was in operation and has enabled the drive. Hardware enable signal is lost or the bus voltage is too low.
ERRCODE2 = 32	F29	Either the drive was not able to get synchronized with the cyclic command values from the fieldbus during the phase run-up procedure or the synchronization was getting lost while the option card was in operational mode.
ERRCODE2 = 33	F29	The option-card requested a |CLRFAULT| (clear faults) command during a pending fault. This CLRFAULT command command would lead to a software reset of the drive. This monitoring needs to be activated via the command |SERCSET| and is only available for specific option-cards.
ERRCODE2 = 34	F29	The EtherCAT master requested a state transition from the Operational state to another state although the drive has been enabled (software enable = true). The drive has lost the synchronization with the EtherCAT cyclic command values if this fault comes along with a F28 fault.
ERRCODE2 = 35	F29	The mapping number of the command-value mapping, which has been previously transmitted to the drive via SDO, is unknown.

ERRCODE2 = 36	F29	The mapping number of the actual-value mapping, which has been previously transmitted to the drive via SDO, is unknown.
ERRCODE2 = 37	F29	The length of the command-value mapping in bytes assumed by the EtherCAT master does not match with the length of the mapping assumed by the drive.
ERRCODE2 = 38	F29	The length of the actual-value mapping in bytes assumed by the EtherCAT master does not match with the length of the mapping assumed by the drive.
ERRCODE2 = 39	F29	The option card indicates a card error or network fault. This status message is only indicated by specific option-cards.
ERRCODE2 = 40	F29	The SynqNet master has selected an invalid resolution of the velocity scaling/unit via direct commands.
ERRCODE2 = 41	F29	The mode of operation selected by the Sercos master does not match the mode of operation in the drive (|OPMODE|)..
ERRCODE2 = 42	F29	The Sercos interrupt function detected a broken network cable.
ERRCODE2 = 43	F29	The drive has detected several consecutive missing MTS (master synchronization telegrams).
ERRCODE2 = 44	F29	The drive has detected an unknown/invalid Sercos interrupt type.
ERRCODE2 = 45	F29	The drive identified a Sercos ASIC with an unknown/invalid version number.
ERRCODE2 = 46	F29	The drive has identified an error condition in the object IDN14.
ERRCODE2 = 47	F29	The FireWire option card has not updated the watchdog counter value.
ERRCODE2 = 48	F29	The Modbus+ card has stopped generating interrupt signals
ERRCODE2 = 49	F29	The EtherNet card has stopped its SDO transfer.
ERRCODE2 = 50	F14	overflow of the current measurement
ERRCODE2 = 51	F18	regen fault (hardware)
ERRCODE2 = 52	F18	max. mechnaic power of the regen reached
ERRCODE2 = 53	F04	min. resolver amplitude (threshold) undershot
ERRCODE2 = 54	F04	max. amplitude jump of the resolver signals
ERRCODE2 = 55	F04	phase deviation between sinus/cosinus of the resolver

ASCII -Command	ERRMASK
Syntax Transmit	ERRMASK [Data]
Syntax Receive	ERRMASK <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	-2147483648 .. 2147483647
Default	0
Opmode	All
Drive Status	-
Start Firmware	-
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	355E (hex)
PROFIBUS PNU:	1694 (dec) IND = 1 (de
DPR Objekt Nr:	94
Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.8
EEPROM	Yes

Short Description	mask for activate the error timer

Description

The parameter ERRMASK choose the errors, which were activate after the error delay time (ERRTIME).

Have a look to |ERRCODE *| and |ERRTIME|

ASCII -Command	ERRPARAM
Syntax Transmit	ERRPARAM
Syntax Receive	ERRPARAM <Data>
Type	Variable ro
Format	Integer32
DIM	
Range	
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.37
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	375A (hex)
PROFIBUS PNU:	1802 (dec) IND = 17 (d
DPR Objekt Nr:	602

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.3
EEPROM	No

Short Description	Objectnumber of the incorrect parameter (warning n24)

Description

The ASCII parameter ERRPARAM gets the object number of the incorrect parameter that caused the warning n24.
During the initialisation phase the drive performs a plausibility check of the configuration parameters. In case of Unreasonable settings (for example: reference limit switch configured for more than one digital input), the warning n24 (s. |STATCODE|) is generated. The parameter number of the faulty parameter is stored in the ERRPARAM. The ASCII name of the faulty parameter can be detemined with the command |IDDUMP|.

There are following plausibility checks:

Function INxMODE=2,3,4,5 possible only for x=3 or 4
Function INxMODE=6,7 only for x=3
Function INxMODE=19 only for x=2
Function INxMODE=26 only for x=1 and 2
Function INxMODE=30,33 only possible for x=1..4,19,20
Functions INxMODE=2,3,4,5,6,7,8,10,11,12,13,14,15,19,21,22,25,29,32,38,42 are possible for all digital inputs but every function can be used only once.

ASCII -Command	ERRTIME	Available in	S300/700
Syntax Transmit	ERRTIME [Data]	MMI ☐	CAN-Bus ☑
Syntax Receive	ERRTIME <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer32	SERCOS IDN:	
DIM	ms	CAN Object No:	355F (hex)
Range	0 .. 20000	PROFIBUS PNU:	1695 (dec) IND = 1 (de
Default	0	DPR Objekt Nr:	95
Opmode	All		
Drive Status			
Start Firmware	2.11		
Configuration	☐	Data Type BUS/DPR	Integer32
Function Group		Weighting 10^3	

Last Change of this Object	2.1
EEPROM	Yes

Short Description	Error handling delay time

Description

The command ERRTIME defines the value of the error handling delay time for the delay function defined with ERRMASK.

See: |ERRCODE| and |ERRMASK|

ASCII -Command	ESPEED
Syntax Transmit	-
Syntax Receive	ESPEED <Data>
Type	Variable ro
Format	Float
DIM	rpm
Range	0 .. 16000
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3675 (hex)
PROFIBUS PNU:	1973 (dec) IND = 1 (de
DPR Objekt Nr:	373

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	1.0
EEPROM	No

Short Description	Maximum velocity corresponding to the Feedback Type

Description

The command ESPEED gives the maximum velocity of the motor corresponding to the selected feedback type (|FBTYPE|).

ASCII -Command	ETHMODE
Syntax Transmit	ETHMODE [Data]
Syntax Receive	ETHMODE <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	0..2
Default	1
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	3.07
Configuration	☑
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☐	Sercos	☐

SERCOS IDN:	
CAN Object No:	3778 (hex)
PROFIBUS PNU:	1832 (dec) IND = 17 (d
DPR Objekt Nr:	632
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.10
EEPROM	Yes

Short Description	Select on-board field bus interface

Description

only S700:
only S300 FW >= 5.00:

Selects the on-board field bus interface that is activated on boot-up.

With multidrive |MDRV| ETHMODE must set to 2

0	CAN	On-Board-CAN is permanent activated
1	auto-detect	while booting the drive an EtherCAT-connection is detected, the on-board EtherCAT will be activated else CAN will be activated.
2	EtherCAT	On-Board-EtherCAT is permanent activatet Multidrive |MDRV| with EtherCAT: ETHMODE must set to 2 note: with this setting, the EtherCAT state machine is activated immediately. As long as it is in the Init-state and no communication takes place, only digital demand values are possible. Once |OPMODE| is set to 1 or 3, the power stage is disabled. The background is as long as the control was not raised and no communication has been established to drive, no motor movement may occur. This is to avoid that an analog mode is stored in the EEPROM and the axis moves during power up.

ASCII -Command	EWH
Syntax Transmit	EWH [Data]
Syntax Receive	EWH <Data>
Type	Variable rw
Format	Integer32
DIM	Wattstunde
Range	0 .. 2147483647
Default	0
Opmode	All
Drive Status	-
Start Firmware	5.19
Configuration	☐
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	38BE (hex)
PROFIBUS PNU:	1758 (dec) IND = 33 (d
DPR Objekt Nr:	958

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.7
EEPROM	Yes

Short Description	consumed electric energy in watt-hours

Description

The variable EWH provides the consumed electric energy in watt-hours. It corresponds to the value of the integral Ud*Id + Uq*Iq. The value is saved every 8 minutes in the flash, and by frequent switching the amplifier a larger measurement errors can occurs.

A write access of this variable can be set to arbitrary starting values.

The display is indeed in watt-hours, but the date is stored internally in watt seconds. The exact value can be queried via the variable EWS ("M EWS") macro variable.

ASCII -Command	EXTBRAKE
Syntax Transmit	EXTBRAKE [Data]
Syntax Receive	EXTBRAKE <Data>
Type	Variable rw
Format	Integer8
DIM	
Range	0..3
Default	0
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	1.37
Configuration	☑
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	385C (hex)
PROFIBUS PNU:	1660 (dec) IND = 33 (d
DPR Objekt Nr:	860

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	2.10
EEPROM	Yes

Short Description	software brake on/off software configuration

Description

The external break control means, that the brake control is linked to the internal macro variable EXTBRAKEC.
This variable can be used by fieldbus or PLC program to control the state of the motor brake.

EXTBRAKE=0 no external brake control, brake controlled exclusively by the drive (default setting)
EXTBRAKE=1 external brake control allowed only when power stage disabled (this is S300/S700 standard procedure for external brake control).

since FW 5.53/3.89
EXTBRAKE=2 external brake control allowed only when drive enabled
EXTBRAKE=3 external brake control allowed only when drive enabled and no emergency stop ramp is active

since FW 5.77
EXTBRAKE=4 external brake control is alway allowed

ASCII -Command	EXTLATCH
Syntax Transmit	EXTLATCH [Data]
Syntax Receive	EXTLATCH <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	0 .. 2
Default	0
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	1.0
Configuration	☑
Function Group	-

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	P 3018
CAN Object No:	3681 (hex)
PROFIBUS PNU:	1985 (dec) IND = 1 (de
DPR Objekt Nr:	385
Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Selection of the Source of the Latch Inputs

Description

The configuration variable EXTLATCH defines the source for the position information using the Latch functions of the digital inputs (|IN1MODE|=26 and/or |IN2MODE|=26). If more than one inputs (1 or 2) are configured as Latch input, EXTLATCH defines the different sources. If only one input is configured as Latch input, both different sources are stored at the same time.

If EXTLATCH=0 the actuall position controller feedback is latched, that is

|EXTPOS| = 0 the actuall value of the standard feedback (FBTYPE)

|EXTPOS| > 0 he actuall value of an external feedback.

|EXTPOS| < 0 the value of the latched data is defined by

EXTLATCH = 0 latch position |PFB| by both digital inputs 1and 2 (|IN1MODE|=26 / |IN2MODE|=26) in the register |LATCH1P32| and |LATCH2P32|

EXTLATCH = 1 latch position |PFB0| by digital input 1 in |LATCH1P32| and position |PFB| by digital input 2 in |LATCH2P32|

EXTLATCH =2 latch position |PFB0| by both digital inputs 1and 2 in register |LATCH1P32| and |LATCH2P32|

ASCII -Command	EXTPOS
Syntax Transmit	EXTPOS [Data]
Syntax Receive	EXTPOS <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	-30 ... 30
Default	0
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	1.0
Configuration	☑
Function Group	-

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3539 (hex)
PROFIBUS PNU:	1657 (dec) IND = 1 (de
DPR Objekt Nr:	57

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	2.13
EEPROM	Yes

Short Description	Position Value For Position Control

Description

The parameter EXTPOS define the source of feedback used for the position loop. For EXTPOS = 0 the motor feedback, defined by the command |FBTYPE|, will used for the position loop. For EXTPOS > 0 an external feedback will used for position loop. The gearing factor of the external feedback to bring the external position to 32Bit per revolution will set by the parameter |EGEARO| as a multiplier and |EGEAR|I as a divisor.

If EXTPOS is set to negative values the feedback is read and the position stored in PFB0. The position loop acts with the commutation feedback (|FBTYPE|).

example:
EXTPOS = -6 The sinus/cosinus-Feedback(5V) is read. The position can be monitored by ASCII-command |PFB0|.
The input of the external feedback is withput effect to the position control.

|EGEARI| and |EGEARO| can be used to set the ratio:

1. On all analog read position feedbacks |EXTPOS|=6,7,8,9 the position is calculated by the |ENCLINES|-setting and converted to the 32Bit/turn -format. The parameter |EGEARI|/|EGEARO| are only for the gearing-factor.
On EGEARI-feedback turn the motor makes |EGEARO| turns.

example:
|EGEARI|=10,|EGEARO|=3 -> ratio 10 : 3

2. On all digital read position feedbacks(EXTPOS=1...4)
the parameter |ENCIN| defines the feedback pulses / turn.
The parameter |EGEARI|/|EGEARO| sets the gearing-faktor.

example:
An external digital Encoder has got 1024 pulses / turn,
on 1 feedback turn the motor runs 3 turns.
The necessary settings are:

EXTPOS 3,
ENCIN 1024,
EGEARI 1,
EGEARO 3

Zustand	connector	Feedback for position control
EXTPOS = 0	-	no external feedback
EXTPOS = 1	connector X3	24 V pulse / direction
EXTPOS = 2	connector X3	24 V digital encoder
EXTPOS = 3	connector X5	5 V digital encoder

EXTPOS = 4	connector X5	5 V pulse / direction
EXTPOS = 5	connector X5	SSI encoder
EXTPOS = 6	connector X1	5V SinCos Encoder
EXTPOS = 7	connector X1	12V SinCos Encoder
EXTPOS = 8	connector X1	ENDAT
EXTPOS = 9	connector X1	HIPERFACE
EXTPOS=10	connector X1	5V ROD encoder for actual position value in positon control mode
EXTPOS = 11	connector X1	5V BiSS-B digital feedback. The primary feedback has to be a resolver (|FBTYPE| = 0). |Fw| >= 2.28
EXTPOS = 12	connector X1	BiSS C |FBTYPE|=33 |Fw| >= 5.18
EXTPOS = 13	connector X1	EnDat 2.2 |FBTYPE|=32 ab |Fw| >= 5.18
EXTPOS = 25	connector X1	SSI Encoder |FBTYPE|=32 ab |Fw| >= 5.18
EXTPOS = 30	connector X1	5 V ROD digital Encoder |FBTYPE|=32 ab |Fw| >= 5.18

ASCII -Command	EXTWD
Syntax Transmit	EXTWD [Data]
Syntax Receive	EXTWD <Data>
Type	Variable rw
Format	Integer32
DIM	ms
Range	1 .. 32000
Default	100
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	1.0
Configuration	☑
Function Group	-

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	353A (hex)
PROFIBUS PNU:	1658 (dec) IND = 1 (de
DPR Objekt Nr:	58

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	External Watch Dog (Fieldbus)

Description

The EXTWD parameter can be used to define the monitoring time (watchdog timer) for the fieldbus/slot communication. The monitoring is only active if the EXTWD parameter has a value greater than zero (EXTWD=0 means monitoring is switched off) and the output stage is enabled. If the preset time runs out, without the timer being retriggered, then the warning n04 (threshold monitoring) is generated and the drive is stopped. The amplifier remains ready for operation, and the output stage is still enabled. This warning must be cancelled (function |CLRFAULT| or |INxMODE|=14) before a new motion command (setpoint) can be accepted.
For DeviceNet, set to 1 to enable F04 and 0 to disable. (Watchdog time is set by DeviceNet controller.)

ASCII -Command	FBGEARI
Syntax Transmit	FBGEARI [Data]
Syntax Receive	FBGEARI <Data>
Type	Variable rw
Format	Integer32
DIM	
Range	1...2147483647
Default	1
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	
Configuration	☑
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3893 (hex)
PROFIBUS PNU:	1715 (dec) IND = 33 (d
DPR Objekt Nr:	915
Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.7
EEPROM	Yes

Short Description	compensation facor motor/gearing

Description

This function is used to compensate for the possibly existing transmission between the motor and the encoder. It can also be used to manipulate the encoder resolution.

This function is only active when FBGEARI FBGEARO and have different values. The position value at the output of gearing is stored in the macro variable NEWBISS (in the terminal with "M NEWBISS").

NEWBISS = position * FBGEARO / FBGEARI

For the variable NEWBISS is in the lower 32 bits contain the position within one revolution of a 64-bit variable. The upper 32 bits contain the number of full revolutions

ASCII -Command	FBGEARO
Syntax Transmit	FBGEARO [Data]
Syntax Receive	FBGEARO <Data>
Type	Variable rw
Format	Integer32
DIM	
Range	1...2147483647
Default	1
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	
Configuration	☑
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3894 (hex)
PROFIBUS PNU:	1716 (dec) IND = 33 (d
DPR Objekt Nr:	916
Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.7
EEPROM	Yes

Short Description	compensation facor motor/gearing

Description

This function is used to compensate for the possibly existing transmission between the motor and the encoder. It can also be used to manipulate the encoder resolution.

This function is only active when FBGEARI FBGEARO and have different values. The position value at the output of gearing is stored in the macro variable NEWBISS (in the terminal with "M NEWBISS").

NEWBISS = position * FBGEARO / FBGEARI

For the variable NEWBISS is in the lower 32 bits contain the position within one revolution of a 64-bit variable. The upper 32 bits contain the number of full revolutions

ASCII -Command	FBTYPE
Syntax Transmit	FBTYPE [Data]
Syntax Receive	FBTYPE <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	0 ... 36
Default	0
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	1.0
Configuration	☑
Function Group	Feedback

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	P 3010
CAN Object No:	353B (hex)
PROFIBUS PNU:	1659 (dec) IND = 1 (de
DPR Objekt Nr:	59

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	2.14
EEPROM	Yes

Short Description	Selection of commutation feedback

Description

The FBTYPE command is used to select the type of feedback device that is used for the commutation and velocity controller. It is also ued for the position controller unless |EXTPOS| = 1.
The type of encoder that is set is only initialized when the amplifier is switched on, which means that the amplifier must be switched off and then on again after every change of this variable.
The encoder parameters can be altered by using the appropriate ASCII command (in brackets) and then saved in the encoder EEPROM, using the |HSAVE| command. The encoder commands (|HISOFFS|, |HICOFFS|, |HIFACT1|, |HSAVE|) are only available when communication with the connected encoder has been established.
If communication with the encoder is not possible, then the error message ENCODER FAULT F04 is displayed.
When the data are loaded from the encoder, the setting for the motor number in the encoder is compared with the internal setting (|MNUMBER|). If the numbers are different, then an attempt is made to load a motor data set from the internal motor database that has the same motor number as that stored in the encoder. At the same time, the warning “NEW MOTOR DATA SET” n12 is displayed.
In order to prevent a warning being generated at the next power-on, the latest |MNUMBER| setting should be saved in the EEPROM, using the |SAVE| command. If it was not possible to load a valid motor number from the encoder (for instance, when an encoder is used for the first time), then no motor data will be loaded. However, the n12 warning will still be generated. The |HSAVE| command can be used to save the preset setting for the motor number (|MNUMBER|) in the encoder, so that no warning will be produced at the next power-on.
When using an encoder without a parameter channel (|FBTYPE|=7/16), and thus without the facility for storing parameters, the offset values |HISOFFS| / |HICOFFS| / |HIFACT1| will be saved in the serial EEPROM of the amplifier. After an alteration, these values can be permanently stored by using the |SAVE| command.
The absolute position for EnDat, SSI and HIPERFACE certain FBTYPE settings are read only during initialization (while booting the amplifier). To avoid incorrect readings, the position is read up to 5 times. The position is only accepted as valid if the difference between two adjacent readings is less than the value of the in-position window |PEINPOS|. If too large position error F04 is displayed.

In all sensorless modes (FBTYPE = 10.11), the output frequency is limited to 599 Hz. This yields the following limits of maximum speed (in RPM): |MSPEED| (max) = 599Hz * 60 / (|MPOLES|/2) If your application requires a higher output frequency, please contact our support.

Zustand	Type of Feedback System	Description
FBTYPE = 0	Resolver	Data is loaded from the drive EEPROM. connector X2
FBTYPE = 1	SinCos 5V	connector X1 (|MPHASE| from EEPROM) A linearmotor with analoge hall feedback can operate without wake & shake if l|ENCLINES| = 1.

FBTYPE = 2	Hiperface (Stegmann)	In the initialization phase, all the data is loaded that is stored in the encoder EEPROM. These are: Offset compensation Sine (|HISOFFS|) Offset compensation Cosine (|HICOFFS|) Amplitude scaling (|HIFACT1|) Motor number (|MNUMBER|) Motorphase (|MPHASE|) connector X1
FBTYPE = 3	SinCos 12V	connector X1 (|MPHASE| fromEEPROM)
FBTYPE = 4	EnDAT (Heidenhain)	In the initialization phase, all the data is loaded that is stored in the encoder EEPROM. These are: Offset compensation Sine (|HISOFFS|) Offset compensation Cosine (|HICOFFS|) Amplitude scaling (|HIFACT1|) Motor number (|MNUMBER|) Motorphase (|MPHASE|) connector X1
FBTYPE = 5	SinCos with Hall	connector X1
FBTYPE = 6	SinCos 12V with Hall	connector X1
FBTYPE = 7	SinCos 5V mit W&S	connector X1 FW >= 2.18 A linearmotor with analoge hall feedback can operate without W&S if |ENCLIINES| = 1 and |DRVCNFG| Bit 8 = 1 is set. Additional is bit "reference ok" set. (standardfunction Bit 8). If this is not allowed use FBTYPE =1 for this feedback.
FBTYPE = 8	SinCos 12 V with W & S	connector X1
FBTYPE = 9	SSI	connector X5
FBTYPE =10	sensorless	-
FBTYPE =11	Hall only 5 V	connector X1
FBTYPE =12	RS422 feedback device (A quad B) 24V level.	connector X3
FBTYPE = 13	digital encoder 5V	connector X5 (|MPHASE| from EEPROM
FBTYPE = 14	digital encoder 24V with Hall	connector X1/X3
FBTYPE = 15	digital encoder 5V with Hall	connector X1 By use of digital feedback (ROD) at X1 (FBTYPE=15,17) the external ROD-indexpulse can used for homing (|NREF| 1,2,7) and for the ROD output. The parameter |REFMODE| has to set at 5.
FBTYPE = 16	digital encoder 24V with W&S	connector X3
FBTYPE = 17	digital encoder 5V - W&S	connector X1 By use of digital feedback (ROD) at X1 (FBTYPE=15,17) the external ROD-indexpulse can used for homing (|NREF| 1,2,7) and for the ROD output. The parameter |REFMODE| has to set at 5.
FBTYPE = 18	digital encoder 5V with Hall	connector X1/X5

FBTYPE = 19	digital encoder 5V - W&S	connector X5
FBTYPE = 20	BISS - Feedback 5V - digital	connector X1 After the amplifier is switched on all Encoder-EEPROM data are load in the drive. These are: motor number |MNUMBER|, motor phase |MPHASE| only |FW| > 2.14
FBTYPE = 21	EnDat + W&S	connector X1 EnDat with W&S: the absolute position is red by the feedback eeprom through the parameter channeland and |MPHASE| is calculatet by Wake & Shake. This kind of FBTYPE is a combination between FBTYPE=4 und FBTYPE=7
FBTYPE = 22	BISS - Feedback 12V - digital	connector X1 After the amplifier is switched on all Encoder-EEPROM data are load in the drive. These are: sinus offset adjustment |HISOFFS|, offset adjustment cosinus |HICOFFS|, amplitude scaling |HIFACT1|, motor number |MNUMBER|, motor phase |MPHASE| only |FW| > 2.14
FBTYPE = 23	BISS Feedback 5V - analog	connector X1 After the amplifier is switched on all Encoder-EEPROM data are load in the drive. These are: sinus offset adjustment |HISOFFS|, offset adjustment cosinus |HICOFFS|, amplitude scaling |HIFACT1|, motor number |MNUMBER|, motor phase |MPHASE| only |FW| > 2.14
FBTYPE = 24	BISS Feedback 12V - analog	connector X1 After the amplifier is switched on all Encoder-EEPROM data are load in the drive. These are: sinus offset adjustment |HISOFFS|, offset adjustment cosinus |HICOFFS|, amplitude scaling |HIFACT1|, motor number |MNUMBER|, motor phase |MPHASE| only |FW| > 2.14
FBTYPE = 25	only S700: SSI	Connector X1 |FW| ≥ 3.06
FBTYPE = 26	only S700: SSI - linear feedback	|FW| > 3.06 For |SSIRESOL|=0, a rotary encoder is also supported. Therefor the settings of the parameters |SSIRXD| and |SSIREVOL| are used.
FBTYPE = 27	digital encoder 5V (|MPHASE| from EEPROM	connector X1
FBTYPE = 28	SSI-Linear	connector X5 (POS-I/O-Optioncard)
FBTYPE = 29	n.a.	booked

FBTYPE = 30	ROD with W&S	connector X1
FBTYPE = 31	ROD	connector X1
FBTYPE = 32	EnDAT 2.2 with 5V	connector X1 In the initialization phase, all the data is loaded that is stored in the encoder EEPROM. These are: Motor number (|MNUMBER|) Motorphase (|MPHASE|) connector X1
FBTYPE = 33	BiSS-C 5V - digital	connector X1 For configuration have a look at (|BISSCNFG|) only with Renishaw feedback
FBTYPE = 34	EnDAT 2.2 with 12V	connector X1 In the initialization phase, all the data is loaded that is stored in the encoder EEPROM. These are: Motor number (|MNUMBER|) Motorphase (|MPHASE|) connector X1
FBTYPE = 35	Hiperface DSL (HDSL) S700: hardware-version >= 2.30 S300: hardware-version >= 4.20	connector X1 from |FW| Version >= 6.00
FBTYPE = 36	Smart Feedback Device (SFD3) S700: hardware-version >= 2.30 S300: hardware-version >= 4.20	connector X1 from |FW| Version >= 6.00

ASCII -Command	FBTYPEX
Syntax Transmit	FBTYPEX [Data]
Syntax Receive	FBTYPEX <Data>
Type	Variable ro
Format	Integer8
DIM	-
Range	0 .. 33
Default	0
Opmode	All
Drive Status	-
Start Firmware	
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	369B (hex)
PROFIBUS PNU:	2011 (dec) IND = 1 (de
DPR Objekt Nr:	411
Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	No

Short Description	Display of the actual feedback

Description

The FBTYPEX command can be used to display the current feedback setting. With the |FBTYPE| = 3 (automatic feedback detection) setting, this object contains the identifier of the automatically detected feedback unit.

An offset of d100 indicates whether a multiturn encoder has been recognized at |FBTYPE| = 2, 3 and 4.

e.g: EnDat multiturn was detected. FBTYPEX display d104.

ASCII -Command	FFTSW
Syntax Transmit	FFTSW [Data]
Syntax Receive	FFTSW <Data>
Type	Variable rw
Format	Integer16
DIM	-
Range	0 .. 255
Default	0
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	2.51
Configuration	☑
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3866 (hex)
PROFIBUS PNU:	1670 (dec) IND = 33 (d
DPR Objekt Nr:	870

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.13
EEPROM	Yes

Short Description	Current feed forward configuration

Description

FFTSW is a bit-form variable for configuration of the current feed forward functionality.

Bit 1 (0x00000001)
=1 current feed forward added after the current set point filter
=0 added before the set point filter

Bit 2 (0x00000002)
=1 extended current feed forward functionality (new)
=0 standard current feed forward functionality (old)

Bit 3 (0x00000004)
=1 inertia feed forward switched on
=0 inertia feed forward switched off

Bit 4 (0x00000008)
=1 current feed forward linear interpolation off
=0 current feed forward linear interpolation on

Bit 5 (0x00000010)
=1 velocity linear interpolation off
=0 velocity linear interpolation on

Bit	Description
Bit 1 (0x00000001)	1: current feed forward added after the current set point filter 0: added before the set point filter

ASCII -Command	FHKP	Available in	S300/700
Syntax Transmit	-	MMI ☐	CAN-Bus ☐
Syntax Receive	-	PROFIBUS ☐	Sercos ☐
Type	-		
Format	-	SERCOS IDN:	
DIM	-	CAN Object No:	-
Range		PROFIBUS PNU:	-
Default		DPR Objekt Nr:	
Opmode			
Drive Status	-		
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	internal parameter

Description

This parameter is internal and is not documented. It could be a customized or test/service parameter.

It is not allowed to change this parameter!

ASCII -Command	FHTN	Available in	S300/700
Syntax Transmit	-	MMI ☐	CAN-Bus ☐
Syntax Receive	-	PROFIBUS ☐	Sercos ☐
Type	-		
Format	-	SERCOS IDN:	
DIM	-	CAN Object No:	-
Range		PROFIBUS PNU:	-
Default		DPR Objekt Nr:	
Opmode			
Drive Status	-		
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	internal parameter

Description

This parameter is internal and is not documented. It could be a customized or test/service parameter.

It is not allowed to change this parameter!

ASCII -Command	FILTMODE
Syntax Transmit	FILTMODE [Data]
Syntax Receive	FILTMODE <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	0 ... 2
Default	1
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	1.21
Configuration	☑
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	353C (hex)
PROFIBUS PNU:	1660 (dec) IND = 1 (de
DPR Objekt Nr:	60
Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	2.13
EEPROM	Yes

Short Description	Smith Predictor

Description

The Smith Predictor estimates the current, which will settle in 62,5 ms, to compensate the delay time of the servo drive. (fs = 8 kHz). A new motor model with electrical motor time constant is used. Te = L / R. The algorithm is switched on by FILTMODE 2 . |KC| sets the predictor activity (KC = 1 >>> 100 %, KC = 0,3 >>> 30 %)

To execute the algorithm the following motor parameter have to be saved in the drive:
|MRS| Phase-Phase resistor of the winding
|ML| Phase-Phase inductivity of the winding in mH.

With predictor the current controller bandwith can be set up to 2,5 kHz (fs = 8 kHz). If the predictor is switched on the |CTUNE| default value is 1,8 kHz. Usual the current controller gain |MLGQ| can be increased by 50 %.

The smith predictor is switched of with value 0 or 1

ASCII -Command	FLTCNT
Syntax Transmit	FLTCNT
Syntax Receive	FLTCNT <Data>
Type	Command
Format	String
DIM	-
Range	0, 65535 per Fault Message
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Drive Status

Available in	S300/700		
MMI	☑	CAN-Bus	☐
PROFIBUS	☐	Sercos	☐

SERCOS IDN:	
CAN Object No:	-
PROFIBUS PNU:	-
DPR Objekt Nr:	
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Fault Frequency

Description

The FLTCNT command provides a listing of all possible error messages, with the number of occurrences of each type of fault in clear text. The total number of faults (sum of the individual faults) is given out before the fault list.

ASCII -Command	FLTCNT *
Syntax Transmit	FLTCNT *
Syntax Receive	FLTCNT <Data>
Type	Command
Format	1 x Integer32 + 32 x Integer16
DIM	-
Range	-
Default	-
Opmode	-
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700		
MMI	☑	CAN-Bus	☐
PROFIBUS	☐	Sercos	☐

SERCOS IDN:	
CAN Object No:	-
PROFIBUS PNU:	-
DPR Objekt Nr:	
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Fault Frequency

Description

The command returns a list of 33 numbers:
1st number:total number of faults (Integer32)
2nd numbernumber of occurrences of fault F01
3rd numbernumber of occurrences of fault F02
.....
33rd numbernumber of occurrences of fault F32

ASCII -Command	FLTHIST
Syntax Transmit	FLTHIST
Syntax Receive	FLTHIST <Data>
Type	Command
Format	String
DIM	Number and TRUN
Range	10 No. of Last Messages+Times
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Drive Status

Available in	S300/700		
MMI	☑	CAN-Bus	☐
PROFIBUS	☐	Sercos	☐

SERCOS IDN:	
CAN Object No:	-
PROFIBUS PNU:	-
DPR Objekt Nr:	
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Fault History: Display last 10 faults

Description

The FLTHIST command produces a list of the last 10 faults that occurred, together with the corresponding number of operating hours at the time of occurrence, in clear text.

ASCII -Command	FLTHIST *
Syntax Transmit	FLTHIST *
Syntax Receive	FLTHIST <Data>
Type	Command
Format	20 x Integer32
DIM	Number and TRUN
Range	-
Default	-
Opmode	-
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700		
MMI	☑	CAN-Bus	☐
PROFIBUS	☐	Sercos	☐

SERCOS IDN:	
CAN Object No:	-
PROFIBUS PNU:	-
DPR Objekt Nr:	
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Fault History: Display last 10 faults

Description

The FLTHIST command produces a list of the last 10 faults that occurred, together with the corresponding number of operating hours at the time of occurrence, in clear text.
The output looks like this:
n1 t1 n2 t2 n3 t3 ....n10 t10
n – fault number
t – time of the event (operating hours counter) [in 1024/60000 minutes]

ASCII -Command	FW
Syntax Transmit	FW
Syntax Receive	FW <Data>
Type	Variable ro
Format	Float
DIM	-
Range	-
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3657 (hex)
PROFIBUS PNU:	1943 (dec) IND = 1 (de
DPR Objekt Nr:	343

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	1.0
EEPROM	No

Short Description	Displays the Version Number of the Firmware

Description

The command FW displays the versionnumber of the firmware. The command is also appears in the |DUMP| list and is part of the parameter settings of the drive.

ASCII -Command	GEARFILT
Syntax Transmit	GEARFILT [Data]
Syntax Receive	GEARFILT <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	0 .. 16
Default	4
Opmode	4
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	1.0
Configuration	☑
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	36D6 (hex)
PROFIBUS PNU:	1670 (dec) IND = 17 (d
DPR Objekt Nr:	470

Data Type BUS/DPR	Command
Weighting 10^3	

Last Change of this Object	2.13
EEPROM	-

Short Description	second order low pass filter (OPMODE=4)

Description

For the operation of electronic gearing (OPMODE = 4), a second order low pass filter is introduced, to smooth the input position command signal. This command GEARFILT can be used to determine the corresponding frequency of the electronic gearing filter.

GEARFILT	f (HZ)
1	318
2	159
3	80
4	40
5	20
6	10
7	5
8	2.5

The filter is only used, if it is necessary, because the filter also introduces a delay to prevent the slave from following the master exactly at time during acceleration and deceleration. Normally, GEARFILT = 4 with 40 Hz cut-frequency is chosen.

ASCII -Command	GEARI	Available in	S300/700
Syntax Transmit	GEARI [Data]	MMI ☑	CAN-Bus ☑
Syntax Receive	GEARI <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer32	SERCOS IDN:	
DIM	-	CAN Object No:	353E (hex)
Range	-2147483648 ... 2147483647	PROFIBUS PNU:	1662 (dec) IND = 1 (de
Default	1024	DPR Objekt Nr:	62
Opmode	4		
Drive Status	-		
Start Firmware	1.0		
Configuration	☐	Data Type BUS/DPR	Integer32
Function Group	Gearing	Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Input Factor for Electronic Gearing

Description

In master/slave applications (|OPMODE|=4) this parameter can be used to set the master/slave translation ratio.

1. In case of analoge input signals (|GEARMODE|=6...9) the position is registered by the |ENCLINES| setting and converted in the 32bit/turn format.
The parameter GEARI/|GEARO| is only for the gearing-ratio.

Example:
GEARI ->> feedback turns
|GEARO| - >> motor turns.
GEARI=10,GEARO=3 -> ratio 10 : 3

2. In case of SSI-feedback (|GEARMODE|=5) the position is set and calvulated by |SSIRXD| and |SSIREVOL| and converted in the 32bit/turn format.
The parameter GEARI/|GEARO| is only for the gearing-ratio.

3. In case of all digital position inputs (|GEARMODE|=1...4) the parameter GEARI defines the feedback pulses within |GEARO| motor turns.
Example:
An externer ROD-feedbackhas 1024 pulses / turn, by 1 feedback turnn the motor should go 3 turns.
The corresponding setting is:
GEARI = 1024, GEARO 3

ASCII -Command	GEARMODE
Syntax Transmit	GEARMODE [Data]
Syntax Receive	GEARMODE <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	0 .. 30
Default	0
Opmode	4
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	1.0
Configuration	☑
Function Group	Gearing

Available in	S300/700		
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	353F (hex)
PROFIBUS PNU:	1663 (dec) IND = 1 (de
DPR Objekt Nr:	63
Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	Yes

Short Description	Position Input Electronic Gearing Mode

Description

The servo amplifier is controlled through different interfaces from various sources. The GEARMODE variable configures the source that provides the master setpoint (position). For the connector pin assignments, see the Installation Manual.

All devices resolver, SinCos and incremental signals can be used at the same time. Resolver for commutation and speed control, SinCos for position control and incremental encoder for electronic gearing.
Following settings have to be made:

|EXTPOS|=1 .. 3 (External actual position)

Zustand		Description
GEARMODE=0		No Feedback
GEARMODE=1	X3 (24V Pulse/Direction)	Pulse And Direction Digital I/O 24V (X3) With a stepper motor control (pulse/direction, 24V signal level) connected to the digital inputs DIGITAL-IN 1/2, terminals X3/11, 12, an additional function assignment for the inputs is not necessary and any assignments on the screen page, Digital I/O, are ignored. INPUT1=direction (Low = positive, High = negative) INPUT2=pulse
GEARMODE=2	X3 (24V ROD)	digital encoder Encoder Follower Digital I/O 24V (X3) With an incremental encoder (track A/B, 24V signal level) connected to the digital inputs DIGITAL-IN 1/2, terminals X3/11, 12, an additional function assignment for the inputs is not necessary and any assignments on the screen page, Digital I/O, are ignored.
GEARMODE=3	X5 (5V ROD)	digital encoder Encoder Follower Digital I/O 5V X5 With an incremental encoder connected to connector X5 (Drive 400 X4), terminals 4, 5, 6, 7.

GEARMODE=4	X5 (5V pulse and direction)	pulse and direction Digital I/O With a stepper motor control connected to connector X5, terminals 4, 5, 6, 7. INPUT1=direction (Low = positive, High = negative) INPUT2=pulse |ENCMODE| has to be set to "0"
GEARMODE=5	X5 (SSI)	SSI at X5
GEARMODE=6	X1 (5V)	sine encoder Only analog processing.
GEARMODE=7	X1 (12V)	sine encoder Only analog processing.
GEARMODE=8	X1 (EnDat)	The difference to |GEARMODE|=6 is, that the parameter channel of the encoder is read and the absolute position is transfered to the position register. |ENCLINES| is calculated automatically to thie internal resolution of 20 Bit per rev of the encoder. This setting can be used in position mode under |EXTPOS|=1. The sine/cosine signals of the encoder are read analog. This increases the resolution significantly.
GEARMODE=9	X1 (HIPERFACE)	The difference to |GEARMODE|=6 is, that the parameter channel of the encoder is read and the absolute position is transfered to the position register. |ENCLINES| is calculated automatically to the internal resolution of 20 Bit per rev of the encoder. This setting can be used in position mode under |EXTPOS|=1. The sine/cosine signals of the encoder are read analog. This increases the resolution significantly.
GEARMODE=10	X1 (5V ROD)	ROD-encoder as master - slave input (|OPMODE| = 4)
GEARMODE=25	X1 (SSI)	SSI at X1
GEARMODE=27	X1 (5V)	pulse/direction Only digital processing
GEARMODE=30	X1 (ROD)	ROD (A Quad B) Only digital processing

ASCII -Command	GEARO
Syntax Transmit	GEARO [Data]
Syntax Receive	GEARO <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	0 .. 2147483647
Default	1
Opmode	4
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Gearing

Available in	S300/700		
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3540 (hex)
PROFIBUS PNU:	1664 (dec) IND = 1 (de
DPR Objekt Nr:	64

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Output Factor for Electronic Gearing

Description

In master/slave applications (|OPMODE|=4) this parameter can be used to set the master/slave translation ratio.

ASCII -Command	GET
Syntax Transmit	GET
Syntax Receive	GET <Data>
Type	Command
Format	String
DIM	-
Range	-
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Oscilloscope

Available in	S300/700
MMI	☑
CAN-Bus	☑
PROFIBUS	☑
Sercos	☐
SERCOS IDN:	
CAN Object No:	3541 (hex)
PROFIBUS PNU:	1665 (dec) IND = 1 (de
DPR Objekt Nr:	65
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Scope: output data

Description

The GET command returns a list with all the most recently recorded SCOPE data. The list consists of n+3 lines (n = no. items of data recorded)
Line 1: commentary e.g. “Drive Recording”
Line 2: n, timebase in msec e.g. 10, 0.25 (10 data lines, timebase 250 microseconds)
Line 3: var1, var2, var3 names of the recorded variables, e.g. |VCMD|, |V|, |ICMD|
Line 4: data1, data2, data3 recorded data, e.g. 0, 20.3, -0.5
Line 5: data1, dat2, data3
..
Line 1: data1, data2, data3

see also |RECORD|, |RECTRIG|

ASCII -Command	GF	Available in	S300/700
Syntax Transmit	GF [Data]	MMI ☐	CAN-Bus ☐
Syntax Receive	GF <Data>	PROFIBUS ☐	Sercos ☐
Type	Variable rw		
Format	Float	SERCOS IDN:	
DIM	-	CAN Object No:	-
Range	0 ... 10	PROFIBUS PNU:	-
Default	1	DPR Objekt Nr:	
Opmode	All		
Drive Status	-		
Start Firmware	1.37		
Configuration	☐	Data Type BUS/DPR	Integer32
Function Group		Weighting 10^3	*

Last Change of this Object	2.7
EEPROM	Yes

Short Description	proportional gain of the flux controller

Description

GF is a parameter for the base speed range of the induction maschine. The default values for GF respectively for GF 1ms. Normally, they can be left at these values, as the rotor's flow only reacts very slowly.

Please have a look to |GFTN|

ASCII -Command	GFTN	Available in	S300/700
Syntax Transmit	GFTN [Data]	MMI ☐	CAN-Bus ☐
Syntax Receive	GFTN <Data>	PROFIBUS ☐	Sercos ☐
Type	Variable rw		
Format	-	SERCOS IDN:	
DIM	ms	CAN Object No:	3907 (hex)
Range	1 .. 32000	PROFIBUS PNU:	1831 (dec) IND = 33 (d
Default	150	DPR Objekt Nr:	1031
Opmode	All		
Drive Status	-		
Start Firmware	1.37		
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	time constant flow controlinduction maschine)

Description

GFTN is a parameter for the base speed range of the induction maschine. The default values for GF respectively for GFTN 150ms. Normally, they can be left at these values, as the rotor's flow only reacts very slowly.

Please have a look to |GF|

ASCII -Command	GP
Syntax Transmit	GP [Data]
Syntax Receive	GP <Data>
Type	Variable rw
Format	Float
DIM	(m/s)/m
Range	0.1 ... 1000
Default	0.1
Opmode	4, 5, 8
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Position

Available in	S300/700
MMI	☑
CAN-Bus	☑
PROFIBUS	☑
Sercos	☑

SERCOS IDN:	104
CAN Object No:	3542 (hex)
PROFIBUS PNU:	1666 (dec) IND = 1 (de
DPR Objekt Nr:	66

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	2.10
EEPROM	Yes

Short Description	Position Control Loop: Proportional Gain

Description

This variable is the proportional gain of the position control loop . If GP is set too low, the lag or settling time is too long and the drive is too soft. If GP is set too high, the drive oscillates.

If the parameters (GP=|GP2|) are eqaul, the interpolation is switched off which is the case by default. As long as they are equal, a change of GP leads to an automatic change of GP2, so that they remain the same. Only when GP2 is set once at a value other than GP, pairing is dissolved and both parameters can be modified separately. By setting GP2 to GP parameter coupling is activated again

Who does not need the interpolation function and only use GP, the existence of GP2 will not even notice.

ASCII -Command	GP_X
Syntax Transmit	GP_X [Data]
Syntax Receive	GP_X <Data>
Type	Variable rw
Format	Float
DIM	(m/s)/m
Range	0.1 ... 1000
Default	0.1
Opmode	4, 5, 8
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Position

Available in	S300/700		
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	104
CAN Object No:	3761 (hex)
PROFIBUS PNU:	1809 (dec) IND = 17 (d
DPR Objekt Nr:	609

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	1.8
EEPROM	Yes

Short Description	Position Control Loop: Proportional Gain 2

Description

see |PARCNFG|

ASCII -Command	GP2
Syntax Transmit	GP2 [Data]
Syntax Receive	GP2 <Data>
Type	Variable rw
Format	-
DIM	VUNIT
Range	0 .. 1000
Default	0.1
Opmode	All
Drive Status	-
Start Firmware	
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	38C3 (hex)
PROFIBUS PNU:	1763 (dec) IND = 33 (d
DPR Objekt Nr:	963
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.10
EEPROM	Yes

Short Description	proportional gain for the velocity higher than GPS2

Description

GP2 is a paramter of th position loop and is the proportional gain for the velocity higher than |GPS2|

If the parameters (|GP|=GP2) are eqaul, the interpolation is switched off which is the case by default. As long as they are equal, a change of GP leads to an automatic change of GP2, so that they remain the same. Only when GP2 is set once at a value other than GP, pairing is dissolved and both parameters can be modified separately. By setting GP2 to GP parameter coupling is activated again

Who does not need the interpolation function and only use GP, the existence of GP2 will not even notice.

ASCII -Command	GPDELAY
Syntax Transmit	GPDELAY [Data]
Syntax Receive	GPDELAY <Data>
Type	Variable rw
Format	Float
DIM	ms
Range	0 .. 16
Default	0
Opmode	
Drive Status	-
Start Firmware	
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	38AF (hex)
PROFIBUS PNU:	1743 (dec) IND = 33 (d
DPR Objekt Nr:	943
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.13
EEPROM	

Short Description	delay for external position set point

Description

GPDELAY = 0: no delay (default)
GPDELAY >0 (in msec): delay for proportional and integral part of the position loop (highest resolution 0.0625 msec).

The external position set point (macro variable NEWPOS) received via fieldbus or macro application is used for microinterpolation and calculation of the internal position set point (macro variable S_SETL). This information is also used for calculation of the velocity feed forward, acceleration feed forward and position error. For GPDELAY>0 the source for the position error calculation is delayed by the configured parameter GPDELAY. This means: the feed forward commands are calculated with the real position profile S_SETL and the proportional and integral parts of the position loop are feed with the delayed profile S_SETT.

ASCII -Command	GPFFT
Syntax Transmit	GPFFT [Data]
Syntax Receive	GPFFT <Data>
Type	Variable rw
Format	Float
DIM	-
Range	0 ... 2147480
Default	1
Opmode	4,5,8
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	

Available in	S300/700
MMI ☐	CAN-Bus ☑
PROFIBUS ☑	Sercos ☐
SERCOS IDN:	
CAN Object No:	3544 (hex)
PROFIBUS PNU:	1668 (dec) IND = 1 (de
DPR Objekt Nr:	68
Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	2.1
EEPROM	Yes

Short Description	Position control loop: feed forward for the current setpoint

Description

Position control loop: feed forward for the current setpoint.
Has to be set, that the following error is minimized.

This parameter has effect for control structure only in the following cases:
1.using table based motion task enabled with bit in |O_C|. ;
2.using sine squared acceleration and deceleration motion profiles.

If |GV| is changed after optimizing GPFFT, GPFFT has to be changed also inversely proportional.

ASCII -Command	GPFFT_X	Available in	S300/700
Syntax Transmit	GPFFT [Data]	MMI ☐	CAN-Bus ☑
Syntax Receive	GPFFT <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Float	SERCOS IDN:	
DIM	-	CAN Object No:	3762 (hex)
Range	0 ... 2147480	PROFIBUS PNU:	1810 (dec) IND = 17 (d
Default	1	DPR Objekt Nr:	610
Opmode	4,5,8		
Drive Status	-		
Start Firmware	1.0		
Configuration	☐	Data Type BUS/DPR	Integer32
Function Group		Weighting 10^3	*

Last Change of this Object	2.13
EEPROM	Yes

Short Description	Position control loop: feed forward for the current setpoint 2

Description

see |PARCNFG|

ASCII -Command	GPFFTV
Syntax Transmit	GPFFTV [Data]
Syntax Receive	GPFFTV <Data>
Type	Variable rw
Format	Float
DIM	-
Range	32 Bit
Default	1
Opmode	All
Drive Status	-
Start Firmware	
Configuration	☐
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	386A (hex)
PROFIBUS PNU:	1674 (dec) IND = 33 (d
DPR Objekt Nr:	874

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	2.1
EEPROM	Yes

Short Description	Viscous friction compensation

Description

This current feed forward is generated from the internal trajectory speed value and is valid for all all position loop modes (OPMODE=4...8). This setting is valid only for extenden feed forware functionality (FFTSW=2).

ASCII -Command	GPFFV
Syntax Transmit	GPFFV [Data]
Syntax Receive	GPFFV <Data>
Type	Variable rw
Format	Float
DIM	-
Range	0 ... 1000
Default	1
Opmode	4, 5, 8
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Position

Available in	S300/700
MMI	☑
CAN-Bus	☑
PROFIBUS	☑
Sercos	☑

SERCOS IDN:	296
CAN Object No:	3545 (hex)
PROFIBUS PNU:	1669 (dec) IND = 1 (de
DPR Objekt Nr:	69

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	2.4
EEPROM	Yes

Short Description	Position Control Loop: Feed Forward for Velocity

Description

This variable is used in the position control loop. Feed forward is used to ease the position controller task. A better setting for GPFFV means better utilization of the dynamic range of the position controller. The most favorable setting (usually about 1.0), depends on factors external to the drive such as friction, dynamic resistance, and stiffness. If GPFFV is set too low, the drive lags. If GPFFV is set too high, the drive oversteers.

ASCII -Command	GPFFV_X
Syntax Transmit	GPFFV [Data]
Syntax Receive	GPFFV <Data>
Type	Variable rw
Format	Float
DIM	-
Range	0 ... 1000
Default	1
Opmode	4, 5, 8
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Position

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3763 (hex)
PROFIBUS PNU:	1811 (dec) IND = 17 (d
DPR Objekt Nr:	611

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	1.8
EEPROM	Yes

Short Description	Position Control Loop: Feed Forward for Velocity 2

Description

see |PARCNFG|

ASCII -Command	GPFFVDELAY	Available in	S300/700
Syntax Transmit	-	MMI ☐	CAN-Bus ☐
Syntax Receive	-	PROFIBUS ☐	Sercos ☐
Type	-		
Format	-	SERCOS IDN:	
DIM	-	CAN Object No:	38AC (hex)
Range		PROFIBUS PNU:	1740 (dec) IND = 33 (d
Default		DPR Objekt Nr:	940
Opmode			
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	internal parameter

Description

This parameter is internal and is not documented. It could be a customized or test/service parameter.

It is not allowed to change this parameter!

ASCII -Command	GPS1
Syntax Transmit	GPS1 [Data]
Syntax Receive	GPS1 <Data>
Type	Variable rw
Format	-
DIM	VUNIT
Range	0 .. 3000
Default	0
Opmode	All
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	38C4 (hex)
PROFIBUS PNU:	1764 (dec) IND = 33 (d
DPR Objekt Nr:	964
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.7
EEPROM	Yes

Short Description	low velocity threshold (position loop)

Description

The parameter GPS1 is the low velocity threshold in the position loop |VUNIT|.

For velocity values between |GPS1| and |GPS2| there is a linear interpolation between |GP| and |GP2|

ASCII -Command	GPS2
Syntax Transmit	GPS2 [Data]
Syntax Receive	GPS2 <Data>
Type	Variable rw
Format	-
DIM	VUNIT
Range	0 .. 3000
Default	0
Opmode	All
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	38C5 (hex)
PROFIBUS PNU:	1765 (dec) IND = 33 (d
DPR Objekt Nr:	965
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.7
EEPROM	Yes

Short Description	high velocity threshold (position loop)

Description

The parameter GPS2 is the high velocity threshold in the position loop |VUNIT|

For velocity values between |GPS1| and |GPS2| there is a linear interpolation between |GP| and |GP2|

ASCII -Command	GPTN	Available in	S300/700		
Syntax Transmit	GPTN [Data]	MMI	☐	CAN-Bus	☑
Syntax Receive	GPTN <Data>	PROFIBUS	☑	Sercos	☐
Type	Variable rw				
Format	Float	SERCOS IDN:			
DIM	position loop cycle time	CAN Object No:	38B1 (hex)		
Range	0 .. 3000	PROFIBUS PNU:	1745 (dec) IND = 33 (d		
Default	0	DPR Objekt Nr:	945		
Opmode	All				
Drive Status					
Start Firmware	5.19				
Configuration	☐	Data Type BUS/DPR	-		
Function Group		Weighting 10^3			

Last Change of this Object	2.7
EEPROM	Yes

Short Description	integral gain of the PI position loop

Description

Parameter GPTN defines the integral gain of the PI position loop (unit depends on |DPWM| in µsec).

GPTN=0 (default): integral part switched off
GPTN>0: integral part switched on

please have a look |DPWM|

ASCII -Command	GPTN_X
Syntax Transmit	GPTN_X [Data]
Syntax Receive	GPTN_X <Data>
Type	Variable rw
Format	Float
DIM	position loop cycle time
Range	0 .. 3000
Default	0
Opmode	All
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	38B2 (hex)
PROFIBUS PNU:	1746 (dec) IND = 33 (d
DPR Objekt Nr:	946
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.7
EEPROM	Yes

Short Description	integral gain of the PI position loop

Description

Parameter GPTN defines the integral gain of the PI position loop (unit depends on |DPWM| in µsec).

GPTN=0 (default): integral part switched off
GPTN>0: integral part switched on

please have a look |DPWM|

Switching over parameter sets is realized with a pointer, which always points to one of the two parameter structures (parameter set 1: default or parameterset 2: shadow parameters). While switching the pointer between these two structures all parameters that are defined in the structures are switched over in parallel. Because the parameters are already converted in the structures, it is avoided that undefined conditions occure.

The parameters of the second parameter set are defined similarly to the major parameter set by ASCII commands. To define the second parameter set, the sequence "_X" must be added to the ASCII command.

Example:
The command "GV" is used to define the gain of the velocity controller. To change this parameter in the second parameter set the command "GV_X" must be used.

To save memory in the amplifier, only those parameters are stored in the second set, which differ from the first parameter set. If no parameter is preset for the second set, thes econd set is initialised automatically identical to the first set. The user must therefore only define the rerquired parameters for the second set, not all parameters.

The automatical initialising of the second parameters set always requires an update of the set, if a parameter of the first set has been changed. This could result in a reset of special second set parameters. To avoid this, the parameterizing of the second set must always been done after initializing the first set.

As soon as PAR_X gets a different value than PAR,this parameter is saved in the serial EEPROM. The value of PAR_X now appears in the DUMP list at the end of the parameter section.

All parameters that can be used for this functionality can be listed combined with their values by the command |PARDUMP|.

ASCII -Command	GPTNTH1
Syntax Transmit	GPTNTH1 [Data]
Syntax Receive	GPTNTH1 <Data>
Type	Variable rw
Format	Float
DIM	
Range	0 .. 16000
Default	0
Opmode	All
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	38A7 (hex)
PROFIBUS PNU:	1735 (dec) IND = 33 (d
DPR Objekt Nr:	935

Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.7
EEPROM	Yes

Short Description	integral part threshold for velocity set point

Description

GPTNTH1 (in |VUNIT|) integral part threshold for velocity set point. The integral part of the position loop is activated when the velocity set point falls below the threshold value.

Have a look to |GPTN|, |GPTNTH2|, |GPTNTH3|

ASCII -Command	GPTNTH2
Syntax Transmit	GPTNTH2 [Data]
Syntax Receive	GPTNTH2 <Data>
Type	Variable rw
Format	Float
DIM	
Range	0 .. 16000
Default	0
Opmode	All
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in	S300/700
MMI ☐	CAN-Bus ☑
PROFIBUS ☑	Sercos ☐
SERCOS IDN:	
CAN Object No:	38A8 (hex)
PROFIBUS PNU:	1736 (dec) IND = 33 (d
DPR Objekt Nr:	936
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.7
EEPROM	Yes

Short Description	integral part threshold for velocity actual value

Description

GPTNTH2 (in VUNIT) integral part threshold for velocity actual value. The integral part of the position loop is activated when the velocity actual value falls below the threshold value.

Have a look to |GPTN|, |GPTNTH1|, |GPTNTH3|

ASCII -Command	GPTNTH3
Syntax Transmit	GPTNTH3 [Data]
Syntax Receive	GPTNTH3 <Data>
Type	Variable rw
Format	Float
DIM	
Range	0 .. 2147483647
Default	0
Opmode	All
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in	S300/700
MMI ☐	CAN-Bus ☑
PROFIBUS ☑	Sercos ☐
SERCOS IDN:	
CAN Object No:	38A8 (hex)
PROFIBUS PNU:	1652 (dec) IND = 17 (d
DPR Objekt Nr:	460
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.7
EEPROM	Yes

Short Description	integral part threshold for following error

Description

GPTNTH3 (in |PUNIT|) integral part threshold for following error. The integral part of the position loop is activated when the following error falls below the threshold value.

Have a look to |GPTN|, |GPTNTH1|, |GPTNTH2|

ASCII -Command	GU	Available in	S300/700
Syntax Transmit	GU [Data]	MMI ☐	CAN-Bus ☐
Syntax Receive	GU <Data>	PROFIBUS ☐	Sercos ☐
Type	Variable rw		
Format	-	SERCOS IDN:	
DIM		CAN Object No:	-
Range	0 .. 32000	PROFIBUS PNU:	-
Default	1000	DPR Objekt Nr:	
Opmode	All		
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.7
EEPROM	Yes

Short Description	proportinal gain for field weakening

Description

GU is a paramter for using a asycron maschine and describes the proportional gain of the voltage controler for the field weakening.

ASCII -Command	GUTN	Available in	S300/700
Syntax Transmit	GUTN [Data]	MMI ☐	CAN-Bus ☐
Syntax Receive	GUTN <Data>	PROFIBUS ☐	Sercos ☐
Type	Variable rw		
Format	-	SERCOS IDN:	
DIM		CAN Object No:	-
Range	0 .. 10	PROFIBUS PNU:	-
Default	0.1	DPR Objekt Nr:	
Opmode	All		
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.7
EEPROM	Yes

Short Description	time constant of field weakening

Description

GUTN is a paramter for using a asycron maschine and describes the time constant (in ms) of the voltage controler for the field weakening.

ASCII -Command	GV
Syntax Transmit	GV [Data]
Syntax Receive	GV <Data>
Type	Variable rw
Format	Float
DIM	-
Range	variable
Default	variable
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	velocity

Available in	S300/700		
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	100
CAN Object No:	3548 (hex)
PROFIBUS PNU:	1672 (dec) IND = 1 (de
DPR Objekt Nr:	72

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	2.14
EEPROM	Yes

Short Description	Velocity Control Loop: Proportional Gain

Description

GV gives the proportional (ac) gain of the velocity control loop. This also affects |GVTN|. The dimension is As/rad

GV(default) = DISCALE / 325
GV(max) = (40000 * DISCALE) / 325

DISCALE – depend on the current scaling of the amplifier (type in „M DISCALE“ in the terminal)

example:
S706: max. current = 3*6A = 18 A
GV(default) = 18/325 = 0.055
GV(max) = (40000 * 18)/325 = 2215

If the parameter (GM = |GV2|) is equal, the interpolation is switched off which is the case by default. As long as they are equal, a change of GM leads to an automatic change of GV2, so that they remain the same. Only when GV2 is set once at a value other than GM, the coupling is resolved and both parameters can be modified separately. By setting GV2 GV parameter coupling is activated again.

Who does not need the interpolation function and just use GV, the existence of GV2 will not even notice.

ASCII -Command	GV_X
Syntax Transmit	GV [Data]
Syntax Receive	GV <Data>
Type	Variable rw
Format	Float
DIM	-
Range	variable
Default	variable
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	velocity

Available in	S300/700
MMI	☑
CAN-Bus	☑
PROFIBUS	☑
Sercos	☑

SERCOS IDN:	100
CAN Object No:	3760 (hex)
PROFIBUS PNU:	1808 (dec) IND = 17 (d
DPR Objekt Nr:	608

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	2.14
EEPROM	Yes

Short Description	Velocity Control Loop: Proportional Gain 2

Description

siehe |PARCNFG|

ASCII -Command	GV2
Syntax Transmit	GV2 [Data]
Syntax Receive	GV2 <Data>
Type	Variable rw
Format	-
DIM	VUNIT
Range	variable
Default	variable
Opmode	All
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in	S300/700
MMI ☐	CAN-Bus ☑
PROFIBUS ☑	Sercos ☐
SERCOS IDN:	
CAN Object No:	38C6 (hex)
PROFIBUS PNU:	1766 (dec) IND = 33 (d
DPR Objekt Nr:	966
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.14
EEPROM	Yes

Short Description	proportional gain for the velocity higher than GVS2

Description

The parameter GV2 is a velocity loop paramter and is the proportional gain for the velocity higher than |GVS2|

If the parameter (|GM| = GV2) is equal, the interpolation is switched off which is the case by default. As long as they are equal, a change of GM leads to an automatic change of GV2, so that they remain the same. Only when GV2 is set once at a value other than GM, the coupling is resolved and both parameters can be modified separately. By setting GV2 GV parameter coupling is activated again.

Who does not need the interpolation function and just use GV, the existence of GV2 will not even notice.

ASCII -Command	GVFR
Syntax Transmit	GVFR [Data]
Syntax Receive	GVFR <Data>
Type	Variable rw
Format	Float
DIM	-
Range	0.0 .. 1.0
Default	1.0
Opmode	All
Drive Status	-
Start Firmware	1.00
Configuration	☐
Function Group	PI-PLUS

Available in	S300/700		
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	354B (hex)
PROFIBUS PNU:	1675 (dec) IND = 1 (de
DPR Objekt Nr:	75

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	1.0
EEPROM	Yes

Short Description	PI-PLUS Actual Velocity Feedforward

Description

GVFR is a tuning variable of the velocity control loop which sets the feed-forward to feedback gain ratio for the Pseudo Derivative Feedback with Feed-Forward. (PDFF or PI+) . With GVFR 1 the behavior of the velocity control loop is like a standard PI controller. GVFR 0.65 is a value which suppresses step response overshoot.

ASCII -Command	GVFR_X
Syntax Transmit	GVFR [Data]
Syntax Receive	GVFR <Data>
Type	Variable rw
Format	Float
DIM	-
Range	0.0 .. 1.0
Default	1.0
Opmode	All
Drive Status	-
Start Firmware	1.00
Configuration	☐
Function Group	PI-PLUS

Available in	S300/700
MMI	☑
CAN-Bus	☑
PROFIBUS	☑
Sercos	☐

SERCOS IDN:	
CAN Object No:	375E (hex)
PROFIBUS PNU:	1806 (dec) IND = 17 (d
DPR Objekt Nr:	606

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	1.8
EEPROM	Yes

Short Description	PI-PLUS Actual Velocity Feedforward

Description

see |PARCNFG|

ASCII -Command	GVS1
Syntax Transmit	GVS1 [Data]
Syntax Receive	GVS1 <Data>
Type	Variable rw
Format	-
DIM	VUNIT
Range	0 .. 3000
Default	0
Opmode	All
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	38C7 (hex)
PROFIBUS PNU:	1767 (dec) IND = 33 (d
DPR Objekt Nr:	967
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.7
EEPROM	Yes

Short Description	low velocity threshold (velocity loop)

Description

The parameter GVS1 is the lower velocity threshold in velocity loop and is displayed in |VUNIT|

For velocity values between GVS1 and GVS2 there is a linear interpolation between GV and GV2.

ASCII -Command	GVS2	Available in	S300/700
Syntax Transmit	GVS2 [Data]	MMI ☐	CAN-Bus ☑
Syntax Receive	GVS2 <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	-	SERCOS IDN:	
DIM	VUNIT	CAN Object No:	38C8 (hex)
Range	0 .. 3000	PROFIBUS PNU:	1768 (dec) IND = 33 (d
Default	0	DPR Objekt Nr:	968
Opmode	All		
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.7
EEPROM	Yes

Short Description	high velocity threshold (velocity loop)

Description

The parameter GVS2 is the high velocity threshold in velocity loop and is displayed in |VUNIT|

For velocity values between GVS1 and GVS2 there is a linear interpolation between GV and GV2.

ASCII -Command	GVTN
Syntax Transmit	GVTN [Data]
Syntax Receive	GVTN <Data>
Type	Variable rw
Format	Float
DIM	ms
Range	0.0 , GV/62.5 .. 1000.0
Default	10
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	velocity

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	101
CAN Object No:	354D (hex)
PROFIBUS PNU:	1677 (dec) IND = 1 (de
DPR Objekt Nr:	77

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	2.14
EEPROM	Yes

Short Description	Velocity Control Loop: I-Integration Time

Description

This variable determines the integral-action time/integral time constant. Smaller motors permit shorter integration times. Larger motors or high moments of inertia in the load usually require integration times of 20ms or more. With GVTN=0ms, the I-component is switched off. If the GVTN value is too low, the drive runs roughly or strongly overshoots with high inertia loads. If the GVTN value is too high, the drive is too soft.

ASCII -Command	GVTN_X
Syntax Transmit	GVTN [Data]
Syntax Receive	GVTN <Data>
Type	Variable rw
Format	Float
DIM	ms
Range	0.0 , GV/62.5 .. 1000.0
Default	10
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	velocity

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	101
CAN Object No:	375F (hex)
PROFIBUS PNU:	1807 (dec) IND = 17 (d
DPR Objekt Nr:	607

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	2.14
EEPROM	Yes

Short Description	Velocity Control Loop: I-Integration Time 2

Description

siehe |PARCNFG|

ASCII -Command	GVTV
Syntax Transmit	GVTV [Data]
Syntax Receive	GVTV <Data>
Type	Variable rw
Format	Float
DIM	ms
Range	0 .. 20000
Default	0
Opmode	0, 1
Drive Status	-
Start Firmware	6.00
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	38FD (hex)
PROFIBUS PNU:	1821 (dec) IND = 33 (d
DPR Objekt Nr:	1021

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	2.13
EEPROM	Yes

Short Description	preservation time of the volume flow controller

Description

This parameter can be used to configure the preservation time of the flow controller (PID2).

ASCII -Command	HALLDIR
Syntax Transmit	HALLDIR [Data]
Syntax Receive	HALLDIR <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	-1 .. 1
Default	0
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	1.00
Configuration	☑
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3550 (hex)
PROFIBUS PNU:	1680 (dec) IND = 1 (de
DPR Objekt Nr:	80

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	2.13
EEPROM	Yes

Short Description	Hall segment table number

Description

In the S300 firmware there are 2 tables with hall segment numbers.

HALLDIR = 0: order of hall segments 1,5,4,6,2,3
HALLDIR = 1: order of hall segments 1,3,2,6,4,5

The correct table number can be determined by moving the motor in the positive direction (velocity > 0)
And checking the order of the hall segments with the macro command (M SR_HALL).

ASCII -Command	HALLENDIR	Available in	S300/700
Syntax Transmit	-	MMI ☐	CAN-Bus ☐
Syntax Receive	-	PROFIBUS ☐	Sercos ☐
Type	-		
Format	-	SERCOS IDN:	
DIM	-	CAN Object No:	-
Range		PROFIBUS PNU:	-
Default		DPR Objekt Nr:	
Opmode			
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	internal parameter

Description

This parameter is internal and is not documented. It could be a customized or test/service parameter.

It is not allowed to change this parameter!

ASCII -Command	HDSLLED
Syntax Transmit	HDSLLED
Syntax Receive	HDSLLED <Data>
Type	Variable ro
Format	Integer32
DIM	0,1 mA
Range	32 bit
Default	-
Opmode	All
Drive Status	-
Start Firmware	5.92
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3919 (hex)
PROFIBUS PNU:	1849 (dec) IND = 33 (d
DPR Objekt Nr:	1049

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	No

Short Description	LED current of the optical unit in Hiperface DSL encoder

Description

With a connected and configured Hiperface DSL encoder (|FBTYPE| = 35), the LED current of the optical unit in the encoder feedback can be read out for diagnostic purposes. The unit is 0.1 mA.

ASCII -Command	HDSLPOS	Available in	S300/700
Syntax Transmit	HDSLPOS	MMI ☐	CAN-Bus ☐
Syntax Receive	HDSLPOS <Data>	PROFIBUS ☐	Sercos ☐
Type	Variable ro		
Format	Integer64	SERCOS IDN:	
DIM	counts	CAN Object No:	-
Range	64 bit	PROFIBUS PNU:	-
Default	-	DPR Objekt Nr:	
Opmode	All		
Drive Status	-		
Start Firmware	5.92		
Configuration	☐	Data Type BUS/DPR	Integer64
Function Group		Weighting 10^3	

Last Change of this Object	2.12
EEPROM	No

Short Description	position read from the Hiperface DSL encoder

Description

For a connected and configured Hiperface DSL feedback (|FBTYPE|=35), the HDSLPOS command can be used to display the position read from the encoder. This position is displayed in the internal encoder units and should only be used for diagnostic purposes.

ASCII -Command	HDSLRANGE
Syntax Transmit	HDSLRANGE
Syntax Receive	HDSLRANGE <Data>
Type	Variable ro
Format	-
DIM	-
Range	-
Default	-
Opmode	All
Drive Status	-
Start Firmware	5.92
Configuration	☐
Function Group	

Available in	S300/700
MMI ☐	CAN-Bus ☐
PROFIBUS ☐	Sercos ☐
SERCOS IDN:	
CAN Object No:	-
PROFIBUS PNU:	-
DPR Objekt Nr:	
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	No

Short Description	Hiperface DSL encoder limits

Description

For a connected and configured Hiperface DSL encoder (|FBTYPE| = 35), the HDSLRANGE command provides minimum and maximum values for specific operating variables. The following values are provided (in the order given):

- Minimum transducer temperature in 0.1 ° C
- Maximum transducer temperature in 0.1 ° C
- Minimum LED current in 0.1 mA
- Maximum LED current in 0.1 mA
- Minimum supply voltage in mV
- Maximum supply voltage in mV
- Maximum speed in UPM
- Maximum acceleration in 1000 rad / sec2

ASCII -Command	HDSLROTAT
Syntax Transmit	HDSLROTAT
Syntax Receive	HDSLROTAT <Data>
Type	Variable ro
Format	Integer32
DIM	rpm
Range	32 bit
Default	-
Opmode	All
Drive Status	-
Start Firmware	5.92
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	391D (hex)
PROFIBUS PNU:	1853 (dec) IND = 33 (d
DPR Objekt Nr:	1053

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	No

Short Description	Total number of detected encoder revolutions

Description

For a connected and configured Hiperface DSL encoder (|FBTYPE| = 35), the HDSLROTAT command supplies the total number of detected revolutions stored in the encoder. This value can be used for diagnostic purposes.

ASCII -Command	HDSLTEMP
Syntax Transmit	HDSLTEMP
Syntax Receive	HDSLTEMP <Data>
Type	Variable ro
Format	Integer32
DIM	0,1 °C
Range	32 bit
Default	-
Opmode	All
Drive Status	-
Start Firmware	5.92
Configuration	☐
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3918 (hex)
PROFIBUS PNU:	1848 (dec) IND = 33 (d
DPR Objekt Nr:	1048
Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	No

Short Description	Motor / Encoder temp. from the Hiperface DSL encoder

Description

For a connected and configured Hiperface DSL encoder (|FBTYPE| = 35) the encoder / motor temperature is transmitted in addition to the position. The unit is 0.1 ° C. This temperature is used to monitor the motor temperature. This value can also be displayed as |TEMPM| (in °C).

ASCII -Command	HDSLTIME
Syntax Transmit	HDSLTIME
Syntax Receive	HDSLTIME <Data>
Type	Variable ro
Format	Integer32
DIM	Minuten
Range	32 bit
Default	-
Opmode	All
Drive Status	-
Start Firmware	5.92
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	391C (hex)
PROFIBUS PNU:	1852 (dec) IND = 33 (d
DPR Objekt Nr:	1052

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	No

Short Description	counter of operating hours of the Hiperface DSL encoder

Description

The HDSLTIME command provides the operating time of the encoder (in minutes) for a connected and configured Hiperface DSL encoder (FBTYPE = 35). The time is recorded in the encoder and stored in a fixed value memory every 20 minutes. It should only be used for diagnostic purposes.

ASCII -Command	HDSLTYPE	Available in	S300/700
Syntax Transmit	HDSLTYPE	MMI ☐	CAN-Bus ☐
Syntax Receive	HDSLTYPE <Data>	PROFIBUS ☐	Sercos ☐
Type	Variable ro		
Format	-	SERCOS IDN:	
DIM	-	CAN Object No:	-
Range	-	PROFIBUS PNU:	-
Default	-	DPR Objekt Nr:	
Opmode	All		
Drive Status	-		
Start Firmware	5.92		
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.13
EEPROM	No

Short Description	Hiperface DSL encoder data (nameplate)

Description

For a connected and configured Hiperface DSL encoder (|FBTYPE| = 35), the HDSLTYPE command provides resolution, type designation and hardware / software version of the HDSL encoder. The following values are provided (in the order given):

- feedback type
  - 0 = rotatory bipolar
  - 1 = linear bipolar
  - 2 = rotatory unipolar
  - 3 = linear unipolar
- encoder resolution (in counts per revolution)
- Number of detected revolutions (multiturn / singleturn)
- Encoder name as ASCII string
- Serial number
- Hardware and firmware version
- Firmware date
- Size of the internal EEPROM in bytes

ASCII -Command	HDSLVEL
Syntax Transmit	HDSLVEL
Syntax Receive	HDSLVEL <Data>
Type	Variable ro
Format	Integer32
DIM	rpm
Range	32 Bit
Default	-
Opmode	All
Drive Status	-
Start Firmware	5.92
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	391B (hex)
PROFIBUS PNU:	1851 (dec) IND = 33 (d
DPR Objekt Nr:	1051

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	No

Short Description	actual velocity of the Hiperface DSL encoder

Description

For a connected and configured Hiperface DSL encoder (|FBTYPE| = 35), the HDSLVEL command provides the current speed of the encoder. The supplied value is inaccurate and should only be used for diagnostic purposes.

ASCII -Command	HDSLVOLT
Syntax Transmit	HDSLVOLT
Syntax Receive	HDSLVOLT <Data>
Type	Variable ro
Format	Integer32
DIM	1 mV
Range	32 Bit
Default	-
Opmode	All
Drive Status	-
Start Firmware	5.92
Configuration	☐
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	391A (hex)
PROFIBUS PNU:	1850 (dec) IND = 33 (d
DPR Objekt Nr:	1050

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	No

Short Description	supply voltage of the Hiperface DSL encoder

Description

At a connected and configured Hiperface DSL encoder (|FBTYPE| = 35), the value of the supply voltage of the encoder can be read out for diagnostic purposes. The unit is 1 mV.

ASCII -Command	HDUMP	Available in	S300/700
Syntax Transmit	HDUMP	MMI ☐	CAN-Bus ☐
Syntax Receive	HDUMP <Data>	PROFIBUS ☐	Sercos ☐
Type	Multi-line Return Command		
Format	String	SERCOS IDN:	
DIM	-	CAN Object No:	-
Range	-	PROFIBUS PNU:	-
Default	-	DPR Objekt Nr:	
Opmode	All		
Drive Status	-		
Start Firmware	2.13		
Configuration	☐	Data Type BUS/DPR	-
Function Group	-	Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Output all sin/cos (Hiperface) variables

Description

List all sincos feedback variables stored in the encoders memory. (Hyperface or Endat)

ASCII -Command	HELP
Syntax Transmit	HELP <Data>
Syntax Receive	HELP <Data>
Type	Command
Format	String
DIM	-
Range	-
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700		
MMI	☑	CAN-Bus	☐
PROFIBUS	☐	Sercos	☐

SERCOS IDN:	
CAN Object No:	-
PROFIBUS PNU:	-
DPR Objekt Nr:	
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Output Parameter Help Information

Description

Using the parameter HELP <name> produces a display of help information for the ASCII parameter “name”. This help information includes input limits and both the actual and default values for the parameter.

e.g. HELP GV

GV act=6 min=0 max=1000 default=1

ASCII -Command	HICOFFS
Syntax Transmit	HICOFFS [Data]
Syntax Receive	HICOFFS <Data>
Type	Variable rw
Format	Integer16
DIM	mV
Range	-10000 .. 10000
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3552 (hex)
PROFIBUS PNU:	1682 (dec) IND = 1 (de
DPR Objekt Nr:	82
Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Hiperface: Cosine-Offset (incremental track)

Description

The HICOFFS command sets the offset correction (in mV) for the cosine signal of the incremental track.
The command is only available when a sin/cos encoder has been selected as the feedback device (|FBTYPE|=2,4,7). Depending on the type of encoder used, the HICOFFS setting is stored in the EEPROM of the encoder (|FBTYPE|=2,4, command |HSAVE|).
When using an encoder without a parameter channel (|FBTYPE|=7), and thus without an internal EEPROM, this setting will be saved in the EEPROM of the amplifier (command |SAVE|).

ASCII -Command	HIFACT1
Syntax Transmit	HIFACT1 [Data]
Syntax Receive	HIFACT1 <Data>
Type	Variable rw
Format	Integer16
DIM	-
Range	10000 .. 32767
Default	16384
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3553 (hex)
PROFIBUS PNU:	1683 (dec) IND = 1 (de
DPR Objekt Nr:	83

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Encoder

Short Description	Hiperface: Sin/Cos Gain Factor (incremental track)

Description

The HIFACT1 command sets the amplitude scaling for the sine signal of the absolute track (SinCoder). The amplitude scaling is for the value 16384 = 1.

The command is only available when a sin/cos encoder has been selected as the feedback device (|FBTYPE|=2,4,7). Depending on the type of encoder used, the HIFACT1 setting is stored in the EEPROM of the encoder (|FBTYPE|=2,4, command |HSAVE|). When using an encoder without a parameter channel (|FBTYPE|=7), and thus without an internal EEPROM, this setting will be saved in the EEPROM of the amplifier (command |SAVE|).

ASCII -Command	HISOFFS
Syntax Transmit	HISOFFS [Data]
Syntax Receive	HISOFFS <Data>
Type	Variable rw
Format	Integer16
DIM	mV
Range	-10000 .. 10000
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3554 (hex)
PROFIBUS PNU:	1684 (dec) IND = 1 (de
DPR Objekt Nr:	84

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Encoder

Short Description	Hiperface: Sin/Cos Offset (incremental track)

Description

The HISOFFS command sets the offset correction (in mV) for the sine signal of the incremental track.
The command is only available when a sin/cos encoder has been selected as the feedback device (|FBTYPE|=2,4,7). Depending on the type of encoder used, the HISOFFS setting is stored in the EEPROM of the encoder (|FBTYPE|=2,4, command |HSAVE|).
When using an encoder without a parameter channel (|FBTYPE|=7), and thus without an internal EEPROM, this setting will be saved in the EEPROM of the amplifier (command |SAVE|).

ASCII -Command	HLIMIT1
Syntax Transmit	HLIMIT1 [Data]
Syntax Receive	HLIMIT1 <Data>
Type	Variable rw
Format	Integer32
DIM	
Range	0...2147483647
Default	0
Opmode	All
Drive Status	
Start Firmware	3.62
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3896 (hex)
PROFIBUS PNU:	1718 (dec) IND = 33 (d
DPR Objekt Nr:	918

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.8
EEPROM	Yes

Short Description	Software limit switch 1 for homing move

Description

The parameter HLIMIT1 offers the possibility to limitate the move of the drive during the homing move. This parameter defines the maximal distance between the start point of the homing move and the position of the reference switch or hardware limit switch. When the reference switch is not reached within the distance HLIMIT1, the error F26 (Limit switch) is generated.

|HLIMIT2|,|HLIMIT3|,|ERRCODE *|

ASCII -Command	HLIMIT2
Syntax Transmit	HLIMIT2 [Data]
Syntax Receive	HLIMIT2 <Data>
Type	Variable rw
Format	Integer32
DIM	
Range	0...2147483647
Default	0
Opmode	All
Drive Status	
Start Firmware	3.62
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3897 (hex)
PROFIBUS PNU:	1719 (dec) IND = 33 (d
DPR Objekt Nr:	919
Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.8
EEPROM	Yes

Short Description	Software limit switch 2 for homing move

Description

The parameter HLIMIT2 offers the possibility to limitate the move of the drive during the homing move. This parameter defines the maximal distance between the start point of the homing move and the position of the reference switch or hardware limit switch. When the reference switch is not reached within the distance HLIMIT2, the error F26 (Limit switch) is generated.

|HLIMIT1|,|HLIMIT3|,|ERRCODE *|

ASCII -Command	HLIMIT3
Syntax Transmit	HLIMIT3 [Data]
Syntax Receive	HLIMIT3 <Data>
Type	Variable rw
Format	Integer32
DIM	
Range	0...2147483647
Default	0
Opmode	All
Drive Status	
Start Firmware	3.62
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3898 (hex)
PROFIBUS PNU:	1720 (dec) IND = 33 (d
DPR Objekt Nr:	920

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.8
EEPROM	Yes

Short Description	Software limit switch 3 for homing move

Description

The parameter HLIMIT3 offers the possibility to limitate the move of the drive during the homing move.
This parameter defines the maximal distance between the hardware limit switch or reference switch and the position of external zero pulse (REFMODE>0). If the drive reaches this limit before the zero pulse was recognized, the error F26 (Limit swich) is generated.

|HLIMIT1|,|HLIMIT2|,|ERRCODE *|,|REFMODE|

ASCII -Command	HSAVE
Syntax Transmit	HSAVE
Syntax Receive	HSAVE
Type	Command
Format	Command
DIM	-
Range	-
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700
MMI ☐	CAN-Bus ☑
PROFIBUS ☑	Sercos ☐
SERCOS IDN:	
CAN Object No:	3556 (hex)
PROFIBUS PNU:	1686 (dec) IND = 1 (de
DPR Objekt Nr:	86
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.13
EEPROM	No

Short Description	Hiperface: Save Parameters in Encoder

Description

If |FBTYPE|=2 or =4 is set, the |HSAVE| command saves the variables for the encoder (HIPERFACE / EnDat) in the serial EEPROM of the encoder. With the setting |FBTYPE|=7, only the variables for the incremental track, as well as |MNUMBER| and |MPHASE| are saved in the serial EEPROM of the amplifier.

This command is only available if the amplifier has detected a sin/cos encoder (|FBTYPE| =2;4;7).
|FBTYPE| = 2 HIPERFACE (Sick Stegmann)
|FBTYPE| = 4 EnDat 2.1 (Heidenhain)
|FBTYPE| = 7 SINCOS – Encoder ohne eigenem ser. EEPROM
|FBTYPE| = 20 BiSS-B 5V digital (Hengstler)
|FBTYPE| = 22 BiSS-B 12V digital (Hengstler)
|FBTYPE| = 23 BiSS-B 5V analog (Hengstler)
|FBTYPE| = 24 BiSS-B 12V analog (Hengstler)
|FBTYPE| = 32 EnDat 2.2 (Heidenhain)
|FBTYPE| = 34 EnDat 2.2 12V (Heidenhain)

This paramter doesn't work with the following combinations:
|FBTYPE| = 33 BiSS-C
|FBTYPE| = 36 SFD3

The HSAVE command saves the following variables.
|MNUMBER|*
|MPHASE|*
|HICOFFS|*
|HISOFFS|*
|HIFACT1|*
|MBRAKE|*
|MSERIALNO|*
* If |FBTYPE| = 7, these parameters are saved in the serial EEPROM of the amplifier.

Hiperface encoder, which have contents, can be erased by "HSAVE ERASE".

In order to use an unknown Hiperface encoder, the parameter field of the encoder must be initialized. There is also the command HSAVE OEM "ID" "PPR" "BPR" "R"

The parameters ID, PPR, BPR, R have the following meaning:
ID - hiperface ID. If an unknown hiperface was recognized by the drive, so the ID is in parentheses issued "Unknown (ID)"
PPR - periods per revolution. Number of enclines per revolution
BPR - bits per revolution: Number of bits per encoder revolution
R - revolutions: Number of turns

After the command has been executed, so the next time the amplifier of the transmitter is recognized and accepted the data.

With HSAVE OEM (without parameters) can be checked if the firmware used supports this command.

|FW| >=2.23
HSAVE BAM
This command is used to set the actual position within one turn to value zero.

ASCII -Command	HVER
Syntax Transmit	HVER
Syntax Receive	HVER <Data>
Type	Variable ro
Format	String
DIM	-
Range	max 50 ASCII Characters
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Basic Setup

Available in	S300/700
MMI	☑
CAN-Bus	☑
PROFIBUS	☑
Sercos	☐
SERCOS IDN:	
CAN Object No:	3557 (hex)
PROFIBUS PNU:	1687 (dec) IND = 1 (de
DPR Objekt Nr:	87
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Output the Hardware Version

Description

The HVER command returns the designation for the hardware version, in the following form:
“Drive 3xx Hardware Version (yy) zzzz”
xx - designation of the output stage (current rating)
yy - designation of the hardware version
zzzz - date of the first hardware revision

ASCII -Command	HWCNT	Available in	S300/700
Syntax Transmit	-	MMI ☐	CAN-Bus ☐
Syntax Receive	-	PROFIBUS ☐	Sercos ☐
Type	-		
Format	-	SERCOS IDN:	
DIM	-	CAN Object No:	-
Range		PROFIBUS PNU:	-
Default		DPR Objekt Nr:	
Opmode			
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	internal parameter

Description

This parameter is internal and is not documented. It could be a customized or test/service parameter.

It is not allowed to change this parameter!

ASCII -Command	I
Syntax Transmit	I
Syntax Receive	I <Data>
Type	Variable ro
Format	Float
DIM	A
Range	-
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Actual values

Available in	S300/700
MMI ☑	CAN-Bus ☑
PROFIBUS ☑	Sercos ☑
SERCOS IDN:	84
CAN Object No:	3558 (hex)
PROFIBUS PNU:	1688 (dec) IND = 1 (de
DPR Objekt Nr:	88
Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	1.0
EEPROM	No

Short Description	Current Monitor

Description

This variable returns the actual current value in amperes. This value is always positive.

ASCII -Command	I2TLIM
Syntax Transmit	I2TLIM [Data]
Syntax Receive	I2TLIM <Data>
Type	Variable rw
Format	Integer8
DIM	%
Range	0 .. 100
Default	80
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Current

Available in	S300/700
MMI	☑
CAN-Bus	☑
PROFIBUS	☑
Sercos	☑

SERCOS IDN:	144
CAN Object No:	355A (hex)
PROFIBUS PNU:	1690 (dec) IND = 1 (de
DPR Objekt Nr:	90

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	I2T Warning

Description

This variable defines a threshold for the I2T warning. As soon as the I2T values goes above this threshold, the warning, n01, is generated. This warning is passed on to a control system via a digital output (|OxMODE|=11). If the I2TLIM value is too low, the message appears too soon and the drive is not fully utilized. If the I2TLIM value is too high, limiting occurs at the same time as the message.

ASCII -Command	ICMD
Syntax Transmit	ICMD
Syntax Receive	ICMD <Data>
Type	Variable ro
Format	Float
DIM	A
Range	-DIPEAK .. DPEAK
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700
MMI ☑	CAN-Bus ☑
PROFIBUS ☑	Sercos ☐

SERCOS IDN:	
CAN Object No:	355B (hex)
PROFIBUS PNU:	1691 (dec) IND = 1 (de
DPR Objekt Nr:	91

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	1.0
EEPROM	No

Short Description	Current Setpoint

Description

Shows the internal current setpoint.

ASCII -Command	ICMDVLIM
Syntax Transmit	ICMDVLIM [Data]
Syntax Receive	ICMDVLIM <Data>
Type	Variable rw
Format	Integer32
DIM	VUNIT
Range	0 .. VLIM
Default	0
Opmode	2,3
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	3.00
Configuration	☑
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3685 (hex)
PROFIBUS PNU:	1989 (dec) IND = 1 (de
DPR Objekt Nr:	389
Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.14
EEPROM	Yes

Short Description	Velocity Limit in Current Control

Description

The ICMDVLIM parameter defines a digital speed limit (unit: |VUNIT|) when specifying a current setpoint in |OPMODE| = 2 and 3

The function is only activated when ICMDVLIM> 0. A change of ICMDVLIM is possible (changing the configuration) only when the amplifier is disabled.

Under certain conditions, this variable is to be seen as a configuration variable. A change of the value from 0 to >0 or from >0 to 0 is interpreted as a change of the configuration and may only take place with disabled power stage. After that, a |COLDSTART| is mandatory!

ASCII -Command	ID
Syntax Transmit	ID
Syntax Receive	ID <Data>
Type	Variable ro
Format	Float
DIM	A
Range	-
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Actual values

Available in	S300/700
MMI ☑	CAN-Bus ☑
PROFIBUS ☑	Sercos ☐
SERCOS IDN:	
CAN Object No:	355D (hex)
PROFIBUS PNU:	1693 (dec) IND = 1 (de
DPR Objekt Nr:	93
Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	1.0
EEPROM	No

Short Description	D-component of Current Monitor

Description

The D-axes component of the actual current value.

ASCII -Command	IDDUMP	Available in	S300/700
Syntax Transmit	IDDUMP [Data]	MMI ☐	CAN-Bus ☐
Syntax Receive	IDDUMP <Data>	PROFIBUS ☐	Sercos ☐
Type	Multi-Line Return Command		
Format	String	SERCOS IDN:	
DIM		CAN Object No:	-
Range		PROFIBUS PNU:	-
Default		DPR Objekt Nr:	
Opmode	All		
Drive Status			
Start Firmware	2.13		
Configuration	☐	Data Type BUS/DPR	String
Function Group	-	Weighting 10^3	

Last Change of this Object	2.13
EEPROM	No

Short Description	outputs the list of the object (parameter) numbers

Description

This command IDDUMP displays the list of the object (parameter) numbers in a terminal with the corresponding ASCII names.

please have a look to |MAXCMD|

ASCII -Command	IEXTT
Syntax Transmit	IEXTT [Data]
Syntax Receive	IEXTT <Data>
Type	Variable rw
Format	Float
DIM	A
Range	-DICONT .. +DICONT
Default	0
Opmode	All
Drive Status	-
Start Firmware	3.05
Configuration	☐
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3869 (hex)
PROFIBUS PNU:	1673 (dec) IND = 33 (d
DPR Objekt Nr:	873

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	2.1
EEPROM	Yes

Short Description	Weight compensation

Description

IEXTT describes a weight compensation (constant current feed forwared usefull for vertical load)

ASCII -Command	IEXTTLIM	Available in	S300/700
Syntax Transmit	IEXTTLIM [Data]	MMI ☐	CAN-Bus ☑
Syntax Receive	IEXTTLIM <Data>	PROFIBUS ☑	Sercos ☐
Type			
Format	Float	SERCOS IDN:	
DIM		CAN Object No:	38B6 (hex)
Range		PROFIBUS PNU:	1750 (dec) IND = 33 (d
Default	0	DPR Objekt Nr:	950
Opmode			
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.12
EEPROM	

Short Description	support the vertical axis

Description

From version 3.76 / 5.06 the support of the vertical axis in the S700 firmware was expanded. In addition to the |IEXTT| parameter With which the holding torque for the vertical axis can be defined, the parameter IEXTTLIM was implemented.

The current setpoint can be asymmetrically limited using the IEXTTLIM parameter. Analog to |IEXTT| The input is in amperes. The current limitation is only activated when the holding torque IEXTT <> 0 and |IEXTTLIM| <> 0 are actived.

ASCII -Command	IN
Syntax Transmit	IN
Syntax Receive	IN <Data>
Type	Multi-line Return Command
Format	String
DIM	-
Range	-
Default	-
Opmode	All
Drive Status	-
Start Firmware	2.13
Configuration	☐
Function Group	-

Available in	S300/700		
MMI	☑	CAN-Bus	☐
PROFIBUS	☐	Sercos	☐

SERCOS IDN:	
CAN Object No:	-
PROFIBUS PNU:	-
DPR Objekt Nr:	
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.9
EEPROM	No

Short Description	List Analog Voltage Values

Description

The IN command returns the input voltages for the 8 A/D channels as counts (-4096 ... +4096).

S700/S300_ARM9
A/D channels:
channel 0 cosine resolver
channel 1 resolver sine
channel 2 sine encoder
channel 3 cosine encoder
channel 4 current IA
channel 5 current IB
channel 6 channel setpoint 1
channel 7 setpoint 2
channel 8 motor temperature
channel 9 heatsink temperature
channel 10 ambient temperature
channel 11 feedback of sense encoder
channel 12 reserve
channel 13 DC link voltage
channel 14 reserve
channel 15 reserve

S300_ARM7
A/D channels:
channel 0 current IA
channel 1 setpoint 1
channel 2 sine resolver
channel 3 sine encoder
channel 4 heatsink temperature
channel 5 ambient temperature
channel 6 feedback of sense encoder
channel 7 reserve
channel 8 current IB
channel 9 Setpoint 2
channel 10 cosine resolver
channel 11 cosine encoder
channel 12 motor temperature
channel 13 DC link voltage
channel 14 reserve
channel 15 reserve

ASCII -Command	IN1
Syntax Transmit	IN1
Syntax Receive	IN1 <Data>
Type	Variable ro
Format	Integer8
DIM	-
Range	-
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Digital I/O

Available in	S300/700
MMI ☑	CAN-Bus ☑
PROFIBUS ☑	Sercos ☐

SERCOS IDN:	
CAN Object No:	3561 (hex)
PROFIBUS PNU:	1697 (dec) IND = 1 (de
DPR Objekt Nr:	97

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Status of Digital Input 1

Description

The status of the digital input INPUT1.

ASCII -Command	IN10
Syntax Transmit	IN10
Syntax Receive	IN10 <Data>
Type	Variable ro
Format	Integer8
DIM	
Range	
Default	-
Opmode	All
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in	S300/700
MMI ☐	CAN-Bus ☑
PROFIBUS ☑	Sercos ☐
SERCOS IDN:	
CAN Object No:	3704 (hex)
PROFIBUS PNU:	1716 (dec) IND = 17 (d
DPR Objekt Nr:	516
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.11
EEPROM	No

Short Description	Status of Digital Input

Description

see |IN5_22|

ASCII -Command	IN10MODE	Available in	S300/700
Syntax Transmit	IN10MODE [Data]	MMI ☐	CAN-Bus ☑
Syntax Receive	IN10MODE <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer8	SERCOS IDN:	
DIM		CAN Object No:	3705 (hex)
Range	0 .. 90	PROFIBUS PNU:	1717 (dec) IND = 17 (d
Default	0	DPR Objekt Nr:	517
Opmode	All		
Drive Status	Disabled + Reset (Coldstart)		
Start Firmware			
Configuration	☑	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	Function of digital input

Description

see |IN5_22MODE|

ASCII -Command	IN10TRIG	Available in	S300/700
Syntax Transmit	IN10TRIG [Data]	MMI ☐	CAN-Bus ☑
Syntax Receive	IN10TRIG <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer32	SERCOS IDN:	
DIM		CAN Object No:	3706 (hex)
Range	-2147483648 .. 2147483647	PROFIBUS PNU:	1718 (dec) IND = 17 (d
Default	0	DPR Objekt Nr:	518
Opmode	All		
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	Variable for digital input

Description

see |IN5_22TRIG|

ASCII -Command	IN11
Syntax Transmit	IN11
Syntax Receive	IN11 <Data>
Type	Variable ro
Format	Integer8
DIM	
Range	
Default	-
Opmode	All
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in	S300/700
MMI ☐	CAN-Bus ☑
PROFIBUS ☑	Sercos ☐
SERCOS IDN:	
CAN Object No:	3707 (hex)
PROFIBUS PNU:	1719 (dec) IND = 17 (d
DPR Objekt Nr:	519
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.11
EEPROM	No

Short Description	Status of Digital Input

Description

see |IN5_22|

ASCII -Command	IN11MODE
Syntax Transmit	IN11MODE [Data]
Syntax Receive	IN11MODE <Data>
Type	Variable rw
Format	Integer8
DIM	
Range	0 .. 90
Default	0
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	
Configuration	☑
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3708 (hex)
PROFIBUS PNU:	1720 (dec) IND = 17 (d
DPR Objekt Nr:	520
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	Function of digital input

Description

see |IN5_22MODE|

ASCII -Command	IN11TRIG
Syntax Transmit	IN11TRIG [Data]
Syntax Receive	IN11TRIG <Data>
Type	Variable rw
Format	Integer32
DIM	
Range	-2147483648 .. 2147483647
Default	0
Opmode	All
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3709 (hex)
PROFIBUS PNU:	1721 (dec) IND = 17 (d
DPR Objekt Nr:	521
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	Variable for digital input

Description

see |IN5_22TRIG|

ASCII -Command	IN12
Syntax Transmit	IN12
Syntax Receive	IN12 <Data>
Type	Variable ro
Format	Integer8
DIM	
Range	
Default	-
Opmode	All
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in	S300/700
MMI ☐	CAN-Bus ☑
PROFIBUS ☑	Sercos ☐
SERCOS IDN:	
CAN Object No:	370A (hex)
PROFIBUS PNU:	1722 (dec) IND = 17 (d
DPR Objekt Nr:	522
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.11
EEPROM	No

Short Description	Status of Digital Input

Description

see |IN5_22|

ASCII -Command	IN12MODE	Available in	S300/700
Syntax Transmit	IN12MODE [Data]	MMI ☐	CAN-Bus ☑
Syntax Receive	IN12MODE <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer8	SERCOS IDN:	
DIM		CAN Object No:	370B (hex)
Range	0 .. 90	PROFIBUS PNU:	1723 (dec) IND = 17 (d
Default	0	DPR Objekt Nr:	523
Opmode	All		
Drive Status	Disabled + Reset (Coldstart)		
Start Firmware			
Configuration	☑	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	Function of digital input

Description

see |IN5_22MODE|

ASCII -Command	IN12TRIG
Syntax Transmit	IN12TRIG [Data]
Syntax Receive	IN12TRIG <Data>
Type	Variable rw
Format	Integer32
DIM	
Range	-2147483648 .. 2147483647
Default	0
Opmode	All
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	370C (hex)
PROFIBUS PNU:	1724 (dec) IND = 17 (d
DPR Objekt Nr:	524
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	Variable for digital input

Description

see |IN5_22TRIG|

ASCII -Command	IN13	Available in	S300/700
Syntax Transmit	IN13	MMI ☐	CAN-Bus ☑
Syntax Receive	IN13 <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable ro		
Format	Integer8	SERCOS IDN:	
DIM		CAN Object No:	370D (hex)
Range	0 .. 1	PROFIBUS PNU:	1725 (dec) IND = 17 (d
Default	0	DPR Objekt Nr:	525
Opmode	All		
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	No

Short Description	Status of Digital Input

Description

see |IN5_22|

ASCII -Command	IN13MODE	Available in	S300/700
Syntax Transmit	IN13MODE [Data]	MMI ☐	CAN-Bus ☑
Syntax Receive	IN13MODE <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer8	SERCOS IDN:	
DIM		CAN Object No:	370E (hex)
Range	0 .. 90	PROFIBUS PNU:	1726 (dec) IND = 17 (d
Default	0	DPR Objekt Nr:	526
Opmode	All		
Drive Status	Disabled + Reset (Coldstart)		
Start Firmware			
Configuration	☑	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	Function of digital input

Description

see |IN5_22MODE|

ASCII -Command	IN13TRIG	Available in	S300/700
Syntax Transmit	IN13TRIG [Data]	MMI ☐	CAN-Bus ☑
Syntax Receive	IN13TRIG <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer32	SERCOS IDN:	
DIM		CAN Object No:	370F (hex)
Range	-2147483648 .. 2147483647	PROFIBUS PNU:	1727 (dec) IND = 17 (d
Default	0	DPR Objekt Nr:	527
Opmode	All		
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	Variable for digital input

Description

see |IN5_22TRIG|

ASCII -Command	IN14
Syntax Transmit	IN14
Syntax Receive	IN14 <Data>
Type	Variable ro
Format	Integer8
DIM	
Range	0 .. 1
Default	0
Opmode	All
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in	S300/700
MMI ☐	CAN-Bus ☑
PROFIBUS ☑	Sercos ☐
SERCOS IDN:	
CAN Object No:	3710 (hex)
PROFIBUS PNU:	1728 (dec) IND = 17 (d
DPR Objekt Nr:	528
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.11
EEPROM	No

Short Description	Status of Digital Input

Description

see |IN5_22|

ASCII -Command	IN14MODE
Syntax Transmit	IN14MODE [Data]
Syntax Receive	IN14MODE <Data>
Type	Variable rw
Format	Integer8
DIM	
Range	0 .. 90
Default	0
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	
Configuration	☑
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3711 (hex)
PROFIBUS PNU:	1729 (dec) IND = 17 (d
DPR Objekt Nr:	529
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	Function of digital input

Description

see |IN5_22MODE|

ASCII -Command	IN14TRIG	Available in	S300/700
Syntax Transmit	IN14TRIG [Data]	MMI ☐	CAN-Bus ☑
Syntax Receive	IN14TRIG <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer32	SERCOS IDN:	
DIM		CAN Object No:	3712 (hex)
Range	-2147483648 .. 2147483647	PROFIBUS PNU:	1730 (dec) IND = 17 (d
Default	0	DPR Objekt Nr:	530
Opmode	All		
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	Variable for digital input

Description

see |IN5_22TRIG|

ASCII -Command	IN15
Syntax Transmit	IN15
Syntax Receive	IN15 <Data>
Type	Variable ro
Format	Integer8
DIM	
Range	0 .. 1
Default	0
Opmode	All
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in	S300/700
MMI ☐	CAN-Bus ☑
PROFIBUS ☑	Sercos ☐
SERCOS IDN:	
CAN Object No:	3713 (hex)
PROFIBUS PNU:	1731 (dec) IND = 17 (d
DPR Objekt Nr:	531
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.11
EEPROM	No

Short Description	Status of Digital Input

Description

see |IN5_22|

ASCII -Command	IN15MODE
Syntax Transmit	IN15MODE [Data]
Syntax Receive	IN15MODE <Data>
Type	Variable rw
Format	Integer8
DIM	
Range	0 .. 90
Default	0
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	
Configuration	☑
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3714 (hex)
PROFIBUS PNU:	1732 (dec) IND = 17 (d
DPR Objekt Nr:	532
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	Function of digital input

Description

see |IN5_22MODE|

ASCII -Command	IN15TRIG
Syntax Transmit	IN15TRIG [Data]
Syntax Receive	IN15TRIG <Data>
Type	Variable rw
Format	Integer32
DIM	
Range	-2147483648 .. 2147483647
Default	0
Opmode	All
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3715 (hex)
PROFIBUS PNU:	1733 (dec) IND = 17 (d
DPR Objekt Nr:	533
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	Variable for digital input

Description

see |IN5_22TRIG|

ASCII -Command	IN16
Syntax Transmit	IN16
Syntax Receive	IN16 <Data>
Type	Variable ro
Format	Integer8
DIM	
Range	0 .. 1
Default	0
Opmode	All
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in	S300/700
MMI ☐	CAN-Bus ☑
PROFIBUS ☑	Sercos ☐
SERCOS IDN:	
CAN Object No:	3716 (hex)
PROFIBUS PNU:	1734 (dec) IND = 17 (d
DPR Objekt Nr:	534
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.11
EEPROM	No

Short Description	Status of Digital Input

Description

see |IN5_22|

ASCII -Command	IN16MODE
Syntax Transmit	IN16MODE [Data]
Syntax Receive	IN16MODE <Data>
Type	Variable rw
Format	Integer8
DIM	
Range	0 .. 90
Default	0
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	
Configuration	☑
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3717 (hex)
PROFIBUS PNU:	1735 (dec) IND = 17 (d
DPR Objekt Nr:	535
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	Function of digital input

Description

see |IN5_22MODE|

ASCII -Command	IN16TRIG
Syntax Transmit	IN16TRIG [Data]
Syntax Receive	IN16TRIG <Data>
Type	Variable rw
Format	Integer32
DIM	
Range	-2147483648 .. 2147483647
Default	0
Opmode	All
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3718 (hex)
PROFIBUS PNU:	1736 (dec) IND = 17 (d
DPR Objekt Nr:	536

Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	Variable for digital input

Description

see |IN5_22TRIG|

ASCII -Command	IN17
Syntax Transmit	IN17
Syntax Receive	IN17 <Data>
Type	Variable ro
Format	Integer8
DIM	
Range	0 .. 1
Default	0
Opmode	All
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in	S300/700
MMI ☐	CAN-Bus ☑
PROFIBUS ☑	Sercos ☐
SERCOS IDN:	
CAN Object No:	3719 (hex)
PROFIBUS PNU:	1737 (dec) IND = 17 (d
DPR Objekt Nr:	537
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.11
EEPROM	No

Short Description	Status of Digital Input

Description

see |IN5_22|

ASCII -Command	IN17MODE	Available in	S300/700
Syntax Transmit	IN17MODE [Data]	MMI ☐	CAN-Bus ☑
Syntax Receive	IN17MODE <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer8	SERCOS IDN:	
DIM		CAN Object No:	371A (hex)
Range	0 .. 90	PROFIBUS PNU:	1738 (dec) IND = 17 (d
Default	0	DPR Objekt Nr:	538
Opmode	All		
Drive Status	Disabled + Reset (Coldstart)		
Start Firmware			
Configuration	☑	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	Function of digital input

Description

see |IN5_22MODE|

ASCII -Command	IN17TRIG	Available in	S300/700
Syntax Transmit	IN17TRIG [Data]	MMI ☐	CAN-Bus ☑
Syntax Receive	IN17TRIG <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer32	SERCOS IDN:	
DIM		CAN Object No:	371B (hex)
Range	-2147483648 .. 2147483647	PROFIBUS PNU:	1739 (dec) IND = 17 (d
Default	0	DPR Objekt Nr:	539
Opmode	All		
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	Variable for digital input

Description

see |IN5_22TRIG|

ASCII -Command	IN18
Syntax Transmit	IN18
Syntax Receive	IN18 <Data>
Type	Variable ro
Format	Integer8
DIM	
Range	0 .. 1
Default	-
Opmode	All
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	371C (hex)
PROFIBUS PNU:	1740 (dec) IND = 17 (d
DPR Objekt Nr:	540
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.11
EEPROM	No

Short Description	Status of Digital Input

Description

see |IN5_22|

ASCII -Command	IN18MODE	Available in	S300/700
Syntax Transmit	IN18MODE [Data]	MMI ☐	CAN-Bus ☑
Syntax Receive	IN18MODE <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer8	SERCOS IDN:	
DIM		CAN Object No:	371D (hex)
Range	0 .. 90	PROFIBUS PNU:	1741 (dec) IND = 17 (d
Default	0	DPR Objekt Nr:	541
Opmode	All		
Drive Status	Disabled + Reset (Coldstart)		
Start Firmware			
Configuration	☑	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	Function of digital input

Description

see |IN5_22MODE|

ASCII -Command	IN18TRIG	Available in	S300/700
Syntax Transmit	IN18TRIG [Data]	MMI ☐	CAN-Bus ☑
Syntax Receive	IN18TRIG <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer32	SERCOS IDN:	
DIM		CAN Object No:	371E (hex)
Range	-2147483648 .. 2147483647	PROFIBUS PNU:	1742 (dec) IND = 17 (d
Default	0	DPR Objekt Nr:	542
Opmode	All		
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	Variable for digital input

Description

see |IN5_22TRIG|

ASCII -Command	IN19
Syntax Transmit	IN19
Syntax Receive	IN19 <Data>
Type	Variable ro
Format	Integer8
DIM	
Range	0 .. 1
Default	-
Opmode	All
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	371F (hex)
PROFIBUS PNU:	1743 (dec) IND = 17 (d
DPR Objekt Nr:	543
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.11
EEPROM	No

Short Description	Status of Digital Input

Description

see |IN5_22|

ASCII -Command	IN19HCMD	Available in	S300/700
Syntax Transmit	IN19HCMD [Data]	MMI ☐	CAN-Bus ☐
Syntax Receive	IN19HCMD <Data>	PROFIBUS ☐	Sercos ☐
Type	Variable rw		
Format	String	SERCOS IDN:	
DIM		CAN Object No:	-
Range		PROFIBUS PNU:	-
Default	0	DPR Objekt Nr:	
Opmode	All		
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	Command buffer for high level

Description

see |IN2HCMD|

ASCII -Command	IN19LCMD	Available in	S300/700
Syntax Transmit	IN19LCMD [Data]	MMI ☐	CAN-Bus ☐
Syntax Receive	IN19LCMD <Data>	PROFIBUS ☐	Sercos ☐
Type	Variable rw		
Format	String	SERCOS IDN:	
DIM		CAN Object No:	-
Range		PROFIBUS PNU:	-
Default	0	DPR Objekt Nr:	
Opmode	All		
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	Command buffer for low level

Description

see |IN2LCMD|

ASCII -Command	IN19MODE
Syntax Transmit	IN19MODE [Data]
Syntax Receive	IN19MODE <Data>
Type	Variable rw
Format	Integer8
DIM	
Range	0 .. 90
Default	0
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	
Configuration	☑
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3720 (hex)
PROFIBUS PNU:	1744 (dec) IND = 17 (d
DPR Objekt Nr:	544
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	Function of digital input

Description

see |IN5_22MODE|

ASCII -Command	IN19TRIG
Syntax Transmit	IN19TRIG [Data]
Syntax Receive	IN19TRIG <Data>
Type	Variable rw
Format	Integer32
DIM	
Range	-2147483648 .. 2147483647
Default	0
Opmode	All
Drive Status	
Start Firmware	1.0
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3721 (hex)
PROFIBUS PNU:	1745 (dec) IND = 17 (d
DPR Objekt Nr:	545
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	Variable for digital input

Description

see |IN5_22TRIG|

ASCII -Command	IN1HCMD
Syntax Transmit	IN1HCMD [Data]
Syntax Receive	IN1HCMD <Data>
Type	Variable rw
Format	String
DIM	-
Range	max 64 ASCII Characters
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700		
MMI	☐	CAN-Bus	☐
PROFIBUS	☐	Sercos	☐

SERCOS IDN:	
CAN Object No:	-
PROFIBUS PNU:	-
DPR Objekt Nr:	
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Command buffer for high level

Description

The command IN1HCMD can be used to define an ASCII command sequence. This command sequence will always be carried out when a rising edge is detected at the input 1 that has been configured with the function |IN1MODE|=30,33
A command sequence consists of individual ASCII commands, separated by a semicolon (;)
The maximum length of this command sequence is 56 characters.

Example:
IN1HCMD |GV| 10; |GVTN| 15

If a LOW/HIGH edge is detected, the gain of the velocity control loop is set to 10 and the integral action time is set to 15 msec.

ASCII -Command	IN1LCMD	Available in	S300/700
Syntax Transmit	IN1LCMD [Data]	MMI ☐	CAN-Bus ☐
Syntax Receive	IN1LCMD <Data>	PROFIBUS ☐	Sercos ☐
Type	Variable rw		
Format	String	SERCOS IDN:	
DIM	-	CAN Object No:	-
Range	max 64 ASCII Characters	PROFIBUS PNU:	-
Default	-	DPR Objekt Nr:	
Opmode	All		
Drive Status	-		
Start Firmware	1.0		
Configuration	☐	Data Type BUS/DPR	-
Function Group	-	Weighting 10^3	

Last Change of this Object	2.12
EEPROM	Yes

Short Description	Command buffer for low level

Description

The command IN1LCMD can be used to define an ASCII command sequence. This command sequence will always be carried out when a falling edge is detected at the input 1 that has been configured with the function |IN1MODE|=30,33 A command sequence consists of individual ASCII commands, separated by a semicolon (;) The maximum length of this command sequence is 56 characters.

Example:
IN1LCMD |GV| 5; |GVTN| 10

If a HIGH/LOW edge is detected, the gain of the velocity control loop is set to 5 and the integral action time is set to 10 msec.

ASCII -Command	IN1MODE
Syntax Transmit	IN1MODE [Data]
Syntax Receive	IN1MODE <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	0 .. 90
Default	0
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	1.0
Configuration	☑
Function Group	Digital I/O

Available in		S300/700	
MMI	☑	CAN-Bus	☐
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	P 3000...3
CAN Object No:	3562 (hex)
PROFIBUS PNU:	1698 (dec) IND = 1 (de
DPR Objekt Nr:	98

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	2.13
EEPROM	Yes

Short Description	Function of Digital Input 1

Description

The IN1MODE command is used to configure the function of the digital input INPUT1. The amplifier must be switched off and then on again after an alteration of this parameter.
The following functions can be configured:

Zustand	Function	Description
IN1MODE=0	no function	The state of the input 1 is read and can be used via fieldbus or Slot card.
IN1MODE=1	Failure Reset	Software reset of the servo amplifier in the event of a fault. The high input signal is ignored, if the drive has no fault. All the functions and displays are set to the initial status. Parameters that are not stored in the EEPROM are erased, the parameter set that is stored in the EEPROM is loaded. If any of the error messages F01, F02, F03, F05, F08, F13, F16 or F19 (p.52) are present, then no software-reset will be carried out, just the error message will be deleted. This means that, for example, the encoder output signals are stable and can continue to be evaluated by the controls. When the input is high, while the auxillary 24V supply is switched on, the drive waits, before the input is set to low. This state is symbolised in the display. The first of the three display positions displays a "A".
IN1MODE=2	no function	
IN1MODE=3	no function	
IN1MODE=4	no function	
IN1MODE=5	no function	
IN1MODE=6	no function	
IN1MODE=7	no function	

IN1MODE=8	Analog In 1/Analog In 2	Switches over the setpoint inputs Analog In 1/2 at |ANCNFG| = 0. This function is only effective if the analog set-point function 0,Xcmd=Analog In 1 has been selected. High level at the input : Analog In 2 (terminals X3/6,7) is active Low level at the input : Analog In 1 (terminals X3/4,5) is active
IN1MODE=9	MT_No_Bit	Here you can select the motion tasks that are stored in the servo amplifier (numbers 1...7) or the reference traverse/homing (0). The motion task number is presented externally at the digital inputs as a logical word, with a width of max. 3 bits . An input is required to start the motion task (|INxMODE| =17, Start_MT IO). If you wire up a reference/homing switch (|INxMODE| =12, Reference) and (also) want to start a following task (|INxMODE| =15, Start_MT Next) externally, the number of inputs that are available for selecting the motion tasks will be further reduced.
IN1MODE=10	Intg.Off	Switch off the integral component of the velocity controller, the P-gain remains at the set value, the actual- (rotational) velocity feedback remains in operation.
IN1MODE=11	v/Torq.Contr.	Bypasses the velocity controller. The analog setpoint is taken 1:1 as the setpoint for current control, i.e. change over from velocity control to current (torque) control. High-level at the input : torque control Low-level at the input : velocity control Depending on |OPMODE|, it changes between |OPMODE|=0 (low) and |OPMODE|=2 (high) or |OPMODE|=1 (low) and |OPMODE|=3 (high).
IN1MODE=12	Reference	home/reference switch located on machine
IN1MODE=13	digital encoder/SSI	Changeover of the encoder-emulation (position output) on connector X5. High level at the input : SSI-compatible position signals (|ENCMODE| = 2) High level at the input : ROD-compatible position signals (|ENCMODE| = 1)
IN1MODE=14	FError_clear	Clear the warning of a contouring error (display n03) or the response monitoring (display n04).
IN1MODE=15	Start_MT Next	The following task, that is defined in the motion task by “Start with I/O” is started. The target position of the present motion task must be reached before the following task can be started. (see also |O_C| tablel 3)
IN1MODE=16	Start_MT No x	Start a motion task that is stored in the servo amplifier, by giving the motion task number. After the function has been selected you can enter the motion task number as the auxiliary variable |IN1TRIG|. Motion task number “0” (|IN1TRIG|=0) initiates homing/reference traverse. A rising edge starts the motion task, a falling edge cancels the motion task. Only |OPMODE| 4 or 8

IN1MODE=17	Start_MT IO	Start_MT IO Start of the motion task that has the number that is presented, bit-coded, at the digital inputs (PSTOP/NSTOP/DIGITAL-IN1/DIGITAL-IN2, see function 9, MT_No_Bit). A rising edge starts the motion task a falling edge cancels the motion task by a |STOP| - command
IN1MODE=18	Ipeak2 x	Switch over to a second (lower) peak value of current. Scaled as x (0...100) % of the peak current of the instrument. After the function has been selected you can enter the percentage value as the auxiliary variable |IN1TRIG|. Make the conversion according to the following equation: |IN1TRIG| given in % of |IPEAK|
IN1MODE=19	Off	
IN1MODE=20	Start_Jog v=x	Start of the setup mode "Constant velocity" with a defined speed. After selecting the function, you can enter the speed in |IN1TRIG|. A rising edge starts the motion, a falling edge cancels the motion. This function works in position control, so |OPMODE|=4,5,6,8 has to be selected. The speed is given in units of the position controller given by |VUNIT|, the sign selects the moving direction.
IN1MODE=21	U_Mon.off	Turns off the undervoltage monitoring function of the servo amplifier. High = off Low = on
IN1MODE=22	MT Restart	Continues the motion task that was previously interrupted by a |STOP| - command.
IN1MODE=23	Start2_MT No x	Start of a motion task that is stored in the servo amplifier, with definition of the motion task number. After selecting the function, you can enter the motion task number in |IN1TRIG| Motion task number “0” starts the homing run. A rising edge starts the motion task. Warning ! The motion task does not stop automatically if the start signal is removed ! The motion task must be stopped by — a falling edge on another digital input (configured with 16, FStart_Nr x) — the ASCII command |STOP| — the STOP function via Bus or digital input

IN1MODE=24	Switch over OPMODE	The two different |OPMODE|s, that can be selected for switching over via the digital input, are written in the |IN1TRIG| help variable of the this input. The lower byte consists the |OPMODE| that should be available when the input has a negative edge. The higher byte consists the |OPMODE| that should be available when the input has a positive edge. When the drive is switched on, the |OPMODE| is set automatically to the corresponding state of the input. The contents of the help variable must be in decimal !! e.g.: Input1=low |OPMODE|=4 Input1=high |OPMODE|=8 IN1MODE=24 (Activate Input) |IN1TRIG|=2052 (Decimal 0804h) 2052 (Dec) = 0804 (Hex)
IN1MODE=25	Zero_latch	Sets the digital encoder zero pulse offset. The current position, depending on the digital encoder resolution (|ENCOUT|) that is set, is calculated at the rising edge and stored as NI-Offset in |ENCZERO|. After that, an automatic |SAVE| is generated. This function is used to perform an automatic setting of the zero pulse in one turn of the motor..
IN1MODE=26	Position Latch	A edge on this input latches the actual position. The position can then be read by |LATCH1P32| (positive edge) or |LATCH1N32| (negative edge). The actual 16-Bit position (absolute in one turn) can be read by |LATCH1P16| (positive edge) and |LATCH1N16| (negative edge). The status of the latching can be read by the equivalent bits of |DRVSTAT|. The min. cycle time for a low/high to high/low transaction is 500µs. The min. time between two latch pulses is 1 msec. In case |IN1TRIG| value is <> 0, the motion task with the fiting number is executed.
IN1MODE=27	Quick Stop	Low state on the input starts an emergency stop function, that is executed with the ramp |DECSTOP|. Independently of the selected |OPMODE|, in this phase, the drive stops in velocity control. When it has stopped, it switches over to the original mode. Drive is still enabled!
IN1MODE=28	Starting Jogmode	|OPMODE| = 4,5,6,8 Firmware >= 0.73 A rising edge starts a jogmode with speed |VJOG|. A falling edge stopps the movement.
IN1MODE=29	Starting motion task / homing	With the rising edge the motion task starts which is coded with digital inputs INxMODE=9. With motion task 0 a homing procedure starts. Warning: a falling edge does not stop motion!

IN1MODE=30	Command Buffer 1	A positive or negative edge on the input starts a command buffer. This command buffer contains separate ASCII objects, that are separated with semicolon (;). The command buffer for the positive edge is |INH1CMD|, the command buffer for the negative edge is |IN1LCMD|. The max. length of that buffers is 56 character for each. If a digital input is configured with INxMODE=30, this input will proceed in that way. When the drive is switched on, the Command buffer is set automatically started to the corresponding state of the input.
IN1MODE=32	Brake	Warning ! With suspended loads, this function will lead to slipping of the axes ! A rising edge at the input triggers the braking output of the servo amplifier. This function is only available while the amplifier is disabled.
IN1MODE=33	see 30	Different from the functionality 30, the resulting answers of the commands are not suppressed, but are send to the seriell communication channel RS232. This setting can't be used in combination with GUI software.
IN1MODE=36	Give Offset to Gearing Function	Gearing mode |OPMODE| =4. A high signal on the digital input configured with this INxMODE adds a difference velocity to the gearing. This allows a simple synchronisation of two axes. The difference velocity is given to |IN1TRIG|. The scaling is in 32Bit per revolution every 250µs. The difference velocity (n) must be known, then the |IN1TRIG| can be calculated: IN1TRIG = n [rpm]*2^32/(4000*60) example: n = 500 [U/min] INxTRIG = 500 * 2^32 / (4000*60) = 8947848
IN1MODE=37	change of source for position detection with |EXTPOS| > 0	= 0 Position from the external encoder (preselection with |EXTPOS|). = 1 Position is detected by the first encoder on the motor (|FBTYPE|).
IN1MODE=38	Enable signal for following motion task	Definition of a motion task with following motion tasks. If INxMODE=15 is used (start of an following motion task via I/O), IN1MODE=38 can be used, to have an additional enable for the start of the following motion tasks. Means, that the following motion task is started, if once a rising edge on digital input 1 was detected and then the INxMODE=15 input is enabled to start the following motion task.

IN1MODE=39	Constant velocity for defined time	This function starts a constant velocity for a defined time. The parameters for velocity and time are given by |IN1TRIG|. The velocity is given by the lower 16 bit (scaling by |VUNIT|), bit 15 is the sign and defines the moving direction and the time by the upper 16 bit (given in msec) of the help variable |IN1TRIG|. A rising edge at INPUT1 changes the |OPMODE| to 0 (digital velocity) and gives the velocity that is given by |IN1TRIG|. After the defined time or a falling edge at INPUT1 is detected, the digital velocity setpoint is set to "0". After the actual velocity has reached "0" the |OPMODE| is automatically switched back to the old one. Example for defining the help variable |IN1TRIG| 1. Velocity = 1000 rpm time = 10 sec = 10000 msec |IN1TRIG| = 0x271003E8 = 655361000 2. Velocity = -500 rpm time = 10 msec |IN1TRIG| = 0x000afe0c = 720396
IN1MODE=40	Additional hardware input	The digital input works as an additional hardware input. Only if this input has a high signal, the power stage is enabled. This Function can be used by several inputs. In this case, the inputs are configured in series. All inputs have to be high to enable the power stage.
IN1MODE=41	Emergency Stop	If the input is going to low, the drive stops the motor using the |DECSTOP| ramp. If zero velocity is reached (|V|<|VEL0|), the power stage is disabled. While stopping the motor the bit 24 (0x01000000) in |TRJSTAT| is set. The input is read in the 250µs task.
IN1MODE=42	Activate/deactivate electronic gearing	Activate/deactivate electronic gearing in |OPMODE| = 4. This function is practical only with slave axis. A rising edge on the digital input starts the motion from 0 to the master speed and a falling edge changes the speed from master speed to 0. The ramp times can be set by |ACCR| for the acceleration and |DECR| for deceleration time.
IN1MODE=43	Activate/deactivate electronic gearing with position latch	Activate/deactivate electronic gearing in |OPMODE| = 4. This function is practical only with slave axis. A rising edge on the digital input starts the motion from 0 to the master speed and a falling edge changes the speed from master speed to 0. The ramp times can be set by |ACCR| for the acceleration and |DECR| for deceleration time In contrast to IN1MODE = 42, the master position is latched at the rising edge of the input and the position delay caused by the ramp is compensated. |IN1TRIG| gives the possibility to add an position offset (in |PGEARI| units) to the latched position.
IN1MODE=49	emergency stop (sensorless)	(High active) By a going edge an emergency stop is activated (current controlled without feedback)
IN1MODE=50	emergency stop (sensorless)	(Low active) By a going edge an emergency stop is activated (current controlled without feedback)

IN1MODE=51	Master slave synchronisation	to synchronisate by |ENGAGE| =6 to decouple |ENGAGE| =12
IN1MODE=53	Master slave synchronisation	to synchronisate by |ENGAGE| =7 to decouple |ENGAGE| =12
IN1MODE=57	switch to second parameter set	Low: std. Parameter used High: second Parameter group used see also command |PARCNFG|
IN1MODE=60	VOSPD-Switch	Switch Overspeed Threshhold (VOSPD) the rising edge switch from overspeed threshhold |VOSPD|) to INxTRIG. the falling edge actives the initially value
IN1MODE=61	Pulse Length on IN1	Measure Pulse Length on |IN1| It is activated for the latch function. It measures the time between the rising and falling edge at input IN1. The measured time (in 1 usec increments) is stored in the Latchvariable LATCH1N32. About the status bits in TRJSTAT the state of the time measurement can be read: TRJSTAT = 0x2000000-rising edge recognized, timing continues TRJSTAT = 0x4000000 falling edge recognized , finished timekeeping
IN1MODE=62	discharge of the dc-bus	When the DC-Bus should be discharge, first switch off the main voltage. Manually, set the digital input to 1, after some seconds, the DC-Link capacitor is discharged and |VBUS| nearby 0 Set back the digital input to 0 and now the DC-Bus can be charged again and the amplifier can be operated as normal. Danger: In order to prevent this function from being activated when the supply is switched on, the net-BTB signal (power supply on) is internally monitored. If the monitoring of the net BTB is switched off (NONBTB> 0), this function can not be used.

ASCII -Command	IN1TRIG	Available in	S300/700
Syntax Transmit	IN1TRIG [Data]	MMI ☑	CAN-Bus ☑
Syntax Receive	IN1TRIG <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer32	SERCOS IDN:	
DIM	-	CAN Object No:	3563 (hex)
Range	-2147483648 .. 2147483647	PROFIBUS PNU:	1699 (dec) IND = 1 (de
Default	0	DPR Objekt Nr:	99
Opmode	All		
Drive Status	-		
Start Firmware	1.0		
Configuration	☐	Data Type BUS/DPR	Integer32
Function Group	Digital I/O	Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Variable for IN1MODE

Description

Auxiliary trigger variable for |IN1MODE|. Certain settings of |IN1MODE| require you to specify an additional trigger level. See |IN1MODE| for further details.

ASCII -Command	IN2
Syntax Transmit	IN2
Syntax Receive	IN2 <Data>
Type	Variable ro
Format	Integer8
DIM	-
Range	0 .. 1
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3564 (hex)
PROFIBUS PNU:	1700 (dec) IND = 1 (de
DPR Objekt Nr:	100
Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Status of Digital Input 2

Description

The status of the digital input INPUT2.

ASCII -Command	IN20		Available in	S300/700	
Syntax Transmit	IN20		MMI	☐	CAN-Bus ☑
Syntax Receive	IN20 <Data>		PROFIBUS	☑	Sercos ☐
Type	Variable rw				
Format	Integer8		SERCOS IDN:		
DIM			CAN Object No:	3722 (hex)	
Range			PROFIBUS PNU:	1746 (dec) IND = 17 (d	
Default	-		DPR Objekt Nr:	546	
Opmode	All				
Drive Status					
Start Firmware					
Configuration	☐		Data Type BUS/DPR	-	
Function Group			Weighting 10^3		

Last Change of this Object	2.11
EEPROM	No

Short Description	Status of digital input

Description

see |IN5_22|

ASCII -Command	IN20HCMD	Available in	S300/700
Syntax Transmit	IN20HCMD [Data]	MMI ☐	CAN-Bus ☐
Syntax Receive	IN20HCMD <Data>	PROFIBUS ☐	Sercos ☐
Type	Variable rw		
Format	String	SERCOS IDN:	
DIM		CAN Object No:	-
Range	max 64 ASCII Characters	PROFIBUS PNU:	-
Default	0	DPR Objekt Nr:	
Opmode	All		
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	Command buffer for high level

Description

see |IN2HCMD|

ASCII -Command	IN20LCMD	Available in	S300/700
Syntax Transmit	IN20LCMD [Data]	MMI ☐	CAN-Bus ☐
Syntax Receive	IN20LCMD <Data>	PROFIBUS ☐	Sercos ☐
Type	Variable rw		
Format	String	SERCOS IDN:	
DIM		CAN Object No:	-
Range	max 64 ASCII Characters	PROFIBUS PNU:	-
Default	0	DPR Objekt Nr:	
Opmode	All		
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	Command buffer for low level

Description

see |IN2LCMD|

ASCII -Command	IN20MODE	Available in	S300/700
Syntax Transmit	IN20MODE [Data]	MMI ☐	CAN-Bus ☑
Syntax Receive	IN20MODE <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer8	SERCOS IDN:	
DIM		CAN Object No:	3723 (hex)
Range	0 .. 90	PROFIBUS PNU:	1747 (dec) IND = 17 (d
Default	0	DPR Objekt Nr:	547
Opmode	All		
Drive Status	Disabled + Reset (Coldstart)		
Start Firmware			
Configuration	☑	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	Function of digital input

Description

see |IN5_22MODE|

ASCII -Command	IN20TRIG	Available in	S300/700
Syntax Transmit	IN20TRIG [Data]	MMI ☐	CAN-Bus ☑
Syntax Receive	IN20TRIG <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer32	SERCOS IDN:	
DIM		CAN Object No:	3724 (hex)
Range	-2147483648 .. 2147483647	PROFIBUS PNU:	1748 (dec) IND = 17 (d
Default	0	DPR Objekt Nr:	548
Opmode	All		
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	Variable for digital input

Description

see |IN5_22TRIG|

ASCII -Command	IN21MODE
Syntax Transmit	IN21MODE [Data]
Syntax Receive	IN21MODE <Data>
Type	Variable rw
Format	Integer8
DIM	
Range	0 .. 90
Default	0
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	
Configuration	☑
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3773 (hex)
PROFIBUS PNU:	1827 (dec) IND = 17 (d
DPR Objekt Nr:	627
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	Function of digital input

Description

only S700:
see |IN5_22MODE|

ASCII -Command	IN21TRIG
Syntax Transmit	IN21TRIG [Data]
Syntax Receive	IN21TRIG <Data>
Type	Variable rw
Format	Integer32
DIM	
Range	-2147483648 .. 2147483647
Default	0
Opmode	All
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3774 (hex)
PROFIBUS PNU:	1828 (dec) IND = 17 (d
DPR Objekt Nr:	628
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	Variable for digital input

Description

only S700:
see |IN5_22TRIG|

ASCII -Command	IN22MODE	Available in	S300/700
Syntax Transmit	IN22MODE [Data]	MMI ☐	CAN-Bus ☑
Syntax Receive	IN22MODE <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer8	SERCOS IDN:	
DIM		CAN Object No:	3776 (hex)
Range	0 .. 90	PROFIBUS PNU:	1830 (dec) IND = 17 (d
Default	0	DPR Objekt Nr:	630
Opmode	All		
Drive Status	Disabled + Reset (Coldstart)		
Start Firmware			
Configuration	☑	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	Function of digital input

Description

only S700:
see |IN5_22MODE|

ASCII -Command	IN22TRIG
Syntax Transmit	IN22TRIG [Data]
Syntax Receive	IN22TRIG <Data>
Type	Variable rw
Format	Integer32
DIM	
Range	-2147483648 .. 2147483647
Default	0
Opmode	All
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3777 (hex)
PROFIBUS PNU:	1831 (dec) IND = 17 (d
DPR Objekt Nr:	631
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	Variable for digital input

Description

only S700:
see |IN5_22TRIG|

ASCII -Command	IN2HCMD
Syntax Transmit	IN2HCMD [Data]
Syntax Receive	IN2HCMD <Data>
Type	Variable rw
Format	String
DIM	-
Range	max 64 ASCII Characters
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700		
MMI	☐	CAN-Bus	☐
PROFIBUS	☐	Sercos	☐

SERCOS IDN:	
CAN Object No:	-
PROFIBUS PNU:	-
DPR Objekt Nr:	
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Command buffer for high level

Description

The command IN2HCMD can be used to define an ASCII command sequence. This command sequence will always be carried out when a rising edge is detected at the input 2 that has been configured with the function |IN2MODE|=30,33
A command sequence consists of individual ASCII commands, separated by a semicolon (;)
The maximum length of this command sequence is 56 characters.

Example:
IN2HCMD |GV| 10; |GVTN| 15

If a LOW/HIGH edge is detected, the gain of the velocity control loop is set to 10 and the integral action time is set to 15 msec.

ASCII -Command	IN2LCMD
Syntax Transmit	IN2LCMD [Data]
Syntax Receive	IN2LCMD <Data>
Type	Variable rw
Format	String
DIM	-
Range	max 64 ASCII Characters
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700		
MMI	☐	CAN-Bus	☐
PROFIBUS	☐	Sercos	☐

SERCOS IDN:	
CAN Object No:	-
PROFIBUS PNU:	-
DPR Objekt Nr:	
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Command buffer for low level

Description

The command IN2LCMD can be used to define an ASCII command sequence. This command sequence will always be carried out when a falling edge is detected at the input 2 that has been configured with the function |IN2MODE|=30,33 A command sequence consists of individual ASCII commands, separated by a semicolon (;) The maximum length of this command sequence is 56 characters.

Example:
IN2LCMD |GV| 5; |GVTN| 10

If a HIGH/LOW edge is detected, the gain of the velocity control loop is set to 5 and the integral action time is set to 10 msec.

ASCII -Command	IN2MODE
Syntax Transmit	IN2MODE [Data]
Syntax Receive	IN2MODE <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	0 .. 90
Default	0
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	1.0
Configuration	☑
Function Group	Digital I/O

Available in	S300/700		
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	P 3000...3
CAN Object No:	3565 (hex)
PROFIBUS PNU:	1701 (dec) IND = 1 (de
DPR Objekt Nr:	101
Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	2.13
EEPROM	Yes

Short Description	Function of Digital Input 2

Description

The IN2MODE command is used to configure the function of the digital input INPUT2. The amplifier must be switched off and then on again after an alteration of this parameter.
The following functions can be configured:

Zustand	Function	Description
IN2MODE=0	no function	The state of the input 1 is read and can be used via fieldbus or Slot card.
IN2MODE=1	no function	
IN2MODE=2	no function	
IN2MODE=3	no function	
IN2MODE=4	no function	
IN2MODE=5	no function	
IN2MODE=6	no function	
IN2MODE=7	no function	
IN2MODE=8	selection Analog In 1 / 2	Switches over the setpoint inputs Analog In 1/2 at |ANCNFG| = 0. This function is only effective if the analog set-point function 0, Xcmd = Analog In 1 has been selected. High level at the input : Analog In 2 (terminals X3/6,7) is active Low level at the input : Analog In 1 (terminals X3/4,5) is active

IN2MODE=9	MT_No_Bit	Here you can select the motion tasks that are stored in the servo amplifier (numbers 1...7) or the reference traverse/homing (0). The motion task number is presented externally at the digital inputs as a logical word, with a width of max. 3 bits . An input is required to start the motion task (|INxMODE| =17, Start_MT IO). If you wire up a reference/homing switch (|INxMODE| =12, Reference) and (also) want to start a following task (|INxMODE| =15, Start_MT Next) externally, the number of inputs that are available for selecting the motion tasks will be further reduced.
IN2MODE=10	Intg.Off	Switch off the integral component of the velocity controller, the P-gain remains at the set value, the actual- (rotational) velocity feedback remains in operation.
IN2MODE=11	v/Torq.Contr.	Bypasses the velocity controller. The analog setpoint is taken 1:1 as the setpoint for current control, i.e. change over from velocity control to current (torque) control. High-level at the input : torque control Low-level at the input : velocity control Depending on |OPMODE|, it changes between |OPMODE|=0 (low) and |OPMODE|=2 (high) or |OPMODE|=1 (low) and |OPMODE|=3 (high).
IN2MODE=12	Reference	home/reference switch located on machine
IN2MODE=13	digital encoder/SSI	Changeover of the encoder-emulation (position output) on connector X5. High level at the input : SSI-compatible position signals (|ENCMODE| = 2) High level at the input : ROD-compatible position signals (|ENCMODE| = 1)
IN2MODE=14	FError_clear	Clear the warning of a contouring error (display n03) or the response monitoring (display n04).
IN2MODE=15	Start_MT Next	The following task, that is defined in the motion task by “Start with I/O” is started. The target position of the present motion task must be reached before the following task can be started. (see also |O_C| tablel 3)
IN2MODE=16	Start_MT No x	Start a motion task that is stored in the servo amplifier, by giving the motion task number. After the function has been selected you can enter the motion task number as the auxiliary variable |IN2TRIG|. Motion task number “0” (|IN2TRIG|=0) initiates homing/reference traverse. A rising edge starts the motion task, a falling edge cancels the motion task. Only |OPMODE| 4 or 8
IN2MODE=17	Start_MT IO	Start_MT IO Start of the motion task that has the number that is presented, bit-coded, at the digital inputs (PSTOP/NSTOP/DIGITAL-IN1/DIGITAL-IN2, see function 9, MT_No_Bit). A rising edge starts the motion task a falling edge cancels the motion task by a |STOP| - command

IN2MODE=18	Ipeak2 x	Switch over to a second (lower) peak value of current. Scaled as x (0...100) % of the peak current of the instrument. After the function has been selected you can enter the percentage value as the auxiliary variable |IN2TRIG|. Make the conversion according to the following equation: |IN2TRIG| given in % of |IPEAK|
IN2MODE=19	Off	
IN2MODE=20	Start_Jog v=x	Start of the setup mode "Constant velocity" with a defined speed. After selecting the function, you can enter the speed in |IN2TRIG|. A rising edge starts the motion, a falling edge cancels the motion. This function works in position control, so |OPMODE|=4,5,6,8 has to be selected. The speed is given in units of the position controller given by |VUNIT|, the sign selects the moving direction.
IN2MODE=21	U_Mon.off	Turns off the undervoltage monitoring function of the servo amplifier. High = off Low = on
IN2MODE=22	MT Restart	Continues the motion task that was previously interrupted by a |STOP| - command.
IN2MODE=23	Start2_MT No x	Start of a motion task that is stored in the servo amplifier, with definition of the motion task number. After selecting the function, you can enter the motion task number in |IN2TRIG| Motion task number “0” starts the homing run. A rising edge starts the motion task. Warning ! The motion task does not stop automatically if the start signal is removed ! The motion task must be stopped by — a falling edge on another digital input (configured with 16, FStart_Nr x) — the ASCII command |STOP| — the STOP function via Bus or digital input
IN2MODE=24	Switch over OPMODE	The two different |OPMODE|s, that can be selected for switching over via the digital input, are written in the |IN2TRIG| help variable of the this input. The lower byte consists the |OPMODE| that should be available when the input has a negative edge. The higher byte consists the |OPMODE| that should be available when the input has a positive edge. When the drive is switched on, the |OPMODE| is set automatically to the corresponding state of the input. The contents of the help variable must be in decimal !! e.g.: Input1=low |OPMODE|=4 Input1=high |OPMODE|=8 IN1MODE=24 (Activate Input) |IN2TRIG|=2052 (Decimal 0804h) 2052 (Dec) = 0804 (Hex)

IN2MODE=25	Zero_latch	Sets the digital encoder zero pulse offset. The current position, depending on the digital encoderresolution (|ENCOUT|) that is set, is calculated at the rising edge and stored as NI-Offset in |ENCZERO|. After that, an automatic |SAVE| is generated. This function is used to perform an automatic setting of the zero pulse in one turn of the motor..
IN2MODE=26	Position Latch	A edge on this input latches the actual position. The position can then be read by |LATCH2P32| (positive edge) or |LATCH2N32| (negative edge). The actual 16-Bit position (absolute in one turn) can be read by |LATCH2P16| (positive edge) and |LATCH2N16| (negative edge). The status of the latching can be read by the equivalent bits of |DRVSTAT|. The min. cycle time for a low/high to high/low transaction is 500µs. The min. time between two latch pulses is 1 msec. In case |IN1TRIG| value is <> 0, the motion task with the fiting number is executed.
IN2MODE=27	Quick Stop	Low state on the input starts an emergency stop function, that is executed with the ramp |DECSTOP|. Independently of the selected |OPMODE|, in this phase, the drive stops in velocity control. When it has stopped, it switches over to the original mode. Drive is still enabled!
IN2MODE=28	Starting Jogmode	|OPMODE| = 4,5,6,8 Firmware >= 0.73 A rising edge starts a jogmode with speed |VJOG|. A falling edge stopps the movement.
IN2MODE=29	Starting motion task / homing	Start_MT IO Start of the motion task that has the number that is presented, bit-coded, at the digital inputs (PSTOP/NSTOP/DIGITAL-IN1/DIGITAL-IN2, see function 9, MT_No_Bit). A falling ege does not stop motion.
IN2MODE=30	Command Buffer 1	A positive or negative edge on the input starts a command buffer. This command buffer contains separate ASCII objects, that are separated with semicolon (;). The command buffer for the positive edge is |INH2CMD|, the command buffer for the negative edge is |IN2LCMD|. The max. length of that buffers is 56 character for each. If a digital input is configured with INxMODE=30, this input will proceed in that way. When the drive is switched on, the Command buffer is set automatically started to the corresponding state of the input.
IN2MODE=32	Brake	Warning ! With suspended loads, this function will lead to slipping of the axes ! A rising edge at the input triggers the braking output of the servo amplifier. This function is only available while the amplifier is disabled.

IN2MODE=33	see 30	Different from the functionality 30, the resulting answers of the commands are not suppressed, but are send to the seriell communication channel RS232. This setting can't be used in combination with GUI software.
IN2MODE=36	Give Offset to Gearing Function	Gearing mode |OPMODE| =4. A high signal on the digital input configured with this INxMODE adds a difference velocity to the gearing. This allows a simple synchronisation of two axes. The difference velocity is given to |IN2TRIG|. The scaling is in 32Bit per revolution every 250µs. The difference velocity (n) must be known, then the |IN2TRIG| can be calculated: IN2TRIG = n [rpm]*2^32/(4000*60) example: n = 500 [U/min] INxTRIG = 500 * 2^32 / (4000*60) = 8947848
IN1MODE=37	change of source for position detection with |EXTPOS| > 0	= 0 Position from the external encoder (preselection with |EXTPOS|). = 1 Position is detected by the first encoder on the motor (|FBTYPE|).
IN2MODE=38	Enable signal for following motion task	Definition of a motion task with following motion tasks. If INxMODE=15 is used (start of an following motion task via I/O), IN1MODE=38 can be used, to have an additional enable for the start of the following motion tasks. Means, that the following motion task is started, if once a rising edge on digital input 1 was detected and then the INxMODE=15 input is enabled to start the following motion task.
IN2MODE=39	Constant velocity for defined time	This function starts a constant velocity for a defined time. The parameters for velocity and time are given by |IN2TRIG|. The velocity is given by the lower 16 bit (scaling by |VUNIT|), bit 15 is the sign and defines the moving direction and the time by the upper 16 bit (given in msec) of the help variable |IN2TRIG|. A rising edge at INPUT1 changes the |OPMODE| to 0 (digital velocity) and gives the velocity that is given by |IN2TRIG|. After the defined time or a falling edge at INPUT1 is detected, the digital velocity setpoint is set to "0". After the actual velocity has reached "0" the |OPMODE| is automatically switched back to the old one. Example for defining the help variable |IN2TRIG| 1. Velocity = 1000 rpm time = 10 sec = 10000 msec |IN2TRIG| = 0x271003E8 = 655361000 2. Velocity = -500 rpm time = 10 msec |IN2TRIG| = 0x000afe0c = 720396
IN2MODE=40	Additional hardware input	The digital input works as an additional hardware input. Only if this input has a high signal, the power stage is enabled. This Function can be used by several inputs. In this case, the inputs are configured in series. All inputs have to be high to enable the power stage.

IN2MODE=41	Emergency Stop	If the input is going to low, the drive stops the motor using the |DECSTOP| ramp. If zero velocity is reached (|V|<|VEL0|), the power stage is disabled. While stopping the motor the bit 24 (0x01000000) in |TRJSTAT| is set. The input is read in the 250µs task.
IN2MODE=42	Activate/deactivate electronic gearing	Activate/deactivate electronic gearing in |OPMODE| = 4. This function is practical only with slave axis. A rising edge on the digital input starts the motion from 0 to the master speed and a falling edge changes the speed from master speed to 0. The ramp times can be set by |ACCR| for the acceleration and |DECR| for deceleration time.
IN2MODE=43	Activate/deactivate electronic gearing with position latch	Activate/deactivate electronic gearing in |OPMODE| = 4. This function is practical only with slave axis. A rising edge on the digital input starts the motion from 0 to the master speed and a falling edge changes the speed from master speed to 0. The ramp times can be set by |ACCR| for the acceleration and |DECR| for deceleration time In contrast to IN2MODE = 42, the master position is latched at the rising edge of the input and the position delay caused by the ramp is compensated. |IN2TRIG| gives the possibility to add an position offset (in |PGEARI| units) to the latched position.
IN2MODE=49	emergency stop sensorless (high active)	By a rising edge an emergency stop is activated (current controlled without feedback)
IN2MODE=50	emergency stop sensorless (low active)	By a falling edge an emergency stop is activated (current controlled without feedback)
IN2MODE=51	Master/Slave synchronisation	
IN2MODE=53	Master/Slave synchronisation	
IN2MODE=57	switch between data set	Low: std. Parameter used High: second Parameter group used see also command |PARCNFG|
IN2MODE=60	VOSPD-Switch	Switch Overspeed Threshhold (VOSPD) the rising edge switch from overspeed threshhold |VOSPD|) to INxTRIG. the falling edge actives the initially value
IN2MODE=61	Pulse Length on IN2	Measure Pulse Length on |IN2|
IN2MODE=62	discharge of the dc-bus	When the DC-Bus should be discharge, first switch off the main voltage. Manually, set the digital input to 1, after some seconds, the DC-Link capacitor is discharged and |VBUS| nearby 0 Set back the digital input to 0 and now the DC-Bus can be charged again and the amplifier can be operated as normal. Danger: In order to prevent this function from being activated when the supply is switched on, the net-BTB signal (power supply on) is internally monitored. If the monitoring of the net BTB is switched off (NONBTB> 0), this function can not be used.

ASCII -Command	IN2PM
Syntax Transmit	IN2PM [Data]
Syntax Receive	IN2PM <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	0,1,2
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	362E (hex)
PROFIBUS PNU:	1902 (dec) IND = 1 (de
DPR Objekt Nr:	302

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	Yes

Short Description	state of the digital input

Description

The IN2PM command is used to configure the function of a digital output during a motion task (motion block) sequence.

The function "NextInPos" is available if an I/O expansion card is used (terminal X11B4) or a digital output of the drive is configured with the function OxMODE=16. At the start of the first motion block (motion task), the “NextInPos” output is always set to 0. The response of the output during the execution of the motion block sequence depends on the configuration variable IN2PM.

IN2PM=0 – the output is inverted at the start of the next block.
IN2PM=1– the output is set to 0 at the start of a motion block, and set to HIGH at the end of a motion block.
IN2PM=2 – the output is inverted at the end of a block.
With a sequence of motion blocks where the blocks are started immediately, only the IN2PM=0 or IN2PM=2 settings make sense. If the setting is IN2PM=1, the HIGH state is so short that it may not be registered at all by the external control system.

If a following task is started with the aid of an I/O (INxMODE=15), then the IN2PM=2 or IN2PM=1 setting should be used. With this setting, the end of a motion block is signaled by the HIGH state (IN2PM=1) or the change of state (IN2PM=2) at the “NextInPos” output. The external control system can then initialize the continuation of the motion task sequence via the “Start next task” input.
See also |IN1MODE| = 15

ASCII -Command	IN2TRIG
Syntax Transmit	IN2TRIG [Data]
Syntax Receive	IN2TRIG <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	-2147483648 .. 2147483647
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Digital I/O

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3566 (hex)
PROFIBUS PNU:	1702 (dec) IND = 1 (de
DPR Objekt Nr:	102

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Variable for IN2MODE

Description

Auxiliary trigger variable for |IN2MODE|. Certain settings of |IN2MODE| require you to specify an additional trigger level. See |IN2MODE| for further details.

ASCII -Command	IN3
Syntax Transmit	IN3 [Data]
Syntax Receive	IN3 <Data>
Type	Variable ro
Format	Integer8
DIM	-
Range	0 .. 1
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3567 (hex)
PROFIBUS PNU:	1703 (dec) IND = 1 (de
DPR Objekt Nr:	103
Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Status of Digital Input 3

Description

The status of the digital input INPUT3.

ASCII -Command	IN3HCMD
Syntax Transmit	IN3HCMD [Data]
Syntax Receive	IN3HCMD <Data>
Type	Variable rw
Format	String
DIM	-
Range	max 64 ASCII Characters
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700		
MMI	☐	CAN-Bus	☐
PROFIBUS	☐	Sercos	☐

SERCOS IDN:	
CAN Object No:	-
PROFIBUS PNU:	-
DPR Objekt Nr:	
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Command buffer for high level

Description

The command IN3HCMD can be used to define an ASCII command sequence. This command sequence will always be carried out when a rising edge is detected at the input 3 that has been configured with the function |IN3MODE|=30,33
A command sequence consists of individual ASCII commands, separated by a semicolon (;)
The maximum length of this command sequence is 56 characters.

Example:
IN3HCMD |GV| 10; |GVTN| 15

If a LOW/HIGH edge is detected, the gain of the velocity control loop is set to 10 and the integral action time is set to 15 msec.

ASCII -Command	IN3LCMD
Syntax Transmit	IN3LCMD [Data]
Syntax Receive	IN3LCMD <Data>
Type	Variable rw
Format	String
DIM	-
Range	max 64 ASCII Characters
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700		
MMI	☐	CAN-Bus	☐
PROFIBUS	☐	Sercos	☐

SERCOS IDN:	
CAN Object No:	-
PROFIBUS PNU:	-
DPR Objekt Nr:	
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Command buffer for low level

Description

The command IN3LCMD can be used to define an ASCII command sequence. This command sequence will always be carried out when a falling edge is detected at the input 3 that has been configured with the function |IN3MODE|=30,33 A command sequence consists of individual ASCII commands, separated by a semicolon (;) The maximum length of this command sequence is 56 characters.

Example:
IN3LCMD |GV| 5; |GVTN| 10

If a HIGH/LOW edge is detected, the gain of the velocity control loop is set to 5 and the integral action time is set to 10 msec.

ASCII -Command	IN3MODE
Syntax Transmit	IN3MODE [Data]
Syntax Receive	IN3MODE <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	0 .. 90
Default	0
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	1.0
Configuration	☑
Function Group	Digital I/O

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	P 3000...3
CAN Object No:	3568 (hex)
PROFIBUS PNU:	1704 (dec) IND = 1 (de
DPR Objekt Nr:	104

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	2.13
EEPROM	Yes

Short Description	Function of Digital Input 3

Description

The IN3MODE command is used to configure the function of the digital input INPUT3. The amplifier must be switched off and then on again after an alteration of this parameter.
The following functions can be configured:

Zustand	Function	Description
IN3MODE=0	Off	The state of the input 1 is read and can be used via fieldbus or Slot card.
IN3MODE=1	Off	
IN3MODE=1	Reset	Software reset of the servo amplifier in the event of a fault. The high input signal is ignored, if the drive has no fault. All the functions and displays are set to the initial status. Parameters that are not stored in the EEPROM are erased, the parameter set that is stored in the EEPROM is loaded. If any of the error messages F01, F02, F03, F05, F08, F13, F16 or F19 (p.52) are present, then no software-reset will be carried out, just the error message will be deleted. This means that, for example, the encoder output signals are stable and can continue to be evaluated by the controls. When the input is high, while the auxillary 24V supply is switched on, the drive waits, before the input is set to low. This state is symbolised in the display. The first of the three display positions displays a "A".
IN3MODE=2	PSTOP	A low on the input disables the positive direction (clockwise if |DIR|=1, counterclockwise if |DIR|=0). At the same time, a warning "n10" is displayed. If a negative edge is recognised while the motor is running, the drive stops the motor in |OPMODE|=0 (velocity control with setpoint zero) using the |DECSTOP| ramp. When the motor has stopped, the old |OPMODE| is activated.

IN3MODE=3	NSTOP (4.78)	A low on the input disables the negative direction (clockwise if |DIR|=0, counterclockwise if |DIR|=1). At the same time, a warning "n11" is displayed. If a negative edge is recognised while the motor is running, the drive stops the motor in |OPMODE|=0 (velocity control with setpoint zero) using the |DECSTOP| ramp. When the motor has stopped, the old |OPMODE| is activated.
IN3MODE=4	PSTOP+Intg.Off	A low on the input disables the positive direction (clockwise if |DIR|=1, counterclockwise if |DIR|=0). At the same time, a warning "n10" is displayed. If a negative edge is recognised while the motor is running, the drive stops the motor in |OPMODE|=0 (velocity control with setpoint zero) using the |DECSTOP| ramp. When the motor has stopped, the old |OPMODE| is activated (without integral part in the velocity controller).
IN3MODE=5	NSTOP + Int. off	A low on the input disables the negative direction (counterclockwise if |DIR|=1, clockwise if |DIR|=0). At the same time, a warning "n11" is displayed. If a negative edge is recognised while the motor is running, the drive stops the motor in |OPMODE|=0 (velocity control with setpoint zero) using the |DECSTOP| ramp. When the motor has stopped, the old |OPMODE| is activated (without integral part in the velocity controller).
IN3MODE=6	PSTOP+NSTOP	A low on the input disables the positive and the negative direction. At the same time, a warning "n10" and "n11" is displayed. If a negative edge is recognised while the motor is running, the drive stops the motor in |OPMODE|=0 (velocity control with setpoint zero) using the |DECSTOP| ramp. When the motor has stopped, the old |OPMODE| is activated.
IN3MODE=7	P/Nstop+Intg.Off	A low on the input disables the positive and the negative direction. At the same time, a warning "n10" and "n11" is displayed. If a negative edge is recognised while the motor is running, the drive stops the motor in |OPMODE|=0 (velocity control with setpoint zero) using the |DECSTOP| ramp. When the motor has stopped, the old |OPMODE| is activated (without integral part in the velocity controller).
IN3MODE=8	selection Analog In 1 / 2	Switches over the setpoint inputs Analog In 1/2 at |ANCNFG| = 0. This function is only effective if the Analog In function = 0 Xcmd=Analog In 1 has been selected. High level at the input : Analog In 2 (terminals X3/6,7) is active Low level at the input : Analog In 1 (terminals X3/4,5) is active

IN3MODE=9	MT_No_Bit	Here you can select the motion tasks that are stored in the servo amplifier (numbers 1...7) or the reference traverse/homing (0). The motion task number is presented externally at the digital inputs as a logical word, with a width of max. 3 bits . An input is required to start the motion task (|INxMODE| =17, Start_MT IO). If you wire up a reference/homing switch (|INxMODE| =12, Reference) and (also) want to start a following task (|INxMODE| =15, Start_MT Next) externally, the number of inputs that are available for selecting the motion tasks will be further reduced.
IN3MODE=10	Intg.Off	Switch off the integral component of the velocity controller, the P-gain remains at the set value, the actual- (rotational) velocity feedback remains in operation.
IN3MODE=11	v/Torq.Contr.	Bypasses the velocity controller. The analog setpoint is taken 1:1 as the setpoint for current control, i.e. change over from velocity control to current (torque) control. High-level at the input : torque control Low-level at the input : velocity control Depending on |OPMODE|, it changes between |OPMODE|=0 (low) and |OPMODE|=2 (high) or |OPMODE|=1 (low) and |OPMODE|=3 (high).
IN3MODE=12	Reference	home/reference switch located on machine
IN3MODE=13	digital encoder/SSI	Changeover of the encoder-emulation (position output) on connector X5. High level at the input : SSI-compatible position signals (|ENCMODE| = 2) High level at the input : ROD-compatible position signals (|ENCMODE| = 1)
IN3MODE=14	FError_clear	Clear the warning of a contouring error (display n03) or the response monitoring (display n04).
IN3MODE=15	Start_MT Next	The following task, that is defined in the motion task by “Start with I/O” is started. The target position of the present motion task must be reached before the following task can be started. (see also |O_C| tablel 3)
IN3MODE=16	Start_MT No x	Start a motion task that is stored in the servo amplifier, by giving the motion task number. After the function has been selected you can enter the motion task number as the auxiliary variable |IN3TRIG|. Motion task number “0” (|IN3TRIG|=0) initiates homing/reference traverse. A rising edge starts the motion task, a falling edge cancels the motion task. Only |OPMODE| 4 or 8
IN3MODE=17	Start_MT IO	Start_MT IO Start of the motion task that has the number that is presented, bit-coded, at the digital inputs (PSTOP/NSTOP/DIGITAL-IN1/DIGITAL-IN2, see function 9, MT_No_Bit). A rising edge starts the motion task a falling edge cancels the motion task by a |STOP| - command

IN3MODE=18	Ipeak2 x	Switch over to a second (lower) peak value of current. Scaled as x (0...100) % of the peak current of the instrument. After the function has been selected you can enter the percentage value as the auxiliary variable |IN3TRIG|. Make the conversion according to the following equation: |IN3TRIG| given in % of |IPEAK|
IN3MODE=19	Off	
IN3MODE=20	Start_Jog v=x	Start of the setup mode "Constant velocity" with a defined speed. After selecting the function, you can enter the speed in |IN3TRIG|. A rising edge starts the motion, a falling edge cancels the motion. This function works in position control, so |OPMODE|=8 has to be selected. The speed is given in units of the position controller given by |VUNIT|, the sign selects the moving direction.
IN3MODE=21	U_Mon.off	Turns off the undervoltage monitoring function of the servo amplifier. High = off Low = on
IN3MODE=22	MT Restart	Continues the motion task that was previously interrupted by a |STOP| - command.
IN3MODE=23	Start2_MT No x	Start of a motion task that is stored in the servo amplifier, with definition of the motion task number. After selecting the function, you can enter the motion task number in |IN3TRIG| Motion task number “0” starts the homing run. A rising edge starts the motion task. Warning ! The motion task does not stop automatically if the start signal is removed ! The motion task must be stopped by — a falling edge on another digital input (configured with 16, FStart_Nr x) — the ASCII command |STOP| — the STOP function via Bus or digital input
IN3MODE=24	Switch over OPMODE	The two different |OPMODE|s, that can be selected for switching over via the digital input, are written in the |IN3TRIG| help variable of the this input. The lower byte consists the |OPMODE| that should be available when the input has a negative edge. The higher byte consists the |OPMODE| that should be available when the input has a positive edge. When the drive is switched on, the |OPMODE| is set automatically to the corresponding state of the input. The contents of the help variable must be in decimal !! e.g.: Input1=low |OPMODE|=4 Input1=high |OPMODE|=8 IN1MODE=24 (Activate Input) |IN3TRIG|=2052 (Decimal 0804h) 2052 (Dec) = 0804 (Hex)

IN3MODE=25	Zero_latch	Sets the digital encoder zero pulse offset. The current position, depending on the digital encoder resolution (|ENCOUT|) that is set, is calculated at the rising edge and stored as NI-Offset in |ENCZERO|. After that, an automatic |SAVE| is generated. This function is used to perform an automatic setting of the zero pulse in one turn of the motor..
IN3MODE=27	Quick Stop	Low state on the input starts an emergency stop function, that is executed with the ramp |DECSTOP|. Independently of the selected |OPMODE|, in this phase, the drive stops in velocity control. When it has stopped, it switches over to the original mode. Drive is still enabled!
IN3MODE=28	Starting Jogmode	ONLY |OPMODE| = 8 Firmware >= 0.73 A rising edge starts a jogmode with speed |VJOG|. A falling edge stopps the movement.
IN3MODE=29	Starting motion task / homing	Start_MT IO Start of the motion task that has the number that is presented, bit-coded, at the digital inputs (PSTOP/NSTOP/DIGITAL-IN1/DIGITAL-IN2, see function 9, MT_No_Bit). A falling ege does not stop motion.
IN3MODE=30	Command Buffer 1	A positive or negative edge on the input starts a command buffer. This command buffer contains separate ASCII objects, that are separated with semicolon (;). The command buffer for the positive edge is |INH3CMD|, the command buffer for the negative edge is |IN3LCMD|. The max. length of that buffers is 56 character for each. If a digital input is configured with INxMODE=30, this input will proceed in that way. When the drive is switched on, the Command buffer is set automatically started to the corresponding state of the input.
IN3MODE=32	Brake	Warning ! With suspended loads, this function will lead to slipping of the axes ! A rising edge at the input triggers the braking output of the servo amplifier. This function is only available while the amplifier is disabled.
IN3MODE=33	see 30	Different from the functionality 30, the resulting answers of the commands are not suppressed, but are send to the seriell communication channel RS232. This setting can't be used in combination with GUI software.

IN3MODE=36	Give Offset to Gearing Function	Gearing mode |OPMODE| =4. A high signal on the digital input configured with this INxMODE adds a difference velocity to the gearing. This allows a simple synchronisation of two axes. The difference velocity is given to |IN3TRIG|. The scaling is in 32Bit per revolution every 250µs. The difference velocity (n) must be known, then the |IN3TRIG| can be calculated: IN3TRIG = n [rpm]*2^32/(4000*60) example: n = 500 [U/min] INxTRIG = 500 * 2^32 / (4000*60) = 8947848
IN1MODE=37	change of source for position detection with |EXTPOS| > 0	= 0 Position from the external encoder (preselection with |EXTPOS|). = 1 Position is detected by the first encoder on the motor (|FBTYPE|).
IN3MODE=38	Enable signal for following motion task	Definition of a motion task with following motion tasks. If INxMODE=15 is used (start of an following motion task via I/O), IN1MODE=38 can be used, to have an additional enable for the start of the following motion tasks. Means, that the following motion task is started, if once a rising edge on digital input 1 was detected and then the INxMODE=15 input is enabled to start the following motion task.
IN3MODE=39	Constant velocity for defined time	This function starts a constant velocity for a defined time. The parameters for velocity and time are given by |IN3TRIG|. The velocity is given by the lower 16 bit (scaling by |VUNIT|), bit 15 is the sign and defines the moving direction and the time by the upper 16 bit (given in msec) of the help variable |IN3TRIG|. A rising edge at INPUT1 changes the |OPMODE| to 0 (digital velocity) and gives the velocity that is given by |IN3TRIG|. After the defined time or a falling edge at INPUT1 is detected, the digital velocity setpoint is set to "0". After the actual velocity has reached "0" the |OPMODE| is automatically switched back to the old one. Example for defining the help variable |IN3TRIG| 1. Velocity = 1000 rpm time = 10 sec = 10000 msec |IN3TRIG| = 0x271003E8 = 655361000 2. Velocity = -500 rpm time = 10 msec |IN3TRIG| = 0x000afe0c = 720396
IN3MODE=40	Additional hardware input	The digital input works as an additional hardware input. Only if this input has a high signal, the power stage is enabled. This Function can be used by several inputs. In this case, the inputs are configured in series. All inputs have to be high to enable the power stage.
IN3MODE=41	Emergency Stop	If the input is going to low, the drive stops the motor using the |DECSTOP| ramp. If zero velocity is reached (|V|<|VEL0|), the power stage is disabled. While stopping the motor the bit 24 (0x01000000) in |TRJSTAT| is set. The input is read in the 250µs task.

IN3MODE=42	Activate/deactivate electronic gearing	Activate/deactivate electronic gearing in |OPMODE| = 4. This function is practical only with slave axis. A rising edge on the digital input starts the motion from 0 to the master speed and a falling edge changes the speed from master speed to 0. The ramp times can be set by |ACCR| for the acceleration and |DECR| for deceleration time.
IN3MODE=43	Activate/deactivate electronic gearing with position latch	Activate/deactivate electronic gearing in |OPMODE| = 4. This function is practical only with slave axis. A rising edge on the digital input starts the motion from 0 to the master speed and a falling edge changes the speed from master speed to 0. The ramp times can be set by |ACCR| for the acceleration and |DECR| for deceleration time In contrast to IN1MODE = 42, the master position is latched at the rising edge of the input and the position delay caused by the ramp is compensated. |IN3TRIG| gives the possibility to add an position offset (in |PGEARI| units) to the latched position.
IN3MODE=49	emergency stop (sensorless)	(High active) By a going edge an emergency stop is activated (current controlled without feedback)
IN3MODE=50		
IN3MODE=51		
IN3MODE=53		
IN3MODE=57	switch to second parameter set	Low: std. Parameter used High: second Parameter group used see also command |PARCNFG|
IN3MODE=60	VOSPD-Switch	Switch Overspeed Threshhold (VOSPD)
IN3MODE=62	discharge of the dc-bus	When the DC-Bus should be discharge, first switch off the main voltage. Manually, set the digital input to 1, after some seconds, the DC-Link capacitor is discharged and |VBUS| nearby 0 Set back the digital input to 0 and now the DC-Bus can be charged again and the amplifier can be operated as normal. Danger: In order to prevent this function from being activated when the supply is switched on, the net-BTB signal (power supply on) is internally monitored. If the monitoring of the net BTB is switched off (NONBTB> 0), this function can not be used.

ASCII -Command	IN3TRIG	Available in	S300/700
Syntax Transmit	IN3TRIG [Data]	MMI ☑	CAN-Bus ☑
Syntax Receive	IN3TRIG <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer32	SERCOS IDN:	
DIM	-	CAN Object No:	3569 (hex)
Range	-2147483648 .. 2147483647	PROFIBUS PNU:	1705 (dec) IND = 1 (de
Default	0	DPR Objekt Nr:	105
Opmode	All		
Drive Status	-		
Start Firmware	1.0		
Configuration	☐	Data Type BUS/DPR	Integer32
Function Group	Digital I/O	Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Variable for IN3MODE

Description

Auxiliary trigger variable for |IN3MODE|. Certain settings of |IN3MODE| require you to specify an additional trigger level. See |IN3MODE| for further details.

ASCII -Command	IN4
Syntax Transmit	IN4
Syntax Receive	IN4 <Data>
Type	Variable ro
Format	Integer8
DIM	-
Range	0 .. 1
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	356A (hex)
PROFIBUS PNU:	1706 (dec) IND = 1 (de
DPR Objekt Nr:	106
Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Status of Digital Input 4.

Description

The status of the digital input INPUT4.

ASCII -Command	IN4HCMD
Syntax Transmit	IN4HCMD [Data]
Syntax Receive	IN4HCMD <Data>
Type	Variable rw
Format	String
DIM	-
Range	max 64 ASCII Characters
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700		
MMI	☐	CAN-Bus	☐
PROFIBUS	☐	Sercos	☐

SERCOS IDN:	
CAN Object No:	-
PROFIBUS PNU:	-
DPR Objekt Nr:	
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Command buffer for high level

Description

The command IN4HCMD can be used to define an ASCII command sequence. This command sequence will always be carried out when a rising edge is detected at the input 4 that has been configured with the function |IN4MODE|=30,33
A command sequence consists of individual ASCII commands, separated by a semicolon (;)
The maximum length of this command sequence is 56 characters.

Example:
IN4HCMD |GV| 10; |GVTN| 15

If a LOW/HIGH edge is detected, the gain of the velocity control loop is set to 10 and the integral action time is set to 15 msec.

ASCII -Command	IN4LCMD
Syntax Transmit	IN4LCMD [Data]
Syntax Receive	IN4LCMD <Data>
Type	Variable rw
Format	String
DIM	-
Range	max 64 ASCII Characters
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700		
MMI	☐	CAN-Bus	☐
PROFIBUS	☐	Sercos	☐

SERCOS IDN:	
CAN Object No:	-
PROFIBUS PNU:	-
DPR Objekt Nr:	
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Command buffer for low level

Description

The command IN4LCMD can be used to define an ASCII command sequence. This command sequence will always be carried out when a falling edge is detected at the input 4 that has been configured with the function |IN4MODE|=30,33 A command sequence consists of individual ASCII commands, separated by a semicolon (;) The maximum length of this command sequence is 56 characters.

Example:
IN4LCMD |GV| 5; |GVTN| 10

If a HIGH/LOW edge is detected, the gain of the velocity control loop is set to 5 and the integral action time is set to 10 msec.

ASCII -Command	IN4MODE
Syntax Transmit	IN4MODE [Data]
Syntax Receive	IN4MODE <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	0 .. 90
Default	0
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	1.0
Configuration	☑
Function Group	Digital I/O

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	P 3000...3
CAN Object No:	356B (hex)
PROFIBUS PNU:	1707 (dec) IND = 1 (de
DPR Objekt Nr:	107

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	2.13
EEPROM	Yes

Short Description	Function of Digital Input 4

Description

The IN4MODE command is used to configure the function of the digital input INPUT4.
The amplifier must be switched off and then on again after an alteration of this parameter.
The following functions can be configured:

Zustand / State	Function	Description
IN4MODE=0	Off	The state of the input 1 is read and can be used via fieldbus or Slot card.
IN4MODE=1	Off	
IN4MODE=2	PSTOP (4.78)	A low on the input disables the positive direction (clockwise if |DIR|=1, counterclockwise if |DIR|=0). At the same time, a warning "n10" is displayed. If a negative edge is recognised while the motor is running, the drive stops the motor in |OPMODE|=0 (velocity control with setpoint zero) using the |DECSTOP| ramp. When the motor has stopped, the old |OPMODE| is activated.
IN4MODE=3	NSTOP	A low on the input disables the negative direction (clockwise if |DIR|=0, counterclockwise if |DIR|=1). At the same time, a warning "n11" is displayed. If a negative edge is recognised while the motor is running, the drive stops the motor in |OPMODE|=0 (velocity control with setpoint zero) using the |DECSTOP| ramp. When the motor has stopped, the old |OPMODE| is activated.
IN4MODE=4	NSTOP + Int. off	A low on the input disables the negative direction (counterclockwise if |DIR|=1, clockwise if |DIR|=0). At the same time, a warning "n11" is displayed. If a negative edge is recognised while the motor is running, the drive stops the motor in |OPMODE|=0 (velocity control with setpoint zero) using the |DECSTOP| ramp. When the motor has stopped, the old |OPMODE| is activated (without integral part in the velocity controller).

IN4MODE=5	NSTOP+Intg.Off	A low on the input disables the negative direction (clockwise if |DIR|=0, counterclockwise if |DIR|=1). At the same time, a warning "n11" is displayed. If a negative edge is recognised while the motor is running, the drive stops the motor in |OPMODE|=0 (velocity control with setpoint zero) using the |DECSTOP| ramp. When the motor has stopped, the old |OPMODE| is activated (without integral part in the velocity controller).
IN4MODE=6	Off	
IN4MODE=7	Off	
IN4MODE=8	selection Analog In 1/ .2	Switches over the setpoint inputs Analog In 1/2 at |ANCNFG| = 0. This function is only effective if the analog set-point function 0,Xcmd=Analog In 1 has been selected. High level at the input : Analog In 2 (terminals X3/6,7) is active Low level at the input : Analog In 1 (terminals X3/4,5) is active
IN4MODE=9	MT_No_Bit	Here you can select the motion tasks that are stored in the servo amplifier (numbers 1...7) or the reference traverse/homing (0). The motion task number is presented externally at the digital inputs as a logical word, with a width of max. 3 bits . An input is required to start the motion task (|INxMODE| =17, Start_MT IO). If you wire up a reference/homing switch (|INxMODE| =12, Reference) and (also) want to start a following task (|INxMODE| =15, Start_MT Next) externally, the number of inputs that are available for selecting the motion tasks will be further reduced.
IN4MODE=10	Intg.Off	Switch off the integral component of the velocity controller, the P-gain remains at the set value, the actual- (rotational) velocity feedback remains in operation.
IN4MODE=11	v/Torq.Contr.	Bypasses the velocity controller. The analog setpoint is taken 1:1 as the setpoint for current control, i.e. change over from velocity control to current (torque) control. High-level at the input : torque control Low-level at the input : velocity control Depending on |OPMODE|, it changes between |OPMODE|=0 (low) and |OPMODE|=2 (high) or |OPMODE|=1 (low) and |OPMODE|=3 (high).
IN4MODE=12	Reference	home/reference switch located on machine
IN4MODE=13	digital encoder /SSI	Changeover of the encoder-emulation (position output) on connector X5. High level at the input : SSI-compatible position signals (|ENCMODE| = 2) High level at the input : ROD-compatible position signals (|ENCMODE| = 1)
IN4MODE=14	FError_clear	Clear the warning of a contouring error (display n03) or the response monitoring (display n04).
IN4MODE=15	Start_MT Next	The following task, that is defined in the motion task by “Start with I/O” is started. The target position of the present motion task must be reached before the following task can be started. (see also |O_C| tablel 3)

IN4MODE=16	Start_MT No x	Start a motion task that is stored in the servo amplifier, by giving the motion task number. After the function has been selected you can enter the motion task number as the auxiliary variable |IN4TRIG|. Motion task number “0” (|IN4TRIG|=0) initiates homing/reference traverse. A rising edge starts the motion task, a falling edge cancels the motion task. Only |OPMODE| 4 or 8
IN4MODE=17	Start_MT IO	Start_MT IO Start of the motion task that has the number that is presented, bit-coded, at the digital inputs (PSTOP/NSTOP/DIGITAL-IN1/DIGITAL-IN2, see function 9, MT_No_Bit). A rising edge starts the motion task a falling edge cancels the motion task by a |STOP| - command
IN4MODE=18	Ipeak2 x	Switch over to a second (lower) peak value of current. Scaled as x (0...100) % of the peak current of the instrument. After the function has been selected you can enter the percentage value as the auxiliary variable |IN4TRIG|. Make the conversion according to the following equation: |IN4TRIG| given in % of |IPEAK|
IN4MODE=19	Off	
IN4MODE=20	Start_Jog v=x	Start of the setup mode "Constant velocity" with a defined speed. After selecting the function, you can enter the speed in |IN4TRIG|. A rising edge starts the motion, a falling edge cancels the motion. This function works in position control, so |OPMODE|=8 has to be selected. The speed is given in units of the position controller given by |VUNIT|, the sign selects the moving direction.
IN4MODE=21	U_Mon.off	Turns off the undervoltage monitoring function of the servo amplifier. High = off Low = on
IN4MODE=22	MT Restart	Continues the motion task that was previously interrupted by a |STOP| - command.
IN4MODE=23	Start2_MT No x	Start of a motion task that is stored in the servo amplifier, with definition of the motion task number. After selecting the function, you can enter the motion task number in |IN4TRIG| Motion task number “0” starts the homing run. A rising edge starts the motion task. Warning ! The motion task does not stop automatically if the start signal is removed ! The motion task must be stopped by — a falling edge on another digital input (configured with 16, FStart_Nr x) — the ASCII command |STOP| — the STOP function via Bus or digital input

IN4MODE=24	Switch over OPMODE	The two different |OPMODE|s, that can be selected for switching over via the digital input, are written in the |IN4TRIG| help variable of the this input. The lower byte consists the |OPMODE| that should be available when the input has a negative edge. The higher byte consists the |OPMODE| that should be available when the input has a positive edge. When the drive is switched on, the |OPMODE| is set automatically to the corresponding state of the input. The contents of the help variable must be in decimal !! e.g.: Input1=low |OPMODE|=4 Input1=high |OPMODE|=8 IN1MODE=24 (Activate Input) |IN4TRIG|=2052 (Decimal 0804h) 2052 (Dec) = 0804 (Hex)
IN4MODE=25	Zero_latch	Sets the digital encoder zero pulse offset. The current position, depending on the digital encoder resolution (|ENCOUT|) that is set, is calculated at the rising edge and stored as NI-Offset in |ENCZERO|. After that, an automatic |SAVE| is generated. This function is used to perform an automatic setting of the zero pulse in one turn of the motor..
IN4MODE=27	Quick Stop	Low state on the input starts an emergency stop function, that is executed with the ramp |DECSTOP|. Independently of the selected |OPMODE|, in this phase, the drive stops in velocity control. When it has stopped, it switches over to the original mode. Drive is still enabled!
IN4MODE=28	Starting Jogmode	ONLY |OPMODE| = 8 Firmware >= 0.73 A rising edge starts a jogmode with speed |VJOG|. A falling edge stopps the movement.
IN4MODE=29	Starting motion task / homing	Start_MT IO Start of the motion task that has the number that is presented, bit-coded, at the digital inputs (PSTOP/NSTOP/DIGITAL-IN1/DIGITAL-IN2, see function 9, MT_No_Bit). A falling ege does not stop motion.
IN4MODE=30	Command Buffer 1	A positive or negative edge on the input starts a command buffer. This command buffer contains separate ASCII objects, that are separated with semicolon (;). The command buffer for the positive edge is |INH4CMD|, the command buffer for the negative edge is |IN4LCMD|. The max. length of that buffers is 56 character for each. If a digital input is configured with INxMODE=30, this input will proceed in that way. When the drive is switched on, the Command buffer is set automatically started to the corresponding state of the input.

IN4MODE=32	Brake	Warning ! With suspended loads, this function will lead to slipping of the axes ! A rising edge at the input triggers the braking output of the servo amplifier. This function is only available while the amplifier is disabled.
IN4MODE=33	see 30	Different from the functionality 30, the resulting answers of the commands are not suppressed, but are send to the seriell communication channel RS232. This setting can't be used in combination with GUI software.
IN4MODE=36	Give Offset to Gearing Function	Gearing mode |OPMODE| =4. A high signal on the digital input configured with this INxMODE adds a difference velocity to the gearing. This allows a simple synchronisation of two axes. The difference velocity is given to |IN4TRIG|. The scaling is in 32Bit per revolution every 250µs. The difference velocity (n) must be known, then the |IN4TRIG| can be calculated: IN4TRIG = n [rpm]*2^32/(4000*60) example: n = 500 [U/min] INxTRIG = 500 * 2^32 / (4000*60) = 8947848
IN1MODE=37	change of source for position detection with |EXTPOS| > 0	= 0 Position from the external encoder (preselection with |EXTPOS|). = 1 Position is detected by the first encoder on the motor (|FBTYPE|).
IN4MODE=38	Enable signal for following motion task	Definition of a motion task with following motion tasks. If INxMODE=15 is used (start of an following motion task via I/O), IN1MODE=38 can be used, to have an additional enable for the start of the following motion tasks. Means, that the following motion task is started, if once a rising edge on digital input 1 was detected and then the INxMODE=15 input is enabled to start the following motion task.
IN4MODE=39	Constant velocity for defined time	This function starts a constant velocity for a defined time. The parameters for velocity and time are given by |IN4TRIG|. The velocity is given by the lower 16 bit (scaling by |VUNIT|), bit 15 is the sign and defines the moving direction and the time by the upper 16 bit (given in msec) of the help variable |IN4TRIG|. A rising edge at INPUT1 changes the |OPMODE| to 0 (digital velocity) and gives the velocity that is given by |IN4TRIG|. After the defined time or a falling edge at INPUT1 is detected, the digital velocity setpoint is set to "0". After the actual velocity has reached "0" the |OPMODE| is automatically switched back to the old one. Example for defining the help variable |IN4TRIG| 1. Velocity = 1000 rpm time = 10 sec = 10000 msec |IN4TRIG| = 0x271003E8 = 655361000 2. Velocity = -500 rpm time = 10 msec |IN4TRIG| = 0x000afe0c = 720396

IN4MODE=40	Additional hardware input	The digital input works as an additional hardware input. Only if this input has a high signal, the power stage is enabled. This Function can be used by several inputs. In this case, the inputs are configured in series. All inputs have to be high to enable the power stage.
IN4MODE=41	Emergency Stop	If the input is going to low, the drive stops the motor using the |DECSTOP| ramp. If zero velocity is reached (|V|<|VEL0|), the power stage is disabled. While stopping the motor the bit 24 (0x01000000) in |TRJSTAT| is set. The input is read in the 250µs task.
IN4MODE=42	Activate/deactivate electronic gearing	Activate/deactivate electronic gearing in |OPMODE| = 4. This function is practical only with slave axis. A rising edge on the digital input starts the motion from 0 to the master speed and a falling edge changes the speed from master speed to 0. The ramp times can be set by |ACCR| for the acceleration and |DECR| for deceleration time.
IN4MODE=43	Activate/deactivate electronic gearing with position latch	Activate/deactivate electronic gearing in |OPMODE| = 4. This function is practical only with slave axis. A rising edge on the digital input starts the motion from 0 to the master speed and a falling edge changes the speed from master speed to 0. The ramp times can be set by |ACCR| for the acceleration and |DECR| for deceleration time In contrast to IN1MODE = 42, the master position is latched at the rising edge of the input and the position delay caused by the ramp is compensated. |IN4TRIG| gives the possibility to add an position offset (in |PGEARI| units) to the latched position.
IN4MODE=49	emergency stop (sensorless)	(High active) By a going edge an emergency stop is activated (current controlled without feedback)
IN4MODE=50		
IN4MODE=51		
IN4MODE=53		
IN4MODE=57	switch to second parameter set	Low: std. Parameter used High: second Parameter group used see also command |PARCNFG|
IN4MODE=60	VOSPD-Switch	Switch Overspeed Threshhold (VOSPD)
IN4MODE=62	discharge of the dc-bus	When the DC-Bus should be discharge, first switch off the main voltage. Manually, set the digital input to 1, after some seconds, the DC-Link capacitor is discharged and |VBUS| nearby 0 Set back the digital input to 0 and now the DC-Bus can be charged again and the amplifier can be operated as normal. Danger: In order to prevent this function from being activated when the supply is switched on, the net-BTB signal (power supply on) is internally monitored. If the monitoring of the net BTB is switched off (NONBTB> 0), this function can not be used.

ASCII -Command	IN4TRIG	Available in	S300/700
Syntax Transmit	IN4TRIG [Data]	MMI ☑	CAN-Bus ☑
Syntax Receive	IN4TRIG <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer32	SERCOS IDN:	
DIM	-	CAN Object No:	356C (hex)
Range	-2147483648 .. 2147483647	PROFIBUS PNU:	1708 (dec) IND = 1 (de
Default	0	DPR Objekt Nr:	108
Opmode	All		
Drive Status	-		
Start Firmware	1.0		
Configuration	☐	Data Type BUS/DPR	Integer32
Function Group	Digital I/O	Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Variable for IN4MODE

Description

Auxiliary trigger variable for |IN4MODE|. Certain settings of |IN4MODE| require you to specify an additional trigger level. See |IN4MODE| for further details.

ASCII -Command	IN5
Syntax Transmit	IN5MODE [Data]
Syntax Receive	IN5MODE <Data>
Type	Variable ro
Format	Integer8
DIM	
Range	0 .. 1
Default	-
Opmode	All
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in	S300/700
MMI ☐	CAN-Bus ☑
PROFIBUS ☑	Sercos ☐
SERCOS IDN:	
CAN Object No:	36F5 (hex)
PROFIBUS PNU:	1701 (dec) IND = 17 (d
DPR Objekt Nr:	501
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.11
EEPROM	No

Short Description	Status of digital input

Description

see |IN5_22|

ASCII -Command	IN5_22
Syntax Transmit	IN5 ... IN22
Syntax Receive	IN5 ... IN22
Type	Variable ro
Format	Integer8
DIM	-
Range	-
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Digital I/O

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	-
PROFIBUS PNU:	-
DPR Objekt Nr:	

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	2.11
EEPROM	No

Short Description	Status of digital inputs 5 ... 22

Description

The status of the digital input INPUTx. X = 5 ... 22

ASCII -Command	IN5_22MODE
Syntax Transmit	INxMODE [Data]
Syntax Receive	INxMODE <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	0 .. 90
Default	0
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	1.0
Configuration	☑
Function Group	Digital I/O

Available in	S300/700		
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	-
PROFIBUS PNU:	-
DPR Objekt Nr:	
Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	Function of digital inputs 5 ...22

Description

The commands IN5MODE ... IN22MODE are used to set the mode of the digital inputs INPUT5 .... INPUT22.

4 digital inputs are given by the standard S300/S700 hardware. 18 additional digital inputs can be controlled by the firmware, so 22 digital inputs are availbale.

The digital I/O's are the 24V inputs (hardware) and the software I/O's (controlled by software : Fildbus, RS232, DPR-interface).

The possible combinations are:

without I/O-extensioncard

1. hardware
input basic unit: 4 (IN1 - IN4)

2. software
virtual inputs: 18 (IN5 - IN22)

with I/O-extensioncard

1. hardware
inputs basic unit: 4 (IN1 - IN4)
inputs extension card 14 (IN5 – IN18)

2. software
virtual inputs: 4 (IN19 - IN22)

All digital inputs can be set to several configurations.
The command INxMODE sets the used function. (x is the number of the used input). The auxiliary coefficient is set to the command INxTRIG
(x = 5, 6, ...20)
see|IN5_20TRIG|

The input status can be monitored via command INx
(x = 5, 6, ...20)
see |IN5...20| .

Following settings are not possible:

INxMODE =

NSTOP/PSTOP-Function (INxMODE=2,3,4,5,6,7) only for x=3,4 .
Latch-Function (INxMODE=26,44,45,46) only for x=1,2

ASCII-Buffer (INxMODE=30,33) only for x=1...6

The PNU numbers are selected like

IN5MODE PNU 1702 (dec) IND 17 (dec)
IN6MODE PNU 1705 (dec) IND 17 (dec)
IN7MODE PNU 1708 (dec) IND 17 (dec)
IN8MODE PNU 1711 (dec) IND 17 (dec)
IN9MODE PNU 1714 (dec) IND 17 (dec)
IN10MODE PNU 1717 (dec) IND 17 (dec)
IN11MODE PNU 1720 (dec) IND 17 (dec)
IN12MODE PNU 1723 (dec) IND 17 (dec)
IN13MODE PNU 1726 (dec) IND 17 (dec)
IN14MODE PNU 1729 (dec) IND 17 (dec)
IN15MODE PNU 1732 (dec) IND 17 (dec)
IN16MODE PNU 1735 (dec) IND 17 (dec)
IN17MODE PNU 1738 (dec) IND 17 (dec)
IN18MODE PNU 1741 (dec) IND 17 (dec)
IN19MODE PNU 1744 (dec) IND 17 (dec)
IN20MODE PNU 1747 (dec) IND 17 (dec)
IN21MODE PNU 1827 (dec) IND 17 (dec)
IN22MODE PNU 1830 (dec) IND 17 (dec)

ASCII -Command	IN5_22TRIG	Available in	S300/700
Syntax Transmit	INxTRIG [Data]	MMI ☑	CAN-Bus ☑
Syntax Receive	INxTRIG <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer32	SERCOS IDN:	
DIM	-	CAN Object No:	-
Range	long int	PROFIBUS PNU:	-
Default	0	DPR Objekt Nr:	
Opmode	All		
Drive Status	-		
Start Firmware	1.0		
Configuration	☐	Data Type BUS/DPR	Integer32
Function Group	Digital I/O	Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	Variable for digital inputs 5 ... 22

Description

Auxiliary trigger variable. Certain settings require you to specify an additional trigger level. See |IN5_22MODE| for further details.

ASCII -Command	IN5MODE	Available in	S300/700		
Syntax Transmit	IN5MODE [Data]	MMI	☐	CAN-Bus	☑
Syntax Receive	IN5MODE <Data>	PROFIBUS	☑	Sercos	☐
Type	Variable rw				
Format	Integer8	SERCOS IDN:			
DIM		CAN Object No:	36F6 (hex)		
Range		PROFIBUS PNU:	1702 (dec) IND = 17 (d		
Default	0	DPR Objekt Nr:	502		
Opmode	All				
Drive Status	Disabled + Reset (Coldstart)				
Start Firmware					
Configuration	☑	Data Type BUS/DPR	-		
Function Group		Weighting 10^3			

Last Change of this Object	2.11
EEPROM	Yes

Short Description	Function of digital input

Description

see |IN5_22MODE|

ASCII -Command	IN5TRIG	Available in	S300/700
Syntax Transmit	IN5TRIG [Data]	MMI ☐	CAN-Bus ☑
Syntax Receive	IN5TRIG <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer32	SERCOS IDN:	
DIM		CAN Object No:	36F7 (hex)
Range	-2147483648 .. 2147483647	PROFIBUS PNU:	1703 (dec) IND = 17 (d
Default	0	DPR Objekt Nr:	503
Opmode	All		
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	Variable for digital input

Description

see |IN5_22TRIG|

ASCII -Command	IN6
Syntax Transmit	IN6 [Data]
Syntax Receive	IN6 <Data>
Type	Variable ro
Format	Integer8
DIM	
Range	0 .. 1
Default	-
Opmode	All
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in	S300/700
MMI ☐	CAN-Bus ☑
PROFIBUS ☑	Sercos ☐
SERCOS IDN:	
CAN Object No:	36F8 (hex)
PROFIBUS PNU:	1704 (dec) IND = 17 (d
DPR Objekt Nr:	504
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.11
EEPROM	No

Short Description	Status of digital input

Description

see |IN5_22|

ASCII -Command	IN6MODE
Syntax Transmit	IN6MODE [Data]
Syntax Receive	IN6MODE <Data>
Type	Variable rw
Format	Integer8
DIM	
Range	0 .. 90
Default	0
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	
Configuration	☑
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	36F9 (hex)
PROFIBUS PNU:	1705 (dec) IND = 17 (d
DPR Objekt Nr:	505
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	Function of digital input

Description

see |IN5_22MODE|

ASCII -Command	IN6TRIG	Available in	S300/700		
Syntax Transmit	IN6TRIG [Data]	MMI	☐	CAN-Bus	☑
Syntax Receive	IN6TRIG <Data>	PROFIBUS	☑	Sercos	☐
Type	Variable rw				
Format	Integer32	SERCOS IDN:			
DIM		CAN Object No:	36FA (hex)		
Range	-2147483648 .. 2147483647	PROFIBUS PNU:	1706 (dec) IND = 17 (d		
Default	0	DPR Objekt Nr:	506		
Opmode	All				
Drive Status					
Start Firmware					
Configuration	☐	Data Type BUS/DPR	-		
Function Group		Weighting 10^3			

Last Change of this Object	2.11
EEPROM	Yes

Short Description	Variable for digital input

Description

see |IN5_22TRIG|

ASCII -Command	IN7
Syntax Transmit	IN7 [Data]
Syntax Receive	IN7 <Data>
Type	Variable ro
Format	Integer8
DIM	
Range	0 .. 1
Default	-
Opmode	All
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in	S300/700
MMI ☐	CAN-Bus ☑
PROFIBUS ☑	Sercos ☐
SERCOS IDN:	
CAN Object No:	36FB (hex)
PROFIBUS PNU:	1707 (dec) IND = 17 (d
DPR Objekt Nr:	507
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.11
EEPROM	No

Short Description	Status of digital input

Description

see |IN5_22|

ASCII -Command	IN7MODE
Syntax Transmit	IN7MODE [Data]
Syntax Receive	IN7MODE <Data>
Type	Variable rw
Format	Integer8
DIM	
Range	0 .. 90
Default	0
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	
Configuration	☑
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	36FC (hex)
PROFIBUS PNU:	1708 (dec) IND = 17 (d
DPR Objekt Nr:	508
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	Function of digital input

Description

see |IN5_22MODE|

ASCII -Command	IN7TRIG	Available in	S300/700		
Syntax Transmit	IN7TRIG [Data]	MMI	☐	CAN-Bus	☑
Syntax Receive	IN7TRIG <Data>	PROFIBUS	☑	Sercos	☐
Type	Variable rw				
Format	Integer32	SERCOS IDN:			
DIM		CAN Object No:	36FD (hex)		
Range	-2147483648 .. 2147483647	PROFIBUS PNU:	1709 (dec) IND = 17 (d		
Default	0	DPR Objekt Nr:	509		
Opmode	All				
Drive Status					
Start Firmware					
Configuration	☐	Data Type BUS/DPR	-		
Function Group		Weighting 10^3			

Last Change of this Object	2.11
EEPROM	Yes

Short Description	Variable for digital input

Description

see |IN5_22TRIG|

ASCII -Command	IN8
Syntax Transmit	IN8 [Data]
Syntax Receive	IN8 <Data>
Type	Variable ro
Format	Integer8
DIM	
Range	0 .. 1
Default	-
Opmode	All
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in	S300/700
MMI ☐	CAN-Bus ☑
PROFIBUS ☑	Sercos ☐
SERCOS IDN:	
CAN Object No:	36FE (hex)
PROFIBUS PNU:	1710 (dec) IND = 17 (d
DPR Objekt Nr:	510
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.11
EEPROM	No

Short Description	Status of digital input

Description

see |IN5_22|

ASCII -Command	IN8MODE	Available in	S300/700
Syntax Transmit	IN8MODE [Data]	MMI ☐	CAN-Bus ☑
Syntax Receive	IN8MODE <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer8	SERCOS IDN:	
DIM		CAN Object No:	36FF (hex)
Range	0 .. 90	PROFIBUS PNU:	1711 (dec) IND = 17 (d
Default	0	DPR Objekt Nr:	511
Opmode	All		
Drive Status	Disabled + Reset (Coldstart)		
Start Firmware			
Configuration	☑	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	Function of digital input

Description

see |IN5_22MODE|

ASCII -Command	IN8TRIG	Available in	S300/700
Syntax Transmit	IN8TRIG [Data]	MMI ☐	CAN-Bus ☑
Syntax Receive	IN8TRIG <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer32	SERCOS IDN:	
DIM		CAN Object No:	3700 (hex)
Range	-2147483648 .. 2147483647	PROFIBUS PNU:	1712 (dec) IND = 17 (d
Default	0	DPR Objekt Nr:	512
Opmode	All		
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	Variable for digital input

Description

see |IN5_22TRIG|

ASCII -Command	IN9		Available in	S300/700	
Syntax Transmit	IN9 [Data]		MMI	☐	CAN-Bus ☑
Syntax Receive	IN9 <Data>		PROFIBUS	☑	Sercos ☐
Type	Variable ro				
Format	Integer8		SERCOS IDN:		
DIM			CAN Object No:	3701 (hex)	
Range	0 .. 1		PROFIBUS PNU:	1713 (dec) IND = 17 (d	
Default	-		DPR Objekt Nr:	513	
Opmode	All				
Drive Status					
Start Firmware					
Configuration	☐		Data Type BUS/DPR	-	
Function Group			Weighting 10^3		

Last Change of this Object	2.11
EEPROM	No

Short Description	Status of digital input

Description

see |IN5_22|

ASCII -Command	IN9MODE	Available in	S300/700
Syntax Transmit	IN9MODE [Data]	MMI ☐	CAN-Bus ☑
Syntax Receive	IN9MODE <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer8	SERCOS IDN:	
DIM		CAN Object No:	3702 (hex)
Range	0 .. 90	PROFIBUS PNU:	1714 (dec) IND = 17 (d
Default	0	DPR Objekt Nr:	514
Opmode	All		
Drive Status	Disabled + Reset (Coldstart)		
Start Firmware	1.0		
Configuration	☑	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	Function of digital input

Description

see |IN5_22MODE|

ASCII -Command	IN9TRIG	Available in	S300/700		
Syntax Transmit	IN9TRIG [Data]	MMI	☐	CAN-Bus	☑
Syntax Receive	IN9TRIG <Data>	PROFIBUS	☑	Sercos	☐
Type	Variable rw				
Format	Integer32	SERCOS IDN:			
DIM		CAN Object No:	3703 (hex)		
Range	-2147483648 .. 2147483647	PROFIBUS PNU:	1715 (dec) IND = 17 (d		
Default	0	DPR Objekt Nr:	515		
Opmode	All				
Drive Status					
Start Firmware					
Configuration	☐	Data Type BUS/DPR	-		
Function Group		Weighting 10^3			

Last Change of this Object	2.11
EEPROM	Yes

Short Description	Variable for digital input

Description

see |IN5_22TRIG|

ASCII -Command	INPOS
Syntax Transmit	INPOS [Data]
Syntax Receive	INPOS <Data>
Type	Variable ro
Format	Integer8
DIM	-
Range	-
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	356D (hex)
PROFIBUS PNU:	1709 (dec) IND = 1 (de
DPR Objekt Nr:	109
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Status of In-Position Signal

Description

The INPOS command returns the status of the IN-Position bit of the status register (|DRVSTAT|).
As long as the difference between the last target position (motion task) and the actual position (|PFB|) is within the width of the preset In-Position window (|PEINPOS|), a 1 is signalled, otherwise a 0.

see also |INPT0|

ASCII -Command	INPT0
Syntax Transmit	INPT [Data]
Syntax Receive	INPT <Data>
Type	Variable rw
Format	Integer16
DIM	ms
Range	1 .. 32000
Default	10
Opmode	8
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3630 (hex)
PROFIBUS PNU:	1904 (dec) IND = 1 (de
DPR Objekt Nr:	304

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	1.3
EEPROM	Yes

Short Description	In-Position Delay

Description

The INPT0 command defines a delay time for the In-Position signal. At the start of a motion block, the In-Position signal is removed, and the monitoring of the In-Position window is only activated again after the end of this preset time. This function is especially important for positioning tasks within the In-Position window. In such a case, it ensures that the In-Position signal is always removed for a definite time.

See also |INPOS|

ASCII -Command	INPT1
Syntax Transmit	INPT1 [Data]
Syntax Receive	INPT1 <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	0 ... 32000
Default	0
Opmode	4 ... 8
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	1.0
Configuration	☑
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3521 (hex)
PROFIBUS PNU:	1633 (dec) IND = 1 (de
DPR Objekt Nr:	33

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	delay time for the “IN POSITION”

Description

The command INPT1 defines the delay time for the “IN POSITION” and “REFERENCE POINT SET” messages.

ASCII -Command	INTERPOL
Syntax Transmit	INTERPOL [Data]
Syntax Receive	INTERPOL <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	0, 1, 2
Default	0
Opmode	5,6
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	3.00
Configuration	☑
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3684 (hex)
PROFIBUS PNU:	1988 (dec) IND = 1 (de
DPR Objekt Nr:	388
Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	2.1
EEPROM	Yes

Short Description	Type of Interpolation in OPMODE 5 and 6

Description

INTERPOL defines the type of interpolation for external trajectory mode (|OPMODE| 5 and 6). This functionality can only be used, selecting the synchronization that can be activated by |SYNCSRC|.

INTERPOL=0: linear interpolation
INTERPOL=1: spline interpolation (only for SERCOS)
INTERPOL=5: cubic interpolation
INTERPOL=6: linear interpolation of acceleration

ASCII -Command	IOLINK
Syntax Transmit	IOLINK [Data]
Syntax Receive	IOLINK <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	32 Bits
Default	0
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	3.18
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3883 (hex)
PROFIBUS PNU:	1699 (dec) IND = 33 (d
DPR Objekt Nr:	899

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.1
EEPROM	Yes

Short Description	connection between a digital out- and input

Description

Creates an internal connection between a digital output and the coresponding digital input.
Every bit of the IOLINK variable coresponds to the pair of digital inputs/outputs.
e.g.
IOLINK 5
Bit0=1 digital input 1 is connected to the digital output 1.
Bit2=1 digital input 3 is connected to the digital output 3.

In combination with INxMODE/OxMODE commands, this function allows realization of small control tasks without participation of external PLC.

ASCII -Command	IPEAK
Syntax Transmit	IPEAK [Data]
Syntax Receive	IPEAK <Data>
Type	Variable rw
Format	Float
DIM	A
Range	0.0 ... DIPEAK
Default	IMAX
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Current

Available in	S300/700
MMI	☑
CAN-Bus	☑
PROFIBUS	☑
Sercos	☑

SERCOS IDN:	92
CAN Object No:	356E (hex)
PROFIBUS PNU:	1710 (dec) IND = 1 (de
DPR Objekt Nr:	110

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	2.12
EEPROM	Yes

Short Description	Application Peak Current

Description

IPEAK sets the peak rated current |IPEAKP| and |IPEAKN| of the application (RMS value). The value to be entered is limited to the lower of the peak rated current of the motor (|MIPEAK|) or amplifier (|DIPEAK|). If the IPEAK value is too low, the drive shows following errors and the peak torque is too low. If the IPEAK value is too high, the motor is endangered.

ASCII -Command	IPEAKN
Syntax Transmit	IPEAKN [Data]
Syntax Receive	IPEAKN <Data>
Type	Variable rw
Format	Float
DIM	A rms
Range	0.0 ... DIPEAK
Default	IMAX
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	356F (hex)
PROFIBUS PNU:	1711 (dec) IND = 1 (de
DPR Objekt Nr:	111

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	1.0
EEPROM	Yes

Short Description	negative motor peak rms current

Description

Negative motor peak rms current. Can be reduced to |DICONT| or |MICONT| in I2T fallback condition

ASCII -Command	IPEAKP
Syntax Transmit	IPEAKP [Data]
Syntax Receive	IPEAKP <Data>
Type	Variable rw
Format	Float
DIM	A rms
Range	0 ... DIPEAK
Default	IMAX
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3594 (hex)
PROFIBUS PNU:	1748 (dec) IND = 1 (de
DPR Objekt Nr:	148

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	1.0
EEPROM	Yes

Short Description	positive motor peak rms current

Description

Positive motor peak rms current. Can be reduced to |DICONT| or |MICONT| in I2T fallback condition

ASCII -Command	IQ
Syntax Transmit	IQ [Data]
Syntax Receive	IQ <Data>
Type	Variable ro
Format	Float
DIM	A
Range	-
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Actual values

Available in	S300/700
MMI	☑
CAN-Bus	☑
PROFIBUS	☑
Sercos	☐

SERCOS IDN:	
CAN Object No:	3570 (hex)
PROFIBUS PNU:	1712 (dec) IND = 1 (de
DPR Objekt Nr:	112

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	1.0
EEPROM	No

Short Description	Q-Component of Current Monitor

Description

The Q-axes component of the actual current value.

ASCII -Command	IQFILTK
Syntax Transmit	IQFILTK [Data]
Syntax Receive	IQFILTK <Data>
Type	Variable rw
Format	Float
DIM	
Range	0 .. 2.5
Default	0
Opmode	1,2
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in	S300/700
MMI	☑
CAN-Bus	☑
PROFIBUS	☑
Sercos	☐

SERCOS IDN:	
CAN Object No:	3889 (hex)
PROFIBUS PNU:	1705 (dec) IND = 33 (d
DPR Objekt Nr:	905

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	2.1
EEPROM	Yes

Short Description	Gain factor for slip compensation. Used in V/f Control

Description

Gain factor for slip compensation. Used in V/f Control.
100% Slip compensation: IQFILTK = 1

s(iq) = iq * IQFILTK * s_R / (MICONT * MCOSPHI)
s_R = MFR – (MVR * MPOLES) / (60 * 2)

ASCII -Command	IQFILTTAU
Syntax Transmit	IQFILTTAU [Data]
Syntax Receive	IQFILTTAU <Data>
Type	Variable rw
Format	Integer16
DIM	ms
Range	0 .. 2000
Default	200
Opmode	1,2
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	388A (hex)
PROFIBUS PNU:	1706 (dec) IND = 33 (d
DPR Objekt Nr:	906
Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.1
EEPROM	Yes

Short Description	Low-pass filter time constant for slip compensation

Description

Low-pass filter time constant for slip compensation. Used in V/f Control.
Iq is low-pass filtered (smoothed) before it is used for slip compensation.

ASCII -Command	ISCALE1
Syntax Transmit	ISCALE1 [Data]
Syntax Receive	ISCALE1 <Data>
Type	Variable rw
Format	Float
DIM	A/10V
Range	0 ... DIPEAK
Default	15
Opmode	3
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Analog I/O

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3571 (hex)
PROFIBUS PNU:	1713 (dec) IND = 1 (de
DPR Objekt Nr:	113

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Scaling of Analog Current Setpoint 1

Description

Defines the scaling for the analog setpoint input 1 (if it is a current setpoint in |OPMODE| = 3). The current value that is set here corresponds to the maximum input voltage (10V).

ASCII -Command	ISCALE2
Syntax Transmit	ISCALE2 [Data]
Syntax Receive	ISCALE2 <Data>
Type	Variable rw
Format	Float
DIM	A/10V
Range	0 ... DIPEAK
Default	15
Opmode	3
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Analog I/O

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3572 (hex)
PROFIBUS PNU:	1714 (dec) IND = 1 (de
DPR Objekt Nr:	114

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Scaling of Analog Current Setpoint 2

Description

Defines the scaling for the analog setpoint input 2 (if it is a current setpoint in |OPMODE| = 3). The current value that is set here corresponds to the maximum input voltage (10V).

ASCII -Command	ISTFR
Syntax Transmit	ISTFR [Data]
Syntax Receive	ISTFR <Data>
Type	Variable rw
Format	Float
DIM	A
Range	0 ... DIPEAK
Default	0
Opmode	0, 1, 4...8
Drive Status	Disable
Start Firmware	1.30
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	36A4 (hex)
PROFIBUS PNU:	2020 (dec) IND = 1 (de
DPR Objekt Nr:	420

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	1.1
EEPROM	Yes

Short Description	Current Limit for velocity-dependent friction compensation

Description

The two parameters ISTFR and |VSTFR| define the friction compensation curve. If ISTFR is set to 0 the function is inactive. The friction compensation changes the additional current from -ISTFR to ISTFR if the velocity changes from -VSTFR to VSTFR. The current is added before the velocity filter, so the filter applies also to the friction compensation.

It is a configuration parameter if it is changed from "0" to another value, other changes can be done online.

|V|=0 -> IFRICT = 0
V= 50% of VSTFR -> IFRICT = 50% of ISTFR
V>=VSTFR -> IFRICT = ISTFR
V= -50% of VSTFR -> IFRICT = -50% of ISTFR
V<=-VSTFR -> IFRICT = -ISTFR

ASCII -Command	IVTICK	Available in	S300/700
Syntax Transmit	-	MMI ☐	CAN-Bus ☐
Syntax Receive	-	PROFIBUS ☐	Sercos ☐
Type	-		
Format	-	SERCOS IDN:	
DIM	-	CAN Object No:	-
Range		PROFIBUS PNU:	-
Default		DPR Objekt Nr:	
Opmode			
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	internal parameter

Description

This parameter is internal and is not documented. It could be a customized or test/service parameter.

It is not allowed to change this parameter!

ASCII -Command	J
Syntax Transmit	J [Data]
Syntax Receive	J <Data>
Type	Command
Format	Float
DIM	rpm (velocity) / ms (Time)
Range	-15000.0 .. 15000.0 (=velocity),long int (Time)
Default	-
Opmode	0
Drive Status	Enabled
Start Firmware	1.0
Configuration	☐
Function Group	Oscilloscope/Service

Available in	S300/700		
MMI	☑	CAN-Bus	☐
PROFIBUS	☐	Sercos	☑

SERCOS IDN:	36
CAN Object No:	-
PROFIBUS PNU:	-
DPR Objekt Nr:	
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Service Function: Constant Velocity

Description

The command “J <n> <t>” can be used to define a constant velocity <n> (in rpm) for a defined time <t> (in msec). If the <t> entry is missing, the drive runs continuously.

ASCII -Command	JRATIO	Available in	S300/700
Syntax Transmit	-	MMI ☐	CAN-Bus ☐
Syntax Receive	-	PROFIBUS ☐	Sercos ☐
Type	-		
Format	-	SERCOS IDN:	
DIM	-	CAN Object No:	3531 (hex)
Range		PROFIBUS PNU:	1649 (dec) IND = 1 (de
Default		DPR Objekt Nr:	49
Opmode			
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	internal parameter

Description

This parameter is internal and is not documented. It could be a customized or test/service parameter.

It is not allowed to change this parameter!

ASCII -Command	K
Syntax Transmit	K
Syntax Receive	K
Type	Command
Format	-
DIM	-
Range	-
Default	-
Opmode	All
Drive Status	Enabled
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700		
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3573 (hex)
PROFIBUS PNU:	1715 (dec) IND = 1 (de
DPR Objekt Nr:	115
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Kill (=Disable)

Description

The K (Kill) command is a short form command of the “|DIS|” command.

ASCII -Command	KC	Available in	S300/700
Syntax Transmit	KC [Data]	MMI ☑	CAN-Bus ☑
Syntax Receive	KC <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Float	SERCOS IDN:	
DIM	-	CAN Object No:	3574 (hex)
Range	0.0 .. 1.0	PROFIBUS PNU:	1716 (dec) IND = 1 (de
Default	1.0	DPR Objekt Nr:	116
Opmode	All		
Drive Status	-		
Start Firmware	1.0		
Configuration	☐	Data Type BUS/DPR	Integer32
Function Group	Current	Weighting 10^3	*

Last Change of this Object	2.8
EEPROM	Yes

Short Description	I-Controller Prediction Constant

Description

KC is a tuning variable of the current loop. For compensation of time delay a predicted current value can be used in addition to the measured motor current. KC 1 switches the current prediction on, KC 0.5 sets it to 50% and KC 0 switches it off. Disabling the current prediction can cause an unstable current loop.
Depending to function |FILTMODE| KC selects different algorithms . By setting |FILTMODE|=1 (Default) the usually prediction is used, with setting |FILTMODE| =2 the Smith Predictor is switched on. If the Smith Predictors is on the proportional gain of the current controller |MLGQ| can increase, in case the settings |ML| and |MRS| are tuned well .

ASCII -Command	KC_X
Syntax Transmit	KC [Data]
Syntax Receive	KC <Data>
Type	Variable rw
Format	Float
DIM	-
Range	0.0 .. 1.0
Default	1.0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Current

Available in	S300/700
MMI ☑	CAN-Bus ☑
PROFIBUS ☑	Sercos ☐
SERCOS IDN:	
CAN Object No:	3764 (hex)
PROFIBUS PNU:	1812 (dec) IND = 17 (d
DPR Objekt Nr:	612
Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	1.8
EEPROM	Yes

Short Description	I-Controller Prediction Constant 2

Description

see |PARCNFG|

ASCII -Command	KEYLOCK
Syntax Transmit	KEYLOCK [Data]
Syntax Receive	KEYLOCK <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	0, 1, 2
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3575 (hex)
PROFIBUS PNU:	1717 (dec) IND = 1 (de
DPR Objekt Nr:	117

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Locks the push buttons

Description

If KEYLOCK=1, operation of the amplifier from the keys on the front panel is inhibited.
The display functions of the instrument (error messages, warnings) remain active.

ASCII -Command	KTN
Syntax Transmit	KTN [Data]
Syntax Receive	KTN <Data>
Type	Variable rw
Format	Float
DIM	ms
Range	0.2 ... 2
Default	0.6
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Current

Available in	S300/700
MMI	☑
CAN-Bus	☑
PROFIBUS	☑
Sercos	☑

SERCOS IDN:	107 + 120
CAN Object No:	362F (hex)
PROFIBUS PNU:	1903 (dec) IND = 1 (de
DPR Objekt Nr:	303

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Current Controller Integral-Action Time

Description

The integral-action time (integration time constant) of the current control loop.

ASCII -Command	KTN_X
Syntax Transmit	KTN [Data]
Syntax Receive	KTN <Data>
Type	Variable rw
Format	Float
DIM	ms
Range	0.2 ... 2
Default	0.6
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Current

Available in	S300/700
MMI	☑
CAN-Bus	☑
PROFIBUS	☑
Sercos	☑

SERCOS IDN:	107 + 120
CAN Object No:	3765 (hex)
PROFIBUS PNU:	1813 (dec) IND = 17 (d
DPR Objekt Nr:	613

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	1.8
EEPROM	Yes

Short Description	Current Controller Integral-Action Time 2

Description

see |PARCNFG|

ASCII -Command	LASTWMASK
Syntax Transmit	LASTWMASK [Data]
Syntax Receive	LASTWMASK <Data>
Type	Variable ro
Format	Integer32
DIM	-
Range	long int
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	

Available in	S300/700
MMI ☐	CAN-Bus ☑
PROFIBUS ☑	Sercos ☐
SERCOS IDN:	
CAN Object No:	36CE (hex)
PROFIBUS PNU:	1662 (dec) IND = 17 (d
DPR Objekt Nr:	462
Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Fault history of WMASK

Description

|WMASK| gives the possibility to create a mask to change warnings to errors. If the F24 occurs, LASTWMASK displays the warnings that caused the error.

ASCII -Command	LATCH1N16
Syntax Transmit	LATCH16N [Data]
Syntax Receive	LATCH16N <Data>
Type	Variable ro
Format	Integer16
DIM	-
Range	-
Default	-
Opmode	All
Drive Status	-
Start Firmware	2.03
Configuration	☐
Function Group	-

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3680 (hex)
PROFIBUS PNU:	1984 (dec) IND = 1 (de
DPR Objekt Nr:	384
Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Latched 16-bit Position (negative edge)

Description

The LATCH1N16 command returns the position where latching was performed by the last negative (falling) edge on digital input 1 (|IN1MODE|=26). The position value is absolute within one turn, and is given out in the internal units (counts 0 ... 65535). In order to get the absolute 32-bit position in SI units (taking account of the position control loop resolution |PGEARI|/|PGEARO|), the command |LATCH1N32| should be used.
The commands LATCH1N16 and |LATCH1N32| have the effect of erasing the status bit 23 “negative latch made” in the status register |TRJSTAT|.

ASCII -Command	LATCH1N32
Syntax Transmit	LATCH1N32 [Data]
Syntax Receive	LATCH1N32 <Data>
Type	Variable ro
Format	Integer32
DIM	-
Range	-
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	131
CAN Object No:	357D (hex)
PROFIBUS PNU:	1725 (dec) IND = 1 (de
DPR Objekt Nr:	125

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Latched 32-bit Position (negative edge)

Description

The LATCH1N32 command returns the position where latching was performed by the last negative (falling) edge on digital input 1 (|IN1MODE|=26). The position value is absolute within 4096 turns, and is given out in microns (taking account of the position control loop resolution |PGEARI|/|PGEARO|). To obtain an absolute position within one turn, the |LATCH1N16| command should be used.
The commands |LATCH1N16| and LATCH1N32 have the effect of erasing the status bit 23 “negative latch made” in the status register |TRJSTAT|.

ASCII -Command	LATCH1P16
Syntax Transmit	LATCH1P16 [Data]
Syntax Receive	LATCH1P16 <Data>
Type	Variable ro
Format	Integer16
DIM	-
Range	-
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	367F (hex)
PROFIBUS PNU:	1983 (dec) IND = 1 (de
DPR Objekt Nr:	383

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Latched 16-bit Position (positive edge)

Description

The LATCH1P16 command returns the position where latching was performed by the last positive (rising) edge on digital input 1 (|IN1MODE|=26). The position value is absolute within one turn, and is given out in the internal units (counts 0 ... 65535). In order to get the absolute 32-bit position in SI units (taking account of the position control loop resolution |PGEARI|/|PGEARO|), the command |LATCH1P32| should be used.
The commands LATCH1P16 and |LATCH1P32| have the effect of erasing the status bit 20 “positive latch made” in the status register |DRVSTAT|.

ASCII -Command	LATCH1P32
Syntax Transmit	LATCH1P32 [Data]
Syntax Receive	LATCH1P32 <Data>
Type	Variable ro
Format	Integer32
DIM	-
Range	-
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700
MMI	☑
CAN-Bus	☑
PROFIBUS	☑
Sercos	☑

SERCOS IDN:	130
CAN Object No:	357C (hex)
PROFIBUS PNU:	1724 (dec) IND = 1 (de
DPR Objekt Nr:	124

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Latched 32-bit Position (positive edge)

Description

The LATCH1P32 command returns the position where latching was performed by the last positive (rising) edge on digital input 1 (|IN1MODE|=26). The position value is absolute within 4096 turns, and is given out in microns (taking account of the position control loop resolution |PGEARI|/|PGEARO|). To obtain an absolute position within one turn, the |LATCH1P16| command should be used.
The commands |LATCH1P16| and LATCH1P32 have the effect of erasing the status bit 20 “positive latch made” in the status register |DRVSTAT|.

ASCII -Command	LATCH2N16
Syntax Transmit	LATCH2N16 [Data]
Syntax Receive	LATCH2N16 <Data>
Type	Variable ro
Format	Integer16
DIM	-
Range	-
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3579 (hex)
PROFIBUS PNU:	1721 (dec) IND = 1 (de
DPR Objekt Nr:	121
Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Latched 16-bit Position (negative edge)

Description

The LATCH2N16 command returns the position where latching was performed by the last negative (falling) edge on digital input 2 (|IN2MODE|=26). The position value is absolute within one turn, and is given out in the internal units (counts 0 ... 65535). In order to get the absolute 32-bit position in SI units (taking account of the position control loop resolution |PGEARI|/|PGEARO|), the command LATCH2N32 should be used.
The commands LATCH2N16 and |LATCH2N32| have the effect of erasing the status bit 23 “negative latch made” in the status register |TRJSTAT|.

ASCII -Command	LATCH2N32
Syntax Transmit	LATCH2N32 [Data]
Syntax Receive	LATCH2N32 <Data>
Type	Variable ro
Format	Integer32
DIM	-
Range	-
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	133
CAN Object No:	357B (hex)
PROFIBUS PNU:	1723 (dec) IND = 1 (de
DPR Objekt Nr:	123

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Latched 32-bit Position (negative edge)

Description

The LATCH2N32 command returns the position where latching was performed by the last negative (falling) edge on digital input 2 (|IN2MODE|=26). The position value is absolute within 4096 turns, and is given out in microns (taking account of the position control loop resolution |PGEARI|/|PGEARO|). To obtain an absolute position within one turn, the |LATCH2N16| command should be used.
The commands |LATCH2N16| and LATCH2N32 have the effect of erasing the status bit 23 “negative latch made” in the status register |TRJSTAT|.

ASCII -Command	LATCH2P16
Syntax Transmit	LATCH2P16 [Data]
Syntax Receive	LATCH2P16 <Data>
Type	Variable ro
Format	Integer16
DIM	-
Range	-
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3578 (hex)
PROFIBUS PNU:	1720 (dec) IND = 1 (de
DPR Objekt Nr:	120

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Latched 16-bit Position (positive edge)

Description

The LATCH2P16 command returns the position where latching was performed by the last positive (rising) edge on digital input 2 (|IN2MODE|=26). The position value is absolute within one turn, and is given out in the internal units (counts 0 ... 65535). In order to get the absolute 32-bit position in SI units (taking account of the position control loop resolution |PGEARI|/|PGEARO|), the command |LATCH2P32| should be used.
The commands LATCH2P16 and |LATCH2P32| have the effect of erasing the status bit 20 “positive latch made” in the status register |DRVSTAT|.

ASCII -Command	LATCH2P32
Syntax Transmit	LATCH2P32 [Data]
Syntax Receive	LATCH2P32 <Data>
Type	Variable ro
Format	Integer32
DIM	-
Range	-
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	132
CAN Object No:	357A (hex)
PROFIBUS PNU:	1722 (dec) IND = 1 (de
DPR Objekt Nr:	122

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Latched 32-bit Position (positive edge)

Description

The LATCH2P32 command returns the position where latching was performed by the last positive (rising) edge on digital input 2 (|IN2MODE|=26). The position value is absolute within 4096 turns, and is given out in microns (taking account of the position control loop resolution |PGEARI|/|PGEARO|). To obtain an absolute position within one turn, the |LATCH2P16| command should be used.
The commands |LATCH2P16| and LATCH2P32 have the effect of erasing the status bit 20 “positive latch made” in the status register |DRVSTAT|.

ASCII -Command	LDUMP	Available in	S300/700
Syntax Transmit	LDUMP [data]	MMI ☐	CAN-Bus ☐
Syntax Receive	LDUMP <Data>	PROFIBUS ☐	Sercos ☐
Type	Multi-line Return Command		
Format	String	SERCOS IDN:	
DIM	-	CAN Object No:	-
Range	-	PROFIBUS PNU:	-
Default	-	DPR Objekt Nr:	
Opmode	All		
Drive Status	-		
Start Firmware	2.13		
Configuration	☐	Data Type BUS/DPR	-
Function Group	-	Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Parameter Output of Motor Data

Description

The command LDUMP <name> can be used to output the parameters for the motor data set <name> from the internal database. The <name> that is entered must be a valid motor designation from the motor database (see |MDBLIST|). If the <name> parameter is not entered, the motor parameters that are loaded at present will be displayed.

ASCII -Command	LED1
Syntax Transmit	LED1 [Data]
Syntax Receive	LED1 <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	0 ... 127
Default	
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	357E (hex)
PROFIBUS PNU:	1726 (dec) IND = 1 (de
DPR Objekt Nr:	126

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	-

Short Description	State of Display 1 Segment

Description

The command LED1 returns the present status (7-segment code) of the segment in LED1 (left).

Bit-assignment for a 7-segment display:

Bit 0 (0x01, 1) segment A (top)
Bit 1 (0x02, 2) segment B (top right)
Bit 2 (0x04, 4) segment C (bottom right)
Bit 3 (0x08, 8) segment D (bottom)
Bit 4 (0x10, 16) segment E (bottom left)
Bit 5 (0x20, 32) segment F (top left)
Bit 6 (0x40, 64) segment G (center)

A write action LED1 <code> produces the defined code on the display.
This only makes sense if the internal display output has been switched off (LEDSTAT 0).
It is not possible to output a decimal point.

ASCII -Command	LED2
Syntax Transmit	LED2 [Data]
Syntax Receive	LED2 <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	0 ... 127
Default	
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	357F (hex)
PROFIBUS PNU:	1727 (dec) IND = 1 (de
DPR Objekt Nr:	127

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	-

Short Description	State of Display 2 Segment

Description

The command LED2 returns the present status (7-segment code) of the segment in LED2 (center).
Bit-assignment for a 7-segment display:

Bit 0 (0x01, 1) segment A (top)
Bit 1 (0x02, 2) segment B (top right)
Bit 2 (0x04, 4) segment C (bottom right)
Bit 3 (0x08, 8) segment D (bottom)
Bit 4 (0x10, 16) segment E (bottom left)
Bit 5 (0x20, 32) segment F (top left)
Bit 6 (0x40, 64) segment G (center)

A write action LED2 <code> produces the defined code on the display.
This only makes sense if the internal display output has been switched off (LEDSTAT 0).
It is not possible to output a decimal point.

ASCII -Command	LED3
Syntax Transmit	LED3 [Data]
Syntax Receive	LED3 <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	0 ...127
Default	
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700
MMI ☑	CAN-Bus ☑
PROFIBUS ☑	Sercos ☐

SERCOS IDN:	
CAN Object No:	3580 (hex)
PROFIBUS PNU:	1728 (dec) IND = 1 (de
DPR Objekt Nr:	128

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	-

Short Description	State of Display 3 Segment

Description

The command LED3 returns the present status (7-segment code) of the segment in LED2 (right).
Bit-assignment for a 7-segment display:

Bit 0 (0x01, 1) segment A (top)
Bit 1 (0x02, 2) segment B (top right)
Bit 2 (0x04, 4) segment C (bottom right)
Bit 3 (0x08, 8) segment D (bottom)
Bit 4 (0x10, 16) segment E (bottom left)
Bit 5 (0x20, 32) segment F (top left)
Bit 6 (0x40, 64) segment G (center)

A write action LED3 <code> produces the defined code on the display.
This only makes sense if the internal display output has been switched off (LEDSTAT 0).
It is not possible to output a decimal point.

ASCII -Command	LEDSTAT
Syntax Transmit	LEDSTAT [Data]
Syntax Receive	LEDSTAT <Data>
Type	Variable rw
Format	Integer16
DIM	-
Range	0 ... 17
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700		
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3581 (hex)
PROFIBUS PNU:	1729 (dec) IND = 1 (de
DPR Objekt Nr:	129
Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.13
EEPROM	-

Short Description	Display page

Description

The variable LEDSTAT shows the number of the present “display page”.
Altering the LEDSTAT variable makes it possible the change the display via the serial interface.
The assignments are as follows:
LEDSTAT=0 Display is switched off
LEDSTAT=1 Status display
LEDSTAT=2 Fieldbus address
LEDSTAT=3 CAN Baud rate
LEDSTAT=4 Parameter S01 (Kp velocity control loop)
LEDSTAT=5 Parameter S02 (Tn velocity control loop)
LEDSTAT=6 Parameter S03 (setpoint offset)
LEDSTAT=7 Parameter S04 (motor number)
LEDSTAT=8 Parameter S05 (encoder selection)
LEDSTAT=9 Parameter S06 (brake selection)
LEDSTAT=10 Parameter S07 (Multidrive selection, from software 3.00)
LEDSTAT=11 Load data from the EEPROM
LEDSTAT=12 Save data in the EEPROM
LEDSTAT=13 Set default values (from software 3.00)
LEDSTAT=14 New configuration of the amplifier (|M_RESET|, from software 3.00)
LEDSTAT=15 Error messages
LEDSTAT=16 Serial number

ASCII -Command	LINRESOL
Syntax Transmit	LINRESOL [Data]
Syntax Receive	LINRESOL <Data>
Type	Variable rw
Format	Integer32
DIM	nm / Count
Range	0 … 2^31
Default	0
Opmode	all
Drive Status	-
Start Firmware	5.87
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	38D5 (hex)
PROFIBUS PNU:	1781 (dec) IND = 33 (d
DPR Objekt Nr:	981
Data Type BUS/DPR	Interger32
Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	Conversion factor for linear measurement systems

Description

With linear measuring systems that can not be automatically recognized as such (SSI, BISS), the position calculation can only be done correctly if the conversion factor for the linear units LINRESOL previously defined correctly. This parameter describes the size of a position counts in nm. Using this information and the size of the polpitches |MPITCH|, the position can be calculated within a Polpitches.
LINRESOL = 0: no linear units defined, it is a rotary encoder
LINRESOL > 0: conversion of linear units is enabled.

from FW 5.90:
SSI encoder:
There is a phenomenon that occurs with SSI encoders which provide a non-binary resolution. The parameter LINRESOL can be used in two ways:

|MTYPE| = 2 linear motor: LINRESOL describes the size of an SSI Counts

|MTYPE| = 1 rotary motor with binary SSI resolution
LINRESOL = 0, the position is calculated from the information |SSIRXD| and |SSIREVOL|

|MTYPE| = 1 rotary motor with a non-binary resolution (e.g. 1000 counts / rev)
LINRESOL = 1000 Describes the number of SSI counts per motor revolution

ASCII -Command	LIST
Syntax Transmit	LIST
Syntax Receive	LIST <Data>
Type	Multi-line Return Command
Format	String
DIM	-
Range	-
Default	-
Opmode	All
Drive Status	-
Start Firmware	2.13
Configuration	☐
Function Group	-

Available in	S300/700
MMI ☐	CAN-Bus ☐
PROFIBUS ☐	Sercos ☐
SERCOS IDN:	
CAN Object No:	-
PROFIBUS PNU:	-
DPR Objekt Nr:	
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	List All ASCII Commands

Description

All those commands are listed which can be used for to the present motor/amplifier configuration. ASCII commands that require specific hardware (e.g. Hiperface/Endat, Profibus,Sercos) will only be displayed if the corresponding hardware has been recognized correctly.

ASCII -Command	LOAD
Syntax Transmit	LOAD
Syntax Receive	LOAD
Type	Command
Format	-
DIM	-
Range	-
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700
MMI	☑
CAN-Bus	☑
PROFIBUS	☑
Sercos	☐

SERCOS IDN:	
CAN Object No:	3583 (hex)
PROFIBUS PNU:	1731 (dec) IND = 1 (de
DPR Objekt Nr:	131

Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Load parameters from serial EEPROM

Description

The LOAD command loads the parameters from the serial EEPROM. All parameter changes that have been made since the last |SAVE| command (save in the serial EEPROM) will be lost.

ASCII -Command	M
Syntax Transmit	M [Data]
Syntax Receive	M <Data>
Type	Variable rw
Format	String
DIM	-
Range	-
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700		
MMI	☐	CAN-Bus	☐
PROFIBUS	☐	Sercos	☐

SERCOS IDN:	
CAN Object No:	-
PROFIBUS PNU:	-
DPR Objekt Nr:	
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	-

Short Description	Read/write Macro Variable

Description

The M command can be used to access any internal macro variable.
Macro variables are variables which can be used by the macro routines. They are called by name within a macro routine. The complete variable information (name, address) is managed in the form of a table. There are two types of macro variable.
1. System variables – these variables are determined by the firmware, and are fixed. Both the names and the addresses for such variables are constant within a given firmware version. The table with the data for the variables is within the programming area, so that the system variables can be accessed at any time.
2. User variables – these variables are set up in the macro routines during the initialization phase of the amplifier. The availability of a specific variable, or its physical address, depends on the amplifier configuration. The table with the information for the variables is set up in the RAM, and is normally only required during the compilation of the macro programs (initialization phase). After the initialization has been concluded, the table is removed from the memory. In this case, it is not possible to access the user variables through the M command.
If the parameter setting MSG=2 is found when the amplifier is switched on, then the table for the user variables is kept in the memory. In this case, it will also be possible to access the user variables through the M command.
The M command can be used in one of three forms:
1. “M” – a list of all the system and user variables is generated

2. “M name” – an information line is generated for the variable <name>, in the following form:
“name [TYPE] address FORMAT=value”
The individual elements are interpreted as follows:
name = name of the macro variable
TYPE = variable type (SYSTEM or USER)
address = physical address of the variable (hexadecimal format)
FORMAT = variable type (BYTE,WORD,LONG,STRING), the suffix FAST means that the variable is stored in the internal (fast) RAM
Value = variable contents (in hexadecimal format, or as ASCII string, depending on FORMAT)

3. “M name value” – the number “value” is entered in the variable “name”
The entry for “value” must be made as a decimal number. If the character sequence “0x” is added as a prefix, the number can be entered in hexadecimal format.

ASCII -Command	M_RESET
Syntax Transmit	M_RESET
Syntax Receive	M_RESET
Type	Command
Format	-
DIM	-
Range	-
Default	-
Opmode	All
Drive Status	Disable
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700
MMI ☐	CAN-Bus ☑
PROFIBUS ☑	Sercos ☐
SERCOS IDN:	
CAN Object No:	35A9 (hex)
PROFIBUS PNU:	1769 (dec) IND = 1 (de
DPR Objekt Nr:	169
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Recompile Macro Programs

Description

All macro programs are compiled and started when the amplifier is switched on. The compilation of the macro programs is managed by configuration variables. The values for these configuration variables must be fixed before the compilation procedure is started. If the value of a configuration variable is altered at a later time, this change will only take effect with the next compilation of the macro programs. This means, that after changing a configuration variable, this change should first be stored in the EEPROM (see |SAVE| command) and the amplifier should then be switched off and on again.
The M_RESET command offers an alternative. This command is used to force a new compilation of the macro programs, without having to switch the amplifier off and on again. Since this function, unlike that performed during the initialization phase, is carried out while the interrupts are enabled, it takes longer to complete (about 5 min).

ASCII -Command	MAXCMD
Syntax Transmit	MAXCMD
Syntax Receive	MAXCMD <Data>
Type	Variable ro
Format	Integer16
DIM	
Range	-
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3538 (hex)
PROFIBUS PNU:	1656 (dec) IND = 1 (de
DPR Objekt Nr:	56

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.13
EEPROM	No

Short Description	max. number of DPR variables

Description

This parameter displays the max. number of DPR objects. Many of them are not documented because they are debug objects or are used in customer-specific firmvware versions.

please have a look |IDDUMP|

ASCII -Command	MAXISETP
Syntax Transmit	MAXISETP [Data]
Syntax Receive	MAXISETP <Data>
Type	Variable rw
Format	Float
DIM	
Range	0 .. 16000
Default	0
Opmode	All
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in	S300/700
MMI ☐	CAN-Bus ☑
PROFIBUS ☑	Sercos ☐
SERCOS IDN:	
CAN Object No:	38B3 (hex)
PROFIBUS PNU:	1747 (dec) IND = 33 (d
DPR Objekt Nr:	947
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.7
EEPROM	Yes

Short Description	limitation of the integral part of the position loop

Description

The proportional and integral part of the position loop can be saturated with the parameters |MAXVSETP| and MAXISETP:

MAXISETP: limit for the integral part of the position loop (in RPM)

The value of 0 (default) means - no limitation

ASCII -Command	MAXSUMME	Available in	S300/700
Syntax Transmit	-	MMI ☐	CAN-Bus ☐
Syntax Receive	-	PROFIBUS ☐	Sercos ☐
Type	-		
Format	-	SERCOS IDN:	
DIM	-	CAN Object No:	-
Range		PROFIBUS PNU:	-
Default		DPR Objekt Nr:	
Opmode			
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	internal parameter

Description

This parameter is internal and is not documented. It could be a customized or test/service parameter.

It is not allowed to change this parameter!

ASCII -Command	MAXTEMPE
Syntax Transmit	MAXTEMPE [Data]
Syntax Receive	MAXTEMPE <Data>
Type	Variable rw
Format	Integer16
DIM	Centigrade Degrees
Range	10 .. 80
Default	75
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	205
CAN Object No:	3584 (hex)
PROFIBUS PNU:	1732 (dec) IND = 1 (de
DPR Objekt Nr:	132

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.8
EEPROM	Yes

Short Description	Ambient Temperature Switch off Threshold

Description

The ambient temperature value for switching off the power stage and opening the BTB / RTO contact. If the drive temperature (as given by |TEMPE|) exceeds this value, the drive faults (F13).

ASCII -Command	MAXTEMPH
Syntax Transmit	MAXTEMPH [Data]
Syntax Receive	MAXTEMPH <Data>
Type	Variable rw
Format	Integer16
DIM	Centigrade Degrees
Range	20 ... 85
Default	80
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	203
CAN Object No:	3585 (hex)
PROFIBUS PNU:	1733 (dec) IND = 1 (de
DPR Objekt Nr:	133

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.10
EEPROM	Yes

Short Description	Heat Sink Temperature Switch off Threshold

Description

The heat sink temperature for switching off. If the heat sink temperature (as given by |TEMPH|) exceeds this value, the drive faults.

The following max. limits are:
S300: 85 degree
S700: 90 degree
S748/S772 : 105 degree

ASCII -Command	MAXTEMPM
Syntax Transmit	MAXTEMPM [Data]
Syntax Receive	MAXMTEMP <Data>
Type	Variable rw
Format	Float
DIM	Ohms or [MTAB units]
Range	-6000.0 .. 6000.0
Default	300
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3586 (hex)
PROFIBUS PNU:	1734 (dec) IND = 1 (de
DPR Objekt Nr:	134

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	2.10
EEPROM	Yes

Short Description	Motor Temperature Switch off Threshold

Description

The motor temperature for switching off (defined by the resistance in ohms).

MAXTEMPM = 0 switches off the monitoring of the motor temperature (F06)

In existing temperature characteristic (see MTAB) the units change for the parameter MAXTEMPM and TEMPM of Ohm to the unit that was used in the characteristic definition.

see also |SLTEMPM|, |TEMPM|, |MTAB|

ASCII -Command	MAXVSETP
Syntax Transmit	MAXVSETP [Data]
Syntax Receive	MAXVSETP <Data>
Type	Variable rw
Format	Float
DIM	
Range	0 .. 16000
Default	0
Opmode	All
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in	S300/700
MMI ☐	CAN-Bus ☑
PROFIBUS ☑	Sercos ☐
SERCOS IDN:	
CAN Object No:	38B4 (hex)
PROFIBUS PNU:	1748 (dec) IND = 33 (d
DPR Objekt Nr:	948
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.7
EEPROM	

Short Description	Limitation of the proportional part of the position loop

Description

The proportional and integral part of the position loop can be saturated with the parameters MAXVSETP and |MAXISETP|.

MAXVSETP: limit for the proportional part of the position loop (in RPM)

The value of 0 (default) means - no limitation

ASCII -Command	MBPDRVSTAT
Syntax Transmit	MBPDRVSTAT [Data]
Syntax Receive	MBPDRVSTAT <Data>
Type	Variable rw
Format	Integer16
DIM	-
Range	0 .. 31
Default	0
Opmode	All
Drive Status	-
Start Firmware	3.00
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	368D (hex)
PROFIBUS PNU:	1997 (dec) IND = 1 (de
DPR Objekt Nr:	397
Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.13
EEPROM	Yes

Short Description	State of the Modbus+ Network

Description

MBPDRVSTAT gives the state of the Modbus+ network of the drive. The bit 3 can be written by the drive and can be saved. If the bit is set, Modbus+ network errors are indicated at the drive.

ASCII -Command	MBRAKE
Syntax Transmit	MBRAKE [Data]
Syntax Receive	MBRAKE <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	0..4
Default	0
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	1.0
Configuration	☑
Function Group	Motor

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3587 (hex)
PROFIBUS PNU:	1735 (dec) IND = 1 (de
DPR Objekt Nr:	135

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	2.4
EEPROM	Yes

Short Description	Select Motor Holding Brake

Description

MBRAKE enables the brake function for a 24V holding brake in the motor directly from the servo amplifier.

MBRAKE = 0 Brake function is disabled
MBRAKE = 1 Brake function is enabled. The output at the BRAKE terminal is 24V if the ENABLE signal is present (brake off) and 0V if the ENABLE signal is missing (brake activated).
MBRAKE = 2 If the wake&shake mode is activated (|FBTYPE| = 7 or 8) the holding brake is deactivated after the wake&shake mode.
MBRAKE = 3 reserved

since FW >= 5.19
MBRAKE = 4 Breake function is enabled but the monitoring of brake fault is disabled.

ASCII -Command	MCFW
Syntax Transmit	MCFW [Data]
Syntax Receive	MCFW <Data>
Type	Variable rw
Format	Float
DIM	-
Range	1 .. 2
Default	1
Opmode	All
Drive Status	-
Start Firmware	3.00
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3908 (hex)
PROFIBUS PNU:	1832 (dec) IND = 33 (d
DPR Objekt Nr:	1032

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.1
EEPROM	Yes

Short Description	The Correction Factor of the Field Weakening

Description

This command is only for the induction motor mode (|MTYPE| = 3).
The correction factor of the field weakening.
This correction factor is introduced to compensate the nonlinearity of the magnetizing inductance since the magnetizing current is decreased according to the rotor mechanical velocity during the field weakening.

ASCII -Command	MCOSPHI
Syntax Transmit	MCOSPHI [Data]
Syntax Receive	MCOSPHI <Data>
Type	Variable rw
Format	Float
DIM	
Range	0.5 .. 1
Default	0.8
Opmode	1,2
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3887 (hex)
PROFIBUS PNU:	1703 (dec) IND = 33 (d
DPR Objekt Nr:	903

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	2.1
EEPROM	Yes

Short Description	Power Factor (cos phi) of the induction motor

Description

Power Factor (cos phi) of the induction motor.
Used in V/f Control scheme to calculate the rated slip s_R for slip compensation.

s(iq) = iq * IQFILTK * s_R / (MICONT * MCOSPHI)
s_R = MFR – (MVR * MPOLES) / (60 * 2)

ASCII -Command	MCTR	Available in	S300/700
Syntax Transmit	-	MMI ☐	CAN-Bus ☐
Syntax Receive	-	PROFIBUS ☐	Sercos ☐
Type	-		
Format	-	SERCOS IDN:	
DIM	-	CAN Object No:	-
Range		PROFIBUS PNU:	-
Default		DPR Objekt Nr:	
Opmode			
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	internal parameter

Description

This parameter is internal and is not documented. It could be a customized or test/service parameter.

It is not allowed to change this parameter!

ASCII -Command	MDBCNT
Syntax Transmit	MDBCNT
Syntax Receive	MDBCNT <Data>
Type	Variable ro
Format	Integer8
DIM	-
Range	1 .. 127
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Motor

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3588 (hex)
PROFIBUS PNU:	1736 (dec) IND = 1 (de
DPR Objekt Nr:	136
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Number of Motor Data Sets

Description

MDBCNT returns the number of motor data sets that can be loaded for the present combination of output stage + feedback. A change of the feedback setting |FBTYPE| is used, for instance, to ensure that only the data sets for resolver motors or EnDat motors are used.

ASCII -Command	MDBGET
Syntax Transmit	MDBGET [Data]
Syntax Receive	MDBGET <Data>
Type	Command
Format	String
DIM	-
Range	1 .. MDBCNT
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Motor

Available in	S300/700		
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3589 (hex)
PROFIBUS PNU:	1737 (dec) IND = 1 (de
DPR Objekt Nr:	137
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Get Actual Motor Data Set

Description

The MDBGET command generates an information line (directory entry) for the latest motor data set that was selected with the |MDBSET| command. The information line consists of the following elements:
data set number, motor name, motor number, motor family
The individual elements are interpreted as follows:
Data set number: the number for the data set within the motor database. This number can be used to address a motor data set with the |MDBSET| command. This number is increased automatically at every MDBGET call.
Motor name: a symbolic motor designation (max. length 12 characters).
Motor number: a number that can be used to uniquely identify a particular motor. This number is used to load a data set from the motor database with the |MNUMBER| command.
Motor family: an additional designation (for internal use only).

The group of commands |MDBCNT|,|MDBSET|,MDBGET can be used by an external control system, to read out the contents of the motor database. The procedure is as follows:
1. Read out the number of available data sets, using the |MDBCNT| command.
2. Set the data set pointer to the first data set, using the |MDBSET| 1 command.
3. Read out the first directory entry, using the MDBGET command.
4. Repeat step 3 until the number of available data sets (|MDBCNT|) has been read.

The |MDBLIST| command offers an alternative. This command can be used to display the complete list.

ASCII -Command	MDBLIST	Available in	S300/700
Syntax Transmit	MDBLIST [*]	MMI ☐	CAN-Bus ☐
Syntax Receive	MDBLIST <Data>	PROFIBUS ☐	Sercos ☐
Type	Multi-line Return Command		
Format	String	SERCOS IDN:	
DIM	-	CAN Object No:	-
Range	-	PROFIBUS PNU:	-
Default	-	DPR Objekt Nr:	
Opmode	All		
Drive Status	-		
Start Firmware	2.13		
Configuration	☐	Data Type BUS/DPR	-
Function Group	-	Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	List of Motor Data Sets

Description

The MDBLIST command returns the list of contents for the motor database (for the present combination of output stage + feedback). One motor database entry is displayed per line on the screen, in the following format:
motor name, motor number, motor family, amplifier designation

The individual elements are interpreted as follows:
Motor name: a symbolic motor designation (max. length 12 characters).
Motor number: a number that can be used to uniquely identify a particular motor. This number is used to load a data set from the motor database with the |MNUMBER| command.
Motor family: an additional designation (for internal use only).

If |PROMPT| 2 is set, a formatted output appears, which is especially suitable for terminal display.

The MDBLIST * command can be used to display the complete list of contents for the motor database. The difference to the output generated by MDBLIST is that the contents also include motor data sets that are not suitable for the present combination of output stage and feedback. These data sets will be displayed, but they cannot be loaded.
Compared with the MDBLIST output, the MDBLIST * output has been enlarged by the columns “Amplifier designation” and “Feedback”. These designations can be used to find out for which output stage or |FBTYPE| setting this data set was created.
Amplifier designation 6xx, where xx = current rating
Feedback: 0=Resolver, 2=Hiperface, 4=Endat

ASCII -Command	MDBSET
Syntax Transmit	MDBSET [Data]
Syntax Receive	MDBSET <Data>
Type	Command
Format	Integer16
DIM	-
Range	1 .. MDBCNT
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Motor

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	358A (hex)
PROFIBUS PNU:	1738 (dec) IND = 1 (de
DPR Objekt Nr:	138

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Set Actual Motor Data Set

Description

The MDBSET command can be used to address a specific data set from the motor database. The subsequent |MDBGET| command provides the directory entry for the selected motor data set (see |MDBGET| description).

ASCII -Command	MDRV	Available in	S300/700
Syntax Transmit	MDRV [Data]	MMI ☑	CAN-Bus ☑
Syntax Receive	MDRV <Data>	PROFIBUS ☑	Sercos ☑
Type	Variable rw		
Format	-	SERCOS IDN:	
DIM		CAN Object No:	3639 (hex)
Range	0 .. 1	PROFIBUS PNU:	1913 (dec) IND = 1 (de
Default	0	DPR Objekt Nr:	313
Opmode	all		
Drive Status	Disabled + Reset (Coldstart)		
Start Firmware			
Configuration	☑	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.4
EEPROM	Yes

Short Description	selection of multidrive functionality

Description

The command MDRV enables the multi drive functionality.

MDRV=0 Multi drive functionality (address range |ADDR| 0...127)
The |SCAN| command gives every time a "0" (no external drives recognised)

MDRV=1 Multi drive active (address range |ADDR| 0...63)
The |SCAN| command checks the CAN-bus if there are more drives.

ASCII -Command	MFR
Syntax Transmit	MFR [Data]
Syntax Receive	MFR <Data>
Type	Variable rw
Format	Integer16
DIM	Hz
Range	10 .. 500
Default	50
Opmode	1,2
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3885 (hex)
PROFIBUS PNU:	1701 (dec) IND = 33 (d
DPR Objekt Nr:	901

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.1
EEPROM	Yes

Short Description	Rated frequency of the induction motor

Description

Rated frequency of the induction motor.
Used in V/f Control scheme to calculate the rated slip s_R for slip compensation.

s(iq) = iq * IQFILTK * s_R / (MICONT * MCOSPHI)
s_R = MFR – (MVR * MPOLES) / (60 * 2)

ASCII -Command	MH
Syntax Transmit	MH
Syntax Receive	MH
Type	Command
Format	Command
DIM	-
Range	-
Default	-
Opmode	8
Drive Status	Enabled
Start Firmware	1.0
Configuration	☐
Function Group	Setting-up Mode

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	358D (hex)
PROFIBUS PNU:	1741 (dec) IND = 1 (de
DPR Objekt Nr:	141
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Start Homing

Description

The MH (move home) command is used to start a homing movement (reference traverse) via the serial interface. Homing type, direction and speed are taken from the |NREF|, |DREF| and |VREF| parameters.
See also |SETREF| especially for |OPMODE| 1...6.

ASCII -Command	MI2T
Syntax Transmit	MI2T
Syntax Receive	MI2T <Data>
Type	Variable ro
Format	Integer8
DIM	%
Range	0 ... 100
Default	-
Opmode	All
Drive Status	
Start Firmware	1.0
Configuration	☐
Function Group	

Available in	S300/700
MMI ☐	CAN-Bus ☑
PROFIBUS ☑	Sercos ☐
SERCOS IDN:	
CAN Object No:	35A4 (hex)
PROFIBUS PNU:	1764 (dec) IND = 1 (de
DPR Objekt Nr:	164
Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Motor I2T load

Description

This variable returns the average current as a percentage of the continuous current (see |MICONT|). The average current is filtered with the time constant |MTIME|.

ASCII -Command	MICONT
Syntax Transmit	MICONT [Data]
Syntax Receive	MICONT <Data>
Type	Variable rw
Format	Float
DIM	A
Range	10% of DICONT, .. 2* DICONT
Default	DICONT
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Motor

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	111 + 196
CAN Object No:	358E (hex)
PROFIBUS PNU:	1742 (dec) IND = 1 (de
DPR Objekt Nr:	142

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Motor Continuous Current Rating

Description

This parameter limits the continues current of the amplifier, depending on the maximum continuous current rating of the motor.

ASCII -Command	MICONT_X
Syntax Transmit	MICONT [Data]
Syntax Receive	MICONT <Data>
Type	Variable rw
Format	Float
DIM	A
Range	10% of DICONT, .. 2* DICONT
Default	DICONT
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Motor

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	111 + 196
CAN Object No:	3770 (hex)
PROFIBUS PNU:	1824 (dec) IND = 17 (d
DPR Objekt Nr:	624

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	1.8
EEPROM	Yes

Short Description	Motor Continuous Current Rating

Description

see |PARCNFG|

ASCII -Command	MIMR
Syntax Transmit	MIMR [Data]
Syntax Receive	MIMR <Data>
Type	Variable rw
Format	Float
DIM	A
Range	variable
Default	variable
Opmode	All
Drive Status	-
Start Firmware	1.37
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	366B (hex)
PROFIBUS PNU:	1963 (dec) IND = 1 (de
DPR Objekt Nr:	363

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	2.13
EEPROM	Yes

Short Description	current command D-part

Description

If a asynchron motor is used |MTYPE| = 3 a D-part for the current is sticked in.

ASCII -Command	MIMRQ	Available in	S300/700
Syntax Transmit	-	MMI ☐	CAN-Bus ☐
Syntax Receive	-	PROFIBUS ☐	Sercos ☐
Type	-		
Format	-	SERCOS IDN:	
DIM	-	CAN Object No:	-
Range		PROFIBUS PNU:	-
Default		DPR Objekt Nr:	
Opmode			
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	internal parameter

Description

This parameter is internal and is not documented. It could be a customized or test/service parameter.

It is not allowed to change this parameter!

ASCII -Command	MINSUMME	Available in	S300/700
Syntax Transmit	-	MMI ☐	CAN-Bus ☐
Syntax Receive	-	PROFIBUS ☐	Sercos ☐
Type	-		
Format	-	SERCOS IDN:	
DIM	-	CAN Object No:	-
Range		PROFIBUS PNU:	-
Default		DPR Objekt Nr:	
Opmode			
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	internal parameter

Description

This parameter is internal and is not documented. It could be a customized or test/service parameter.

It is not allowed to change this parameter!

ASCII -Command	MIPEAK
Syntax Transmit	MIPEAK [Data]
Syntax Receive	MIPEAK <Data>
Type	Variable rw
Format	Float
DIM	A
Range	10% of DIPEAK, .. 2*DIPEAK
Default	DIPEAK
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Motor

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	109
CAN Object No:	358F (hex)
PROFIBUS PNU:	1743 (dec) IND = 1 (de
DPR Objekt Nr:	143

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Motor Peak Current Rating

Description

MIPEAK limits the |IPEAK| setting of the amplifier, depending on the maximum peak current rating of the motor. The peak current should not exceed 4 times the rated current (|MICONT|) of the motor. The actual value is also determined by the peak current (|DIPEAK|) of the servo amplifier used (defines the maximum value for the entry of |IPEAK| in the current controller).

ASCII -Command	MIPEAK_X
Syntax Transmit	MIPEAK [Data]
Syntax Receive	MIPEAK <Data>
Type	Variable rw
Format	Float
DIM	A
Range	10% of DIPEAK, .. 2*DIPEAK
Default	DIPEAK
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Motor

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	109
CAN Object No:	3771 (hex)
PROFIBUS PNU:	1825 (dec) IND = 17 (d
DPR Objekt Nr:	625

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	1.8
EEPROM	Yes

Short Description	Motor Peak Current Rating

Description

see |PARCNFG|

ASCII -Command	MJ
Syntax Transmit	MJ [Data]
Syntax Receive	MJ <Data>
Type	Variable rw
Format	Float
DIM	kgcm^2
Range	0.01 ... 1000
Default	3
Opmode	All
Drive Status	
Start Firmware	1.0
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	35AB (hex)
PROFIBUS PNU:	1771 (dec) IND = 1 (de
DPR Objekt Nr:	171

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Motor inertia

Description

Motor inertia

MJ is in kg in case of a linear motor.

ASCII -Command	MJ_X	Available in	S300/700
Syntax Transmit	MJ [Data]	MMI ☐	CAN-Bus ☑
Syntax Receive	MJ <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Float	SERCOS IDN:	
DIM	kgcm^2	CAN Object No:	376B (hex)
Range	0.01 ... 1000	PROFIBUS PNU:	1819 (dec) IND = 17 (d
Default	3	DPR Objekt Nr:	619
Opmode	All		
Drive Status			
Start Firmware	1.0		
Configuration	☐	Data Type BUS/DPR	Integer32
Function Group		Weighting 10^3	*

Last Change of this Object	1.8
EEPROM	Yes

Short Description	Motor inertia 2

Description

see |PARCNFG|

ASCII -Command	MJOG
Syntax Transmit	MJOG
Syntax Receive	MJOG
Type	Command
Format	Command
DIM	-
Range	-
Default	-
Opmode	8
Drive Status	Enabled
Start Firmware	1.0
Configuration	☐
Function Group	Setting-up Mode

Available in	S300/700
MMI	☑
CAN-Bus	☑
PROFIBUS	☑
Sercos	☐

SERCOS IDN:	
CAN Object No:	3591 (hex)
PROFIBUS PNU:	1745 (dec) IND = 1 (de
DPR Objekt Nr:	145

Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Start Jog Mode

Description

MJOG starts the jog mode via the serial interface (OPMODE 8 only). The velocity in the jog mode is taken from |VJOG| (with ± sign). Jog mode is defined as a continuous motion at a constant velocity. This type of operation is started without a reference point being set (without homing). The hardware limit switches are monitored. Software limit switches are only monitored if a reference point is set (the drive has been homed). Acceleration and deceleration ramps are taken from the settings for homing (see |ACCR|, |DECR|, and |VJOG|).

ASCII -Command	MKT
Syntax Transmit	MKT [Data]
Syntax Receive	MKT <Data>
Type	Variable rw
Format	Float
DIM	-
Range	0.0 .. 10.0
Default	1.0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3593 (hex)
PROFIBUS PNU:	1747 (dec) IND = 1 (de
DPR Objekt Nr:	147

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Motor KT

Description

The torque constant of the motor in Nm/A.

This parameter is used for sensorless control. The value can be online checked according to the following equation:

Kt = 60 * SQRT (3) * Ui / (2 * PI * n)

Ui induced voltage of the motor
n actual rotor velocity

ASCII -Command	MKT_X
Syntax Transmit	MKT [Data]
Syntax Receive	MKT <Data>
Type	Variable rw
Format	Float
DIM	-
Range	0.0 .. 10.0
Default	1.0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	376E (hex)
PROFIBUS PNU:	1822 (dec) IND = 17 (d
DPR Objekt Nr:	622

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	1.8
EEPROM	Yes

Short Description	Motor KT

Description

see |PARCNFG|

ASCII -Command	ML
Syntax Transmit	L [Data]
Syntax Receive	L <Data>
Type	Variable rw
Format	Float
DIM	mH
Range	0 .. 200
Default	1
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3577 (hex)
PROFIBUS PNU:	1719 (dec) IND = 1 (de
DPR Objekt Nr:	119
Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	2.9
EEPROM	Yes

Short Description	Stator Inductance of the Motor

Description

The parameter describes the stator inductance between phase and phase in mH.

ASCII -Command	ML_X	Available in	S300/700
Syntax Transmit	L [Data]	MMI ☐	CAN-Bus ☑
Syntax Receive	L <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Float	SERCOS IDN:	
DIM	mH	CAN Object No:	376D (hex)
Range	0 .. 100	PROFIBUS PNU:	1821 (dec) IND = 17 (d
Default	1	DPR Objekt Nr:	621
Opmode	All		
Drive Status	-		
Start Firmware	1.0		
Configuration	☐	Data Type BUS/DPR	Integer32
Function Group	-	Weighting 10^3	*

Last Change of this Object	1.8
EEPROM	Yes

Short Description	Stator Inductance of the Motor

Description

see |PARCNFG|

ASCII -Command	MLGC
Syntax Transmit	MLGC [Data]
Syntax Receive	MLGC <Data>
Type	Variable rw
Format	Float
DIM	ratet to MLGQ
Range	0.2 .. 1.0
Default	0.7
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Current

Available in	S300/700		
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3595 (hex)
PROFIBUS PNU:	1749 (dec) IND = 1 (de
DPR Objekt Nr:	149

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Current Control loop Adaptive Gain (Q-component at rated current)

Description

The current control loop includes an adaptive alteration of the gain that depends on the current. The MLGC parameter defines the relative gain referred to |MLGQ| for continuous current.

MLGC = 0.8 means that the gain of the current control loop for continuous current is 80% of |MLGQ|. A linear interpolation is made for the gain from current = 0 up to current = |MICONT|.

ASCII -Command	MLGC_X
Syntax Transmit	MLGC [Data]
Syntax Receive	MLGC <Data>
Type	Variable rw
Format	Float
DIM	ratet to MLGQ
Range	0.2 .. 1.0
Default	0.7
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Current

Available in	S300/700
MMI	☑
CAN-Bus	☑
PROFIBUS	☑
Sercos	☐

SERCOS IDN:	
CAN Object No:	3767 (hex)
PROFIBUS PNU:	1815 (dec) IND = 17 (d
DPR Objekt Nr:	615

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	1.8
EEPROM	Yes

Short Description	Current Control loop Adaptive Gain (Q-component at rated current)

Description

see |PARCNFG|

ASCII -Command	MLGD
Syntax Transmit	MLGD [Data]
Syntax Receive	MLGD <Data>
Type	Variable rw
Format	Float
DIM	ratet to MLGQ
Range	0.4 .. 1.0
Default	0.7
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Current

Available in	S300/700
MMI	☑
CAN-Bus	☑
PROFIBUS	☑
Sercos	☑

SERCOS IDN:	119
CAN Object No:	3596 (hex)
PROFIBUS PNU:	1750 (dec) IND = 1 (de
DPR Objekt Nr:	150

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Adaptive Gain for Current Control loop, D-component

Description

The D-component of the current control loop (field component). The MLGD parameter defines the relative gain referred to |MLGQ|.

MLGC = 0.6 means that the gain of the current control loop D-component is 60% of |MLGQ|.

ASCII -Command	MLGD_X
Syntax Transmit	MLGD [Data]
Syntax Receive	MLGD <Data>
Type	Variable rw
Format	Float
DIM	ratet to MLGQ
Range	0.4 .. 1.0
Default	0.7
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Current

Available in	S300/700
MMI	☑
CAN-Bus	☑
PROFIBUS	☑
Sercos	☑

SERCOS IDN:	119
CAN Object No:	3768 (hex)
PROFIBUS PNU:	1816 (dec) IND = 17 (d
DPR Objekt Nr:	616

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	1.8
EEPROM	Yes

Short Description	Adaptive Gain for Current Control loop, D-component

Description

see |PARCNFG|

ASCII -Command	MLGP
Syntax Transmit	MLGP [Data]
Syntax Receive	MLGP <Data>
Type	Variable rw
Format	Float
DIM	ratet to MLGQ
Range	0.1 .. 1.0
Default	0.4
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Current

Available in	S300/700		
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3597 (hex)
PROFIBUS PNU:	1751 (dec) IND = 1 (de
DPR Objekt Nr:	151

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Current Control loop Adaptive Gain (Q-component at peak current)

Description

The current control loop includes an adaptive alteration of the gain that depends on the current. The MLGP parameter defines the relative gain referred to |MLGQ| for peak current.

MLGP = 0.6 means that the gain of the current control loop for peak current is 60% of |MLGQ|. A linear interpolation is made for the gain from current = |MICONT| up to current = |MIPEAK|.

ASCII -Command	MLGP_X
Syntax Transmit	MLGP [Data]
Syntax Receive	MLGP <Data>
Type	Variable rw
Format	Float
DIM	ratet to MLGQ
Range	0.1 .. 1.0
Default	0.4
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Current

Available in	S300/700
MMI ☑	CAN-Bus ☑
PROFIBUS ☑	Sercos ☐
SERCOS IDN:	
CAN Object No:	3769 (hex)
PROFIBUS PNU:	1817 (dec) IND = 17 (d
DPR Objekt Nr:	617
Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	1.8
EEPROM	Yes

Short Description	Current Control loop Adaptive Gain (Q-component at peak current)

Description

see |PARCNFG|

ASCII -Command	MLGQ
Syntax Transmit	MLGQ [Data]
Syntax Receive	MLGQ <Data>
Type	Variable rw
Format	Float
DIM	-
Range	variable
Default	variable
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Current

Available in	S300/700
MMI	☑
CAN-Bus	☑
PROFIBUS	☑
Sercos	☑

SERCOS IDN:	106
CAN Object No:	3598 (hex)
PROFIBUS PNU:	1752 (dec) IND = 1 (de
DPR Objekt Nr:	152

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Absolute Gain of Current Control loop

Description

MLGQ gives the proportional (ac) gain of the current control loop. This also affects |MLGC|, |MLGP| and |MLGD| KTN. The dimension is V/A.

MLGQ(min) = 540 / DISCALE
MLGG(Default) = 540*1000 / DISCALE
MLGQ(max) = 540*30000 / DISCALE

DISCALE – depend on the current scaling of the amplifier („M DISCALE“ in the terminal)

example:
S706: max. peak current = 3* 6A = 18A = 18000 mA

MLGQ(min) = 540 / 18000 = 0,3
MLGG(Default) = 540*1000 / 18000 = 30
MLGQ(max) = 540*30000 / 18000 = 900

ASCII -Command	MLGQ_X	Available in	S300/700
Syntax Transmit	MLGQ [Data]	MMI ☑	CAN-Bus ☑
Syntax Receive	MLGQ <Data>	PROFIBUS ☑	Sercos ☑
Type	Variable rw		
Format	Float	SERCOS IDN:	106
DIM	-	CAN Object No:	376A (hex)
Range	3 .. 1800	PROFIBUS PNU:	1818 (dec) IND = 17 (d
Default	60	DPR Objekt Nr:	618
Opmode	All		
Drive Status	-		
Start Firmware	1.0		
Configuration	☐	Data Type BUS/DPR	Integer32
Function Group	Current	Weighting 10^3	*

Last Change of this Object	1.8
EEPROM	Yes

Short Description	Absolute Gain of Current Control loop

Description

see |PARCNFG|

ASCII -Command	MNAME
Syntax Transmit	MNAME [Data]
Syntax Receive	MNAME <Data>
Type	Variable rw
Format	String
DIM	-
Range	max 12 ASCII Characters
Default	Blanks
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Motor

Available in		S300/700	
MMI	☑	CAN-Bus	☐
PROFIBUS	☐	Sercos	☑

SERCOS IDN:	141
CAN Object No:	-
PROFIBUS PNU:	-
DPR Objekt Nr:	
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Motor Name

Description

The MNAME parameter is directly related to the motor number |MNUMBER|.
When a motor data set is loaded from the motor database (|MNUMBER| command), the motor designation MNAME is also transferred. If a customer-specific motor designation is to be defined, then this can be done with the MNAME command.
When the motor name is altered, the motor number (|MNUMBER|) is set to 0, to indicate a customer-specific motor data set.

ASCII -Command	MNUMBER
Syntax Transmit	MNUMBER [Data]
Syntax Receive	MNUMBER <Data>
Type	Variable rw
Format	Integer16
DIM	-
Range	-2 .. 32767
Default	0
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	1.0
Configuration	☑
Function Group	Motor

Available in	S300/700
MMI ☑	CAN-Bus ☑
PROFIBUS ☑	Sercos ☑
SERCOS IDN:	P 3046
CAN Object No:	3599 (hex)
PROFIBUS PNU:	1753 (dec) IND = 1 (de
DPR Objekt Nr:	153
Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.13
EEPROM	Yes

Short Description	Motor Number

Description

The command “MNUMBER nr” is used to load a motor data set with the number “nr” from the motor database. If MNUMBER 0 is entered, then no data set will be loaded, but the variable MNUMBER will simply be set to 0. This setting indicates a customer-specific motor data set.

Since |FW| > = 5.77:
MNUMBER = -1 -> While booting, only the offset values are loaded from the feedback. The settings for MNUMBER and |MPHASE| are ignored.

MNUMBER = -2 ->While booting, the offset values and |MPHASE| are loaded from the feedback. The setting for MNUMBER is ignored.

Comment:
MNUMBER = 0 .... 32767 -> While booting the value of MNUMBER + MPHASE + offset values are read from the encoder. If the motor number (|SMNUMBER|) deviates from the motor number set in the drive (MNUMBER), the motor data set |SMNUMBER| is loaded from the internal motor database and a warning n12 (new motor data) is displayed. If the motor number in the encoder (|SMNUMBER|) is set to 0, MNUMBER is also set to 0 and no motor data set is loaded. This setting is reserved for a custom motor data set.

ASCII -Command	MONITOR1
Syntax Transmit	MONITOR1 [Data]
Syntax Receive	MONITOR1 <Data>
Type	Variable ro
Format	Float
DIM	mV
Range	-10000 ..10000
Default	-
Opmode	All
Drive Status	
Start Firmware	3.75
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	359A (hex)
PROFIBUS PNU:	1754 (dec) IND = 1 (de
DPR Objekt Nr:	154
Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.13
EEPROM	No

Short Description	Monitor 1 Output voltage

Description

Real/set value for the analog output 1 of the POSIO card.
s. |ANOUT1|

FW 3.75/5.02

ASCII -Command	MONITOR2
Syntax Transmit	MONITOR2 [Data]
Syntax Receive	MONITOR2 <Data>
Type	Variable ro
Format	Float
DIM	mV
Range	-10000 ..10000
Default	-
Opmode	All
Drive Status	-
Start Firmware	3.75
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	359B (hex)
PROFIBUS PNU:	1755 (dec) IND = 1 (de
DPR Objekt Nr:	155

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.13
EEPROM	No

Short Description	Monitor 2 Output voltage

Description

Real/set value for the analog output 2 of the POSIO card.
s. |ANOUT2|

FW 3.75/5.02

ASCII -Command	MOVE
Syntax Transmit	MOVE [Data]
Syntax Receive	MOVE <Data>
Type	Command
Format	Integer16
DIM	-
Range	0 ... 300
Default	0
Opmode	4, 8
Drive Status	Enabled
Start Firmware	1.0
Configuration	☐
Function Group	Position Data

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3642 (hex)
PROFIBUS PNU:	1922 (dec) IND = 1 (de
DPR Objekt Nr:	322

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	No

Short Description	Start Motion Task

Description

The command “MOVE nr” starts the motion task “nr” from the motion task memory.
If the command is used without a parameter, then the number of the most recently started task will be displayed.

ASCII -Command	MPHASE
Syntax Transmit	MPHASE [Data]
Syntax Receive	MPHASE <Data>
Type	Variable rw
Format	Integer16
DIM	Electrical Degrees
Range	0 .. 360
Default	0
Opmode	All
Drive Status	Disabled
Start Firmware	1.0
Configuration	☐
Function Group	Feedback

Available in	S300/700		
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	359C (hex)
PROFIBUS PNU:	1756 (dec) IND = 1 (de
DPR Objekt Nr:	156

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Motor Phase, Feedback Offset

Description

The MOTOR PHASE parameter is handled in different ways, depending on the type of feedback (|FBTYPE|) that is used.
|FBTYPE|=0 resolver
MPHASE is saved in the serial EEPROM of the amplifier (|SAVE| command) and is transferred after every power-on of the amplifier.

|FBTYPE|=2, 4 Hiperface/Endat
MPHASE is saved in the serial EEPROM of the encoder (|HSAVE| command) and is read out from the encoder after every power-on of the amplifier. So if an encoder is exchanged, the MPHASE setting goes with the encoder. When a new encoder is fitted, the MPHASE value must be re-established and stored in the encoder (|HSAVE| command).

|FBTYPE|=7 sin/cos encoder without an internal EEPROM
MPHASE will be determined automatically at the first enable of the output stage (Wake & Shake)
It is not necessary to make a separate determination of the MPHASE value, or to save it.

ASCII -Command	MPHASE2
Syntax Transmit	MPHASE2 [Data]
Syntax Receive	MPHASE2 <Data>
Type	Variable rw
Format	Integer16
DIM	-
Range	0 ... 359, 1000
Default	1000
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	6.35
Configuration	☑
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3536 (hex)
PROFIBUS PNU:	1654 (dec) IND = 1 (de
DPR Objekt Nr:	54

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	
EEPROM	Yes

Short Description	Commutationfineadjustment

Description

Defines the MPHASE setting after the homing move. A value between 0 and 359 activates the function for setting the MPHASE value after the homing move is done The value MPHASE2 is written to the MPHASE parameter because the MPHASE parameter, which is calculated during W&S, can be imprecise.

The setting MPHASE2 1000 switches this function off.

ASCII -Command	MPITCH	Available in	S300/700
Syntax Transmit	MPITCH [Data]	MMI ☐	CAN-Bus ☑
Syntax Receive	MPITCH <Data>	PROFIBUS ☐	Sercos ☐
Type	Variable rw		
Format	Integer32	SERCOS IDN:	
DIM	um	CAN Object No:	351E (hex)
Range		PROFIBUS PNU:	1630 (dec) IND = 1 (de
Default	32000	DPR Objekt Nr:	30
Opmode	All		
Drive Status	-		
Start Firmware	0.67		
Configuration	☐	Data Type BUS/DPR	Integer32
Function Group		Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	pole pair pitch for linear motor

Description

The command MPITCH defines the pole - pair pitch for a linear motor.

ASCII -Command	MPKD
Syntax Transmit	MPKD [Data]
Syntax Receive	MPKD <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	-
Default	10000
Opmode	All
Drive Status	-
Start Firmware	2.53
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3870 (hex)
PROFIBUS PNU:	1680 (dec) IND = 33 (d
DPR Objekt Nr:	880

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.0
EEPROM	Yes

Short Description	D-Term for the commutation alignment PID position loop

Description

D-Term for the commutation alignment PID position loop (|CALCMP|)

ASCII -Command	MPKI
Syntax Transmit	MPKI [Data]
Syntax Receive	MPKI <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	-
Default	1000
Opmode	All
Drive Status	-
Start Firmware	2.53
Configuration	☑
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3871 (hex)
PROFIBUS PNU:	1681 (dec) IND = 33 (d
DPR Objekt Nr:	881

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.7
EEPROM	Yes

Short Description	I-Integration Time for the commutation alignment PID position loop (CALCMP)

Description

I-Integration Time for the commutation alignment PID position loop (|CALCMP|)

ASCII -Command	MPKP
Syntax Transmit	MPKP [Data]
Syntax Receive	MPKP <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	-
Default	600
Opmode	All
Drive Status	-
Start Firmware	2.53
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3872 (hex)
PROFIBUS PNU:	1682 (dec) IND = 33 (d
DPR Objekt Nr:	882

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.7
EEPROM	Yes

Short Description	Proportional gain for the commutation alignment PID position loop (CALCMP)

Description

Proportional gain for the commutation alignment PID position loop (|CALCMP|)

ASCII -Command	MPOLES
Syntax Transmit	MPOLES [Data]
Syntax Receive	MPOLES <Data>
Type	Variable rw
Format	Integer8
DIM	Poles
Range	0, 2, 4, 6, .. , 256
Default	6
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	1.0
Configuration	☑
Function Group	Motor

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	359D (hex)
PROFIBUS PNU:	1757 (dec) IND = 1 (de
DPR Objekt Nr:	157

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	2.14
EEPROM	Yes

Short Description	Number of Motor Poles

Description

The number of motor poles per turn of the motor.
MPOLES = 0 is not saved into the drive. The setting MPOLES =0 is also not monitored in the MMI.

Linear Motors:
The standard setting for linear motors is MPOLES = 2.
An exception is if enclines is not an integer value for the pole pitch distance (|MPITCH|). In this case a differnt value for enclines and |MPOLES| is required. Contact our technical support.

In all sensorless modes (|FBTYPE| = 10.11), the output frequency is limited to 599 Hz. This yields the following limits of maximum speed (in RPM): |MSPEED| (max) = 599Hz * 60 / (MPOLES/2) If your application requires a higher output frequency, please contact our support.

Under certain conditions, this variable is to be seen as a configuration variable. Only the setting of the value to 0 can be done with enabled power stage. All other changes may only be made if the power stage is disabled.

With these parameters, the amplifier decides whether a |COLDSTART| is necessary. The MPOLES change from the last value after the COLDSTART to 0 or back to 0 does not require a COLDSTART, otherwise a COLDSTART is required (e. g. from 6 to 8).

ASCII -Command	MPOLES_X	Available in	S300/700
Syntax Transmit	MPOLES [Data]	MMI ☑	CAN-Bus ☑
Syntax Receive	MPOLES <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer8	SERCOS IDN:	
DIM	Poles	CAN Object No:	3766 (hex)
Range	0, 2, 4, 6, .. , 256	PROFIBUS PNU:	1814 (dec) IND = 17 (d
Default	6	DPR Objekt Nr:	614
Opmode	All		
Drive Status	Disabled + Reset (Coldstart)		
Start Firmware	1.0		
Configuration	☐	Data Type BUS/DPR	Integer8
Function Group	Motor	Weighting 10^3	

Last Change of this Object	2.14
EEPROM	Yes

Short Description	Number of Motor Poles

Description

see |PARCNFG|, |MPOLES|

Under certain conditions, this variable is to be seen as a configuration variable. Only the setting of the value to 0 can be done with enabled power stage. All other changes may only be made if the power stage is disabled.

With these parameters, the amplifier decides whether a |COLDSTART| is necessary. The MPOLES_X change from the last value after the COLDSTART to 0 or back to 0 does not require a COLDSTART, otherwise a COLDSTART is required (e. g. from 6 to 8).

ASCII -Command	MPR	Available in	S300/700
Syntax Transmit	MPR [Data]	MMI ☑	CAN-Bus ☐
Syntax Receive	MPR <Data>	PROFIBUS ☐	Sercos ☐
Type	Variable rw		
Format	Integer16	SERCOS IDN:	
DIM	W	CAN Object No:	-
Range	100 .. 10000	PROFIBUS PNU:	-
Default	500	DPR Objekt Nr:	
Opmode	All		
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	Integer16
Function Group		Weighting 10^3	

Last Change of this Object	2.1
EEPROM	Yes

Short Description	Rated output power of the motor

Description

Rated output power of the motor

Used for calculation of |MTR|

ASCII -Command	MPTIME	Available in	S300/700
Syntax Transmit	MPTIME [Data]	MMI ☐	CAN-Bus ☑
Syntax Receive	MPTIME <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer32	SERCOS IDN:	
DIM	-	CAN Object No:	3873 (hex)
Range	-	PROFIBUS PNU:	1683 (dec) IND = 33 (d
Default	500	DPR Objekt Nr:	883
Opmode	All		
Drive Status	-		
Start Firmware	2.53		
Configuration	☐	Data Type BUS/DPR	Integer32
Function Group		Weighting 10^3	

Last Change of this Object	2.0
EEPROM	Yes

Short Description	Alignment time for the commutation alignment PID position loop (CALCMP)

Description

Alignment time for the commutation alignment PID position loop (|CALCMP|)

ASCII -Command	MRESBW
Syntax Transmit	MRESBW [Data]
Syntax Receive	MRESBW <Data>
Type	Variable rw
Format	Integer16
DIM	Hz
Range	50 .. 2000
Default	300
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Feedback

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	35A0 (hex)
PROFIBUS PNU:	1760 (dec) IND = 1 (de
DPR Objekt Nr:	160

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Resolver Bandwidth

Description

MRESBW is a tuning parameter that sets the bandwidth (in Hz) of the inner control loop. A high value (>800 Hz) results in a fast (low phase lag) and noisy velocity signal. A low value (<400 Hz) results in a slow (higher phase lag) and smooth velocity signal. The default value of 600 Hz is a compromise between phase lag and noise. The phase lag can be reduced by providing the acceleration feed forward signal (|VLO| = 1).

With a wide bandwidth, the drive responds more rapidly to control loop deviations and there is a smaller following error (reduced lag). A very wide bandwidth only makes sense with low moments of inertia, low KP, and very high acceleration values. A narrower bandwidth produces a filter effect. The rotational velocity and positional control are smoother (encoder equivalent output is quieter as well).
For the sensorless drive, the Luenberger Observer is used as the adaptive controller. Therefore, the parameter MRESBW corresponds to the bandwidth of the adaptive controller. It is normally set between 25 and 100 Hz.

ASCII -Command	MRESPOLES
Syntax Transmit	MRESPOLES [Data]
Syntax Receive	MRESPOLES <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	2, 4, .. 32
Default	2
Opmode	All
Drive Status	Disabled
Start Firmware	1.0
Configuration	☐
Function Group	Feedback

Available in	S300/700
MMI ☑	CAN-Bus ☑
PROFIBUS ☑	Sercos ☐
SERCOS IDN:	
CAN Object No:	35A1 (hex)
PROFIBUS PNU:	1761 (dec) IND = 1 (de
DPR Objekt Nr:	161
Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Number of Resolver Poles (Multispeed)

Description

The number of resolver poles (multispeed resolver) per turn.

ASCII -Command	MRS
Syntax Transmit	MRS [Data]
Syntax Receive	MRS <Data>
Type	Variable rw
Format	Float
DIM	Ohms
Range	0 .. 200
Default	1
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3686 (hex)
PROFIBUS PNU:	1990 (dec) IND = 1 (de
DPR Objekt Nr:	390

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	2.13
EEPROM	Yes

Short Description	Winding Resistance of the Stator Phase-Phase

Description

The parameter describes the stator winding resistance phase-phase in Ohm

ASCII -Command	MRS_X
Syntax Transmit	MRS [Data]
Syntax Receive	MRS <Data>
Type	Variable rw
Format	Float
DIM	Ohms
Range	0 .. 200
Default	1
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	376C (hex)
PROFIBUS PNU:	1820 (dec) IND = 17 (d
DPR Objekt Nr:	620

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	2.13
EEPROM	Yes

Short Description	Winding Resistance of the Stator Phase-Phase

Description

see |PARCNFG|

ASCII -Command	MSERIALNO
Syntax Transmit	MSERIALNO [Data]
Syntax Receive	MSERIALNO <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	Long Int
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	36A3 (hex)
PROFIBUS PNU:	2019 (dec) IND = 1 (de
DPR Objekt Nr:	419
Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Serial no of the motor for encoder feedback

Description

MSERIALNO give the possibility to add a serial number of the motor. It is stored in the encoder with parameter channel (EnDAT or Hiperface) of the motor by typing in |HSAVE|.
MSERIALNO gives the serial number of the connected motor with encoder feedback.
This command can only be used, if a motor with encoder is connected.

ASCII -Command	MSG
Syntax Transmit	MSG [Data]
Syntax Receive	MSG <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	0, 1, 2
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Communication

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	35A2 (hex)
PROFIBUS PNU:	1762 (dec) IND = 1 (de
DPR Objekt Nr:	162
Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Enable / Disable All Messages via RS232

Description

If “MSG 2” is set, then the execution of the individual initialization steps will be signaled through the serial interface when the amplifier is switched on (initialization phase). This setting should only be used for test purposes (e.g. during commissioning).
Since the drive setup software Drive.exe only works with the setting “MSG 1”, the “MSG 2” setting can only be implemented with the help of a terminal program (not in the terminal window of the operating program).

ASCII -Command	MSLBRAKE
Syntax Transmit	MSLBRAKE [Data]
Syntax Receive	MSLBRAKE <Data>
Type	Variable rw
Format	Integer16
DIM	-
Range	1 .. 32
Default	8
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3671 (hex)
PROFIBUS PNU:	1969 (dec) IND = 1 (de
DPR Objekt Nr:	369

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	DEC ramp at sensorless emergency stop

Description

If the feedback unit trips (Fault F04, F08 or F25), it is impossible to stop the motor with the standard commutation. Therefore a sensorless stop is implemented. It is not possible to define a ramp, because it depends on the friction and inertia of the system. MSLBRAKE offers the possibility to change the emergency ramp in this case. The lower MSLBRAKE is, the lower is the deceleration of the motor.

ASCII -Command	MSPEED
Syntax Transmit	MSPEED [Data]
Syntax Receive	MSPEED <Data>
Type	Variable rw
Format	Float
DIM	rpm
Range	0.0 .. 12000.0
Default	3000
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Motor

Available in	S300/700		
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	113
CAN Object No:	35A3 (hex)
PROFIBUS PNU:	1763 (dec) IND = 1 (de
DPR Objekt Nr:	163

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	2.10
EEPROM	Yes

Short Description	Maximum Rated Motor Velocity

Description

The MSPEED sets the upper limit for the following amplifier parameters: |VLIM|, |VLIMN|, 5/6 * |VOSPD|.

In all sensorless modes (|FBTYPE| = 10.11), the output frequency is limited to 599 Hz. This yields the following limits of maximum speed (in RPM): MSPEED (max) = 599Hz * 60 / (|MPOLES|/2) If your application requires a higher output frequency, please contact our support.

Details are shown at parameter |VUNIT| .

ASCII -Command	MTAB	Available in	S300/700
Syntax Transmit	MTAB [Data]	MMI ☐	CAN-Bus ☐
Syntax Receive	MTAB <Data>	PROFIBUS ☐	Sercos ☐
Type	Variable rw		
Format	-	SERCOS IDN:	
DIM	Ohm	CAN Object No:	-
Range		PROFIBUS PNU:	-
Default		DPR Objekt Nr:	
Opmode	All		
Drive Status			
Start Firmware	5.45		
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.8
EEPROM	Yes

Short Description	Enter the KTY characteristics

Description

With the syntax: MTAB Temp1 R1 Temp2 R2…Temp10 R10 defines the required characteristic curve

Temp1..10 : temperature in arbitrary value X
R1...R10: Resistor in Ohm

The number of points for the temperature characteristics must be 2 to 10. Internally, there will be a linear interpolation between the points. To delete the curve, type in MTAB 0 0

In a non-existent characteristic MTAB the command returns no values. If the characteristic is not defined, then the temperature display TEMPM and the temperature error threshold MAXTEMPM appears as a resistance in ohms.

For existing characteristic MTAB the units change for the parameters MAXTEMPM and TEMPM from ohms to unit X

Please have a look to: |TEMPM| und |MAXTEMPM|

ASCII -Command	MTANGLP	Available in	S300/700
Syntax Transmit	MTANGLP [Data]	MMI ☑	CAN-Bus ☑
Syntax Receive	MTANGLP <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer16	SERCOS IDN:	
DIM	Electrical Degrees	CAN Object No:	35A5 (hex)
Range	0 .. 45	PROFIBUS PNU:	1765 (dec) IND = 1 (de
Default	0	DPR Objekt Nr:	165
Opmode	All		
Drive Status	-		
Start Firmware	1.0		
Configuration	☐	Data Type BUS/DPR	Integer16
Function Group	Motor	Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Current Lead

Description

The current-dependent phase lead that is applied to make use of the reluctance torque at motor peak current (|MIPEAK|.

ASCII -Command	MTIME
Syntax Transmit	MTIME [Data]
Syntax Receive	MTIME <Data>
Type	Variable rw
Format	Float
DIM	s
Range	1 ... 600
Default	16
Opmode	All
Drive Status	
Start Firmware	1.0
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	35AC (hex)
PROFIBUS PNU:	1772 (dec) IND = 1 (de
DPR Objekt Nr:	172

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Motor thermal time constant

Description

Motor thermal time constant to calculate |MI2T| with |MICONT|

ASCII -Command	MTIME_X
Syntax Transmit	MTIME [Data]
Syntax Receive	MTIME <Data>
Type	Variable rw
Format	Float
DIM	s
Range	1 ... 600
Default	16
Opmode	All
Drive Status	
Start Firmware	1.0
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	376F (hex)
PROFIBUS PNU:	1823 (dec) IND = 17 (d
DPR Objekt Nr:	623

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	1.8
EEPROM	Yes

Short Description	Motor thermal time constant

Description

see |PARCNFG|

ASCII -Command	MTMUX
Syntax Transmit	MTMUX [Data]
Syntax Receive	MTMUX <Data>
Type	Variable rw
Format	Integer16
DIM	-
Range	0 ... 300
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	365B (hex)
PROFIBUS PNU:	1947 (dec) IND = 1 (de
DPR Objekt Nr:	347

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.6
EEPROM	No

Short Description	Presetting for motion task that is processed later

Description

The command MTMUX presets the number of a motion task that is then prepared to work with commands |O_P|,|O_V|,|O_C|,|O_ACC|,|O_DEC|,|O_FT|,|O_FN|.
All this commands then have access to the selected motion task.

MTMUX work only with motion tasks no. 0, 201 ... 300.

MTMUX is not stored in EEPROM. While start-up of the drive, MTMUX is automatically set to "0".

ASCII -Command	MTR
Syntax Transmit	MTR [Data]
Syntax Receive	MTR <Data>
Type	Variable rw
Format	-
DIM	ms
Range	20 ... 1000
Default	100
Opmode	All
Drive Status	
Start Firmware	1.37
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	366C (hex)
PROFIBUS PNU:	1964 (dec) IND = 1 (de
DPR Objekt Nr:	364
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.37
EEPROM	Yes

Short Description	Rotor time constant

Description

Rotor time constant for calculation of the magnetic rotor flux and the gap

ASCII -Command	MTYPE
Syntax Transmit	MTYPE [Data]
Syntax Receive	MTYPE <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	1 ... 4
Default	1
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	1.0
Configuration	☑
Function Group	-

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	35A6 (hex)
PROFIBUS PNU:	1766 (dec) IND = 1 (de
DPR Objekt Nr:	166
Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	2.10
EEPROM	Yes

Short Description	Motor Type

Description

MTYPE sets the drive control algorithms to different motor types as follows:
MTYPE = 1: permanent magnet motor
MTYPE = 2: permanent magnet motor with Id current control
The one case is for the linear permanent magnet motor, the other case is for the sensorless drive of permanent magnet motor.
MTYPE = 3: asynchronous motor (Induction motor)
MTYPE = 4: reserved for voice coil motor

ASCII -Command	MUR
Syntax Transmit	MUR [Data]
Syntax Receive	MUR <Data>
Type	Variable rw
Format	Integer16
DIM	V
Range	100 .. 500
Default	230
Opmode	1,2
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3886 (hex)
PROFIBUS PNU:	1702 (dec) IND = 33 (d
DPR Objekt Nr:	902

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.1
EEPROM	Yes

Short Description	rated voltage of the induction machin

Description

MUR is a paramtere for using a induction maschine and describes the rated voltage of the induction motor (in Volt)

ASCII -Command	MVANGLB
Syntax Transmit	MVANGLB [Data]
Syntax Receive	MVANGLB <Data>
Type	Variable rw
Format	Float
DIM	rpm
Range	0 .. 15000
Default	3000
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Motor

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	35A7 (hex)
PROFIBUS PNU:	1767 (dec) IND = 1 (de
DPR Objekt Nr:	167
Data Type BUS/DPR	Float
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Velocity-dependent Lead (Start Phi)

Description

This is a compensation for the inductive phase shift between the motor voltage and the motor current at high velocitys. With defined voltage relationships, it permits a higher torque at the final limit velocity. Alternatively, the achievable final limit velocity can be increased by up to 30%. Depending on the motor velocity, the phase shift (commutation angle) is increased linearly from the Start Phi point up to the Limit Phi value (|MVANGLF|) at the final limit velocity. The most favorable setting depends on the type of motor and the final limit velocity.
See also |MVANGLF|.

ASCII -Command	MVANGLF
Syntax Transmit	MVANGLF [Data]
Syntax Receive	MVANGLF <Data>
Type	Variable rw
Format	Integer16
DIM	Electrical Degrees
Range	0 .. 45
Default	20
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Motor

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	35A8 (hex)
PROFIBUS PNU:	1768 (dec) IND = 1 (de
DPR Objekt Nr:	168
Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Velocity-dependent Lead (Limit Phi)

Description

This is a compensation for the inductive phase shift between the motor voltage and the motor current at high velocitys. With defined voltage relationships, this permits a higher torque at the final limit velocity. Alternatively, the achievable final limit velocity can be increased by up to 30%. Depending on the motor velocity, the phase shift is increased linearly from the Start Phi point (|MVANGLB|) up to the End Phi value at the final limit velocity. The most favorable setting depends on the type of motor and the final limit velocity.
See also |MVANGLB|.

ASCII -Command	MVANGLMODE
Syntax Transmit	MVANGLMODE [Data]
Syntax Receive	MVANGLMODE <Data>
Type	Variable rw
Format	Integer8
DIM	
Range	0 .. 1
Default	0
Opmode	All
Drive Status	
Start Firmware	5.50
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	
CAN Object No:	38CF (hex)
PROFIBUS PNU:	1775 (dec) IND = 33 (d
DPR Objekt Nr:	975
Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	2.7
EEPROM	

Short Description	SR600 kompat. mode for speed dependend phase lead

Description

The phase lead with S300/S700 based on the method of the SR600. In the actual implementing some changes have been made which lead to the following improvements:

1. better operational dynamics in the field weakening
2. dynamic current limit (resulting in a slower rise of I2t)
3. active phase lead, with acceleration and(!) deceleration

In situations where a desired behavior is similar to the SR600 (e.g. using parameters obtained with a SR600), this can be enabled by setting MVANGLMODE = 1

ASCII -Command	MVANGLP
Syntax Transmit	MVANGLP [Data]
Syntax Receive	MVANGLP <Data>
Type	Variable rw
Format	Integer16
DIM	Electrical Degrees
Range	0 .. 60
Default	20
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700		
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3592 (hex)
PROFIBUS PNU:	1746 (dec) IND = 1 (de
DPR Objekt Nr:	146

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Velocity-dependent Lead (Commutation Angle)

Description

The inductive phase shift between the motor current and the motor voltage is compensated at high velocities. With the given voltage conditions, a higher torque is achieved at the velocity limit.
Alternatively, the achievable velocity limit is increased by 30%. The phase shift is increased linearly from a value of 0 degrees at |MVANGLB| up to a final value of |MVANGLF| degrees at |VLIM|. The optimum setting depends on the type of motor and velocity limit.

ASCII -Command	MVER	Available in	S300/700
Syntax Transmit	MVER	MMI ☐	CAN-Bus ☑
Syntax Receive	MVER <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable ro		
Format	Float	SERCOS IDN:	
DIM	-	CAN Object No:	3861 (hex)
Range		PROFIBUS PNU:	1665 (dec) IND = 33 (d
Default		DPR Objekt Nr:	865
Opmode	All		
Drive Status	-		
Start Firmware	2.14		
Configuration	☐	Data Type BUS/DPR	Float32
Function Group		Weighting 10^3	

Last Change of this Object	1.5
EEPROM	No

Short Description	Version of the motor data base

Description

This variable includes the version of the motor data base.

ASCII -Command	MVR	Available in	S300/700
Syntax Transmit	MVR [Data]	MMI ☐	CAN-Bus ☑
Syntax Receive	MVR <Data>	PROFIBUS ☑	Sercos ☐
Type			
Format	-	SERCOS IDN:	
DIM		CAN Object No:	366D (hex)
Range	0 .. MSPEED	PROFIBUS PNU:	1965 (dec) IND = 1 (de
Default	0	DPR Objekt Nr:	365
Opmode			
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.13
EEPROM	

Short Description	Nominal speed of asynchron motor

Description

Rated speed of the induction motor.

Significance depends on mode of operation:

1. Normal operation of the induction machine (with sensor): (|DRVCNFG2| Bit 0x8000000=1)
MVR defines the beginning of field for the induction machine. Above this speed, the nominalD-current (MIMR) is lowered. MVR = 0 disables field weakening

2. V/f control (no sensor): (|DRVCNFG2| Bit 0x8000000=0)
Used to calculate V/f trajectory.

ASCII -Command	NONBTB
Syntax Transmit	NONBTB [Data]
Syntax Receive	NONBTB <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	0, 1
Default	0
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	1.0
Configuration	☑
Function Group	-

Available in	S300/700		
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	35AA (hex)
PROFIBUS PNU:	1770 (dec) IND = 1 (de
DPR Objekt Nr:	170

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Mains-BTB Check On/Off

Description

If the AC main power is missing, then the output stage will produce a fault message F16 (Mains-RTO) if the drive is enabled. To disable this response set NONBTB = 1. In the case the drive is powered direct by DC power this setting is requiered.

The influence of the NONBTB setting is as follows:

NONBTB=0: Prechargelevel=350V , VBUS-ripple 1.5V/1msek, monitoring Net-BTB activ for 400/480V-line entry
NONBTB=1: Prechargelevel=350V, VBUS-ripple 1.5V/1msek, monitoring Net-BTB not activ for 400/480V-line entry
NONBTB=2: reserved
NONBTB=3: Prechargelevel=100V, VBUS-ripple 1.5V/1msek, monitoring Net-BTB not activ for 230V-line entry
NONBTB=4: Prechargelevel=10V, VBUS-ripple 1.5V/1msek, monitoring Net-BTB not activ for 48V-line entry

An adittional parameter |RELTIME| can be used to deactivate the monitoring of the |VBUS| ripple.
See also |UVLTMODE|.

ASCII -Command	NREF
Syntax Transmit	NREF [Data]
Syntax Receive	NREF <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	-2 .. 20
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Setting-up Mode

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	P 3027
CAN Object No:	35AD (hex)
PROFIBUS PNU:	1773 (dec) IND = 1 (de
DPR Objekt Nr:	173

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	2.13
EEPROM	Yes

Short Description	Homing Mode

Description

For linear movements, before a positioning movement can be started, a homing operation must be carried out. The reference point set in this operation is valid until the next hardware reset of the amplifier. An attempt to start positioning without a reference point being set causes a warning (LCD display n09). Any previously-set reference point is cancelled before the homing operation begins.
A preset zero-point offset is taken into account for the position output and display. Exception: Homing=5. In this case, the true current position is displayed. You can shift the zero-crossing point of the motor shaft within one turn by using |ENCZERO|.
Zero-point recognition: The reference point is set to the first zero-crossing point of the feedback unit (zero mark) after recognition of the reference switch transition. Two-pole resolvers and all encoders have just one zero-crossing per turn, so the positioning at the zero mark is unambiguous within a motor turn. For four-pole resolvers, there are two zero-crossings per turn. For six-pole resolvers, there are three zero-crossings per turn. If the transition of the reference switch lies very close to the zero-crossing point of the feedback unit, the positioning to the zero mark can vary by one motor turn. The repetition accuracy of homing operations made without zero-point recognition depends on the traversing velocity and the mechanical design of the reference or limit switch.
For homing modes 1 and 3, a digital input must be configured as a zero-mark input (home position) (|INxMODE|=12 or I/O expansion card).
For homing modes 2 and 4, a digital input must be configured as a hardware limit switch (see also |IN3MODE| or |IN4MODE|).
For homing modes 1, 2, 3, 4, 5, and 7, the setting of the zero-pulse offset for the Encoder Equivalent Output (EEO) output is taken into account (the zero point is set so both the output of the zero pulse and the display of the zero position appear at zero-pulse offset).
The setting of the reference offset (|ROFFS|) is taken into account for all homing modes. The zero point is assigned to a freely chosen absolute position value.

If a multiturn encoder is used, every homing move can be started. If the homing move is ready, |RSOFFS| is calculated automatically and a |SAVE| command is executed.
Wenn the drive is switched off and on, the drive has the same position.

See also |REFMODE|, |VREF|

Zustand	Short Description	Additional Description
NREF=0	Set Reference at actual position	The actual position becomes the refernce point (the target and the actual position are set to |ROFFS|). The distance between the actual and the target position is lost.

NREF=1	Traverse to the reference switch with zero-mark recognition.	The drive starts a move using |DREF|, until a positive edge at the reference switch is detected. Then the distance to the next zero point of the resolver is calculated and a move to this position is started. If the reference switch is present (input signal = high), a move in the opposite direction of |DREF| is startet until a negative edge is detected. Then the homing move is started. If a hardware limit switch is detected (start of the homing move behind the reference switch), the direction is changed and a move is started, until a positive and a negative level edge is detected at the reference switch. Then the homing move is started. At the end of the homing move, the target and the actual position are set to |ROFFS|.
NREF=2	Move to hardware limit-switch, with zero-mark recognition.	The drive starts a move using |DREF| until the hardware limit switch is reached. Then the direction is changed and the drive moves to the next zero point of the resolver. At the end of the homing move, the target and the actual position are set to |ROFFS|.
NREF=3	Move to reference switch, without zero-mark recognition.	The drive starts a move using |DREF|, until a positive edge at the reference switch is detected. The position at the edge of the reference move is eqivalent to |ROFFS|. Then the drive stops. If the reference switch is present (input signal = high), a move in the opposite direction of |DREF| is startet until a negative edge is detected. Then the homing move is started. If a hardware limit switch is detected (start of the homing move behind the reference switch), the direction is changed and a move is started, until a positive and a negative level edge is detected at the reference switch. Then the homing move is started. The real stop position is not the edge of the reference switch and depends on the selected speed and the deceleration ramp.
NREF=4	Move to hardware limit-switch, without zero-mark recognition.	The drive starts a move using |DREF|, until the hardware limit switch is detected. Then the direction is changed and a move is started until the hardware limit switch is high again. The position at the edge of the hardware limit switch is eqivalent to |ROFFS|. Then the drive stops. The real stop position is not the edge of the hardware limit switch and depends on the selected speed and the deceleration ramp.
NREF=5	Move to the next zero-mark of the feedback unit.	Homing to the next zero point of the resolver. The moving direction is given by variable |DREF|. |DREF|=0 negative |DREF|=1 positive |DREF|=2 the direction is given by the shortest distance.
NREF=6	Set Reference at actual position, without loosing target position	The actual position becomes the reference point (the position setpoint and the actual position are set to |ROFFS|). The difference to NREF=0 is, that the distance between target and actual position is not lost (position error).

NREF=7	Move to mechanical stop with zero-mark recognition	When the homing mode 7 is started, the peak current limit threshold |IPEAK| is set to |REFIP| (peak current for the homing mode in A) in the drirection given by |DREF| (|DREF|=0 negative, |DREF|=1 positive). When the drive moves the motor, the contouring error is monitored and if the error becomes higher than |PEMAX| / 2 (half of the contouring error window), the direction is changed and a move to the next zero point of the resolver is startet. The motor stops in that position and sets the actual and the target position to |ROFFS|. The peak current of the drive is set back to the original value of |IPEAK|.
NREF=8	Move to absolute SSI-position	When a homing mode 8 is started, the actual position of an external Multiturn SSI encoder (selected by |GEARMODE|) is read, calculated with |GEARI| and |GEARO| to internal counts and an offset value |ROFFSSSI| is added. The result is a target position for a motion task that is started. When the target position is reached, the IN-POSITION bit is set. This function is done for a gantry application with multiturn encoder feedback and coupling of the two drive using SSI multiturn,
NREF=9	Move to mechanical stop without zero-mark recognition	When the homing mode 9 is started, the peak current limit threshold |IPEAK| is set to |REFIP| (peak current for the homing mode in A) in the drirection given by |DREF| (|DREF|=0 positive, |DREF|=1 negative). When the drive moves the motor, the contouring error is monitored and if the error becomes higher than |PEMAX| / 2 (half of the contouring error window), this position is used to set the actual and the target position to |ROFFS|. The peak current of the drive is set back to the original value of |IPEAK|.

ASCII -Command	NREFG	Available in	S300/700
Syntax Transmit	-	MMI ☐	CAN-Bus ☐
Syntax Receive	-	PROFIBUS ☐	Sercos ☐
Type	-		
Format	-	SERCOS IDN:	
DIM	-	CAN Object No:	-
Range		PROFIBUS PNU:	-
Default		DPR Objekt Nr:	
Opmode			
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	internal parameter

Description

This parameter is internal and is not documented. It could be a customized or test/service parameter.

It is not allowed to change this parameter!

ASCII -Command	NREFMT
Syntax Transmit	NREFMT [Data]
Syntax Receive	NREFMT <Data>
Type	Variable rw
Format	Integer16
DIM	
Range	0 ... 511
Default	0
Opmode	8
Drive Status	
Start Firmware	1.0
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	36D2 (hex)
PROFIBUS PNU:	1666 (dec) IND = 17 (d
DPR Objekt Nr:	466

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Homing wih following motion task

Description

The command NREFMT will automatically start a motion task at the end of homing.

The parameter NREFMT is a bit-variable (16 bit)

FEDCBA9876543210
xxxxxxxcnnnnnnnn

Bits 0..7 (nnnnnnnn) number of the automatic started motion task
number = 0 no motion task will be started.

Bit 8 =0 motion task nn will be startet after the motor stopped. The bits "homing active=0“ and "homing finnished=1“ are set before motion task nn is started.

=1 motion task nn starts immediately. The bits "homing active=0“ and "homing finnished=1“ are set after motion task nn is finnished.

ASCII -Command	O_ACC
Syntax Transmit	O_ACC [Data]
Syntax Receive	O_ACC <Data>
Type	Variable rw
Format	Integer32
DIM	ms, mm/sec ^2
Range	0 ... 2147483647
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700		
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	35B7 (hex)
PROFIBUS PNU:	1783 (dec) IND = 1 (de
DPR Objekt Nr:	183
Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.6
EEPROM	Yes

Short Description	Acceleration Time 1 for Motion Task 0

Description

The command O_ACC can be used to define the acceleration ramp for motion task 0 (direct motion block). The scaling of the acceleration time depends on the |PGEARI|, |PGEARO| and |O_C| parameters.

1. Bit 12 of the motion task control variable |O_C| is = 0.
   The acceleration time is given in milliseconds for acceleration from 0 to the target speed |O_V|.
2. Bit 12 of the motion task control variable |O_C| is = 1.
   The acceleration is given in mm/sec². The resulting run-up time is calculated at the start of the motion task.

Note: If the resolution is set to 1 (|PGEARI|=|PGEARO|) then internal units (counts) will be used for the speed, position and acceleration. In this case, O_ACC is interpreted as a run-up time in msec.

ASCII -Command	O_C
Syntax Transmit	O_C [Data]
Syntax Receive	O_C <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	int
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700		
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	35B9 (hex)
PROFIBUS PNU:	1785 (dec) IND = 1 (de
DPR Objekt Nr:	185

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Control Variable for Motion Task 0

Description

The O_C command defines the type of motion task for the local motion task 0 (direct motion task).
A bit-variable (32 bits) is transferred as the parameter. The individual bits of this variable are interpreted as follows:

see also |o_c_3|

Bit	Significance	Meaning
0	0x0001	Bit for the type of motion task (relative or absolute) (see table 2)
1	0x0002	Bit for the type of the relative motion task (see table 2)
2	0x0004	Bit for the type of the relative motion task (see table 2)
3	0x0008	=0 no next motion task, at the end of the motion task, the drive stops. =1 Next motion task selected, at the end of the motion task, automatically the next motion task is started. The number of the next motion task is given by |O_FN| This function is only available with linear acceleration.
4	0x0010	Bit for the type of next motion task (see table 3)
5	0x0020	Bit for the type of next motion task (see table 3)
6	0x0040	Bit for the type of next motion task (see table 3)
7	0x0080	Bit for the type of next motion task (see table 3)
8	0x0100	Bit for the type of next motion task (see table 3)
9	0x0200	=0 The motion task is executed via the internal trajectory generator. =1 A stored lookup table profile is started. The table has to be stored in the flash of the drive. |O_TAB| gives the number of the selected table. The sum of |O_ACC| and |O_DEC| gives the moving time of the profile in ms, independent of |ACCUNIT|.

10	0x0400	=0 The profile is executed in the given direction. =1 The profile is executed in the inverse direction.
11	0x0800	reserved
12	0x1000	reserved
13	0x2000	=0 The target postition and target speed of the motion task are in [IncrementsPRBASE]and [InkrementePRBASE / 250us]. They are nopt internal calculated in other units. The unit IncrementsPRBASE means one turn is erqual 2^PRBASE increments. =1 The target position and target speed is given in SI units. There must be a calulation with |PGEARI| and |PGEARO| to get the internal counts (see also |O_S|, |O_V|, |PGEARI|, |PGEARO|). If |VUNIT| <> 0 the speed is given in VUNIT
14	0x4000	=0 The speed that is given in the motion task is the target speed. =1 The target speed is given by the analog setpoint 1. When a motion task is started, the anlog input is read and becomes the target speed of the motion task (Scaling: 10V=|VSCALE1|). The absolute of Analog In 1 is used.
15	0x8000	Bit 3 of the type of the relative motion task (see separate table)
16	0x10000	If bit 16 is set a table motion task is started. Bit 9 has to be set to 0.
17	0x20000	=1 Position setpoint in internal increments and in 32 bit format.one turn is equal 2^32 increments. The speed is monitored in increments 32/250µs.
	Table 2	Type of relative/absolute Motion Task
Bit 15/2/1/0	Meaning	
xxx0	Absolute Motion Task, the position value in the motion task is the new target position	
x001	Relative Motion Task, the position value in the motion task is added to the old target position. The target position depends on the IN-POSITION message: IN-POSITION=1 target position = last target position + relative position of the motion task IN-POSITION = 0 target position = actual position + relative position of the motion task	
x011	Relative Motion Task, the position value in the motion task is added to the old target position. target position = last target position + relative position of the motion task	
x101	Relative Motion Task, the position value in the motion task is added to the actual position. target position = actual position + relative position of the motion task	

0111	Relative Motion Task, the position value in the motion task is added to the old target position. target position = last latched position at the positive edge of the input + relative position of the motion task (see object |LATCH1P32|, |LATCH1N32|, |LATCH1P16|, |LATCH1N16|, |LATCH2P32|, ...)	
1111	Relative Motion Task, the position value in the motion task is added to the old target position. target position = latched position at the negative edge of the input + relative move of the motion task (see object |LATCH32N|	
	Table 3	Type of Next motion task
Bit 8/7/6/5/4	Meaning	
00000	Switch over to next motion task with stop. The drive stops at the target position of the actual motion task. Then it starts the next motion task in the sequence.	
00001	Switch over to next motion task without stop. The drive moves to the target position with target speed of the actual motion task. Then it starts the next motion task in the sequence.	
10001	Switch over to next motion task without stop. The drive calculates the brake point, that the speed of the motor at target position becomes the speedof the next motion task in the sequence.	
00010	Switch over to next motion task with stop. The drive stops at the target position of the actual motion task. The next motion task in the sequence is started, if the digital input selected by |INxMODE|=15 is switched to low.	
00110	Switch over to next motion task with stop. The drive stops at the target position of the actual motion task. The next motion task in the sequence is started, if the digital input selected by |INxMODE|=15 is switched to high.	
01000	Switch over to next motion task with stop. The drive stops at the target position of the actual motion task. The next motion task in the sequence is started after the selected delay time defined by |O_FT|).	
01010	Switch over to next motion task with stop. The drive stops at the target position of the actual motion task. The next motion task in the sequence is started after the selected delay time defined by |O_FT|) or if the digital input selected by |INxMODE|=15 is set to low.	

01110	Switch over to next motion task with stop. The drive stops at the target position of the actual motion task. The next motion task in the sequence is started after the selected delay time defined by |O_FT|) or if the digital input selected by |INxMODE|=15 is set to high.

ASCII -Command	O_DEC
Syntax Transmit	O_DEC [Data]
Syntax Receive	O_DEC <Data>
Type	Variable rw
Format	Integer32
DIM	ms, mm/sec ^2
Range	0 ... 2147483647
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700		
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	35BA (hex)
PROFIBUS PNU:	1786 (dec) IND = 1 (de
DPR Objekt Nr:	186

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.6
EEPROM	Yes

Short Description	Braking Time 1 for Motion Task 0

Description

The command O_DEC can be used to define the deceleration (braking) ramp for motion task 0 (direct motion task). The scaling of the deceleration/braking time depends on the |PGEARI|, |PGEARO| and |O_C| parameters.

1. Bit 12 of the motion task control variable |O_C| is = 0.
   The braking time is given in milliseconds for deceleration from target speed |O_V| down to 0.
2. Bit 12 of the motion task control variable |O_C| is = 1.
   The deceleration is given in mm/sec². The resulting run-down time is calculated at the start of the motion task.

Note: If the resolution is set to 1 (|PGEARI|=|PGEARO|) then internal units (counts) will be used for the speed, position and acceleration. In this case, O_DEC is interpreted as a run-down time in msec.

ASCII -Command	O_FN
Syntax Transmit	O_FN [Data]
Syntax Receive	O_FN <Data>
Type	Variable rw
Format	Integer16
DIM	-
Range	0, 1, .. ,180,192 .. 255
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	35BC (hex)
PROFIBUS PNU:	1788 (dec) IND = 1 (de
DPR Objekt Nr:	188

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Next Task Number for Motion Task 0

Description

The command O_FN can be used to define the number of the following motion block. This number is only used if bit 3 (next block activated) of the motion block control word is set to 1.
The motion block number can have the following values:
0 - direct motion block
1 ... 180 motion block from the Flash EEPROM
192 ... 255 motion block from the RAM

ASCII -Command	O_FT
Syntax Transmit	O_FT [Data]
Syntax Receive	O_FT <Data>
Type	Variable rw
Format	Integer16
DIM	ms
Range	0 .. 32767
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700
MMI ☑	CAN-Bus ☑
PROFIBUS ☑	Sercos ☐
SERCOS IDN:	
CAN Object No:	35BD (hex)
PROFIBUS PNU:	1789 (dec) IND = 1 (de
DPR Objekt Nr:	189
Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.13
EEPROM	No

Short Description	Delay before Next Motion Task

Description

This parameter can be used to delay the start of the next motion task (if one is defined). This parameter is only evaluated if bit 3 (next task activated) and bit 7 (delay time activated) of the motion task control word are set.

ASCII -Command	O_P
Syntax Transmit	O_P [Data]
Syntax Receive	O_P <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	long int
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700		
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	35BE (hex)
PROFIBUS PNU:	1790 (dec) IND = 1 (de
DPR Objekt Nr:	190
Data Type BUS/DPR	Integer64
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Target Position/Path for Motion Task 0

Description

The command O_P can be used to define the target position for motion block 0 (direct motion block). Depending on the type of motion task (absolute or relative) this parameter will be interpreted as an absolute target position or a relative path movement. The scaling of the position depends on the |PGEARI|, |PGEARO|, |PRBASE| and |O_C| parameters.

1. Bit 13 of the motion block control word = 0 (given in internal units)
The position /path is given in counts.
Scaling: |PRBASE|=20 -> 1048576 increments per turn
|PRBASE|=16 -> 65536 increments per turn

2. Bit 13 of the motion block control variable is = 1 (taking the resolution into account)
The position is converted according to the following formula:
Position [increments] = |O_P| * |PGEARO| / |PGEARI|

Note: If the resolution is set to 1 (|PGEARI|=|PGEARO|*2^|PRBASE|) then internal units (counts) will be used for the speed, position and acceleration.

ASCII -Command	O_TAB	Available in	S300/700
Syntax Transmit	O_TAB [Data]	MMI ☐	CAN-Bus ☑
Syntax Receive	O_TAB <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer16	SERCOS IDN:	
DIM		CAN Object No:	35B8 (hex)
Range		PROFIBUS PNU:	1784 (dec) IND = 1 (de
Default		DPR Objekt Nr:	184
Opmode			
Drive Status			
Start Firmware	1.0		
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	1.0
EEPROM	

Short Description	select acceleration profile table

Description

see also >> GUI Onlinehelp >> Acceleration Profile Tables

ASCII -Command	O_V
Syntax Transmit	O_V [Data]
Syntax Receive	O_V <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	0 ... 2147483647
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700
MMI ☑	CAN-Bus ☑
PROFIBUS ☑	Sercos ☐
SERCOS IDN:	
CAN Object No:	35BF (hex)
PROFIBUS PNU:	1791 (dec) IND = 1 (de
DPR Objekt Nr:	191
Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.13
EEPROM	No

Short Description	Target Speed for Motion Task 0

Description

The command O_V can be used to define the target speed for motion block 0 (direct motion block). The scaling of the speed depends on the |PGEARI|, |PGEARO|, |PRBASE| and |O_C| parameters.

1. Bit 13 of the motion block control word = 0 (given in internal units)
The speed is given in counts.
Scaling: |PRBASE|=20 -> 140/32 increments per rpm
|PRBASE|=16 -> 140/512 increments per rpm

2. Bit 13 of the motion block control variable is = 1 (taking the resolution into account)
The speed is given in the actual VUNIT - units.
On |VUNIT| =0 or 5 the speed is converted according to the following formula:
Speed [increments] = |O_P| * |PGEARO| / |PGEARI| / 4000

Note: If |PGEARI| = PGEARO * 2^|PRBASE|, then there will be no conversion from user-defined units into increments. In this case, the position and velocity must be given in increments.

ASCII -Command	O1
Syntax Transmit	O1 [Data]
Syntax Receive	O1 <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Digital I/O

Available in	S300/700
MMI	☑
CAN-Bus	☑
PROFIBUS	☑
Sercos	☑

SERCOS IDN:	P 3036 ... 7
CAN Object No:	35AE (hex)
PROFIBUS PNU:	1774 (dec) IND = 1 (de
DPR Objekt Nr:	174

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	State of Digital Output 1

Description

S300:
The O1 command returns the state of the digital output 1 (0 = Low,1 = High).
If no function (|O1MODE|=0) is assigned to digital output 1 , then the High/Low state can be given out at output 1 by using the command “O1 1” or “O1 0”.

S700:
The O1 command returns the state of the digital output 1 (0 = Low,1 = High).
If the function (|O1MODE|=23) is assigned to digital output 1 , then the High/Low state can be given out at output 1 by using the command “O1 1” or “O1 0”.

ASCII -Command	O10
Syntax Transmit	O10 [Data]
Syntax Receive	O10 <Data>
Type	Variable rw
Format	Integer8
DIM	
Range	
Default	
Opmode	
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	373A (hex)
PROFIBUS PNU:	1770 (dec) IND = 17 (d
DPR Objekt Nr:	570
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.2
EEPROM	No

Short Description	State of digital output 10

Description

see |O3_18|

ASCII -Command	O10MODE
Syntax Transmit	O10MODE [Data]
Syntax Receive	O10MODE <Data>
Type	Variable rw
Format	Integer8
DIM	
Range	0 .. 100
Default	
Opmode	
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	
Configuration	☑
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	373B (hex)
PROFIBUS PNU:	1771 (dec) IND = 17 (d
DPR Objekt Nr:	571
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.2
EEPROM	Yes

Short Description	Function of digital output 10

Description

see |O3_18MODE|

ASCII -Command	O10TRIG
Syntax Transmit	O10TRIG [Data]
Syntax Receive	O10TRIG <Data>
Type	Variable rw
Format	Integer32
DIM	
Range	
Default	
Opmode	
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	373C (hex)
PROFIBUS PNU:	1772 (dec) IND = 17 (d
DPR Objekt Nr:	572
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.2
EEPROM	Yes

Short Description	Auxiliary Variable for digital output 10

Description

see |O3_18TRIG|

ASCII -Command	O11
Syntax Transmit	O11 [Data]
Syntax Receive	O11 <Data>
Type	Variable rw
Format	Integer8
DIM	
Range	
Default	
Opmode	
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in	S300/700
MMI ☐	CAN-Bus ☑
PROFIBUS ☑	Sercos ☐
SERCOS IDN:	
CAN Object No:	373D (hex)
PROFIBUS PNU:	1773 (dec) IND = 17 (d
DPR Objekt Nr:	573
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.2
EEPROM	No

Short Description	State of digital output 11

Description

see |O3_18|

ASCII -Command	O11MODE
Syntax Transmit	O11MODE [Data]
Syntax Receive	O11MODE <Data>
Type	Variable rw
Format	Integer8
DIM	
Range	0 .. 100
Default	
Opmode	
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	
Configuration	☑
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	373E (hex)
PROFIBUS PNU:	1774 (dec) IND = 17 (d
DPR Objekt Nr:	574
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.2
EEPROM	Yes

Short Description	Function of digital output 11

Description

see |O3_18MODE|

ASCII -Command	O11TRIG
Syntax Transmit	O11TRIG [Data]
Syntax Receive	O11TRIG <Data>
Type	Variable rw
Format	Integer32
DIM	
Range	
Default	
Opmode	
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	373F (hex)
PROFIBUS PNU:	1775 (dec) IND = 17 (d
DPR Objekt Nr:	575
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.2
EEPROM	Yes

Short Description	Auxiliary Variable for digital output 11

Description

see |O3_18TRIG|

ASCII -Command	O12
Syntax Transmit	O12 [Data]
Syntax Receive	O12 <Data>
Type	Variable rw
Format	Integer8
DIM	
Range	
Default	
Opmode	
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in	S300/700
MMI ☐	CAN-Bus ☑
PROFIBUS ☑	Sercos ☐
SERCOS IDN:	
CAN Object No:	3740 (hex)
PROFIBUS PNU:	1776 (dec) IND = 17 (d
DPR Objekt Nr:	576
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.2
EEPROM	No

Short Description	State of digital output 12

Description

see |O3_18|

ASCII -Command	O12MODE
Syntax Transmit	O12MODE [Data]
Syntax Receive	O12MODE <Data>
Type	Variable rw
Format	Integer8
DIM	
Range	0 .. 100
Default	
Opmode	
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	
Configuration	☑
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3741 (hex)
PROFIBUS PNU:	1777 (dec) IND = 17 (d
DPR Objekt Nr:	577
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.2
EEPROM	Yes

Short Description	Function of digital output 12

Description

see |O3_18MODE|

ASCII -Command	O12TRIG	Available in	S300/700
Syntax Transmit	O12TRIG [Data]	MMI ☐	CAN-Bus ☑
Syntax Receive	O12TRIG <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer32	SERCOS IDN:	
DIM		CAN Object No:	3742 (hex)
Range		PROFIBUS PNU:	1778 (dec) IND = 17 (d
Default		DPR Objekt Nr:	578
Opmode			
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	1.2
EEPROM	Yes

Short Description	Auxiliary Variable for digital output 12

Description

see |O3_18TRIG|

ASCII -Command	O13
Syntax Transmit	O13 [Data]
Syntax Receive	O13 <Data>
Type	Variable rw
Format	Integer8
DIM	
Range	
Default	
Opmode	
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3743 (hex)
PROFIBUS PNU:	1779 (dec) IND = 17 (d
DPR Objekt Nr:	579

Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.2
EEPROM	No

Short Description	State of digital output 13

Description

see |O3_18|

ASCII -Command	O13MODE
Syntax Transmit	O13MODE [Data]
Syntax Receive	O13MODE <Data>
Type	Variable rw
Format	Integer8
DIM	
Range	0 .. 100
Default	
Opmode	
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	
Configuration	☑
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3744 (hex)
PROFIBUS PNU:	1780 (dec) IND = 17 (d
DPR Objekt Nr:	580
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.2
EEPROM	Yes

Short Description	Function of digital output 13

Description

see |O3_18MODE|

ASCII -Command	O13TRIG
Syntax Transmit	O13TRIG [Data]
Syntax Receive	O13TRIG <Data>
Type	Variable rw
Format	Integer32
DIM	
Range	
Default	
Opmode	
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3745 (hex)
PROFIBUS PNU:	1781 (dec) IND = 17 (d
DPR Objekt Nr:	581
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.2
EEPROM	Yes

Short Description	Auxiliary Variable for digital output 13

Description

see |O3_18TRIG|

ASCII -Command	O14
Syntax Transmit	O14 [Data]
Syntax Receive	O14 <Data>
Type	Variable rw
Format	Integer8
DIM	
Range	
Default	
Opmode	
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in	S300/700
MMI ☐	CAN-Bus ☑
PROFIBUS ☑	Sercos ☐
SERCOS IDN:	
CAN Object No:	3746 (hex)
PROFIBUS PNU:	1782 (dec) IND = 17 (d
DPR Objekt Nr:	582
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.2
EEPROM	No

Short Description	State of digital output 14

Description

see |O3_18|

ASCII -Command	O14MODE
Syntax Transmit	O14MODE [Data]
Syntax Receive	O14MODE <Data>
Type	Variable rw
Format	Integer8
DIM	
Range	0 .. 100
Default	
Opmode	
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	
Configuration	☑
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3747 (hex)
PROFIBUS PNU:	1783 (dec) IND = 17 (d
DPR Objekt Nr:	583
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.2
EEPROM	Yes

Short Description	Function of digital output 14

Description

see |O3_18MODE|

ASCII -Command	O14TRIG
Syntax Transmit	O14TRIG [Data]
Syntax Receive	O14TRIG <Data>
Type	Variable rw
Format	Integer32
DIM	
Range	
Default	
Opmode	
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3748 (hex)
PROFIBUS PNU:	1784 (dec) IND = 17 (d
DPR Objekt Nr:	584
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.2
EEPROM	Yes

Short Description	Auxiliary Variable for digital output 14

Description

see |O3_18TRIG|

ASCII -Command	O15
Syntax Transmit	O15 [Data]
Syntax Receive	O15 <Data>
Type	Variable rw
Format	Integer8
DIM	
Range	
Default	
Opmode	
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in	S300/700
MMI ☐	CAN-Bus ☑
PROFIBUS ☑	Sercos ☐
SERCOS IDN:	
CAN Object No:	3749 (hex)
PROFIBUS PNU:	1785 (dec) IND = 17 (d
DPR Objekt Nr:	585
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.2
EEPROM	No

Short Description	State of digital output 15

Description

see |O3_18|

ASCII -Command	O15MODE
Syntax Transmit	O15MODE [Data]
Syntax Receive	O15MODE <Data>
Type	Variable rw
Format	Integer8
DIM	
Range	0 .. 100
Default	
Opmode	
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	
Configuration	☑
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	374A (hex)
PROFIBUS PNU:	1786 (dec) IND = 17 (d
DPR Objekt Nr:	586
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.2
EEPROM	Yes

Short Description	Function of digital output 15

Description

see |O3_18MODE|

ASCII -Command	O15TRIG	Available in	S300/700
Syntax Transmit	O15TRIG [Data]	MMI ☐	CAN-Bus ☑
Syntax Receive	O15TRIG <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer32	SERCOS IDN:	
DIM		CAN Object No:	374B (hex)
Range		PROFIBUS PNU:	1787 (dec) IND = 17 (d
Default		DPR Objekt Nr:	587
Opmode			
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	1.2
EEPROM	Yes

Short Description	Auxiliary Variable for digital output 15

Description

see |O3_18TRIG|

ASCII -Command	O16
Syntax Transmit	O16 [Data]
Syntax Receive	O16 <Data>
Type	Variable rw
Format	Integer8
DIM	
Range	
Default	
Opmode	
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in	S300/700
MMI ☐	CAN-Bus ☑
PROFIBUS ☑	Sercos ☐
SERCOS IDN:	
CAN Object No:	374C (hex)
PROFIBUS PNU:	1788 (dec) IND = 17 (d
DPR Objekt Nr:	588
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.2
EEPROM	No

Short Description	State of digital output 16

Description

see |O3_18|

ASCII -Command	O16MODE	Available in	S300/700
Syntax Transmit	O16MODE [Data]	MMI ☐	CAN-Bus ☑
Syntax Receive	O16MODE <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer8	SERCOS IDN:	
DIM		CAN Object No:	374D (hex)
Range	0 .. 100	PROFIBUS PNU:	1789 (dec) IND = 17 (d
Default		DPR Objekt Nr:	589
Opmode			
Drive Status	Disabled + Reset (Coldstart)		
Start Firmware			
Configuration	☑	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	1.2
EEPROM	Yes

Short Description	Function of digital output 16

Description

see |O3_18MODE|

ASCII -Command	O16TRIG
Syntax Transmit	O16TRIG [Data]
Syntax Receive	O16TRIG <Data>
Type	Variable rw
Format	Integer32
DIM	
Range	
Default	
Opmode	
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	374E (hex)
PROFIBUS PNU:	1790 (dec) IND = 17 (d
DPR Objekt Nr:	590

Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.2
EEPROM	Yes

Short Description	Auxiliary Variable for digital output 16

Description

see |O3_18TRIG|

ASCII -Command	O17
Syntax Transmit	O17 [Data]
Syntax Receive	O17 <Data>
Type	Variable rw
Format	Integer8
DIM	
Range	
Default	
Opmode	
Drive Status	
Start Firmware	
Configuration	☑
Function Group	

Available in	S300/700
MMI ☐	CAN-Bus ☑
PROFIBUS ☑	Sercos ☐
SERCOS IDN:	
CAN Object No:	374F (hex)
PROFIBUS PNU:	1791 (dec) IND = 17 (d
DPR Objekt Nr:	591
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.2
EEPROM	No

Short Description	State of digital output 17

Description

see |O3_18|

ASCII -Command	O17MODE
Syntax Transmit	O17MODE [Data]
Syntax Receive	O17MODE <Data>
Type	Variable rw
Format	Integer8
DIM	
Range	0 .. 100
Default	
Opmode	
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	
Configuration	☑
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3750 (hex)
PROFIBUS PNU:	1792 (dec) IND = 17 (d
DPR Objekt Nr:	592
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.2
EEPROM	Yes

Short Description	Function of digital output 17

Description

see |O3_18MODE|

ASCII -Command	O17TRIG
Syntax Transmit	O17TRIG [Data]
Syntax Receive	O17TRIG <Data>
Type	Variable rw
Format	Integer32
DIM	
Range	
Default	
Opmode	
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3751 (hex)
PROFIBUS PNU:	1793 (dec) IND = 17 (d
DPR Objekt Nr:	593
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.2
EEPROM	Yes

Short Description	Auxiliary Variable for digital output 17

Description

see |O3_18TRIG|

ASCII -Command	O18
Syntax Transmit	O18 [Data]
Syntax Receive	O18 <Data>
Type	Variable rw
Format	Integer8
DIM	
Range	
Default	
Opmode	
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in	S300/700
MMI ☐	CAN-Bus ☑
PROFIBUS ☑	Sercos ☐
SERCOS IDN:	
CAN Object No:	3752 (hex)
PROFIBUS PNU:	1794 (dec) IND = 17 (d
DPR Objekt Nr:	594
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.2
EEPROM	No

Short Description	State of digital output 18

Description

see |O3_18|

ASCII -Command	O18MODE
Syntax Transmit	O18MODE [Data]
Syntax Receive	O18MODE <Data>
Type	Variable rw
Format	Integer8
DIM	
Range	0 .. 100
Default	
Opmode	
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	
Configuration	☑
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3753 (hex)
PROFIBUS PNU:	1795 (dec) IND = 17 (d
DPR Objekt Nr:	595
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.2
EEPROM	Yes

Short Description	Function of digital output 18

Description

see |O3_18MODE|

ASCII -Command	O18TRIG
Syntax Transmit	O18TRIG [Data]
Syntax Receive	O18TRIG <Data>
Type	Variable rw
Format	Integer32
DIM	
Range	
Default	
Opmode	
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3754 (hex)
PROFIBUS PNU:	1796 (dec) IND = 17 (d
DPR Objekt Nr:	596
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.2
EEPROM	Yes

Short Description	Auxiliary Variable for digital output 18

Description

see |O3_18TRIG|

ASCII -Command	O1MODE
Syntax Transmit	O1MODE [Data]
Syntax Receive	O1MODE <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	0 .. 100
Default	0
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	1.0
Configuration	☑
Function Group	Digital I/O

Available in	S300/700		
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	P 3005 ... 6
CAN Object No:	35AF (hex)
PROFIBUS PNU:	1775 (dec) IND = 1 (de
DPR Objekt Nr:	175

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	Yes

Short Description	Function of Digital Output 1

Description

The O1 command returns the state of the digital output 1 (0 = Low,1 = High).
If no function is assigned to digital output 1 (O1MODE=0), then the High/Low state can be given out at output 1 by using the command “|O1| 1” or “|O1| 0”.

Zustand	Function	Description
O1MODE=0	Off (S700: signal X3-6 is configured as default to input)	S300: The state of the digital output 1 can be set/cleared by RS232/Fieldbus or Slot board with |O1| S700: The Pin X3-6 could configure both to input or output. The default is input for this signal. By using a digital output e.g. for a macro program, the function OxMODE=23 "DPR output" must configurate
O1MODE=1	v_act<|O1TRIG|	As long as the absolute value for the motor velocity is lower than a preset value (|O1TRIG|), a HIGH-signal will be output. After the function has been selected you can enter the velocity in rpm in |O1TRIG|. The ouput is high, if |V| < |O1TRIG| and becomes low, if |V| > |O1TRIG| + 0.01 * |MSPEED|.
O1MODE=2	v_act>|O1TRIG|	As long as the absolute value for the motor velocity is higher than a preset value (|O1TRIG|), a HIGH-signal will be output. After the function has been selected you can enter the velocity in rpm in |O1TRIG|. The ouput is high, if |V| > |O1TRIG| and becomes low, if |V| < |O1TRIG| + 0.01 * |MSPEED|.

O1MODE=3	Mains-RTO	This signals the operational readiness of the drive power output stage. After switching on the mains supply, a HIGH-signal is output until the DC-link circuit is fully charged up. A LOW-signal is output when the charging of the DC-link circuit is finished. If the DC-link voltage falls below |VBUSMIN| value, then a HIGH-signal will be output. The “Undervoltage” monitoring is inactive.
O1MODE=4	Regen off	Signals if the preset regen power (screen page “Basic Setup”) is exceeded.
O1MODE=5	Sw_limit	This produces a HIGH-signal if a software limit-switch is reached (a preset function of the corresponding position register, set to “SW limit-switch 1” or “SW limit-switch 2” – the function is defined in the screen page “Position”). A motion task in the opposite direction resets the output.
O1MODE=6	Pos.>x	If the position (angular position of the motor shaft) exceeds a preset value (|O1TRIG|), a HIGH-signal will be output. After the function has been selected, you can enter the signaling posi-tion in increment (a number or fraction of motor turns N) as |O1TRIG|. Make the calculation according to the following equation: x = 1048576 *N *Inkr. Maximum possible entry value:x =2 31 = 2147483648, this corresponds to N = 2048
O1MODE=7	InPos	When the target position for a motion task has been reached (the InPosition window |PEINPOS|), this is signaled by the output of a HIGH-signal. A cable break will not be detected. The width of the InPosition window for all the valid motion tasks is entered in the “Position data” screen page. If a sequence of motion tasks is performed one after another, then the signal for reaching the final position of the motion-task sequence will be output (target position of the last motion task). Signaling that the target position of each motion task has been reached, in a sequence of motion tasks, can be achieved with the function “16, Next_InPos”.
O1MODE=8	I_act<|O1TRIG|	The output is a HIGH-signal, as long as the absolute r.m.s. value of the actual current is lower than a defined value in mA (|O1TRIG|). After the function has been selected, you can enter the current value as |O1TRIG| in mA.
O1MODE=9	I_act>|O1TRIG|	The output is a HIGH-signal, as long as the absolute r.m.s. value of the actual current is higher than a defined value in mA (|O1TRIG|). After the function has been selected, you can enter the current value as |O1TRIG| in mA.
O1MODE=10	Ferror	If the position goes outside the preset contouring-error window, this is indicated by a LOW-signal. The width of the contouring-error window (|PEMAX|) is entered in the screen page “Position” for all the valid motion tasks.

O1MODE=11	I2T	The reaching of the set I2t signaling threshold (|I2TLIM|, warning n01) or the failure of a mains phase (warning n05) is signaled with a high signal.
O1MODE=12 .. 15	reserved	-
O1MODE=16	Next-InPos	The start of each motion task in an automatically executed sequence of motion tasks is signalled by an inversion of the output signal. The output produces a Low signal at the start of the first motion task of the motion task sequence. The type of message can be set by |IN2PM|
O1MODE=17	Error/Warn	The output produces a HIGH-signal if an error or a warning message is signaled by the servo amplifier. A list of the error messages can be found under |ERRCODE|. n32 has no effect to the output.
O1MODE=18	Error	The output produces a HIGH-signal if an error is signaled by the servo amplifier. A list of the error messages can be found under |ERRCODE|
O1MODE=19	DC_Link>|O1TRIG|	A HIGH-signal is output if the actual value of the DC-link voltage is higher than a defined value in volts (|O1TRIG|). After the function has been selected, you can enter the voltage value as |O1TRIG| in Volt..
O1MODE=20	DC_Link < |O1TRIG|	A HIGH-signal is output if the actual value of the DC-link voltage is lower than a defined value in volts (|O1TRIG|). After the function has been selected, you can enter the voltage value in |O1TRIG| in Volt.
O1MODE=21	ENABLE	A HIGH-signal is output if the servo amplifier is enabled. To obtain the enable, the external Hardware Enable signal must be present, the Enable status must be set in the setup software (or via the fieldbus interface) and no errors must be present that would cause an automatic internal disabling of the servo amplifier. If function |OxMODE| = is selected, the enable signal is high, if the line voltage is applied and the charging of the link capacitors is finished. The drive is disabled, if the DC-link voltage wents under the threshold |VBUSMIN|.

O1MODE=22	Zero_pulse	The zero mark/pulse (HIGH-signal) is indicated by the encoder-emulation. This function is only use-ful at very low velocities. Vmax = 15000 / |ENCOUT| e.g. |ENCOUT|=256 Pulses/Rev Vmax = 58 rpm |O1TRIG| can be used to stretch the zero pulse length in positive direction. Important: The used LSB have to be set to 1, allowed O1TRIG values are only 2^n-1 (n=1....32) example O1TRIG=1,3,7,15,31...). The calculation is done by formula O1TRIG / 2^32 * 360°. Example 1: O1TRIG=1073741823 = 0x3FFFFFFF. 1073741823 * 360°/ 2^32 = 90° -> A HIGH signal is monitored on 0 - 90° Example 2: O1TRIG = 134217727 = 0x7FFFFFF 134217727 * 360° / 2^32 = 11,25° -> A HIGH signal is monitored on 0 - 11,25°
O1MODE=23	Slot-DPR (S700: signal X3-6 to output)	S300: This configuration enables the possibility to output a state from the Slot board (mem DPR Slot Board Offset 0x3E4). If no Slot board is available, this configuration is equal to OxMODE=0. S700: The Pin X3-6 could configure both to input or output. The default is input for this signal. By using a digital output e.g. for a macro program, the function OxMODE=23 "DPR output" must configurate
O1MODE=24	Ref_OK	The output signals High, if a reference point is available. Reference traverse (homing) has been carried out, or a reference point has been set. (see |NREF|)
O1MODE=25 .. 29	-	reserved

O1MODE=30	Postion register(s) state	For OxMODE = 30 the output OUTPUTx is set to 1 if a cam is "active". The output is set to 0 if no cam is signaled. To use this function, a cam (or several) must be defined first. This is done using the position registers P1..P16. The position registers should Can be used in pairs. Cam 1: P1 and P2 Cam 2: P5 and P6 Cam 3: P11 and P12 With the help of the OxTRIG variable, the cams to be monitored are defined. The mask for the above example would look like this: OxTRIG = 3123 (hex representation 0x0C33, the associated bit is set for each position register) As soon as one of the three cams is exceeded, the output OUTPUTx is set to 1. Example 2: O1MODE = 30 O1TRIG = 3 (Hex 0x0003) O2MODE = 30 O2TRIG = 3120 (Hex 0x0C30) Output 1 is set when cam 1 is active (P1 and P2). Output 2 is set when cam 2 (P5, P6) or cam 3 (P11, P12) is active.
O1MODE=31	Analog In 1< |O1TRIG|	The output is high, if the Analog In voltage at Analog In 1 is lower than the threshold |O1TRIG|. The auxiliary variable |O1TRIG| is given in mV (with sign).
O1MODE=32	Analog In 1> |O1TRIG|	The output is high, if the Analog In voltage at Analog In 1 is higher than the threshold |O1TRIG|. The auxiliary variable |O1TRIG| is given in mV (with sign).
O1MODE=33	Analog In 2 < |O1TRIG|	The output is high, if the Analog In voltage at Analog In 2 is lower than the threshold |O1TRIG|. The auxiliary variable |O1TRIG| is given in mV (with sign).
O1MODE=34	Analog In 2 > |O1TRIG|	The output is high, if the Analog In voltage at Analog In 2 is higher than the threshold |O1TRIG|. The auxiliary variable |O1TRIG| is given in mV (with sign).
O1MODE=35	Internal Enable	The state of the internal ENABLE signal is mirrored on the digital output. If the setiings are: |MBRAKE|=0, |STOPMODE|=0 and |ACTFAULT|=0, the function is similar to |O1MODE|=21. If one of the three variables is "1", the output changes to low, when the drives starts to dec to "0". If |O1MODE|=21, the output is low, if the drive has stopped and has disabled the output stage.
O1MODE=36	Logical OR: |DRVSTAT| - |O1TRIG|	This function makes a OR operation between the Bit-variable |DRVSTAT| and a Bit mask given by |O1TRIG|. The result is present at output 1.
O1MODE=37	Logical AND: |DRVSTAT| -|O1TRIG|	This function makes a AND operation between the Bit-variable |DRVSTAT| and a Bit mask given by |O1TRIG|. The result is present at output 1.

O1MODE=38	Logical OR: |TRJSTAT| - |O1TRIG|	This function makes a OR operation between the Bit-variable |TRJSTAT| and a Bit mask given by |O1TRIG|. The result is present at output 1.
O1MODE=39	Logical AND: |TRJSTAT| - |O1TRIG|	This function makes a AND operation between the Bit-variable |TRJSTAT| and a Bit mask given by |O1TRIG|. The result is present at output 1.
O1MODE=40	Logical OR: |POSRSTAT| - |O1TRIG|	This function makes a OR operation between the Bit-variable |POSRSTAT| and a Bit mask given by |O1TRIG|. The result is present at output 1.
O1MODE=41	Logical AND: |POSRSTAT| - |O1TRIG|	This function makes a AND operation between the Bit-variable |POSRSTAT| and a Bit mask given by |O1TRIG|. The result is present at output 1.
O1MODE=42	Internal temperature warning	This function enables a temperature warning. If one of the three internal measured temperatures reaches the trip level, the digital output ist set to high. After the selected delay time given in |O1TRIG| the drive generates a error message and disables the output stage. The delay time has the range 0...30000 msec and effects following temperatures: Motor temperature |TEMPM|, threshold |MAXTEMPM| Heatsink temperature |TEMPH|, Threshold |MAXTEMPH| Ambient temperature |TEMPE|, threshold |MAXTEMPE|
O1MODE=43	The sign of the actual velocity	OUTPUT1 = 1 V < -|VEL0| OUTPUT1 = 0 V > -|VEL0|
O1MODE=44	Target Speed deviation: abs(Target Speed - Actual Speed) < x	The OUTPUT1 is set, if the absolute of the difference between the internal velocity command (bevore the rampgenerator) and the actual velocity is smaller than |O1TRIG|. The size of the window (|O1TRIG|) is given in valid velocity units (|VUNIT|).
O1MODE=45	Target Speed deviation: abs(Target Speed - Actual Speed) > x	The output 1 is set, if the absolute of the difference between the internal velocity command bevore the rampgenerator) and the actual velocity is bigger than |O1TRIG|. The size of the window (|O1TRIG|) is given in valid velocity units (|VUNIT|).
O1MODE=46	Current in Window (low active)	The digital output 1 is set, if the absolute of the difference between current command and actual value is smaller than the window, defined by |O1TRIG|. The window is given in mA.
O1MODE=47	Current not in Window (low active)	The digital output 1 is set, if the absolute of the difference between current command and actual value is greater than the window, defined by |O1TRIG|. The window is given in mA.
O1MODE=48	Logical NOR: |DRVSTAT| - |O1TRIG|	This function makes a inverted OR operation between the Bit-variable |DRVSTAT| and a Bit mask given by |O1TRIG|. The result is present at output 1.
O1MODE=49	Logical NAND: |DRVSTAT| -|O1TRIG|	This function makes a inverted AND operation between the Bit-variable |DRVSTAT| and a Bit mask given by |O1TRIG|. The result is present at output 1.
O1MODE=50	Logical NOR: |TRJSTAT| - |O1TRIG|	This function makes a inverted OR operation between the Bit-variable |TRJSTAT| and a Bit mask given by |O1TRIG|. The result is present at output 1.

O1MODE=51	Logical NAND: |TRJSTAT| - |O1TRIG|	This function makes a AND operation between the Bit-variable |TRJSTAT| and a Bit mask given by |O1TRIG|. The result is present at output 1.
O1MODE=52	Logical AND: |POSRSTAT| - |O1TRIG|	same as O1MODE = 41 but the output is for |PTBASE| * 250 us on high level
O1MODE=53	Master/Slave synchron	Master/Slave synchron
O1MODE=54	prepared for moving	version > =1.21 The output is high if all following conditions are true software-enable set no error DC link loaded (VBUS > VBUSMIN) no contouring error (Warnung n03)
O1MODE=55	Actual master-slave status	Version >=2.13 Output=1 The slave is in master/slave modus. This can be: 1. synchroize up to the master speed 2. following the master-position 3. Declutch the master slave mode Ausgang=0 - None of the master slave modes is active. The master pulses are ignored.1 see also function |INxMODE|=42,43
O1MODE=56	Actual master-slave status	Output 1 will be set, if the following conditions are complied with: |OPMODE|=4 AND within 16 ms no new master command value AND the absolute value of the following error |PE| smaller than value |PEINPOS|
O1MODE=57	-	reserved
O1MODE=58	activation of the extern brake	output |O1| = 1 – breake open output O1 = 0 – breake closed The output O1 signals the state of the internal brake control again and can be used as a status output or for the activation of a second brake. This function is only available if a brake (|MBRAKE| > 0) has been configured.
O1MODE=59	activation of the extern brake (inverted)	output |O1| = 1 – breake closed output O1 = 0 – breake open The output O1 signals the state of the internal brake control again and can be used as a status output or for the activation of a second brake. This function is only available if a brake (|MBRAKE| > 0) has been configured.
O1MODE=60	Error present (Low-active)	Error present (Low-active)
O1MODE=61	MT Target Velocity reached (High-active)	MT Target Velocity reached (High-active)
O1MODE=62	MT Target Velocity reached (Low-active)	MT Target Velocity reached (Low-active)
O1MODE=69	Master/ Slave synchronous; Slave Speed > 0	Master/ Slave synchronous; Slave Speed > 0
O1MODE=70	STO-Status	STO-Status

O1MODE=71	Actual Speed within Window	The output 1 is set, if the absolute of the difference between the internal velocity command (after the rampgenerator) and the actual velocity is smaller than |O1TRIG|. The size of the window (|O1TRIG|) is given in valid velocity units (|VUNIT|).
O1MODE=72	Actual Spped not within Window	The output 1 is set, if the absolute of the difference between the internal velocity command (after the rampgenerator) and the actual velocity is bigger than |O1TRIG|. The size of the window (|O1TRIG|) is given in valid velocity units (|VUNIT|).
O1MODE=73	logical OR between ERRCODE an O1TRIG	Using these functions, the result of an OR link between the bit variable |ERRCODE| and a bit mask of the auxiliary variable |O1TRIG| to the digital output 1 can be issued.
O1MODE=74	logical NOR between ERRCODE an O1TRIG	Using these functions, the result of an inverted OR operation between the Bit-variable |ERRCODE| and a bit mask of the auxiliary variable |O1TRIG| can be issued to the digital output 1.

ASCII -Command	O1TRIG
Syntax Transmit	O1TRIG [Data]
Syntax Receive	O1TRIG <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	long int
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Digital I/O

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	P 3007 ...8
CAN Object No:	35B0 (hex)
PROFIBUS PNU:	1776 (dec) IND = 1 (de
DPR Objekt Nr:	176

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Auxiliary Variable for O1MODE

Description

The function of the auxiliary variable O1TRIG depends on the configuration of |O1MODE|.
see |O1MODE|

ASCII -Command	O2
Syntax Transmit	O2 [Data]
Syntax Receive	O2 <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	-
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700
MMI	☑
CAN-Bus	☑
PROFIBUS	☑
Sercos	☑

SERCOS IDN:	P 3036 ... 7
CAN Object No:	35B1 (hex)
PROFIBUS PNU:	1777 (dec) IND = 1 (de
DPR Objekt Nr:	177

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	State of Digital Output 2

Description

see |O1|

ASCII -Command	O2MODE
Syntax Transmit	O2MODE [Data]
Syntax Receive	O2MODE <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	0 .. 100
Default	0
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	1.0
Configuration	☑
Function Group	Digital I/O

Available in	S300/700		
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	P 3005 ... 6
CAN Object No:	35B2 (hex)
PROFIBUS PNU:	1689 (dec) IND = 33 (d
DPR Objekt Nr:	889

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	Yes

Short Description	Function of Digital Output 2

Description

The O2MODE command can be used to configure the function of the digital output O2. The amplifier must be switched off and then on again after an alteration of this parameter.
The following functions can be configured:

Zustand	Function	Description
O2MODE=0	Off (S700: signal X3-7 is configured as default to input)	S300: The state of the digital output 1 can be set/cleared by RS232/Fieldbus or Slot board with |O2| S700: The Pin X3-7 could configure both to input or output. The default is input for this signal. By using a digital output e.g. for a macro program, the function OxMODE=23 "DPR output" must configurate
O2MODE=1	v_act<|O2TRIG|	As long as the absolute value for the motor velocity is lower than a preset value (|O2TRIG|), a HIGH-signal will be output. After the function has been selected you can enter the velocity in rpm in |O2TRIG|. The ouput is high, if |V| < |O2TRIG| and becomes low, if |V| > |O2TRIG| + 0.01 * |MSPEED|.
O2MODE=2	v_act > |O2TRIG|	As long as the absolute value for the motor velocity is higher than a preset value (|O2TRIG|), a HIGH-signal will be output. After the function has been selected you can enter the velocity in rpm in |O2TRIG|. The ouput is high, if |V| > |O2TRIG| and becomes low, if |V| < |O2TRIG| - 0.01 * |MSPEED|.

O2MODE=3	Mains-RTO	This signals the operational readiness of the drive power output stage. After switching on the mains supply, a HIGH-signal is output until the DC-link circuit is fully charged up. A LOW-signal is output when the charging of the DC-link circuit is finished. If the DC-link voltage falls below |VBUSMIN| value, then a HIGH-signal will be output. The “Undervoltage” monitoring is inactive.
O2MODE=4	Regen off	Signals if the preset regen power (screen page “Basic Setup”) is exceeded.
O2MODE=5	Sw_limit	This produces a HIGH-signal if a software limit-switch is reached (a preset function of the corresponding position register, set to “SW limit-switch 1” or “SW limit-switch 2” – the function is defined in the screen page “Position”). A motion task in the opposite direction resets the output.
O2MODE=6	Pos.>x	If the position (angular position of the motor shaft) exceeds a preset value (|O2TRIG|), a HIGH-signal will be output. After the function has been selected, you can enter the signaling posi-tion in increment (a number or fraction of motor turns N) as |O2TRIG|. Make the calculation according to the following equation: x = 1048576 *N *Inkr. Maximum possible entry value:x =2 31 = 2147483648, this corresponds to N = 2048
O2MODE=7	InPos	When the target position for a motion task has been reached (the InPosition window |PEINPOS|), this is signaled by the output of a HIGH-signal. A cable break will not be detected. The width of the InPosition window for all the valid motion tasks is entered in the “Position data” screen page. If a sequence of motion tasks is performed one after another, then the signal for reaching the final position of the motion-task sequence will be output (target position of the last motion task). Signaling that the target position of each motion task has been reached, in a sequence of motion tasks, can be achieved with the function “16, Next_InPos”.
O2MODE=8	I_act<|O2TRIG|	The output is a HIGH-signal, as long as the absolute r.m.s. value of the actual current is lower than a defined value in mA (|O2TRIG|). After the function has been selected, you can enter the current value as |O2TRIG| in mA.
O2MODE=9	I_act>|O2TRIG|	The output is a HIGH-signal, as long as the absolute r.m.s. value of the actual current is higher than a defined value in mA (|O2TRIG|). After the function has been selected, you can enter the current value as |O2TRIG| in mA.
O2MODE=10	Ferror	If the position goes outside the preset contouring-error window, this is indicated by a LOW-signal. The width of the contouring-error window (|PEMAX|) is entered in the screen page “Position” for all the valid motion tasks.

O2MODE=11	I2T	The reaching of the set I2t signaling threshold (|I2TLIM|, warning n01) or the failure of a mains phase (warning n05) is signaled with a high signal.
O2MODE=12 .. 15	-	reserved
O2MODE=16	Next-InPos	The start of each motion task in an automatically executed sequence of motion tasks is signalled by an inversion of the output signal. The output produces a Low signal at the start of the first motion task of the motion task sequence. The type of message can be set by |IN2PM|
O2MODE=17	Error/Warn	The output produces a HIGH-signal if an error or a warning message is signaled by the servo amplifier. A list of the error messages can be found under |ERRCODE|. n32 has no effect to the output.
O2MODE=18	Error	The output produces a HIGH-signal if an error is signaled by the servo amplifier. A list of the error messages can be found under |ERRCODE|
O2MODE=19	DC_Link>|O2TRIG|	A HIGH-signal is output if the actual value of the DC-link voltage is higher than a defined value in volts (|O2TRIG|). After the function has been selected, you can enter the voltage value as |O2TRIG| in Volt..
O2MODE=20	DC_Link < |O2TRIG|	A HIGH-signal is output if the actual value of the DC-link voltage is lower than a defined value in volts (|O2TRIG|). After the function has been selected, you can enter the voltage value in |O2TRIG| in Volt.
O2MODE=21	ENABLE	A HIGH-signal is output if the servo amplifier is enabled. To obtain the enable, the external Hardware Enable signal must be present, the Enable status must be set in the setup software (or via the fieldbus interface) and no errors must be present that would cause an automatic internal disabling of the servo amplifier. If function |OxMODE| = is selected, the enable signal is high, if the line voltage is applied and the charging of the link capacitors is finished. The drive is disabled, if the DC-link voltage wents under the threshold |VBUSMIN|.

O2MODE=22	Zero_pulse	The zero mark/pulse (HIGH-signal) is indicated by the encoder-emulation. This function is only use-ful at very low velocities. Vmax = 15000 / |ENCOUT| e.g. |ENCOUT|=256 Pulses/Rev Vmax = 58 rpm |O2TRIG| can be used to stretch the zero pulse length in positive direction. Important: The used LSB have to be set to 1, allowed O2TRIG values are only 2^n-1 (n=1....32) example O2TRIG=1,3,7,15,31...). The calculation is done by formula O2TRIG / 2^32 * 360°. Example 1: O2TRIG=1073741823 = 0x3FFFFFFF. 1073741823 * 360°/ 2^32 = 90° -> A HIGH signal is monitored on 0 - 90° Example 2: O2TRIG = 134217727 = 0x7FFFFFF 134217727 * 360° / 2^32 = 11,25° -> A HIGH signal is monitored on 0 - 11,25°
O2MODE=23	Slot-DPR	This configuration enables the possibility to output a state from the Slot board (mem DPR Slot Board Offset 0x3E4). If no Slot board is available, this configuration is equal to OxMODE=0. If a Device-Net option board is plugged in the drive, this setting enables access of Device-Net to digital output 1 By using a digital output with a macro program, the function OxMODE=23 "DPR output" must configurate
O2MODE=24	Ref_OK	The output signals High, if a reference point is available. Reference traverse (homing) has been carried out, or a reference point has been set. (see |NREF|)
O2MODE=25 .. 29	-	reserved
O2MODE=30		
O2MODE=31	Analog In 1< |O2TRIG|	The output is high, if the Analog In voltage at Analog In 1 is lower than the threshold |O2TRIG|. The auxiliary variable |O2TRIG| is given in mV (with sign).
O2MODE=32	Analog In 1> |O2TRIG|	The output is high, if the Analog In voltage at Analog In 1 is higher than the threshold |O2TRIG|. The auxiliary variable |O2TRIG| is given in mV (with sign).
O2MODE=33	Analog In 2 < |O2TRIG|	The output is high, if the Analog In voltage at Analog In 2 is lower than the threshold |O2TRIG|. The auxiliary variable |O2TRIG| is given in mV (with sign).
O2MODE=34	Analog In 2 > |O2TRIG|	The output is high, if the Analog In voltage at Analog In 2 is higher than the threshold |O2TRIG|. The auxiliary variable |O2TRIG| is given in mV (with sign).

O2MODE=35	Internal Enable	The state of the internal ENABLE signal is mirrored on the digital output. If the setiings are: |MBRAKE|=0, |STOPMODE|=0 and |ACTFAULT|=0, the function is similar to |O1MODE|=21. If one of the three variables is "1", the output changes to low, when the drives starts to dec to "0". If |O1MODE|=21, the output is low, if the drive has stopped and has disabled the output stage.
O2MODE=36	Logical OR: |DRVSTAT| - |O2TRIG|	This function makes a OR operation between the Bit-variable |DRVSTAT| and a Bit mask given by |O2TRIG|. The result is present at output 1.
O2MODE=37	Logical AND: |DRVSTAT| -|O2TRIG|	This function makes a AND operation between the Bit-variable |DRVSTAT| and a Bit mask given by |O2TRIG|. The result is present at output 1.
O2MODE=38	Logical OR: |TRJSTAT| - |O2TRIG|	This function makes a OR operation between the Bit-variable |TRJSTAT| and a Bit mask given by |O2TRIG|. The result is present at output 1.
O2MODE=39	Logical AND: |TRJSTAT| - |O2TRIG|	This function makes a AND operation between the Bit-variable |TRJSTAT| and a Bit mask given by |O2TRIG|. The result is present at output 1.
O2MODE=40	Logical OR: |POSRSTAT| - |O2TRIG|	This function makes a OR operation between the Bit-variable |POSRSTAT| and a Bit mask given by |O2TRIG|. The result is present at output 1.
O2MODE=41	Logical AND: |POSRSTAT| - |O2TRIG|	This function makes a AND operation between the Bit-variable |POSRSTAT| and a Bit mask given by |O2TRIG|. The result is present at output 1.
O2MODE=42	Internal temperature warning	This function enables a temperature warning. If one of the three internal measured temperatures reaches the trip level, the digital output ist set to high. After the selected delay time given in |O2TRIG| the drive generates a error message and disables the output stage. The delay time has the range 0...30000 msec and effects following temperatures: Motor temperature |TEMPM|, threshold |MAXTEMPM| Heatsink temperature |TEMPH|, Threshold |MAXTEMPH| Ambient temperature |TEMPE|, threshold |MAXTEMPE|
O2MODE=43	The sign of the actual velocity	OUTPUT2 = 1 V < -|VEL0| OUTPUT1 = 0 V > -|VEL0|
O2MODE=44	Velocity In-Position (active high)	The output 2 is set, if the absolute of the difference between the internal velocity command and the actual velocity is smaller than |O2TRIG|. The size of the window (|O2TRIG|) is given in valid velocity units (|VUNIT|).
O2MODE=45	Velocity In-Position (aktive low)	The output 2 is set, if the absolute of the difference between the internal velocity command and the actual velocity is bigger than |O2TRIG|. The size of the window (|O2TRIG|) is given in valid velocity units (|VUNIT|).
O2MODE=46	Current in Window (low active)	The digital output 2 is set, if the absolute of the difference between current command and actual value is smaller than the window, defined by |O2TRIG|. The window is given in mA.

O2MODE=47	Current not in Window (low active)	The digital output 2 is set, if the absolute of the difference between current command and actual value is greater than the window, defined by |O2TRIG|. The window is given in mA.
O2MODE=48	Logical NOR: |DRVSTAT| - |O2TRIG|	This function makes a inverted OR operation between the Bit-variable |DRVSTAT| and a Bit mask given by |O2TRIG|. The result is present at output 1.
O2MODE=49	Logical NAND: |DRVSTAT| -|O2TRIG|	This function makes a inverted AND operation between the Bit-variable |DRVSTAT| and a Bit mask given by |O2TRIG|. The result is present at output 1.
O2MODE=50	Logical NOR: |TRJSTAT| - |O2TRIG|	This function makes a inverted OR operation between the Bit-variable |TRJSTAT| and a Bit mask given by |O2TRIG|. The result is present at output 1.
O2MODE=51	Logical NAND: |TRJSTAT| - |O2TRIG|	This function makes a AND operation between the Bit-variable |TRJSTAT| and a Bit mask given by |O2TRIG|. The result is present at output 1.
O2MODE=52	Logical AND: |POSRSTAT| - |O2TRIG|	same as O2MODE = 41 but the output is for |PTBASE| * 250 us on high level
O2MODE=53	Master/Slave synchron	Master/Slave synchron
O2MODE=54	prepared for moving	version > =1.21 The output is high if all following conditions are true software-enable set no error DC link loaded (VBUS > VBUSMIN) no contouring error (Warnung n03)
O2MODE=55	master slave status	Version >=2.13: The function OxMODE=55 monitors the actual master slave status at the slave axis. Output=1 The slave is in master/slave modus. This can be: 1. synchroize up to the master speed 2. following the master-position 3. Declutch the master slave mode Ausgang=0 - None of the master slave modes is active. The master pulses are ignored.1 see also function |INxMODE|=42,43
O2MODE=56	Actual master-slave status	Output 2 will be set, if the following conditions are complied with: |OPMODE|=4 AND within 16 ms no new master command value AND the absolute value of the following error |PE| smaller than value |PEINPOS|
O2MODE=57	-	reserved

O2MODE=58	control an external brake	output |O2| = 1 – breake open output O2 = 0 – breake closed The output O2 signals the state of the internal brake control again and can be used as a status output or for the activation of a second brake. This function is only available if a brake (|MBRAKE| > 0) has been configured.
O2MODE=59	control an external brake (inverted)	output |O2| = 1 – breake closed output O2 = 0 – breake open The output O2 signals the state of the internal brake control again and can be used as a status output or for the activation of a second brake. This function is only available if a brake (|MBRAKE| > 0) has been configured.
O2MODE=60	Error present (Low-active)	Error present (Low-active)
O2MODE=61	MT Target Velocity reached (High-active)	MT Target Velocity reached (High-active)
O2MODE=62	MT Target Velocity reached (Low-active)	MT Target Velocity reached (Low-active)
O2MODE=69	Master/ Slave synchronous; Slave Speed > 0	Master/ Slave synchronous; Slave Speed > 0
O2MODE=70	STO-Status	STO-Status
O2MODE=71	Actual Speed within Window	The Output 2 is set, if the absolute of the difference between the internal velocity command (after the rampgenerator) and the actual velocity is smaller than |O2TRIG|. The size of the window (|O2TRIG|) is given in valid velocity units (|VUNIT|).
O2MODE=72	Actual Spped not within Window	The Output 2 is set, if the absolute of the difference between the internal velocity command (after the rampgenerator) and the actual velocity is bigger than |O2TRIG|. The size of the window (|O2TRIG|) is given in valid velocity units (|VUNIT|).
O2MODE=73	logical OR between ERRCODE an O2TRIG	Using these functions, the result of an OR link between the bit variable |ERRCODE| and a bit mask of the auxiliary variable |O2TRIG| to the digital output 2 can be issued.
O2MODE=74	logical NOR between ERRCODE an O2TRIG	Using these functions, the result of an inverted OR operation between the Bit-variable |ERRCODE| and a bit mask of the auxiliary variable |O2TRIG| can be issued to the digital output 2.

ASCII -Command	O2TRIG
Syntax Transmit	O2TRIG [Data]
Syntax Receive	O2TRIG <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	long int
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Digital I/O

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	P 3007 ...8
CAN Object No:	35B3 (hex)
PROFIBUS PNU:	1779 (dec) IND = 1 (de
DPR Objekt Nr:	179

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Auxiliary Variable for O2MODE

Description

The function of the auxiliary variable O2TRIG depends on the configuration of |O2MODE|.
see |O2MODE|

ASCII -Command	O3
Syntax Transmit	O3 [Data]
Syntax Receive	O3 <Data>
Type	Variable rw
Format	Integer8
DIM	
Range	
Default	
Opmode	
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3725 (hex)
PROFIBUS PNU:	1749 (dec) IND = 17 (d
DPR Objekt Nr:	549

Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.2
EEPROM	No

Short Description	State of digital output 3

Description

see |O3_18|

ASCII -Command	O3_18
Syntax Transmit	O3_18 [data]
Syntax Receive	O3_18 <data>
Type	Variable rw
Format	Integer8
DIM	-
Range	-
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Digital I/O

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	-
PROFIBUS PNU:	-
DPR Objekt Nr:	

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	No

Short Description	State of Digital Output 3 to 18

Description

This is a group description of output 3 to 18:

example: The O3 command returns the state of the digital output 3 (0 = Low,1 = High).
If no function is assigned to digital output 3 (|O3MODE|=0), then the High/Low state can be given out at output 3 by using the command “O3 1” or “O3 0”.

ASCII -Command	O3_18MODE
Syntax Transmit	
Syntax Receive	
Type	Variable rw
Format	Integer8
DIM	-
Range	0 .. 100
Default	0
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	1.0
Configuration	☑
Function Group	Digital I/O

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	-
PROFIBUS PNU:	-
DPR Objekt Nr:	

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	2.1
EEPROM	Yes

Short Description	Function of Digital Outputs 3 to 18

Description

This is a group description of the function of digital output 3 to 18

example: The O3 command returns the state of the digital output |O3 (0 = Low,1 = High).
If no function is assigned to digital output 3 (|O3MODE=0|), then the High/Low state can be given out at output 3 by using the command “|O3| 1” or “|O3| 0”.

ASCII -Command	O3_18TRIG
Syntax Transmit	O3_18TRIG [Data]
Syntax Receive	O3_18TRIG <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	long int
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Digital I/O

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	-
PROFIBUS PNU:	-
DPR Objekt Nr:	

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Auxiliary Variable for OxMODE

Description

This is a group description of the auxiliary variables OxTRIG with x=3 .. 18

example: The function of the auxiliary variable O3TRIG depends on the configuration of |O3MODE|.

ASCII -Command	O3MODE
Syntax Transmit	O3MODE [Data]
Syntax Receive	O3MODE <Data>
Type	Variable rw
Format	Integer8
DIM	
Range	0 .. 100
Default	
Opmode	
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	
Configuration	☑
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3726 (hex)
PROFIBUS PNU:	1750 (dec) IND = 17 (d
DPR Objekt Nr:	550
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.2
EEPROM	Yes

Short Description	Function of digital output 3

Description

see |O3_18MODE|

ASCII -Command	O3TRIG	Available in	S300/700
Syntax Transmit	O3TRIG [Data]	MMI ☐	CAN-Bus ☑
Syntax Receive	O3TRIG <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer32	SERCOS IDN:	
DIM		CAN Object No:	3727 (hex)
Range		PROFIBUS PNU:	1751 (dec) IND = 17 (d
Default		DPR Objekt Nr:	551
Opmode			
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	1.2
EEPROM	Yes

Short Description	Auxiliary Variable for digital output 3

Description

see |O3_18TRIG|

ASCII -Command	O4
Syntax Transmit	O4 [Data]
Syntax Receive	O4 <Data>
Type	Variable rw
Format	Integer8
DIM	
Range	
Default	
Opmode	
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in	S300/700
MMI ☐	CAN-Bus ☑
PROFIBUS ☑	Sercos ☐
SERCOS IDN:	
CAN Object No:	3728 (hex)
PROFIBUS PNU:	1752 (dec) IND = 17 (d
DPR Objekt Nr:	552
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.2
EEPROM	No

Short Description	State of digital output 4

Description

see |O3_18|

ASCII -Command	O4MODE
Syntax Transmit	O4MODE [Data]
Syntax Receive	O4MODE <Data>
Type	Variable rw
Format	Integer8
DIM	
Range	0 .. 100
Default	
Opmode	
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	
Configuration	☑
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3729 (hex)
PROFIBUS PNU:	1753 (dec) IND = 17 (d
DPR Objekt Nr:	553
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.2
EEPROM	Yes

Short Description	Function of digital output 4

Description

see |O3_18MODE|

ASCII -Command	O4TRIG	Available in	S300/700		
Syntax Transmit	O4TRIG [Data]	MMI	☐	CAN-Bus	☑
Syntax Receive	O4TRIG <Data>	PROFIBUS	☑	Sercos	☐
Type	Variable rw				
Format	Integer32	SERCOS IDN:			
DIM		CAN Object No:	372A (hex)		
Range		PROFIBUS PNU:	1754 (dec) IND = 17 (d		
Default		DPR Objekt Nr:	554		
Opmode					
Drive Status					
Start Firmware					
Configuration	☐	Data Type BUS/DPR	-		
Function Group		Weighting 10^3			

Last Change of this Object	1.2
EEPROM	Yes

Short Description	Auxiliary Variable for digital output 4

Description

see |O3_18TRIG|

ASCII -Command	O5
Syntax Transmit	O5 [Data]
Syntax Receive	O5 <Data>
Type	Variable rw
Format	Integer8
DIM	
Range	
Default	
Opmode	
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	372B (hex)
PROFIBUS PNU:	1755 (dec) IND = 17 (d
DPR Objekt Nr:	555
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.2
EEPROM	No

Short Description	State of digital output 5

Description

see |O3_18|

ASCII -Command	O5MODE	Available in	S300/700
Syntax Transmit	O5MODE [Data]	MMI ☐	CAN-Bus ☑
Syntax Receive	O5MODE <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer8	SERCOS IDN:	
DIM		CAN Object No:	372C (hex)
Range	0 .. 100	PROFIBUS PNU:	1756 (dec) IND = 17 (d
Default	0	DPR Objekt Nr:	556
Opmode			
Drive Status	Disabled + Reset (Coldstart)		
Start Firmware			
Configuration	☑	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	1.2
EEPROM	Yes

Short Description	Function of digital output 5

Description

see |O3_18MODE|

ASCII -Command	O5TRIG	Available in	S300/700
Syntax Transmit	O5TRIG [Data]	MMI ☐	CAN-Bus ☑
Syntax Receive	O5TRIG <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer32	SERCOS IDN:	
DIM		CAN Object No:	372D (hex)
Range		PROFIBUS PNU:	1757 (dec) IND = 17 (d
Default		DPR Objekt Nr:	557
Opmode			
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	1.2
EEPROM	Yes

Short Description	Auxiliary Variable for digital output 5

Description

see |O3_18TRIG|

ASCII -Command	O6
Syntax Transmit	O6 [Data]
Syntax Receive	O6 <Data>
Type	Variable rw
Format	Integer8
DIM	
Range	
Default	
Opmode	
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	372E (hex)
PROFIBUS PNU:	1758 (dec) IND = 17 (d
DPR Objekt Nr:	558
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.2
EEPROM	No

Short Description	State of digital output 6

Description

see |O3_18|

ASCII -Command	O6MODE
Syntax Transmit	O6MODE [Data]
Syntax Receive	O6MODE <Data>
Type	Variable rw
Format	Integer8
DIM	
Range	0 .. 100
Default	0
Opmode	
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	
Configuration	☑
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	372F (hex)
PROFIBUS PNU:	1759 (dec) IND = 17 (d
DPR Objekt Nr:	559
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.2
EEPROM	Yes

Short Description	Function of digital output 6

Description

see |O3_18MODE|

ASCII -Command	O6TRIG	Available in	S300/700
Syntax Transmit	O6TRIG [Data]	MMI ☐	CAN-Bus ☑
Syntax Receive	O6TRIG <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer32	SERCOS IDN:	
DIM		CAN Object No:	3730 (hex)
Range		PROFIBUS PNU:	1760 (dec) IND = 17 (d
Default		DPR Objekt Nr:	560
Opmode			
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	1.2
EEPROM	Yes

Short Description	Auxiliary Variable for digital output 6

Description

see |O3_18TRIG|

ASCII -Command	O7
Syntax Transmit	O7 [Data]
Syntax Receive	O7 <Data>
Type	Variable rw
Format	Integer8
DIM	
Range	
Default	
Opmode	
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3731 (hex)
PROFIBUS PNU:	1761 (dec) IND = 17 (d
DPR Objekt Nr:	561

Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.2
EEPROM	No

Short Description	State of digital output 7

Description

see |O3_18|

ASCII -Command	O7MODE	Available in	S300/700		
Syntax Transmit	O7MODE [Data]	MMI	☐	CAN-Bus	☑
Syntax Receive	O7MODE <Data>	PROFIBUS	☑	Sercos	☐
Type	Variable rw				
Format	Integer8	SERCOS IDN:			
DIM		CAN Object No:	3732 (hex)		
Range	0 .. 100	PROFIBUS PNU:	1762 (dec) IND = 17 (d		
Default	0	DPR Objekt Nr:	562		
Opmode					
Drive Status	Disabled + Reset (Coldstart)				
Start Firmware					
Configuration	☑	Data Type BUS/DPR	-		
Function Group		Weighting 10^3			

Last Change of this Object	1.2
EEPROM	Yes

Short Description	Function of digital output 7

Description

see |O3_18MODE|

ASCII -Command	O7TRIG	Available in	S300/700
Syntax Transmit	O7TRIG [Data]	MMI ☐	CAN-Bus ☑
Syntax Receive	O7TRIG <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer32	SERCOS IDN:	
DIM		CAN Object No:	3733 (hex)
Range		PROFIBUS PNU:	1763 (dec) IND = 17 (d
Default		DPR Objekt Nr:	563
Opmode			
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	1.2
EEPROM	Yes

Short Description	Auxiliary Variable for digital output 7

Description

see |O3_18TRIG|

ASCII -Command	O8
Syntax Transmit	O8 [Data]
Syntax Receive	O8 <Data>
Type	Variable rw
Format	Integer8
DIM	
Range	
Default	
Opmode	
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3734 (hex)
PROFIBUS PNU:	1764 (dec) IND = 17 (d
DPR Objekt Nr:	564

Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.2
EEPROM	No

Short Description	State of digital output 8

Description

see |O3_18|

ASCII -Command	O8MODE	Available in	S300/700
Syntax Transmit	O8MODE [Data]	MMI ☐	CAN-Bus ☑
Syntax Receive	O8MODE <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer8	SERCOS IDN:	
DIM		CAN Object No:	3735 (hex)
Range	0 .. 100	PROFIBUS PNU:	1765 (dec) IND = 17 (d
Default	0	DPR Objekt Nr:	565
Opmode			
Drive Status	Disabled + Reset (Coldstart)		
Start Firmware			
Configuration	☑	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	1.2
EEPROM	Yes

Short Description	Function of digital output 8

Description

see |O3_18MODE|

ASCII -Command	O8TRIG	Available in	S300/700
Syntax Transmit	O8TRIG [Data]	MMI ☐	CAN-Bus ☑
Syntax Receive	O1TRIG <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer32	SERCOS IDN:	
DIM		CAN Object No:	3736 (hex)
Range		PROFIBUS PNU:	1766 (dec) IND = 17 (d
Default		DPR Objekt Nr:	566
Opmode			
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	1.2
EEPROM	Yes

Short Description	Auxiliary Variable for digital output 8

Description

see |O3_18TRIG|

ASCII -Command	O9
Syntax Transmit	O9 [Data]
Syntax Receive	O9 <Data>
Type	Variable rw
Format	Integer8
DIM	
Range	
Default	
Opmode	
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3737 (hex)
PROFIBUS PNU:	1767 (dec) IND = 17 (d
DPR Objekt Nr:	567
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.2
EEPROM	No

Short Description	State of digital output 9

Description

see |O3_18|

ASCII -Command	O9MODE
Syntax Transmit	O9MODE [Data]
Syntax Receive	O9MODE <Data>
Type	Variable rw
Format	Integer8
DIM	
Range	0 .. 100
Default	0
Opmode	
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	
Configuration	☑
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3738 (hex)
PROFIBUS PNU:	1768 (dec) IND = 17 (d
DPR Objekt Nr:	568
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.2
EEPROM	Yes

Short Description	Function of digital output 9

Description

see |O3_18MODE|

ASCII -Command	O9TRIG	Available in	S300/700
Syntax Transmit	O9TRIG [Data]	MMI ☐	CAN-Bus ☑
Syntax Receive	O9TRIG <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer32	SERCOS IDN:	
DIM		CAN Object No:	3739 (hex)
Range		PROFIBUS PNU:	1769 (dec) IND = 17 (d
Default		DPR Objekt Nr:	569
Opmode			
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	1.2
EEPROM	Yes

Short Description	Auxiliary Variable for digital output 9

Description

see |O3_18TRIG|

ASCII -Command	OCOPY
Syntax Transmit	OCOPY <Data> [- Data] <data>
Syntax Receive	OCOPY <Data> <Data>
Type	Command
Format	Integer8 Integer8
DIM	-
Range	0,1,..,180,192..255
Default	-
Opmode	8
Drive Status	Enabled (only RAM) / Disabled
Start Firmware	1.0
Configuration	☐
Function Group	Parameter Motion Task

Available in	S300/700
MMI ☐	CAN-Bus ☐
PROFIBUS ☐	Sercos ☐
SERCOS IDN:	
CAN Object No:	-
PROFIBUS PNU:	-
DPR Objekt Nr:	570
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Save/copy Motion Tasks

Description

The OCOPY command can be used to copy motion tasks from one storage location to another. The motion block number can have the following values:
0 - direct/local motion block
1 ... 200 motion blocks from the ROM. The ROM motion blocks are stored in a segment of the internal Flash EEPROM. They remain in the amplifier memory even after the 24V supply has been switched off. Write access to these motion blocks is only permitted if the output stage has been disabled.
201 ... 300 motion blocks from the RAM. The RAM motion blocks can also be written while the output stage is enabled. But the contents of these motion blocks will be lost if the 24V supply is switched off. When the controller is switched on, the RAM motion blocks will be initialized with the contents of ROM motion blocks 1 ... 64.

e.g.
OCOPY 0 1 save the local motion block (direct motion block /RAM) as ROM motion task 1
(The output stage must be inhibited while this command is carried out)
OCOPY 1 201 copy the first ROM motion block to the RAM (number 201)
OCOPY 1 - 16 201 copy ROM motion blocks 1 ... 16 to the RAM (201 ... 216)

ASCII -Command	OLIST
Syntax Transmit	OLIST [Data] [Data]
Syntax Receive	OLIST <Data>
Type	Multi-line Return Command
Format	String
DIM	-
Range	-
Default	-
Opmode	All
Drive Status	-
Start Firmware	2.13
Configuration	☐
Function Group	-

Available in	S300/700		
MMI	☐	CAN-Bus	☐
PROFIBUS	☐	Sercos	☐

SERCOS IDN:	
CAN Object No:	-
PROFIBUS PNU:	-
DPR Objekt Nr:	
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	List of Motion Task Data

Description

The command “OLIST x number” is used to output the contents of “number” motion blocks (= motion orders) one after another, starting with block “x”. The interpretation and sequence of the parameters that are shown corresponds to the parameters of the |ORDER| command.
If the “number” parameter is missing, then just the contents of motion block “x” will be shown.
If both the “x” and the “number” parameter are missing, then the contents of all the valid motion blocks will be shown (i.e. motion blocks with valid data and correct checksums).

ASCII -Command	OPMODE
Syntax Transmit	OPMODE [Data]
Syntax Receive	OPMODE <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	0, 1, .. , 8
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Amplifier

Available in	S300/700		
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	32 + 33
CAN Object No:	35B4 (hex)
PROFIBUS PNU:	1780 (dec) IND = 1 (de
DPR Objekt Nr:	180

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	2.10
EEPROM	Yes

Short Description	Operating Mode

Description

The OPMODE command is used to set the operating mode (basic function) for the amplifier. This operating mode can be changed over at any time, through the fieldbus interface or the digital I/O (|INxMODE|=24).
The following settings are possible:

Zustand	Short Description	Description
OPMODE=0	Velocity control -digital command	Digital (rotational) velocity There are different possibilities to generate a velocity command: - RS232 Interface ("|J|" command) - Fieldbus Interface (PROFIBUS, CANopen, SERCOS, DPR Slot boards)
OPMODE=1	Velocity control -analog command	Analog (rotational) velocity The velocity setpoint is generated by the Analog In s 1/2. The configuration is done with |ANCNFG| and |INxMODE|=8.
OPMODE=2	Current control -digital command	Digital torque The current setpoint can be generated by: - RS232 Interface ("|T|" command) - Fieldbus Interface (PROFIBUS, CANopen, SERCOS, DPR Slot boards)
OPMODE=3	Current control -analog command	Analog torque The current command is generated by the Analog In s 1/2. The configuration is done with |ANCNFG| and |INxMODE|=8.
OPMODE=4	Electronic Gearing (Master/Slave)	Position: electr. gearing The target position is generated by an extrenal encoder. The type of the activated interface is selected by |GEARMODE|.

OPMODE=5	External Trajectory	Position: ext. position nodes The target position is generated by fieldbus (PROFIBUS, CANopen or DRP Slot board). The cycle time for writing the new position can be selected with the command |PTBASE| in 250µs steps. The position controller brings the actual position to the new target postion in the selected time. When using ANCNFG=8, the target position is given by the Analog In 1. The analog voltage is read every 250µs and is used as target position for the position controller. The scaling of the anlog input voltage is done with |SRND| and |ERND|. Before this function is active, a homing move has to completed.
OPMODE=6	SERCOS control	SERCOS control
OPMODE=7	Reserved	
OPMODE=8	Motion Tasks	Position: motion blocks This setting allows the starting of motion tasks and also the homing moves.

ASCII -Command	OPTION
Syntax Transmit	OPTION
Syntax Receive	OPTION <Data>
Type	Variable ro
Format	Integer16
DIM	-
Range	int (=Word)
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	35B5 (hex)
PROFIBUS PNU:	1781 (dec) IND = 1 (de
DPR Objekt Nr:	181
Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.3
EEPROM	No

Short Description	Option Slot ID

Description

The OPTION command returns the identification for the slot card that has been detected. The following IDs are possible at present:
H0000 no slot card detected
H01xx I/O-expansion card
H20xx RODSSI (only S700)
H21xx SAFETY (only S700)
H0Cxx PROFIBUS
H03xx SERCOS
H06xx client-specific
H8xxx client-specific
H88xx EtherCat

The least significant 8 bits (xx) indicate the hardware revision of the corresponding card.

ASCII -Command	OPTION2
Syntax Transmit	OPTION2
Syntax Receive	OPTION2 <Data>
Type	Variable ro
Format	Integer16
DIM	-
Range	int (=Word)
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700
MMI ☑	CAN-Bus ☑
PROFIBUS ☑	Sercos ☐
SERCOS IDN:	
CAN Object No:	35B5 (hex)
PROFIBUS PNU:	1781 (dec) IND = 1 (de
DPR Objekt Nr:	181
Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	No

Short Description	Option Slot ID

Description

The OPTION2 command returns the identification for the slot card that has been detected. The following IDs are possible at present:
H0000 no slot card detected
H20xx RODSSI (only S700)
H21xx SAFETY (only S700)

The least significant 8 bits (xx) indicate the hardware revision of the corresponding card.

ASCII -Command	ORDER	Available in	S300/700
Syntax Transmit	ORDER [Data1...Data10]	MMI ☐	CAN-Bus ☐
Syntax Receive	ORDER <Data1...Data10>	PROFIBUS ☐	Sercos ☐
Type	Command		
Format	Integer32 ... Integer32	SERCOS IDN:	
DIM	-	CAN Object No:	-
Range	0 .. 200, 201 .. 300	PROFIBUS PNU:	-
Default	-	DPR Objekt Nr:	
Opmode	8		
Drive Status	Enabled (only RAM) / Disabled		
Start Firmware	1.0		
Configuration	☐	Data Type BUS/DPR	-
Function Group	Parameter Motion Task	Weighting 10^3	

Last Change of this Object	2.10
EEPROM	Yes

Short Description	Set Motion Task Parameters

Description

The ORDER command can be used to define any RAM/EEprom motion task (= order). The ORDER command can be used in one of three forms:

ORDER the contents of the direct motion task (nr = 0) are shown
ORDER nr the contents of motion task number “nr” are shown
ORDER nr o_p o_v o_c o_acc o_dec o_tab reserved o_fn o_ft = definition of motion task “nr”

The “nr” parameter specifies the number of the motion task that is to be defined. The motion task number can have the following values:

0 - direct/local motion task

1 ... 200 motion tasks from the EEprom.
The EEprom motion tasks are stored in a segment of the internal flash memory. They remain in the amplifier memory even after the 24V supply has been switched off. Write access to these motion tasks is only permitted if the output stage has been disabled.

201 ... 300 motion tasks from the RAM.
The RAM motion tasks can also be written while the output stage is enabled. But the contents of these motion tasks will be lost if the 24V supply is switched off. When the controller is switched on, the RAM motion tasks will be initialized with the contents of EEprom motion tasks 1 ... 100.

The individual elements o_p ... o_ft have the same interpretation as the corresponding ASCII commands.

|O_P| target position/path for the motion task
|O_V| target speed/velocity
|O_C| type of motion task (control word)
|O_ACC| acceleration ramp /starting acceleration
|O_DEC| braking ramp / deceleration
|O_TAB| number of the lookup table

|O_FN| number of following motion tasks
|O_FT| delay before starting next motion task

ASCII -Command	OTUNE
Syntax Transmit	OTUNE [Data]
Syntax Receive	OTUNE <Data>
Type	Command
Format	-
DIM	-
Range	100 ... 800 Hz
Default	250
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	

Available in	S300/700
MMI ☐	CAN-Bus ☐
PROFIBUS ☐	Sercos ☐
SERCOS IDN:	
CAN Object No:	-
PROFIBUS PNU:	-
DPR Objekt Nr:	
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	optimizing function VLO parameter

Description

The command “OTUNE [data]” starts an optimizing function for the VLO (parameter for the Luenberger Velocity Observer) at the frequency “data” Hz.

ASCII -Command	OVRIDE
Syntax Transmit	OVRIDE [Data]
Syntax Receive	OVRIDE <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	0 .. 7
Default	0
Opmode	8
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	1.0
Configuration	☑
Function Group	-

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	108
CAN Object No:	35B6 (hex)
PROFIBUS PNU:	1782 (dec) IND = 1 (de
DPR Objekt Nr:	182
Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	2.9
EEPROM	Yes

Short Description	Override Function for Motion Tasks

Description

The override function can be used to influence the speed/velocity for a motion block, reference movements and jog mode through the analog/digital interface. When this function is activated, the analog command is read every millisecond and used for scaling the velocity for the motion block.
Analog input=10V motion block velocity = the target velocity that is programmed in the motion block
Analog input=5V motion block velocity = 50% of the programmed target velocity

The override function does not work with sin^2 curves.

The following settings are possible:
OVRIDE=0 override function is switched off

OVRIDE=1 analog input 1 input is activated for the override function

OVRIDE=2 analog input 2 input is activated for the override function

OVRIDE=3 Digital interface is activated for the override function. The digital Interface can be: Sercos, CAN, PROFIBUS, DPR , RS 232 and all other field busses.
see |DOVRIDE|.

S300/S700: Expansion of function of OVRIDE from the Firmware 1.37

OVRIDE=4 Limiting of the motion task speed by the master speed

In case motion tasks are used in electronic gearing the motion task speed is limited in a way, so that the sign of the slave speed (master + motion task) is not inverted.

Example 1: Master-Speed (PSPEED1) = +1000
The motion task speed (PSPEED3) is limited to (-1000...PVMAX)

Example 2: Master-Speed (PSPEED1) = -2000
The motion task speed (PSPEED3)) is limited to (-PVMAX...+2000).

OVRIDE=5 Limiting of the motion task speed by the positive master speed

In case of negative master speed command the motion task speed is set to 0 .

Example 1: Master-Speed (PSPEED1) = +1000
The motion task speed (PSPEED3) is limited to (-1000...PVMAX)

Example 2: Master-Speed (PSPEED1) = -2000
The motion task speed (PSPEED3)) is limited to 0.

OVRIDE=6 Limiting of the motion task speed by the negative master speed

In case of positive master speed command the motion task speed is set to 0 .

Example 1: Master-Speed (PSPEED1) = +1000
The motion task speed (PSPEED3)) is limited to 0.

Example 2: Master-Speed (PSPEED1) = -2000
The motion task speed (PSPEED3) is limited to (-PVMAX ... +2000).

Bei positiver Master-Geschwindigkeit wird die Fahrsatz-Geschwindigkeit auf 0 begrenzt.

Beispiel 1: Master-Geschwindigkeit (PSPEED1) = +1000
die Fahrsatz-Geschwindigkeit (PSPEED3) wird auf 0 begrenzt.

Beispiel 2: Master-Geschwindigkeit (PSPEED1) = -2000
die Fahrsatz-Geschwindigkeit (PSPEED3) wird auf den Bereich (-PVMAX...+2000) begrenzt.

ASCII -Command	P
Syntax Transmit	P [Data]
Syntax Receive	P <Data>
Type	Variable ro
Format	Integer16
DIM	Watt [W]
Range	-
Default	-
Opmode	All
Drive Status	-
Start Firmware	
Configuration	☐
Function Group	

Available in	S300/700
MMI ☐	CAN-Bus ☐
PROFIBUS ☐	Sercos ☐
SERCOS IDN:	
CAN Object No:	38D2 (hex)
PROFIBUS PNU:	1778 (dec) IND = 33 (d
DPR Objekt Nr:	978
Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.11
EEPROM	No

Short Description	calculated active power (electrical)

Description

Actual current and voltage command are used to calculate the actual active power that the motor supplied with

ASCII -Command	P1	Available in	S300/700
Syntax Transmit		MMI ☐	CAN-Bus ☑
Syntax Receive		PROFIBUS ☑	Sercos ☐
Type			
Format	Integer32	SERCOS IDN:	
DIM		CAN Object No:	3644 (hex)
Range		PROFIBUS PNU:	1924 (dec) IND = 1 (de
Default		DPR Objekt Nr:	324
Opmode			
Drive Status			
Start Firmware	1.0		
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Fast Position Register

Description

see |P1_P16|

ASCII -Command	P1_P16
Syntax Transmit	P1 [Data]
Syntax Receive	P1 <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	long int
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	-
PROFIBUS PNU:	-
DPR Objekt Nr:	
Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Fast Position Register 1 ... 16

Description

The variables P1 ... P16 contain the position values for the position thresholds 1 ... 16.
The scaling of the position depends on the |PGEARI|, |PGEARO|, |PRBASE| parameters, and is calculated according to the following formula:

P[increments] = P[entered] * |PGEARO| / |PGEARI|

1048576 increments/turn at |PRBASE|=20
65536 increments/turn at |PRBASE|=16

see also description of |WPOS|, |WPOSE|, |WPOSP|, |WPOSX|, |POSRSTAT|

The object number is given for P1. The other object numbers up to P16 are the next ones.

ASCII -Command	P10	Available in	S300/700
Syntax Transmit		MMI ☐	CAN-Bus ☑
Syntax Receive		PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer32	SERCOS IDN:	
DIM		CAN Object No:	364D (hex)
Range		PROFIBUS PNU:	1933 (dec) IND = 1 (de
Default		DPR Objekt Nr:	333
Opmode			
Drive Status			
Start Firmware	1.0		
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Fast Position Register

Description

see |P1_P16|

ASCII -Command	P11	Available in	S300/700
Syntax Transmit		MMI ☐	CAN-Bus ☑
Syntax Receive		PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer32	SERCOS IDN:	
DIM		CAN Object No:	364E (hex)
Range		PROFIBUS PNU:	1934 (dec) IND = 1 (de
Default		DPR Objekt Nr:	334
Opmode			
Drive Status			
Start Firmware	1.0		
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Fast Position Register

Description

see |P1_P16|

ASCII -Command	P12
Syntax Transmit	
Syntax Receive	
Type	Variable rw
Format	Integer32
DIM	
Range	
Default	
Opmode	
Drive Status	
Start Firmware	1.0
Configuration	☐
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	364F (hex)
PROFIBUS PNU:	1935 (dec) IND = 1 (de
DPR Objekt Nr:	335
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Fast Position Register

Description

see |P1_P16|

ASCII -Command	P13	Available in	S300/700
Syntax Transmit		MMI ☐	CAN-Bus ☑
Syntax Receive		PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer32	SERCOS IDN:	
DIM		CAN Object No:	3650 (hex)
Range		PROFIBUS PNU:	1936 (dec) IND = 1 (de
Default		DPR Objekt Nr:	336
Opmode			
Drive Status			
Start Firmware	1.0		
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Fast Position Register

Description

see |P1_P16|

ASCII -Command	P14	Available in	S300/700
Syntax Transmit		MMI ☐	CAN-Bus ☑
Syntax Receive		PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer32	SERCOS IDN:	
DIM		CAN Object No:	3651 (hex)
Range		PROFIBUS PNU:	1937 (dec) IND = 1 (de
Default		DPR Objekt Nr:	337
Opmode			
Drive Status			
Start Firmware	1.0		
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Fast Position Register

Description

see |P1_P16|

ASCII -Command	P15	Available in	S300/700
Syntax Transmit		MMI ☐	CAN-Bus ☑
Syntax Receive		PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer32	SERCOS IDN:	
DIM		CAN Object No:	3652 (hex)
Range		PROFIBUS PNU:	1938 (dec) IND = 1 (de
Default		DPR Objekt Nr:	338
Opmode			
Drive Status			
Start Firmware	1.0		
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Fast Position Register

Description

see |P1_P16|

ASCII -Command	P16
Syntax Transmit	
Syntax Receive	
Type	Variable rw
Format	Integer32
DIM	
Range	
Default	
Opmode	
Drive Status	
Start Firmware	1.0
Configuration	☐
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3653 (hex)
PROFIBUS PNU:	1939 (dec) IND = 1 (de
DPR Objekt Nr:	339
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Fast Position Register

Description

see |P1_P16|

ASCII -Command	P2	Available in	S300/700
Syntax Transmit		MMI ☐	CAN-Bus ☑
Syntax Receive		PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer32	SERCOS IDN:	
DIM		CAN Object No:	3645 (hex)
Range		PROFIBUS PNU:	1925 (dec) IND = 1 (de
Default		DPR Objekt Nr:	325
Opmode			
Drive Status			
Start Firmware	1.0		
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Fast Position Register

Description

see |P1_P16|

ASCII -Command	P3		Available in	S300/700	
Syntax Transmit			MMI	☐	CAN-Bus ☑
Syntax Receive			PROFIBUS	☑	Sercos ☐
Type	Variable rw				
Format	Integer32		SERCOS IDN:		
DIM			CAN Object No:	3646 (hex)	
Range			PROFIBUS PNU:	1926 (dec) IND = 1 (de	
Default			DPR Objekt Nr:	326	
Opmode					
Drive Status					
Start Firmware	1.0				
Configuration	☐		Data Type BUS/DPR	-	
Function Group			Weighting 10^3		

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Fast Position Register

Description

see |P1_P16|

ASCII -Command	P4	Available in	S300/700
Syntax Transmit		MMI ☐	CAN-Bus ☑
Syntax Receive		PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer32	SERCOS IDN:	
DIM		CAN Object No:	3647 (hex)
Range		PROFIBUS PNU:	1927 (dec) IND = 1 (de
Default		DPR Objekt Nr:	327
Opmode			
Drive Status			
Start Firmware	1.0		
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Fast Position Register

Description

see |P1_P16|

ASCII -Command	P5
Syntax Transmit	
Syntax Receive	
Type	Variable rw
Format	Integer32
DIM	
Range	
Default	
Opmode	
Drive Status	
Start Firmware	1.0
Configuration	☐
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3648 (hex)
PROFIBUS PNU:	1928 (dec) IND = 1 (de
DPR Objekt Nr:	328
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Fast Position Register

Description

see |P1_P16|

ASCII -Command	P6
Syntax Transmit	
Syntax Receive	
Type	Variable rw
Format	Integer32
DIM	
Range	
Default	
Opmode	
Drive Status	
Start Firmware	1.0
Configuration	☐
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3649 (hex)
PROFIBUS PNU:	1929 (dec) IND = 1 (de
DPR Objekt Nr:	329
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Fast Position Register

Description

see |P1_P16|

ASCII -Command	P7	Available in	S300/700
Syntax Transmit		MMI ☐	CAN-Bus ☑
Syntax Receive		PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer32	SERCOS IDN:	
DIM		CAN Object No:	364A (hex)
Range		PROFIBUS PNU:	1930 (dec) IND = 1 (de
Default		DPR Objekt Nr:	330
Opmode			
Drive Status			
Start Firmware	1.0		
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Fast Position Register

Description

see |P1_P16|

ASCII -Command	P8	Available in	S300/700
Syntax Transmit		MMI ☐	CAN-Bus ☑
Syntax Receive		PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer32	SERCOS IDN:	
DIM		CAN Object No:	364B (hex)
Range		PROFIBUS PNU:	1931 (dec) IND = 1 (de
Default		DPR Objekt Nr:	331
Opmode			
Drive Status			
Start Firmware	1.0		
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Fast Position Register

Description

see |P1_P16|

ASCII -Command	P9	Available in	S300/700
Syntax Transmit		MMI ☐	CAN-Bus ☑
Syntax Receive		PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer32	SERCOS IDN:	
DIM		CAN Object No:	364C (hex)
Range		PROFIBUS PNU:	1932 (dec) IND = 1 (de
Default		DPR Objekt Nr:	332
Opmode			
Drive Status			
Start Firmware	1.0		
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Fast Position Register

Description

see |P1_P16|

ASCII -Command	PARCNFG
Syntax Transmit	PARCNFG [Data]
Syntax Receive	PARCNFG <Data>
Type	Variable rw
Format	Integer32
DIM	
Range	
Default	
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	2.11
Configuration	☑
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	375D (hex)
PROFIBUS PNU:	1805 (dec) IND = 17 (d
DPR Objekt Nr:	605
Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.8
EEPROM	Yes

Short Description	Configuration of parameter sets switching functions

Description

The command PARCNFG is used to select the function for the second parameter group. This group contains the parameters |GP|,|GPFFT|,|GPFFV|,|GV|,|GVFR|,|GVTN|,|KC|,|KTN|,|MICONT|,|MIPEAK|,|MJ|,|MKT|,|ML| |MLGC|,|MLGD|,|MLGP|,|MLGQ|,|MPOLES|,|MRS|,|MTIME| with the ending _X.

Selection of the active parameters
The selection can be activated by a digital input or via an internal function.

By dig. Input
The function INxMODE=57 is used for this process. Only one digital input setting 57 is allowed otherwise a warning n24 – parameter error is monitored.
Also the command PARCNFG has to be 0 or warning n24 is activated . The digital input level selects the parameter group
- Low: main parameter group
- High: second parameter group

Automatic mode

PARCNFG = 0x0000 always standard parameters
PARCNFG = 0x0001 second parameter group for the Wake&Shake-process.
PARCNFG = 0x0002 second parameter group active during motion tasks, homing or jog mode.
PARCNFG = 0x0004 second parameter group is used for |OPMODE| =4..8. |OPMODE| 0...3 are using parameter group 1.

Siehe auch |PARDUMP|, |PARRST|

ASCII -Command	PARDUMP	Available in	S300/700
Syntax Transmit	PARDUMP	MMI ☐	CAN-Bus ☐
Syntax Receive	PARDUMP <Data>	PROFIBUS ☐	Sercos ☐
Type	Multi-line Return Command		
Format	String	SERCOS IDN:	
DIM		CAN Object No:	-
Range		PROFIBUS PNU:	-
Default	-	DPR Objekt Nr:	
Opmode	All		
Drive Status	-		
Start Firmware	2.13		
Configuration	☐	Data Type BUS/DPR	String
Function Group	-	Weighting 10^3	

Last Change of this Object	1.8
EEPROM	No

Short Description	List of switchable parameter sets

Description

The ASCII parameter PARDUMP lists all drive parameters that are included in the switchable parameter set.

|ACC|,|DEC|,|GP|,|GPFFT|,|GPFFV|,|GV|,|GVFR|,|GVTN|,|KC|,|KTN|,|MICONT|,|MIPEAK|,|MJ|,|MKT|,|ML|
|MLGC|,|MLGD|,|MLGP|,|MLGQ|,|MPOLES|,|MRS|,|MTIME|,|VLO|

The output looks like this:

GP 0.1 (GP_X 0.2)
GV 1.5 (GV_X 3)
Data Set 1 activ

The first parameter in every line ist the ascii parameter from the main parameter set.
The parameter in brackets is the ascii parameter from the second (shadow) parameter set.
The last line indicates the currently active parameter set.

ASCII -Command	PARRST	Available in	S300/700
Syntax Transmit	PARRST [Data]	MMI ☐	CAN-Bus ☐
Syntax Receive	PARRST <Data>	PROFIBUS ☐	Sercos ☐
Type			
Format	-	SERCOS IDN:	
DIM		CAN Object No:	-
Range		PROFIBUS PNU:	-
Default		DPR Objekt Nr:	
Opmode			
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	1.8
EEPROM	

Short Description	second parameter set = main parameter set

Description

The ASCII parameter PARRST resets all parameters of the second (shadow) parameter set to the values of the main parameter set.

See also |PARCNFG|, |PARDUMP|

ASCII -Command	PASS
Syntax Transmit	PASS [Data]
Syntax Receive	PASS <Data>
Type	Variable w
Format	Integer32
DIM	-
Range	-2147483647...2147483648
Default	0
Opmode	
Drive Status	
Start Firmware	1.0
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	36D5 (hex)
PROFIBUS PNU:	1669 (dec) IND = 17 (d
DPR Objekt Nr:	469

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	

Short Description	Password Input

Description

This variable defines the value of the password. When the password function is activ (|PASSX| = y)
the change of parameter is only possible after the setting of a valid password value “PASS y”

ASCII -Command	PASSCNFG
Syntax Transmit	PASSCNFG [Data]
Syntax Receive	PASSCNFG <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	0 .. 2
Default	0
Opmode	
Drive Status	
Start Firmware	3.00
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	36D8 (hex)
PROFIBUS PNU:	1672 (dec) IND = 17 (d
DPR Objekt Nr:	472
Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	2.10
EEPROM	

Short Description	Password Function

Description

The command PASSCNFG sets the passwort-function.

PASSCNFG = 0 all parameter writing procedures are locked

PASSCNFG = 1 only parameter SAVE is locked

PASSCNFG = 2 parameter access isn't possible (no reading and no writing). Only the command |PASS| is permitted

PASSCNFG = 3 commands RSTVAR and SAVE are not allowed and only after entering a password (|PASS|/|PASSX|) are executed.

Please have a look to: |PASS|, |PASSX|

ASCII -Command	PASSPLC
Syntax Transmit	PASSPLC [Data]
Syntax Receive	PASSPLC <Data>
Type	Variable w
Format	Integer32
DIM	
Range	-2147483647...2147483647
Default	0
Opmode	All
Drive Status	-
Start Firmware	3.63
Configuration	☐
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3899 (hex)
PROFIBUS PNU:	1721 (dec) IND = 33 (d
DPR Objekt Nr:	921
Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.3
EEPROM	No

Short Description	Password value for PLC commands

Description

This variable defines the value of the password. When the password function is activ (|PASSXPLC| = y) the call of PLC commands is only possible after the setting of a valid password value “PASSPLC y”

ASCII -Command	PASSX
Syntax Transmit	PASSX [Data]
Syntax Receive	PASSX <Data>
Type	Variable w
Format	Integer32
DIM	
Range	-2147483647...2147483648
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	36D4 (hex)
PROFIBUS PNU:	1668 (dec) IND = 17 (d
DPR Objekt Nr:	468
Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	activate password function

Description

PASSX activates the password function
PASSX=0 password function switched off
PASSX=y password function switched on.
The change of all parametera is only possible after the setting of a valid password “|PASS| y”.

ASCII -Command	PASSXPLC
Syntax Transmit	PASSXPLC
Syntax Receive	PASSXPLC 0
Type	Variable ro
Format	Integer32
DIM	
Range	-2147483647...2147483647
Default	0
Opmode	All
Drive Status	
Start Firmware	3.63
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	389A (hex)
PROFIBUS PNU:	1722 (dec) IND = 33 (d
DPR Objekt Nr:	922

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.4
EEPROM	Yes

Short Description	Password configuration for PLC commands

Description

PASSXPLC activates the password function

PASSXPLC=0 password function switched off
PASSXPLC=y password function switched on.

The PLC commands are only possible after the setting of a valid password “PASSPLC y”.

ASCII -Command	PBAL
Syntax Transmit	PBAL
Syntax Receive	PBAL <Data>
Type	Variable ro
Format	Integer32
DIM	W
Range	0 .. 1500
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Actual values

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	35C0 (hex)
PROFIBUS PNU:	1792 (dec) IND = 1 (de
DPR Objekt Nr:	192
Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Actual Regen Power

Description

The actual value of average regen power.

ASCII -Command	PBALMAX
Syntax Transmit	PBALMAX [Data]
Syntax Receive	PBALMAX <Data>
Type	Variable rw
Format	Integer32
DIM	W
Range	see Manual
Default	
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Basic Setup

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	35C1 (hex)
PROFIBUS PNU:	1793 (dec) IND = 1 (de
DPR Objekt Nr:	193

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.10
EEPROM	Yes

Short Description	Maximum Regen Power

Description

This parameter can be used to limit the continuous power dissipated in the regen resistor.
If the actual value of the power in the regen resistor exceeds the preset maximum value, then the regen resistor is switched off. This may trigger the fault message “Overvoltage” as a result. If the maximum value is too high, the regen resistor may be overloaded.

Defaultwerte:

with |PBALRES| = 0
SR 303, SR 341 20 W
SR 306, SR 310, SR 343, SR 346 50 W

with |PBALRES| >= 1
SR 303, SR 341 300W
SR 306, SR 310, SR 343, SR 346 1000 W

Note: From the perspective of the drive is PBALMAX the maximum power that is released permanently to the regen resistor. From the viewpoint of the regen resistance is this the rated power.

ASCII -Command	PBALRES
Syntax Transmit	PBALRES [Data]
Syntax Receive	PBALRES <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	0 ... 200
Default	0
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	1.0
Configuration	☑
Function Group	Basic Setup

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	35C2 (hex)
PROFIBUS PNU:	1794 (dec) IND = 1 (de
DPR Objekt Nr:	194

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Select Regen Resistor

Description

This parameter can be used to select whether the internal (0) or an external (> 0) regen resistor should be used.The value > 0 sets the regen resistor in ohm.

Note: The allowed resistor value depends to the used drive type. Look into the installation manuel for the data, please.

It affects the |PBALMAX| parameter.

ASCII -Command	PBAUD
Syntax Transmit	PBAUD
Syntax Receive	PBAUD <Data>
Type	Variable ro
Format	Float
DIM	kBaud
Range	1.0 .. 12000.0
Default	-
Opmode	-
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700
MMI	☑
CAN-Bus	☑
PROFIBUS	☑
Sercos	☐

SERCOS IDN:	
CAN Object No:	35C3 (hex)
PROFIBUS PNU:	1795 (dec) IND = 1 (de
DPR Objekt Nr:	195

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	1.0
EEPROM	No

Short Description	Profibus Baud Rate

Description

The PBAUD command reads out the present PROFIBUS baud rate. The baud rate is provided by the master (control system). The Drive detects the baud rate automatically.
The following settings are possible (in kbaud/kbps):
12000
6000
3000
1500
500
187.5
93.75
45.45
19.2
9.6

ASCII -Command	PE
Syntax Transmit	PE
Syntax Receive	PE <Data>
Type	Variable ro
Format	Integer32
DIM	µm
Range	long int
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700		
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	189
CAN Object No:	35C5 (hex)
PROFIBUS PNU:	1797 (dec) IND = 1 (de
DPR Objekt Nr:	197

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Actual Following Error

Description

The following error |OPMODE| = 8 or contouring error |OPMODE| = 5 or 6 is the momentary difference between the position command and the actual position and is displayed in the same units as the position control loop (|PGEARI| / |PGEARO|).

See description of |PFB| , |PEMAX|, |PUNITS|

ASCII -Command	PEINPOS
Syntax Transmit	PEINPOS [Data]
Syntax Receive	PEINPOS <Data>
Type	Variable rw
Format	Integer32
DIM	PUNIT
Range	long int
Default	4000
Opmode	>=4
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Position Data

Available in	S300/700		
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	35C6 (hex)
PROFIBUS PNU:	1798 (dec) IND = 1 (de
DPR Objekt Nr:	198
Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.8
EEPROM	Yes

Short Description	In-Position Window

Description

If the distance between the actual position and the target position during the execution of an internal motion block is less than the window width that has been set, then the In-Position signal is generated (status message, digital output).
The In-Position window is entered in the same units as the position control loop (|PGEARI| / |PGEARO|).
See description of |PFB|
The absolute position for EnDat, SSI and HIPERFACE certain FBTYPE settings are read only during initialization (while booting the amplifier). To avoid incorrect readings, the position is read up to 5 times. The position is only accepted as valid if the difference between two adjacent readings is less than the value of the in-position window |PEINPOS|. If too large position error F04 is displayed.

ASCII -Command	PEMAX
Syntax Transmit	PEMAX [Data]
Syntax Receive	PEMAX <Data>
Type	Variable rw
Format	Integer32
DIM	µm
Range	long int
Default	262144
Opmode	>=4
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Position

Available in	S300/700
MMI	☑
CAN-Bus	☑
PROFIBUS	☑
Sercos	☑

SERCOS IDN:	159
CAN Object No:	35C7 (hex)
PROFIBUS PNU:	1799 (dec) IND = 1 (de
DPR Objekt Nr:	199

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Max. Following Error

Description

If the momentary following or contouring error (|PE|) goes beyond the maximum value set, the motion is stopped and the following error warning (n03) or contouring error fault (F03) is generated. The motion block can only be continued (|CONTINUE|) or restarted after the warning has been acknowledged (|CLRFAULT|, digital input |INxMODE|=14). PEMAX=0 switches off the following error monitoring.
If a following error occurs, negative values do not result in a stop of the axis. The status bit and warning are still there. Starting a motion task or a following error reset is quitting the following error bit.

ASCII -Command	PFB	Available in	S300/700
Syntax Transmit	PFB	MMI ☑	CAN-Bus ☑
Syntax Receive	PFB <Data>	PROFIBUS ☑	Sercos ☑
Type	Variable ro		
Format	Integer32	SERCOS IDN:	51
DIM	µm	CAN Object No:	35C8 (hex)
Range	long int	PROFIBUS PNU:	1800 (dec) IND = 1 (de
Default	-	DPR Objekt Nr:	200
Opmode	All		
Drive Status	-		
Start Firmware	1.0		
Configuration	☐	Data Type BUS/DPR	Integer32
Function Group	Actual values	Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Actual Position from Feedback Device

Description

The PFB command returns the actual value of the position (from the position control loop feedback). The unit for the position value depends on the |PGEARI|, |PGEARO| and |PRBASE| settings.

PFB = Position * |PGEARI| / |PGEARO|
whereby:
Position = position value in increments, 1048576/turn for |PRBASE|=20, 65536/turn for |PRBASE|=16
|PGEARI|, |PGEARO| - resolution of position control loop

Note: If the resolution is set to 1 (|PGEARI|=|PGEARO|) then the PFB command provides internal units (counts).

If the position information of an external encoder is evaluated (|EXTPOS|=1,2,3), then this information can be displayed by using the |PFB0| command.

ASCII -Command	PFB0
Syntax Transmit	PFB0 [Data]
Syntax Receive	PFB0 <Data>
Type	Variable ro
Format	Integer32
DIM	Counts
Range	-
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Actual values

Available in	S300/700
MMI	☑
CAN-Bus	☑
PROFIBUS	☑
Sercos	☑

SERCOS IDN:	53
CAN Object No:	35C9 (hex)
PROFIBUS PNU:	1801 (dec) IND = 1 (de
DPR Objekt Nr:	201

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Position from External Encoder

Description

The PFB0 command returns the actual position, calculated from the position information provided by an external encoder. The position is only derived from an external encoder if the configuration variable |EXTPOS| is set to 1,2,3. The unit for the position value depends on the |PGEARI|, |PGEARO| and |ENCIN| settings.

PFB0 = Position * |PGEARI| / |PGEARO|
whereby:
Position = position value in increments
|PGEARI|, |PGEARO| - resolution of position control loop

Note: If the resolution is set to 1 (|PGEARI|=|PGEARO|) then the PFB0 command provides internal units (counts).

ASCII -Command	PFBHI
Syntax Transmit	PHBHI [Data]
Syntax Receive	PHBHI <Data>
Type	Variable ro
Format	Integer32
DIM	-
Range	32 Bit
Default	-
Opmode	All
Drive Status	-
Start Firmware	3.05
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3876 (hex)
PROFIBUS PNU:	1686 (dec) IND = 33 (d
DPR Objekt Nr:	886

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	No

Short Description	returns the lower 32 bit of the 64 bit position

Description

The parameter PFBHI latches the actual 64 Bit-position (PFB) and returns the upper 32 bit. With the command |PFBLO|, the lower half (lower 32 bits) is read the 64 bit position.

ASCII -Command	PFBLO
Syntax Transmit	PFBLO [Data]
Syntax Receive	PFBLO <Data>
Type	Variable ro
Format	Integer32
DIM	-
Range	32 Bit
Default	-
Opmode	All
Drive Status	-
Start Firmware	3.05
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3875 (hex)
PROFIBUS PNU:	1685 (dec) IND = 33 (d
DPR Objekt Nr:	885

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	No

Short Description	returns the lower 32 bit of the 64 bit position

Description

The parameter PFBLO latches the actual 64 Bit-position (PFB) and returns the lower 32 bit. With the command |PFBHI|, the upper half (upper 32 bits) is read the 64 bit position.

ASCII -Command	PGEARI	Available in	S300/700
Syntax Transmit	PGEARI [Data]	MMI ☑	CAN-Bus ☑
Syntax Receive	PGEARI <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer32	SERCOS IDN:	
DIM	µm	CAN Object No:	35CA (hex)
Range	1 ... 2147483647	PROFIBUS PNU:	1802 (dec) IND = 1 (de
Default	10000	DPR Objekt Nr:	202
Opmode	All		
Drive Status	-		
Start Firmware	1.0		
Configuration	☐	Data Type BUS/DPR	Integer32
Function Group	Position Data	Weighting 10^3	

Last Change of this Object	2.13
EEPROM	Yes

Short Description	Position Resolution (Numerator)

Description

Description:

The pararameter PGEARI is used in conjunction with the |PGEARO| parameter to convert the internal position and speed from increments into user-defined units. The PGEARI parameter contains the number of user-defined units that are counted at |PGEARO| turns. The user decides which unit is used by the formula PGEARI/|PGEARO|.

Note: If |PGEARI| = PGEARO * 2^|PRBASE|, then there will be no conversion from user-defined units into increments. In this case, the position and velocity must be given in increments.

1. Example:

If a band-conveyer moves 3cm by one turn of the rotor shaft and the operator wants to use the unit mm, the value of PGEARI/|PGEARO| must be 30000. It is advisable to set PGEARI=30000 and |PGEARO|=1. The position can now be adjusted in mm.

If a gearing is connected previous to the band-conveyer with a ratio of 3:1, the user just needs to set |PGEARO|=3. Also odd-numbered values of the ratio are possible (e.g. 2.5:1). For that purpose PGEARI must be multiplicated with 2 and |PGEARO| with 5.

2. Example

A motion task should be driven by a certain speed. Therefore Bit 13 of the motion task controllword o_c has to be set on 1. For that purpose the parameter o_v describes the target speed in the user-defined unit/sec. To get the target speed in SI-units use the following formula:

o_v=10000; PGEARI=1000, |PGEARO|=1

n [rev*sec^-1] = o_v / (PGEARI / |PGEARO|)

Examples to explain the

Resolution = |PGEARI| / |PGEARO| :

Linearmotor >>> |1|

Turntable >>> |2|

Turntable extern driven >>> |3|

Spindel >>> |4|

Beltdrive >>> |5|

ASCII -Command	PGEARO
Syntax Transmit	PGEARO [Data]
Syntax Receive	PGEARO <Data>
Type	Variable rw
Format	Integer32
DIM	µm
Range	1 .. 2048
Default	1
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Position Data

Available in	S300/700		
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	35CB (hex)
PROFIBUS PNU:	1803 (dec) IND = 1 (de
DPR Objekt Nr:	203
Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.13
EEPROM	Yes

Short Description	Position Resolution (Denominator)

Description

Description:

The parameter PGEARO is used in conjunction with the |PGEARI| parameter to convert the control loop position and speed from user-defined units into internal increments.
The PGEARO parameter contains in combination with |PRBASE| the number of increments that are moved if the path to be moved has a length of |PGEARI|.
The conversion is made according to the following formula:

Position[increments] = Position[user-defined unit] * PGEARO *2^|PRBASE| / |PGEARI|
Velocity[increments/250us] = Velocity[user-defined unit] * PGEARO *2^|PRBASE| / (|PGEARI| * 4000)

Note: If |PGEARI| = PGEARO * 2^|PRBASE|, then there will be no conversion from user-defined units into increments. In this case, the position and velocity must be given in increments.

The maximum of PGEARO pepends on |PRBASE| and is calculated by 2^(31-PRBASE)

Position: 1 turn = 2^|PRBASE| increments

Velocity: speed [rpm] * 2^|PRBASE| / (4000 *60)

For an example: see |PGEARI| and |PRBASE|

ASCII -Command	PIOBUF
Syntax Transmit	PIOBUF [Data]
Syntax Receive	PIOBUF <Data>
Type	Variable ro
Format	String
DIM	-
Range	-
Default	-
Opmode	-
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	35CC (hex)
PROFIBUS PNU:	1804 (dec) IND = 1 (de
DPR Objekt Nr:	204
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Profibus data

Description

This command reads out the present PROFIBUS input and output buffers. The output buffer handles the data flow from the control system to the Drive, and the input buffer handles the data flow from the Drive to the control system. Each buffer is 20 bytes long (telegram length) and is put together from the PKW section (8 bytes. i.e. 4 words) and the PZD section (12 bytes, 6 words). The individual bytes are in hexadecimal format.
PIOBUF provides 20 bytes of output buffer in the first line, and 20 bytes of input buffer in the second line.

If the communication over the PROFIBUS is interrupted or faulty, then a fault message “ERR [PIOBUF] NO DATA EXCHANGE SPC3 - INTERRUPT” is generated.

ASCII -Command	PLLCOFFS	Available in	S300/700
Syntax Transmit	PLLCOFFS [Data]	MMI ☐	CAN-Bus ☐
Syntax Receive	PLLCOFFS <Data>	PROFIBUS ☐	Sercos ☐
Type	Variable rw		
Format	Integer16	SERCOS IDN:	
DIM	-	CAN Object No:	-
Range	0 .. 20	PROFIBUS PNU:	-
Default	0	DPR Objekt Nr:	
Opmode	all		
Drive Status			
Start Firmware	5.45		
Configuration	☐	Data Type BUS/DPR	Integer16
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	PLL counter outside of the synchronization window

Description

This variable specifies how often the fieldbus PLL routine may be out of synchronization window in a row before a synchronization error is generated. This number_OutOfSync = 1 + PLLCOFFS applies.

example: PLLCCOFFS =4: for five times the PLL is allowed to lie outside of the synchronization window before an error (F28,F29) is generated.

Have a look to |ERRCODE *|, |PLLDOFFS|, |PLLWOFFS|

ASCII -Command	PLLDOFFS	Available in	S300/700
Syntax Transmit	PLLDOFFS [Data]	MMI ☐	CAN-Bus ☐
Syntax Receive	PLLDOFFS <Data>	PROFIBUS ☐	Sercos ☐
Type	Variable rw		
Format	Integer16	SERCOS IDN:	
DIM	µs	CAN Object No:	-
Range	0 .. 1000	PROFIBUS PNU:	-
Default	0	DPR Objekt Nr:	
Opmode	5		
Drive Status			
Start Firmware	5.45		
Configuration	☐	Data Type BUS/DPR	Integer16
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	move of synchronization routine

Description

With the PLLDOFFS command you move the time of synchronization routine in time by x [microseconds] further away from the sync event (for EtherCAT these are the cyclical setpoints). The time unit of this command is [microseconds]. This value is added to an already hard-coded in the software time interval, which assumes different values for different fieldbuses or for different cycle times.

have a look to: |ERRCODE *|, |PLLCOFFS|, |PLLWOFFS|

ASCII -Command	PLLHUB	Available in	S300/700
Syntax Transmit	PLLHUB [Data]	MMI ☐	CAN-Bus ☑
Syntax Receive	PLLHUB <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer32	SERCOS IDN:	
DIM	-	CAN Object No:	3921 (hex)
Range	0 ... 6	PROFIBUS PNU:	1857 (dec) IND = 33 (d
Default	1	DPR Objekt Nr:	1057
Opmode			
Drive Status			
Start Firmware	5.18		
Configuration	☑	Data Type BUS/DPR	Integer32
Function Group		Weighting 10^3	

Last Change of this Object	2.13
EEPROM	Yes

Short Description	fieldbus synchronization ratio

Description

This parameter defines how fast the drive is synchronized to the fieldbus communication.
PLLHUB=1 slow and smooth synchronization
PLLHUB=6 fast but rude synchronization.

Applications should work with small values when possible (< 3). Higher values can cause poor drive performance and problems with fieldbus synchronisation.

From FW >= 6.02 the DPR for fieldbus access is available.

please have a look to |ERRCODE *| = F28/F29

ASCII -Command	PLLWOFFS	Available in	S300/700
Syntax Transmit	PLLWOFFS [Data]	MMI ☐	CAN-Bus ☐
Syntax Receive	PLLWOFFS <Data>	PROFIBUS ☐	Sercos ☐
Type	Variable rw		
Format	Integer16	SERCOS IDN:	
DIM	µs	CAN Object No:	-
Range	0 .. 150	PROFIBUS PNU:	-
Default	0	DPR Objekt Nr:	
Opmode	5		
Drive Status			
Start Firmware	5.45		
Configuration	☐	Data Type BUS/DPR	Integer16
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	increase of the window for synchronization

Description

With the command PLLWOFFS you increase the window in which the PLL is considered routine synchronized. The time unit of this command is [microseconds]. This value is added to an in software has already been coded window size, which takes different values for different fieldbuses or for different cycle times.

have a look to: |ERRCODE *|, |PLLCOFFS|, |PLLDOFFS|

ASCII -Command	PMECH
Syntax Transmit	P [Data]
Syntax Receive	P <Data>
Type	Variable ro
Format	Integer16
DIM	Watt [W]
Range	-
Default	-
Opmode	All
Drive Status	-
Start Firmware	
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	38D1 (hex)
PROFIBUS PNU:	1777 (dec) IND = 33 (d
DPR Objekt Nr:	977
Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.9
EEPROM	No

Short Description	estimated mechanical power deliverd by the motor

Description

Actual velocity and actual current together with the torque constant MKT are used to estimate the actual mechanical power that the motor delivers.

Since FW 5.68 with DPR-Objekt-No 977

ASCII -Command	PMODE
Syntax Transmit	PMODE [Data]
Syntax Receive	PMODE <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	0 .. 8
Default	(0) 1
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	1.0
Configuration	☑
Function Group	Basic Setup

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	35CD (hex)
PROFIBUS PNU:	1805 (dec) IND = 1 (de
DPR Objekt Nr:	205

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.14
EEPROM	Yes

Short Description	Line Phase Mode

Description

Theis parameter configurate the line phase mode

only for the S30x - not available on S34x!
PMODE=0 single phase operation (current limit)

for S300/S700
PMODE=1 three phase operation, current limited and warning n05 in case of network phase missing
PMODE=2 three phase operation, error message F19 in case of DC bus break down
PMODE=3 three phase operation, current limited and warning n05 in case of network phase missing
PMODE=4 direct DC feed
PMODE=5 such als PMODE=1, the warning or fault is generated by enabled drive
PMODE=6 such als PMODE=2, the warning or fault is generated by enabled drive
PMODE=7 such als PMODE=3, the warning or fault is generated by enabled drive
PMODE=8 reserved

If the current limiting is activated, it only applies to periods of acceleration. A braking operation can still be carried out at full current.

ASCII -Command	PNOID
Syntax Transmit	PNOID [Data]
Syntax Receive	PNOID <Data>
Type	Variable ro
Format	Integer32
DIM	-
Range	-
Default	-
Opmode	-
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	35CE (hex)
PROFIBUS PNU:	1806 (dec) IND = 1 (de
DPR Objekt Nr:	206
Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	PROFIBUS ID

Description

The PNOID command reads out the identification number of the Drive. This number is used for the unique identification of the Drive as a participant in the PROFIBUS network. The ID is allocated and managed by the PROFIBUS User Organization.
This instrument ID is also part of the GSD (base data for the instrument).

PNOID returns the identification number 045D (hexadecimal).

ASCII -Command	POSCNFG
Syntax Transmit	POSCNFG [Data]
Syntax Receive	POSCNFG <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	0, 1
Default	0
Opmode	8
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	1.0
Configuration	☑
Function Group	Position Data

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	35CF (hex)
PROFIBUS PNU:	1807 (dec) IND = 1 (de
DPR Objekt Nr:	207
Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	2.10
EEPROM	Yes

Short Description	Axes Type

Description

Use the axis type to select whether the axis is treated as a linear or rotary axis. This variable does not imply that the motor is a linear or rotary motor, but instead, affects the way the software limit switches are used by the Firmware. The software limit switches are treated in different ways, depending on the selection. The possible settings are:

POSCNFG=0	Linear Axes	Axes with a limited range of movement. The zero position for position tracking is fixed by a homing operation. With this setting, a set reference point is a precondition to be able to implement motion blocks. After the homing movement (setting the reference point) has been completed, the position is continuously tracked for the control loop, and remains valid until the amplifier is switched off. In case a multiturn absolute feedback is used a reference move after drive switch on is not necessary. see also |ROFFS|

POSCNFG=1	Modulo Axis	Axes with a limited range of movement. The minimum position is |SRND| and the maximum position is |ERND|-1. If the maimum position |ERND|-1 is reached, it automatically switches over to |SRND|. The absolute target positions have to be in the defined range. If a motion task is startet, which has a absolute position outside the range, a warning "n08" is displayed (wrong motion task). Relative moves are calculated in a way, that the target position always is in the defined range. A positioning in a axes like this, gives two possibilities of direction to the target position. |DREF| gives the possibility to restrict the direction if an absolute motion task type is selected. This axes type also needs a homing move. In case a multiturn absolute feedback is used a reference move after drive switch on is not necessary. see also |ROFFS|
POSCNFG=2	Modulo axis with cyclic storing of the 64bit position	equal to POSCNFG=1 with activated storing of the 64 bit position (have a look to |DRVCNFG2| Bit 22)

ASCII -Command	POSRSTAT
Syntax Transmit	POSRSTAT [Data]
Syntax Receive	POSRSTAT <Data>
Type	Variable ro
Format	Integer32
DIM	-
Range	-
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3643 (hex)
PROFIBUS PNU:	1923 (dec) IND = 1 (de
DPR Objekt Nr:	323

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Status of Fast Position Registers 1 ... 16

Description

The variable POSRSTAT returns the present status of the fast position registers.
This variable can be considered as a 32-bit variable, whereby the lower 16 bits (bits 0 ... 15) are used for the status information of position registers P1 ... P16.
Bit=0 position signaling inactive
Bit=1 position signaling active (position overrun for |WPOSP|=0 or underrun for |WPOSP|=1).

See also |WPOS|

ASCII -Command	PPOTYP
Syntax Transmit	PPOTYP [Data]
Syntax Receive	PPOTYP <Data>
Type	Variable ro
Format	Integer8
DIM	-
Range	2
Default	2
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	35D0 (hex)
PROFIBUS PNU:	1808 (dec) IND = 1 (de
DPR Objekt Nr:	208
Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Profibus PPO Type

Description

PPOTYP reads the PROFIBUS DP telegram type. The amplifier supports telegram type 2 (telegram consists of 10 words (20 bytes) and is divided into a PKW section (4 words) and a PZD section (6 words)). PPOTYP returns the value, 2.

ASCII -Command	PRBASE
Syntax Transmit	PRBASE [Data]
Syntax Receive	PRBASE <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	1 ... 28
Default	20
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	1.0
Configuration	☑
Function Group	-

Available in	S300/700
MMI ☐	CAN-Bus ☑
PROFIBUS ☑	Sercos ☑
SERCOS IDN:	79 + 116
CAN Object No:	35D1 (hex)
PROFIBUS PNU:	1809 (dec) IND = 1 (de
DPR Objekt Nr:	209
Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	2.10
EEPROM	Yes

Short Description	Position Resolution

Description

Description:

The drive works with an internal 64Bit variable for counting the number of turns of the rotor shaft and for the internal position resolution. The upper 32Bit are disposed for counting the number of turns, the lower 32 Bit are acting for the internal position resolution. External controller are working mostly with 32Bit variables. Therefore 32Bit of the 64Bit variable must be copied in an internal 32Bit variable.

PRBASE defines, how many Bits of this 32 Bit variable are acting for the position resolution. The remaining Bits are used for counting the number of turns. The resolution is only activated when the amplifier is switched off and then on again.

Note: If |PGEARI| = PGEARO * 2^|PRBASE|, then there will be no conversion from user-defined units into increments. In this case, the position and velocity must be given in increments.

PRBASE=20:
20Bits are available for the internal position resolution. With the remaining 12 Bits, the drive can count 2^12=4096 =+/-2047 turns.

PRBASE=16:
16Bits are available for the internal position resolution. With the remaining 16 Bits, the drive can count 2^12=65536=+/-32767 turns.

Example:

Internal 64Bit variable: : 0x00000012 15E3A455
Number of turns Position

Internal 32Bit variable at PRBASE=20 : 0x01215E3A

Internal 32Bit variable at PRBASE=16 : 0x001215E3

ASCII -Command	PRD
Syntax Transmit	PRD [Data]
Syntax Receive	PRD <Data>
Type	Variable ro
Format	Integer32
DIM	Counts
Range	0 .. 1048575
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☑
Function Group	Actual values

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	35D2 (hex)
PROFIBUS PNU:	1810 (dec) IND = 1 (de
DPR Objekt Nr:	210

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	20-bit Position Feedback

Description

The PRD command returns a 20-bit position (absolute within one turn) that is derived from the signals of the feedback device (|FBTYPE|). Unlike the position from the position control loop, PFB, this position cannot be altered.
PRD is not related to |PRBASE|

ASCII -Command	PRIOR1	Available in	S300/700
Syntax Transmit	-	MMI ☐	CAN-Bus ☐
Syntax Receive	-	PROFIBUS ☐	Sercos ☐
Type	-		
Format	-	SERCOS IDN:	
DIM	-	CAN Object No:	360C (hex)
Range		PROFIBUS PNU:	1868 (dec) IND = 1 (de
Default		DPR Objekt Nr:	268
Opmode			
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	internal parameter

Description

This parameter is internal and is not documented. It could be a customized or test/service parameter.

It is not allowed to change this parameter!

ASCII -Command	PRIOR2	Available in	S300/700
Syntax Transmit	-	MMI ☐	CAN-Bus ☐
Syntax Receive	-	PROFIBUS ☐	Sercos ☐
Type	-		
Format	-	SERCOS IDN:	
DIM	-	CAN Object No:	360D (hex)
Range		PROFIBUS PNU:	1869 (dec) IND = 1 (de
Default		DPR Objekt Nr:	269
Opmode			
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	internal parameter

Description

This parameter is internal and is not documented. It could be a customized or test/service parameter.

It is not allowed to change this parameter!

ASCII -Command	PRIOR3	Available in	S300/700
Syntax Transmit	-	MMI ☐	CAN-Bus ☐
Syntax Receive	-	PROFIBUS ☐	Sercos ☐
Type	-		
Format	-	SERCOS IDN:	
DIM	-	CAN Object No:	3516 (hex)
Range		PROFIBUS PNU:	1622 (dec) IND = 1 (de
Default		DPR Objekt Nr:	22
Opmode			
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	internal parameter

Description

This parameter is internal and is not documented. It could be a customized or test/service parameter.

It is not allowed to change this parameter!

ASCII -Command	PRIOR4	Available in	S300/700
Syntax Transmit	-	MMI ☐	CAN-Bus ☐
Syntax Receive	-	PROFIBUS ☐	Sercos ☐
Type	-		
Format	-	SERCOS IDN:	
DIM	-	CAN Object No:	3517 (hex)
Range		PROFIBUS PNU:	1623 (dec) IND = 1 (de
Default		DPR Objekt Nr:	23
Opmode			
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	internal parameter

Description

This parameter is internal and is not documented. It could be a customized or test/service parameter.

It is not allowed to change this parameter!

ASCII -Command	PRIOR5	Available in	S300/700
Syntax Transmit	-	MMI ☐	CAN-Bus ☐
Syntax Receive	-	PROFIBUS ☐	Sercos ☐
Type	-		
Format	-	SERCOS IDN:	
DIM	-	CAN Object No:	351C (hex)
Range		PROFIBUS PNU:	1628 (dec) IND = 1 (de
Default		DPR Objekt Nr:	28
Opmode			
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	internal parameter

Description

This parameter is internal and is not documented. It could be a customized or test/service parameter.

It is not allowed to change this parameter!

ASCII -Command	PROMPT
Syntax Transmit	PROMPT [Data]
Syntax Receive	PROMPT <Data>
Type	Variable rw
Format	Integer16
DIM	-
Range	0 .. 3
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Communication

Available in	S300/700		
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	35D3 (hex)
PROFIBUS PNU:	1811 (dec) IND = 1 (de
DPR Objekt Nr:	211

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.14
EEPROM	No

Short Description	Select RS232 Protocol

Description

The PROMPT parameter can be used to set the protocol for the RS232 transmission.
The following settings are possible:

PROMPT=0	No Echo	The data that is received through the RS232 interface is not automatically echoed (transmitted). There is no output of the prompt (-->) symbol.
PROMPT=1	"-->" plus Echo	The data that is received through the RS232 interface is automatically echoed (transmitted). The prompt (-->) symbol is given for inputting data.
PROMPT=2	Terminal Mode	This setting is the same as PROMPT=1 except: 1. If a CR(Enter) command is typed in at the beginning of the line, the last command is repeated. 2. Some commands (like DUMP) output more than one line of information. In this cases, the output is automatically stopped after one page.

PROMPT=3	"-->" plus Echo plus Checksum	This setting is the same as PROMPT=1 except an additional checksum is transmitted and checked in both directions to prevent wrong data. All character of a command are summed (Modulo 256 without CR). example: Command string : "|ADDR| 1<CR>" generate Checksum: "A" = 0x41 "D" = 0x44 "D" = 0x44 "R" = 0x52 " " = 0x20 "1" = 0x31 The sum is: 0x16C Modulo 256: 0x6C = 108 (Dec) First Character: 108/16 + 0x30 =0x36 = "6" Sec. Character: 108%16 + 0x30 = 0x3C = "<" The command string is: "ADDR 16<" <CR> When the command string is received, the same calculation is done and the last two characters in front of the <CR> are compared with the received data. If the checksum is ok, the ACK (0x06) is send, if no NACK (0x15) is send.

ASCII -Command	PSINUS
Syntax Transmit	PSINUS [Frequenz] [Amplitude]
Syntax Receive	
Type	Command
Format	-
DIM	-
Range	Frequency: 1 .. 100; Amplitude:
Default	Frequency: 5Hz; Amplitude: 2048 counts
Opmode	All
Drive Status	Enable
Start Firmware	
Configuration	☐
Function Group	

Available in	S300/700
MMI	☐
CAN-Bus	☐
PROFIBUS	☐
Sercos	☐
SERCOS IDN:	
CAN Object No:	-
PROFIBUS PNU:	-
DPR Objekt Nr:	
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	Nein

Short Description	sinus service-function

Description

The PSINUS command is used as a service function.

At startup, two parameters can be specified:

PSINUS [Frequency] [Amplitude]

Frequency - Sine frequency in Hz (range 1 to 100) (Default = 5 Hz)
Amplitude - Sinusoidal deflection in counts (2048 = +/- 2.8 degrees mechanical, max. 8192) (default 2048)

If PSINUS is called without parameters, the default values are valid.

ASCII -Command	PSTATE
Syntax Transmit	PSTATE [Data]
Syntax Receive	PSTATE <Data>
Type	Variable ro
Format	String
DIM	-
Range	-
Default	-
Opmode	-
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700		
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	35D4 (hex)
PROFIBUS PNU:	1812 (dec) IND = 1 (de
DPR Objekt Nr:	212
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Profibus Status

Description

The command PSTATE reads out the present status of the PROFIBUS communication. The first value that is shown provides the SPC3 WATCHDOG status, the second value provides the PROFIBUS DP-status.
SPC3 WATCHDOG status
0 = baud rate search
1 = check baud rate
2 = DP mode, i.e. the bus watchdog is active

PROFIBUS-DP status
0 = wait for parameterization, performed by the master
1 = wait for configuration, performed by the master
2 = data exchange
3 = fault – the cause could, for instance, have been a faulty parameterization telegram in the data transfer phase.

Productive data can only be received, i.e. data exchanged for the PKW and PZD sections of the Drive, when the SPC3 WATCHDOG status has the value 2, and the PROFIBUS-DP status has the value 2.

ASCII -Command	PSTEP	Available in	S300/700
Syntax Transmit	PSTEP [Data]	MMI ☐	CAN-Bus ☐
Syntax Receive	PSTEP <Data>	PROFIBUS ☐	Sercos ☐
Type	Variable rw		
Format	Integer16 Integer32 Integer16 Integer32	SERCOS IDN:	
DIM	ms (DurationN) / Velocity Units (velocityN)	CAN Object No:	-
Range	Duration:0 to 32767; Velocity:-PVMAX to +PVMAX	PROFIBUS PNU:	-
Default	-	DPR Objekt Nr:	
Opmode	8		
Drive Status	Enabled		
Start Firmware	2.32		
Configuration	☐	Data Type BUS/DPR	Integer16 Integer32 Int
Function Group		Weighting 10^3	

Last Change of this Object	1.9
EEPROM	-

Short Description	Service Operation (PSTEP Command)

Description

S700 and S300 |FW| > 2.32:

The PSTEP command is used to implement a service function through the operating mode "motion tasks" (|OPMODE|=8). The command can be used in the following forms.
1. PSTEP
The command provides the present settings for the service function.
2. PSTEP T1 V1
A digital setpoint V1 (|VUNIT|s) is provided for time T1 (in msec). After T1 has elapsed, the digital setpoint is set to 0.
3. PSTEP T1 V1 T2 V2
A digital setpoint V1 (|VUNIT|s) is provided for time T1 (in msec). After T1 has elapsed, a digital setpoint V2 (|VUNIT|s) is provided for time T2 (in msec). After T2 has elapsed, the T1/V1 cycle starts again. This command can be used to create an endless reversing operation.
e.g. PSTEP 1000 10000 1000 -10000

The service operation can always be cancelled by using the |STOP| command.
For this service operation, the acceleration / deceleration ramps |ACCR| and |DECR| are active.
The "motion tasks" operating mode is a precondition for executing the PSTEP command.

ASCII -Command	PTARGET
Syntax Transmit	PTARGET [Data]
Syntax Receive	PTARGET <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	long int
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3654 (hex)
PROFIBUS PNU:	1940 (dec) IND = 1 (de
DPR Objekt Nr:	340

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Last Target Position

Description

The command PTARGET can be used to request the target position for the last motion task that was started (and possibly already interrupted). This position is accepted as a new target position, as soon as the |CONTINUE| command is executed (to continue the last motion task).

ASCII -Command	PTARGOFFS
Syntax Transmit	PTARGOFFS [Data]
Syntax Receive	PTARGOFFS <Data>
Type	Variable rw
Format	Integer32
DIM	
Range	-2147483647...2147483647
Default	0
Opmode	All
Drive Status	-
Start Firmware	3.66
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	389B (hex)
PROFIBUS PNU:	1723 (dec) IND = 33 (d
DPR Objekt Nr:	923

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.4
EEPROM	Yes

Short Description	Motion tasks position target shift

Description

The parameter PTARGOFFS offers the possibility to shift the target position of the absolute motion tasks.
The PTARGOFFS value is added to the motion task target position at the start of the motion task. The relative motion tasks are not affected by this value.

ASCII -Command	PTBASE
Syntax Transmit	PTBASE [Data]
Syntax Receive	PTBASE <Data>
Type	Variable rw
Format	Integer8
DIM	1/4 ms
Range	1 ... 127
Default	4
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	35D5 (hex)
PROFIBUS PNU:	1813 (dec) IND = 1 (de
DPR Objekt Nr:	213

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	2.13
EEPROM	Yes

Short Description	Time base for the external trajectory

Description

The PTBASE parameter is used to define the interpolation time for the external trajectory (|OPMODE|=5). The time is set in 250 microsecond steps, and defined the time period in which the drive should reach the next position command. Since the internal position control loop works in 250 microsecond steps, an interpolation of the given position command (external trajectory) is also given in 250 microsecond steps.

For SERCOS the scalling is PTBASE 2=500us, PTBASE 4 = 1000us…

ASCII -Command	PTMIN
Syntax Transmit	PTMIN [Data]
Syntax Receive	PTMIN <Data>
Type	Variable rw
Format	Integer32
DIM	>> ACCUNIT
Range	3 .. 126000
Default	3150
Opmode	8
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Position Data

Available in	S300/700		
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	35D6 (hex)
PROFIBUS PNU:	1814 (dec) IND = 1 (de
DPR Objekt Nr:	214
Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	Yes

Short Description	Min. Acceleration Ramp for Motion Tasks

Description

The minimum acceleration ramp PTMIN defines the minimum time that is permitted for a velocity change from 0 to |PVMAX|. Regardless of how the acceleration value is entered (milliseconds, SI units), the acceleration that is used is limited to |PVMAX| / PTMIN at the start of a motion task.
With the help of the |PVMAX| and PTMIN parameters it is possible to control the behavior of the system, especially during the commissioning phase, without having to alter the individual motion tasks.

ASCII -Command	PUNIT
Syntax Transmit	PUNIT [Data]
Syntax Receive	PUNIT <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	0 ... 15
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3660 (hex)
PROFIBUS PNU:	1952 (dec) IND = 1 (de
DPR Objekt Nr:	352
Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Set Resolution of the Position

Description

PUNIT enables a systemwide setting for the unit of position for the position controller. The following settings are possible:

PUNIT=0 internal Unit (user specific)
PUNIT=1 1 dm (0.1 m)
PUNIT=2 1 cm (0.01 m)
PUNIT=3 1 mm
PUNIT=4 0.1 mm
PUNIT=5 0.01 mm
PUNIT=6 1 µm
PUNIT=7 0.1 µm
PUNIT=8 0.01 µm
PUNIT=9 1 nm
PUNIT=10 0.1 nm
PUNIT=11 inch.
PUNIT=12 °

The parameter PUNIT is only used for the MMI. It calculates different units for the MMI. All internal calculations (position controller resolution |PGEARI| and motion tasks are not effected.

IF PUNIT=0 there is no difference to older firmware versions. The unit is defined only by |PGEARI|.

e.g: |PGEARI|=360 (Unit = Degree)
|PGEARI|=3600 (Unit= 0.1 Degree)

ASCII -Command	PV
Syntax Transmit	PV [Data]
Syntax Receive	PV <Data>
Type	Variable ro
Format	Integer32
DIM	VUNIT
Range	long int
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	35D7 (hex)
PROFIBUS PNU:	1815 (dec) IND = 1 (de
DPR Objekt Nr:	215

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Actual Velocity (Position Control Loop)

Description

The actual velocity (position control loop) can be requested by using the PV command.
The scaling of the velocity depends on the |PGEARI|, and |PGEARO| parameters.

ASCII -Command	PVMAX
Syntax Transmit	PVMAX [Data]
Syntax Receive	PVMAX <Data>
Type	Variable rw
Format	Integer32
DIM	VUNIT
Range	0 .. VLIM
Default	10000
Opmode	8
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Position Data

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	35D8 (hex)
PROFIBUS PNU:	1816 (dec) IND = 1 (de
DPR Objekt Nr:	216

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	Yes

Short Description	Max. Velocity for Position Control

Description

The parameter PVMAX defines the maximum velocity that is permitted for a motion task. When a motion task is started, the target velocity for the motion task is limited to the value of PVMAX.
With the help of the PVMAX and |PTMIN| parameters it is possible to control the behavior of the system, especially during the commissioning phase, without having to alter the individual motion tasks.

When used together with the |PVMAXN| parameter, it is possible to implement a directionally-dependent velocity limit. The PVMAX determines the maximum velocity for positive and negative directions together. By making a subsequent entry for |PVMAXN|, the limit for the negative direction can be set separately.

Further, the parameter PVMAX dependens on the settings of the parameter |VUNIT|.

See |VLIM| , |PVMAXP|, |PVMAXN|, |VUNIT|, |PGEARI|, |PGEARO|

ASCII -Command	PVMAXN
Syntax Transmit	PVMAXN [Data]
Syntax Receive	PVMAXN <Data>
Type	Variable rw
Format	Integer32
DIM	VUNIT
Range	0 .. VLIM
Default	10000
Opmode	8
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	35D9 (hex)
PROFIBUS PNU:	1817 (dec) IND = 1 (de
DPR Objekt Nr:	217

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Max. (Negative) Velocity for Position Control

Description

The parameter PVMAXN defines the maximum velocity (in the negative direction) that is permitted for a motion task. When a motion task is started, the target velocity for the motion task is limited to the value of PVMAXN.
When the maximum velocity for the positive direction (|PVMAX|) is defined, the PVMAXN parameter is set to the |PVMAX| value at the same time. So, if a separate setting is required for the negative direction of movement, the value for PVMAXN must be entered separately, afterwards.
With the help of the |PVMAX|, |PTMIN| and PVMAXN parameters it is possible to control the behavior of the system, especially during the commissioning phase, without having to alter the individual motion tasks.

ASCII -Command	PVMAXP
Syntax Transmit	PVMAX [Data]
Syntax Receive	PVMAX <Data>
Type	Variable rw
Format	Integer32
DIM	VUNIT
Range	0 .. VLIM
Default	10000
Opmode	8
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Position Data

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	35DB (hex)
PROFIBUS PNU:	1819 (dec) IND = 1 (de
DPR Objekt Nr:	219
Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Max. (positive) Velocity for Position Control

Description

The parameter PVMAXN defines the maximum velocity (in the negative direction) that is permitted for a motion task. When a motion task is started, the target velocity for the motion task is limited to the value of PVMAXN.
When the maximum velocity for the positive direction (|PVMAX|) is defined, the PVMAXN parameter is set to the |PVMAX| value at the same time. So, if a separate setting is required for the negative direction of movement, the value for PVMAXN must be entered separately, afterwards.
With the help of the |PVMAX|, |PTMIN| and PVMAXN parameters it is possible to control the behavior of the system, especially during the commissioning phase, without having to alter the individual motion tasks.

ASCII -Command	QCNFG
Syntax Transmit	QCNFG [Data]
Syntax Receive	QCNFG <Data>
Type	Variable rw
Format	Float
DIM	
Range	-2147483647...2147483647
Default	0
Opmode	0
Drive Status	-
Start Firmware	6.00
Configuration	☐
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	38D7 (hex)
PROFIBUS PNU:	1783 (dec) IND = 33 (d
DPR Objekt Nr:	983
Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.13
EEPROM	Yes

Short Description	Configuration variable of the servo punp

Description

The parameter QCNFG is a bit variable. With this parameter you can configure the servo pump function

Bit 0 – pump direction 0=right, 1=left
Bit 1 – adaption active
Bit 2 – efficiency compensation active
Bit 3 – reserved
Bit 4 - configuration of SW2
Bit 5 - configuration of SW2
Bit 6 - configuration of SW2
Bit 7 - configuration of SW2

SW2 configuration bits
Bit 4,5,6,7 = 0 SW2 deactivated
Bit 4,5,6,7 = 1 SW2 switchable via input 1
Bit 4,5,6,7 = 2 SW2 switchable via input 2
Bit 4,5,6,7 = 3 SW2 switchable via input 3
Bit 4,5,6,7 = 4 SW2 switchable via input 4
Bit 4,5,6,7 = 5 SW2 switchable via input 5
Bit 4,5,6,7 = 6 SW2 switchable via input 6
Bit 4,5,6,7 = 7 SW2 volume setpoint 10V = |QFMAX|
Bit 4,5,6,7 = 8 SW2 pressure setpoint 10V = |QPRMAX|

ASCII -Command	QENA
Syntax Transmit	QFACTOR [Data]
Syntax Receive	QFACTOR <Data>
Type	Variable rw
Format	Integer8
DIM	
Range	0/1
Default	0
Opmode	0
Drive Status	-
Start Firmware	6.00
Configuration	☑
Function Group	

Available in	S300/700		
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3913 (hex)
PROFIBUS PNU:	1843 (dec) IND = 33 (d
DPR Objekt Nr:	1043

Data Type BUS/DPR	Integer8
Weighting 10^3	*

Last Change of this Object	2.12
EEPROM	Yes

Short Description	enable of servo pump function

Description

With QENA=1 the servo pump funcktion is enabled

ASCII -Command	QFACT	Available in	S300/700
Syntax Transmit	QFACT	MMI ☐	CAN-Bus ☑
Syntax Receive	QFACT <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable ro		
Format	Float	SERCOS IDN:	
DIM	l/min	CAN Object No:	38DE (hex)
Range	-	PROFIBUS PNU:	1790 (dec) IND = 33 (d
Default		DPR Objekt Nr:	990
Opmode	0		
Drive Status	-		
Start Firmware	6.00		
Configuration	☐	Data Type BUS/DPR	Integer32
Function Group		Weighting 10^3	

Last Change of this Object	2.12
EEPROM	No

Short Description	volume-flow actual value (without filter)

Description

This paramtere QFACT displays the volume-flow actual value in l/min without a filter.

ASCII -Command	QFACTCOMP
Syntax Transmit	QFACTCOMP
Syntax Receive	QFACTCOMP <Data>
Type	Variable ro
Format	Float
DIM	l/min
Range	-
Default	
Opmode	0
Drive Status	-
Start Firmware	6.00
Configuration	☐
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	38E2 (hex)
PROFIBUS PNU:	1794 (dec) IND = 33 (d
DPR Objekt Nr:	994
Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	No

Short Description	volume-flow actual value (after compensation)

Description

This paramtere QFACTCOMP displays the volume-flow actual value in l/min after efficiency compensation

ASCII -Command	QFACTFILT
Syntax Transmit	QFACTFILT [Data]
Syntax Receive	QFACTFILT <Data>
Type	Variable ro
Format	Float
DIM	1/min
Range	-
Default	
Opmode	0
Drive Status	-
Start Firmware	6.00
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	38E3 (hex)
PROFIBUS PNU:	1795 (dec) IND = 33 (d
DPR Objekt Nr:	995

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	No

Short Description	Filtered setpoint for the volume flow

Description

The parameter FCMDFILT gives the current volume-flow setpoint behind a first-order low-pass filter.

The filter time constant can be defined via parameter |QT1|.

ASCII -Command	QFACTOR
Syntax Transmit	QFACTOR [Data]
Syntax Receive	QFACTOR <Data>
Type	Variable rw
Format	Float
DIM	cm3
Range	0 .. 2147480
Default	100
Opmode	0
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	6.00
Configuration	☑
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	38D8 (hex)
PROFIBUS PNU:	1784 (dec) IND = 33 (d
DPR Objekt Nr:	984

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	Yes

Short Description	swallowing volume

Description

Definition of the swallowing volume in cm3 per revolution

ASCII -Command	QFCFACT
Syntax Transmit	QFCFACT
Syntax Receive	QFCFACT <Data>
Type	Variable ro
Format	Float
DIM	
Range	-
Default	
Opmode	0
Drive Status	-
Start Firmware	6.00
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	38D9 (hex)
PROFIBUS PNU:	1785 (dec) IND = 33 (d
DPR Objekt Nr:	985

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	No

Short Description	current efficiency factor (volume)

Description

The factor can be found in the efficiency table, and changes depending on the current actual pressure/speed: 1000 = 1.000

ASCII -Command	QFCMD
Syntax Transmit	QFACTOR [Data]
Syntax Receive	QFACTOR <Data>
Type	Variable rw
Format	Float
DIM	
Range	-214780 .. 2147480
Default	0
Opmode	0
Drive Status	-
Start Firmware	6.00
Configuration	☑
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3914 (hex)
PROFIBUS PNU:	1844 (dec) IND = 33 (d
DPR Objekt Nr:	1044

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	2.13
EEPROM	Yes

Short Description	volume-flow setpoint

Description

This parameter QFCMD configures the volume-flow setpoint

ASCII -Command	QFCMDFILT
Syntax Transmit	QFACTOR [Data]
Syntax Receive	QFACTOR <Data>
Type	Variable rw
Format	Float
DIM	
Range	-
Default	
Opmode	0
Drive Status	-
Start Firmware	6.00
Configuration	☑
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3915 (hex)
PROFIBUS PNU:	1845 (dec) IND = 33 (d
DPR Objekt Nr:	1045

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	2.12
EEPROM	Yes

Short Description	filtered setpoint for the volume flow

Description

This parameter QFSET gives the current volume-flow setpoint behind a first-order low-pass filter. The filter time constant can be defined via parameter |QT1|.

ASCII -Command	QFMAX	Available in	S300/700		
Syntax Transmit	QFMAX [Data]	MMI	☐	CAN-Bus	☑
Syntax Receive	QFMAX <Data>	PROFIBUS	☑	Sercos	☐
Type	Variable rw				
Format	Float	SERCOS IDN:			
DIM	1/min	CAN Object No:	38E9 (hex)		
Range	0 .. 2147480	PROFIBUS PNU:	1801 (dec) IND = 33 (d		
Default	10	DPR Objekt Nr:	1001		
Opmode	0				
Drive Status	-				
Start Firmware	6.00				
Configuration	☐	Data Type BUS/DPR	Integer32		
Function Group		Weighting 10^3			

Last Change of this Object	2.13
EEPROM	Yes

Short Description	max setpoint for the volume flow

Description

This parameter QFMAX defines the maximum value for the volume-flow setpoint. This value corresponds to a specification of 10V at analog input SW2.

ASCII -Command	QFSET
Syntax Transmit	QFSET
Syntax Receive	QFSET
Type	Variable ro
Format	Float
DIM	l/min
Range	-
Default	0
Opmode	0
Drive Status	-
Start Firmware	6.00
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	38DD (hex)
PROFIBUS PNU:	1789 (dec) IND = 33 (d
DPR Objekt Nr:	989

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	2.12
EEPROM	Yes

Short Description	Filtered setpoint for the volume flow

Description

This parameter QFSET gives the current volume-flow setpoint behind a first-order low-pass filter.
The filter time constant can be defined via parameter |QT1|.

ASCII -Command	QKPEFF
Syntax Transmit	QKPEFF
Syntax Receive	QKPEFF <Data>
Type	Variable ro
Format	Float
DIM	
Range	-
Default	
Opmode	0
Drive Status	-
Start Firmware	6.00
Configuration	☐
Function Group	

Available in	S300/700		
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	38FB (hex)
PROFIBUS PNU:	1819 (dec) IND = 33 (d
DPR Objekt Nr:	1019

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	No

Short Description	Regulator parameter adaption: active KP value

Description

This parameter QKPEFF displays the active KP value of the regulator parameter adaption

ASCII -Command	QMACT	Available in	S300/700
Syntax Transmit	QMACT	MMI ☐	CAN-Bus ☑
Syntax Receive	QMACT <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable ro		
Format	Float	SERCOS IDN:	
DIM		CAN Object No:	38DA (hex)
Range	-	PROFIBUS PNU:	1786 (dec) IND = 33 (d
Default		DPR Objekt Nr:	986
Opmode	0		
Drive Status	-		
Start Firmware	6.00		
Configuration	☐	Data Type BUS/DPR	Integer32
Function Group		Weighting 10^3	

Last Change of this Object	2.12
EEPROM	Yes

Short Description	Current actual torque

Description

This parameter QMACT displays the current actual torque.

ASCII -Command	QMCMD	Available in	S300/700
Syntax Transmit	QMCMD	MMI ☐	CAN-Bus ☑
Syntax Receive	QMCMD <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable ro		
Format	Float	SERCOS IDN:	
DIM		CAN Object No:	38E1 (hex)
Range	-	PROFIBUS PNU:	1793 (dec) IND = 33 (d
Default		DPR Objekt Nr:	993
Opmode	0		
Drive Status	-		
Start Firmware	6.00		
Configuration	☐	Data Type BUS/DPR	Integer32
Function Group		Weighting 10^3	

Last Change of this Object	2.12
EEPROM	No

Short Description	current torque setpoint

Description

This parameter QMCMD defines the current before torque limitation.

ASCII -Command	QMCMDLIM	Available in	S300/700
Syntax Transmit	QMCMDLIM	MMI ☑	CAN-Bus ☑
Syntax Receive	QMCMDLIM <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable ro		
Format	Float	SERCOS IDN:	
DIM	Nm	CAN Object No:	38E6 (hex)
Range	-	PROFIBUS PNU:	1798 (dec) IND = 33 (d
Default		DPR Objekt Nr:	998
Opmode	0		
Drive Status	-		
Start Firmware	6.00		
Configuration	☐	Data Type BUS/DPR	Integer32
Function Group		Weighting 10^3	

Last Change of this Object	2.12
EEPROM	No

Short Description	Current torque setpoint

Description

This parameter QMCMDLIM defines the current torque setpoint behind the limitation.

ASCII -Command	QMLIMN
Syntax Transmit	QMLIMN [Data]
Syntax Receive	QMLIMN <Data>
Type	Variable rw
Format	Float
DIM	Nm
Range	variable
Default	variable
Opmode	0
Drive Status	-
Start Firmware	6.00
Configuration	☐
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3917 (hex)
PROFIBUS PNU:	1847 (dec) IND = 33 (d
DPR Objekt Nr:	1047

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	2.13
EEPROM	Yes

Short Description	Torque limitation for pressure release

Description

This parameter QMLIMN defines the torque limitation for pressure release of servo pump..

ASCII -Command	QMLIMP
Syntax Transmit	QMLIMP [Data]
Syntax Receive	QMLIMP <Data>
Type	Variable rw
Format	Float
DIM	Nm
Range	variable
Default	variable
Opmode	0
Drive Status	-
Start Firmware	6.00
Configuration	☐
Function Group	

Available in	S300/700
MMI ☐	CAN-Bus ☑
PROFIBUS ☑	Sercos ☐
SERCOS IDN:	
CAN Object No:	38E7 (hex)
PROFIBUS PNU:	1799 (dec) IND = 33 (d
DPR Objekt Nr:	999
Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.13
EEPROM	Yes

Short Description	Torque limitation for pressure build-up

Description

This parameter QMLIMP defines the torque limitation for pressure build-up of servo pump..

ASCII -Command	QPE
Syntax Transmit	QPE
Syntax Receive	QPE <Data>
Type	Variable ro
Format	Float
DIM	bar
Range	-int32 ... +int32
Default	
Opmode	0
Drive Status	-
Start Firmware	6.00
Configuration	☐
Function Group	

Available in	S300/700		
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	38FA (hex)
PROFIBUS PNU:	1818 (dec) IND = 33 (d
DPR Objekt Nr:	1018

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	Yes

Short Description	current pressure-regulator deviation

Description

This parameter QPE displays the current pressure-regulator deviation.

ASCII -Command	QPRACT	Available in	S300/700
Syntax Transmit	QPRACT	MMI ☐	CAN-Bus ☑
Syntax Receive	QPRACT <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable ro		
Format	Float	SERCOS IDN:	
DIM		CAN Object No:	38E0 (hex)
Range	-	PROFIBUS PNU:	1792 (dec) IND = 33 (d
Default		DPR Objekt Nr:	992
Opmode	0		
Drive Status	-		
Start Firmware	6.00		
Configuration	☐	Data Type BUS/DPR	Integer32
Function Group		Weighting 10^3	

Last Change of this Object	2.12
EEPROM	Yes

Short Description	actual pressure value

Description

QPRACT gives the current actual pressure value in bar. The actual pressure value is calculated based on the analog voltage at input SW1 and the pressure sensor calibration table.

ASCII -Command	QPRMAX
Syntax Transmit	QPRMAX [Data]
Syntax Receive	QPRMAX <Data>
Type	Variable rw
Format	Float
DIM	bar
Range	0 .. 2147480
Default	200
Opmode	0
Drive Status	-
Start Firmware	6.00
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	38EA (hex)
PROFIBUS PNU:	1802 (dec) IND = 33 (d
DPR Objekt Nr:	1002

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	Yes

Short Description	max pressure setpoint

Description

QPRMAX defines the maximum value for the pressure setpoint. This value corresponds to a specification of 10V at analog input SW2.

ASCII -Command	QPRSET	Available in	S300/700
Syntax Transmit	QPRSET [Data]	MMI ☐	CAN-Bus ☑
Syntax Receive	QPRSET <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Float	SERCOS IDN:	
DIM		CAN Object No:	38DF (hex)
Range	-2147480 .. 2147480	PROFIBUS PNU:	1791 (dec) IND = 33 (d
Default	0	DPR Objekt Nr:	991
Opmode	0		
Drive Status	-		
Start Firmware	6.00		
Configuration	☐	Data Type BUS/DPR	Integer32
Function Group		Weighting 10^3	

Last Change of this Object	2.12
EEPROM	Yes

Short Description	actual pressure setpoint

Description

This parameter QPRSET displays the actual pressure setpoint.

ASCII -Command	QPRSETEFF
Syntax Transmit	QPRSETEFF]
Syntax Receive	QPRSETEFF <Data>
Type	Variable ro
Format	Float
DIM	bar
Range	-
Default	
Opmode	0
Drive Status	-
Start Firmware	6.00
Configuration	☐
Function Group	

Available in	S300/700		
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	38E8 (hex)
PROFIBUS PNU:	1800 (dec) IND = 33 (d
DPR Objekt Nr:	1000

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.13
EEPROM	No

Short Description	actual pressure setpoint (effective)

Description

please have a look to |QPRSET|

ASCII -Command	QT1
Syntax Transmit	QT1 [Data]
Syntax Receive	QT1 <Data>
Type	Variable rw
Format	Float
DIM	msec
Range	-
Default	
Opmode	0
Drive Status	-
Start Firmware	6.00
Configuration	☑
Function Group	

Available in	S300/700		
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3916 (hex)
PROFIBUS PNU:	1846 (dec) IND = 33 (d
DPR Objekt Nr:	1046

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	2.12
EEPROM	No

Short Description	constant for the volume-flow setpoint filter

Description

This parameter QT1 describes the filter time constant for the volume-flow setpoint filter (first-order low-pass filter).

ASCII -Command	QTAB1KP
Syntax Transmit	QTAB1KP [Data]
Syntax Receive	QTAB1KP <Data>
Type	Variable rw
Format	Float
DIM	
Range	0 .. 1000
Default	0.1
Opmode	0
Drive Status	-
Start Firmware	6.00
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	38EB (hex)
PROFIBUS PNU:	1803 (dec) IND = 33 (d
DPR Objekt Nr:	1003

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	Yes

Short Description	Regulator parameter adaption: KP – amplification for QTAB1V

Description

The intersections |QTAB1KP| ... |QTAB5KP| are in connection with the values |QTAB1V| ... |QTAB5V| for calculating a parameter switching table.

Depending on the current motor speed, the corresponding controller parameters are activated.

ASCII -Command	QTAB1TN
Syntax Transmit	QTAB1TN [Data]
Syntax Receive	QTAB1TN <Data>
Type	Variable rw
Format	Float
DIM	ms
Range	0 .. 3000
Default	0
Opmode	0
Drive Status	-
Start Firmware	6.00
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	38F5 (hex)
PROFIBUS PNU:	1813 (dec) IND = 33 (d
DPR Objekt Nr:	1013

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	Yes

Short Description	Regulator parameter adaption: TN – reset time for QTAB1V

Description

The intersections |QTAB1TN| ... |QTAB5TN| are in connection with the values |QTAB1V| ... |QTAB5V| for calculating a parameter switching table.

Depending on the current motor speed, the corresponding controller parameters are activated.

ASCII -Command	QTAB1TV
Syntax Transmit	QTAB1TV [Data]
Syntax Receive	QTAB1TV <Data>
Type	Variable rw
Format	Float
DIM	
Range	0 .. 1000
Default	0
Opmode	0
Drive Status	-
Start Firmware	6.00
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3901 (hex)
PROFIBUS PNU:	1825 (dec) IND = 33 (d
DPR Objekt Nr:	1025

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	Yes

Short Description	Regulator parameter adaption: TV – hold-back time for QTAB1V

Description

The intersections |QTAB1TV| ... |QTAB5TV| are used in connection with the values |QTAB1V| ... |QTAB5V| for calculating a parameter switching table.

Depending on the current motor speed, the corresponding controller parameters are activated.

ASCII -Command	QTAB1V
Syntax Transmit	QTAB1V [Data]
Syntax Receive	QTAB1V <Data>
Type	Variable rw
Format	Float
DIM	Bar
Range	0 .. int32
Default	0
Opmode	0
Drive Status	-
Start Firmware	6.00
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	38F0 (hex)
PROFIBUS PNU:	1808 (dec) IND = 33 (d
DPR Objekt Nr:	1008

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	Yes

Short Description	Regulator parameter adaption: Speed 1

Description

The intersections |QTAB1TN| ... |QTAB5TN|, |QTAB1TV| ... |QTAB5TV| and |QTAB1KP| ... |QTAB5KP| are in connection with the values |QTAB1V| ... |QTAB5V| for calculating a parameter switching table.

Depending on the current motor speed, the corresponding controller parameters are activated.

ASCII -Command	QTAB2KP
Syntax Transmit	QTAB2KP [Data]
Syntax Receive	QTAB2KP <Data>
Type	Variable rw
Format	Float
DIM	
Range	0 .. 1000
Default	0
Opmode	0
Drive Status	-
Start Firmware	6.00
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	38EC (hex)
PROFIBUS PNU:	1804 (dec) IND = 33 (d
DPR Objekt Nr:	1004

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	Yes

Short Description	Regulator parameter adaption: KP – amplification for QTAB2V

Description

The intersections |QTAB1KP| ... |QTAB5KP| are in connection with the values |QTAB1V| ... |QTAB5V| for calculating a parameter switching table.

Depending on the current motor speed, the corresponding controller parameters are activated.

ASCII -Command	QTAB2TN
Syntax Transmit	QTAB2TN [Data]
Syntax Receive	QTAB2TN <Data>
Type	Variable rw
Format	Float
DIM	ms
Range	0 .. 3000
Default	0
Opmode	0
Drive Status	-
Start Firmware	6.00
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	38F6 (hex)
PROFIBUS PNU:	1814 (dec) IND = 33 (d
DPR Objekt Nr:	1014

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	Yes

Short Description	Regulator parameter adaption: TN – reset time for QTAB2V

Description

The intersections |QTAB1TN| ... |QTAB5TN| are in connection with the values |QTAB1V| ... |QTAB5V| for calculating a parameter switching table.

Depending on the current motor speed, the corresponding controller parameters are activated.

ASCII -Command	QTAB2TV
Syntax Transmit	QTAB2TV [Data]
Syntax Receive	QTAB2TV <Data>
Type	Variable rw
Format	Float
DIM	
Range	0 .. 1000
Default	0
Opmode	0
Drive Status	-
Start Firmware	6.00
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3902 (hex)
PROFIBUS PNU:	1826 (dec) IND = 33 (d
DPR Objekt Nr:	1026

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	Yes

Short Description	Regulator parameter adaption: TV – hold-back time for QTAB2V

Description

The intersections |QTAB1TN| ... |QTAB5TN|, |QTAB1TV| ... |QTAB5TV| and |QTAB1KP| ... |QTAB5KP| are in connection with the values |QTAB1V| ... |QTAB5V| for calculating a parameter switching table.

Depending on the current motor speed, the corresponding controller parameters are activated.

ASCII -Command	QTAB2V
Syntax Transmit	QTAB2V [Data]
Syntax Receive	QTAB2V <Data>
Type	Variable rw
Format	Float
DIM	Bar
Range	0 .. int32
Default	0
Opmode	0
Drive Status	-
Start Firmware	6.00
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	38F1 (hex)
PROFIBUS PNU:	1809 (dec) IND = 33 (d
DPR Objekt Nr:	1009

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	Yes

Short Description	Regulator parameter adaption: Speed 2

Description

The intersections |QTAB1TN| ... |QTAB5TN|, |QTAB1TV| ... |QTAB5TV| and |QTAB1KP| ... |QTAB5KP| are in connection with the values |QTAB1V| ... |QTAB5V| for calculating a parameter switching table.

Depending on the current motor speed, the corresponding controller parameters are activated.

ASCII -Command	QTAB3KP
Syntax Transmit	QTAB3KP [Data]
Syntax Receive	QTAB3KP <Data>
Type	Variable rw
Format	Float
DIM	
Range	0 .. 1000
Default	0
Opmode	0
Drive Status	-
Start Firmware	6.00
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	38ED (hex)
PROFIBUS PNU:	1805 (dec) IND = 33 (d
DPR Objekt Nr:	1005

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	Yes

Short Description	Regulator parameter adaption: KP – amplification for QTAB3V

Description

The intersections |QTAB1KP| ... |QTAB5KP| are in connection with the values |QTAB1V| ... |QTAB5V| for calculating a parameter switching table.

Depending on the current motor speed, the corresponding controller parameters are activated.

ASCII -Command	QTAB3TN
Syntax Transmit	QTAB3TN [Data]
Syntax Receive	QTAB3TN <Data>
Type	Variable rw
Format	Float
DIM	ms
Range	0 .. 3000
Default	0
Opmode	0
Drive Status	-
Start Firmware	6.00
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	38F7 (hex)
PROFIBUS PNU:	1815 (dec) IND = 33 (d
DPR Objekt Nr:	1015

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	Yes

Short Description	Regulator parameter adaption: TN – reset time for QTAB3V

Description

The intersections |QTAB1TN| ... |QTAB5TN| are in connection with the values |QTAB1V| ... |QTAB5V| for calculating a parameter switching table.

Depending on the current motor speed, the corresponding controller parameters are activated.

ASCII -Command	QTAB3TV
Syntax Transmit	QTAB3TV [Data]
Syntax Receive	QTAB3TV <Data>
Type	Variable rw
Format	Float
DIM	
Range	0 .. 1000
Default	0
Opmode	0
Drive Status	-
Start Firmware	6.00
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3903 (hex)
PROFIBUS PNU:	1827 (dec) IND = 33 (d
DPR Objekt Nr:	1027

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	Yes

Short Description	Regulator parameter adaption: TV – hold-back time for QTAB3V

Description

The intersections |QTAB1TN| ... |QTAB5TN|, |QTAB1TV| ... |QTAB5TV| and |QTAB1KP| ... |QTAB5KP| are in connection with the values |QTAB1V| ... |QTAB5V| for calculating a parameter switching table.

Depending on the current motor speed, the corresponding controller parameters are activated.

ASCII -Command	QTAB3V
Syntax Transmit	QTAB3V [Data]
Syntax Receive	QTAB3V <Data>
Type	Variable rw
Format	Float
DIM	Bar
Range	0 .. int32
Default	0
Opmode	0
Drive Status	-
Start Firmware	6.00
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	38F2 (hex)
PROFIBUS PNU:	1810 (dec) IND = 33 (d
DPR Objekt Nr:	1010

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	Yes

Short Description	Regulator parameter adaption: Speed 3

Description

The intersections |QTAB1TN| ... |QTAB5TN|, |QTAB1TV| ... |QTAB5TV| and |QTAB1KP| ... |QTAB5KP| are in connection with the values |QTAB1V| ... |QTAB5V| for calculating a parameter switching table.

Depending on the current motor speed, the corresponding controller parameters are activated.

ASCII -Command	QTAB4KP
Syntax Transmit	QTAB4KP [Data]
Syntax Receive	QTAB4KP <Data>
Type	Variable rw
Format	Float
DIM	
Range	0 .. 1000
Default	0
Opmode	0
Drive Status	-
Start Firmware	6.00
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	38EE (hex)
PROFIBUS PNU:	1806 (dec) IND = 33 (d
DPR Objekt Nr:	1006

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	Yes

Short Description	Regulator parameter adaption: KP – amplification for QTAB4V

Description

The intersections |QTAB1KP| ... |QTAB5KP| are in connection with the values |QTAB1V| ... |QTAB5V| for calculating a parameter switching table.

Depending on the current motor speed, the corresponding controller parameters are activated.

ASCII -Command	QTAB4TN
Syntax Transmit	QTAB4TN [Data]
Syntax Receive	QTAB4TN <Data>
Type	Variable rw
Format	Float
DIM	ms
Range	0 .. 3000
Default	0
Opmode	0
Drive Status	-
Start Firmware	6.00
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	38F8 (hex)
PROFIBUS PNU:	1816 (dec) IND = 33 (d
DPR Objekt Nr:	1016

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	Yes

Short Description	Regulator parameter adaption: TN – reset time for QTAB4V

Description

The intersections |QTAB1TN| ... |QTAB5TN| are in connection with the values |QTAB1V| ... |QTAB5V| for calculating a parameter switching table.

Depending on the current motor speed, the corresponding controller parameters are activated.

ASCII -Command	QTAB4TV
Syntax Transmit	QTAB4TV [Data]
Syntax Receive	QTAB4TV <Data>
Type	Variable rw
Format	Float
DIM	
Range	0 .. 1000
Default	0
Opmode	0
Drive Status	-
Start Firmware	6.00
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3904 (hex)
PROFIBUS PNU:	1828 (dec) IND = 33 (d
DPR Objekt Nr:	1028

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	Yes

Short Description	Regulator parameter adaption: TV – hold-back time for QTAB4V

Description

The intersections |QTAB1TN| ... |QTAB5TN|, |QTAB1TV| ... |QTAB5TV| and |QTAB1KP| ... |QTAB5KP| are in connection with the values |QTAB1V| ... |QTAB5V| for calculating a parameter switching table.

Depending on the current motor speed, the corresponding controller parameters are activated.

ASCII -Command	QTAB4V
Syntax Transmit	QTAB4V [Data]
Syntax Receive	QTAB4V <Data>
Type	Variable rw
Format	Float
DIM	Bar
Range	0 .. int32
Default	0
Opmode	0
Drive Status	-
Start Firmware	6.00
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	38F3 (hex)
PROFIBUS PNU:	1811 (dec) IND = 33 (d
DPR Objekt Nr:	1011

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	Yes

Short Description	Regulator parameter adaption: Speed 4

Description

The intersections |QTAB1TN| ... |QTAB5TN|, |QTAB1TV| ... |QTAB5TV| and |QTAB1KP| ... |QTAB5KP| are in connection with the values |QTAB1V| ... |QTAB5V| for calculating a parameter switching table.

Depending on the current motor speed, the corresponding controller parameters are activated.

ASCII -Command	QTAB5KP
Syntax Transmit	QTAB5KP [Data]
Syntax Receive	QTAB5KP <Data>
Type	Variable rw
Format	Float
DIM	
Range	0 .. 1000
Default	0
Opmode	0
Drive Status	-
Start Firmware	6.00
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	38EF (hex)
PROFIBUS PNU:	1807 (dec) IND = 33 (d
DPR Objekt Nr:	1007

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	Yes

Short Description	Regulator parameter adaption: KP – amplification for QTAB5V

Description

The intersections |QTAB1KP| ... |QTAB5KP| are in connection with the values |QTAB1V| ... |QTAB5V| for calculating a parameter switching table.

Depending on the current motor speed, the corresponding controller parameters are activated.

ASCII -Command	QTAB5TN
Syntax Transmit	QTAB5TN [Data]
Syntax Receive	QTAB5TN <Data>
Type	Variable rw
Format	Float
DIM	ms
Range	0 .. 3000
Default	0
Opmode	0
Drive Status	-
Start Firmware	6.00
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	38F9 (hex)
PROFIBUS PNU:	1817 (dec) IND = 33 (d
DPR Objekt Nr:	1017

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	Yes

Short Description	Regulator parameter adaption: TN – reset time for QTAB5V

Description

The intersections |QTAB1TN| ... |QTAB5TN| are in connection with the values |QTAB1V| ... |QTAB5V| for calculating a parameter switching table.

Depending on the current motor speed, the corresponding controller parameters are activated.

ASCII -Command	QTAB5TV
Syntax Transmit	QTAB5TV [Data]
Syntax Receive	QTAB5TV <Data>
Type	Variable rw
Format	Float
DIM	
Range	0 .. 1000
Default	0
Opmode	0
Drive Status	-
Start Firmware	6.00
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3905 (hex)
PROFIBUS PNU:	1829 (dec) IND = 33 (d
DPR Objekt Nr:	1029

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	Yes

Short Description	Regulator parameter adaption: TV – hold-back time for QTAB5V

Description

The intersections |QTAB1TN| ... |QTAB5TN|, |QTAB1TV| ... |QTAB5TV| and |QTAB1KP| ... |QTAB5KP| are in connection with the values |QTAB1V| ... |QTAB5V| for calculating a parameter switching table.

Depending on the current motor speed, the corresponding controller parameters are activated.

ASCII -Command	QTAB5V
Syntax Transmit	QTAB5V [Data]
Syntax Receive	QTAB5V <Data>
Type	Variable rw
Format	Float
DIM	Bar
Range	0 .. int32
Default	0
Opmode	0
Drive Status	-
Start Firmware	6.00
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	38F4 (hex)
PROFIBUS PNU:	1812 (dec) IND = 33 (d
DPR Objekt Nr:	1012

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	Yes

Short Description	Regulator parameter adaption: Speed 5

Description

The intersections |QTAB1TN| ... |QTAB5TN|, |QTAB1TV| ... |QTAB5TV| and |QTAB1KP| ... |QTAB5KP| are in connection with the values |QTAB1V| ... |QTAB5V| for calculating a parameter switching table.

Depending on the current motor speed, the corresponding controller parameters are activated.

ASCII -Command	QTABID
Syntax Transmit	QTABID
Syntax Receive	QTABID <Data>
Type	Variable ro
Format	Integer8
DIM	
Range	0 .. 5
Default	0
Opmode	0
Drive Status	-
Start Firmware	6.00
Configuration	☐
Function Group	

Available in	S300/700		
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3900 (hex)
PROFIBUS PNU:	1824 (dec) IND = 33 (d
DPR Objekt Nr:	1024

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	No

Short Description	Regulator parameter adaption: Current parameter index

Description

The QTABID shows the current index in the regulator parameter table.
QTABID=0 no parameter adaption, QKP,QTV and QTN active
QTABID=1 speed 1. |QTAB1KP|,|QTAB1TV| and |QTAB1TN| are active.
QTABID=2 speed 2. |QTAB2KP|,|QTAB2TV| and |QTAB2TN| are active.
QTABID=3 speed 3. |QTAB3KP|,|QTAB3TV| and |QTAB3TN| are active.
QTABID=4 speed 4. |QTAB4KP|,|QTAB4TV| and |QTAB4TN| are active.
QTABID=5 speed 5. |QTAB5KP|,|QTAB5TV| and |QTAB5TN| are active.

ASCII -Command	QTIMEKD
Syntax Transmit	QTIMEKD [Data]
Syntax Receive	QTIMEKD <Data>
Type	Variable rw
Format	Float
DIM	ms
Range	0 .. 2147480
Default	1
Opmode	0, 1
Drive Status	-
Start Firmware	6.00
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	38E4 (hex)
PROFIBUS PNU:	1796 (dec) IND = 33 (d
DPR Objekt Nr:	996

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	Yes

Short Description	time constant of the D-section of the pressure flow regulator

Description

This parameter QMTIMEKD configures the time constant of the D- section or the pressure flow regulator (PID).

ASCII -Command	QTNEFF
Syntax Transmit	QTNEFF
Syntax Receive	QTNEFF <Data>
Type	Variable ro
Format	Float
DIM	
Range	-
Default	
Opmode	0
Drive Status	-
Start Firmware	6.00
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	38FC (hex)
PROFIBUS PNU:	1820 (dec) IND = 33 (d
DPR Objekt Nr:	1020

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	No

Short Description	Regulator parameter adaption: active TN value

Description

This parameter QTNEFF displays the active TN value of the regulator parameter adaption.

ASCII -Command	QTVEFF
Syntax Transmit	QTVEFF
Syntax Receive	QTVEFF <Data>
Type	Variable ro
Format	Float
DIM	
Range	-
Default	
Opmode	0
Drive Status	-
Start Firmware	6.00
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	38DB (hex)
PROFIBUS PNU:	1787 (dec) IND = 33 (d
DPR Objekt Nr:	987

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.13
EEPROM	Yes

Short Description	Regulator parameter adaption: active TV value

Description

This parameter QTNEFF displays the active TV value of the regulator parameter adaption.

ASCII -Command	QVAL	Available in	S300/700
Syntax Transmit	QVAL	MMI ☐	CAN-Bus ☐
Syntax Receive	QVAL <Data>	PROFIBUS ☐	Sercos ☐
Type	Variable ro		
Format		SERCOS IDN:	
DIM		CAN Object No:	-
Range		PROFIBUS PNU:	-
Default		DPR Objekt Nr:	
Opmode	all		
Drive Status	-		
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.12
EEPROM	No

Short Description	internal Parameter

Description

This parameter is internal and is not documented. It could be a customized or test/service parameter.

It is not allowed to change this parameter!

ASCII -Command	QVT1	Available in	S300/700
Syntax Transmit	QVT1 [Data]	MMI ☐	CAN-Bus ☐
Syntax Receive	QVT1 <Data>	PROFIBUS ☐	Sercos ☐
Type	Variable rw		
Format	Float	SERCOS IDN:	
DIM		CAN Object No:	38E5 (hex)
Range	0 .. 1000	PROFIBUS PNU:	1797 (dec) IND = 33 (d
Default	1	DPR Objekt Nr:	997
Opmode	0		
Drive Status			
Start Firmware	6.00		
Configuration	☐	Data Type BUS/DPR	Integer32
Function Group		Weighting 10^3	

Last Change of this Object	2.12
EEPROM	Yes

Short Description	smoothing time actual value

Description

This parameter QVT1 configures the filter time constant for the volume-flow actual value filter (first-order low-pass filter).

ASCII -Command	RDP
Syntax Transmit	RDP
Syntax Receive	RDP <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	0 .. 2
Default	0
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	5.19
Configuration	☑
Function Group	

Available in	S300/700
MMI ☐	CAN-Bus ☑
PROFIBUS ☑	Sercos ☑
SERCOS IDN:	
CAN Object No:	36B7 (hex)
PROFIBUS PNU:	2039 (dec) IND = 1 (de
DPR Objekt Nr:	439
Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.7
EEPROM	Yes

Short Description	RDP operation modes

Description

the following RDP modes are possible:

0: RDP disabled; normal S700 operation.
1: RDP mode enabled; Enable mode = “Fault Disables Other Drive.”
2: RDP mode enabled; Enable mode = “Fault Forces Other Drive From RDP.”

ASCII -Command	RDPBIAS
Syntax Transmit	RDPBIAS [Data]
Syntax Receive	RDPBIAS <Data>
Type	Variable rw
Format	Float
DIM	Ampere
Range	
Default	
Opmode	All
Drive Status	
Start Firmware	5.19
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	
CAN Object No:	36B8 (hex)
PROFIBUS PNU:	2040 (dec) IND = 1 (de
DPR Objekt Nr:	440

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.13
EEPROM	Yes

Short Description	RDP bias current

Description

With the parameter RDPBIAS the RDP bias current is set: normally value at 10%-25% of continuous current |DICONT| .

ASCII -Command	RDPBIAS2	Available in	S300/700
Syntax Transmit	-	MMI ☐	CAN-Bus ☐
Syntax Receive	-	PROFIBUS ☐	Sercos ☐
Type	-		
Format	-	SERCOS IDN:	
DIM	-	CAN Object No:	-
Range		PROFIBUS PNU:	-
Default		DPR Objekt Nr:	
Opmode			
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	internal parameter

Description

This parameter is internal and is not documented. It could be a customized or test/service parameter.

It is not allowed to change this parameter!

ASCII -Command	RDPCLAMP
Syntax Transmit	RDPCLAMP [Data]
Syntax Receive	RDPCLAMP <Data>
Type	Variable rw
Format	Float
DIM	
Range	
Default	
Opmode	All
Drive Status	
Start Firmware	5.19
Configuration	☐
Function Group	

Available in	S300/700
MMI ☐	CAN-Bus ☑
PROFIBUS ☑	Sercos ☑
SERCOS IDN:	
CAN Object No:	36B9 (hex)
PROFIBUS PNU:	2041 (dec) IND = 1 (de
DPR Objekt Nr:	441
Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.7
EEPROM	Yes

Short Description	maximum output of equalization circuit

Description

With the parameter RDPCLAMB the RDP maximum output of equalization circuit is set: normally value is 50 (in RPMs).

ASCII -Command	RDPINT
Syntax Transmit	RDPINT [Data]
Syntax Receive	RDPINT <Data>
Type	Variable rw
Format	Integer32
DIM	
Range	
Default	
Opmode	All
Drive Status	
Start Firmware	5.19
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	
CAN Object No:	36BA (hex)
PROFIBUS PNU:	2042 (dec) IND = 1 (de
DPR Objekt Nr:	442

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.7
EEPROM	Yes

Short Description	integral value of the RDP equalization circuit

Description

RDPINT equals the integral value of the RDP equalization circuit.

Scaled for 9000000 = 1RPM (this is 9 million = 1RPM) and is limited by |RDPCLAMP|.

ASCII -Command	RDPKI	Available in	S300/700
Syntax Transmit	RDPKI [Data]	MMI ☐	CAN-Bus ☑
Syntax Receive	RDPKI <Data>	PROFIBUS ☑	Sercos ☑
Type	Variable rw		
Format	Integer16	SERCOS IDN:	
DIM		CAN Object No:	36BB (hex)
Range		PROFIBUS PNU:	2043 (dec) IND = 1 (de
Default		DPR Objekt Nr:	443
Opmode	All		
Drive Status			
Start Firmware	5.19		
Configuration	☐	Data Type BUS/DPR	Integer16
Function Group		Weighting 10^3	

Last Change of this Object	2.7
EEPROM	Yes

Short Description	integral gain of equalization circuit

Description

RDPINT equals the integral gain of equalization circuit: typical value is 13

ASCII -Command	RDPKP
Syntax Transmit	RDPKP [Data]
Syntax Receive	RDPKP <Data>
Type	Variable rw
Format	Integer16
DIM	
Range	
Default	
Opmode	All
Drive Status	
Start Firmware	5.19
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	
CAN Object No:	36BC (hex)
PROFIBUS PNU:	2044 (dec) IND = 1 (de
DPR Objekt Nr:	444
Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.7
EEPROM	Yes

Short Description	proportional gain of equalization circuit

Description

RDPKP equals the proportional gain of equalization circuit: typical value is 300

ASCII -Command	RDPON
Syntax Transmit	RDPON [Data]
Syntax Receive	RDPON <Data>
Type	Variable ro
Format	Integer32
DIM	
Range	0 .. 1
Default	0
Opmode	All
Drive Status	
Start Firmware	5.19
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	
CAN Object No:	36BD (hex)
PROFIBUS PNU:	2045 (dec) IND = 1 (de
DPR Objekt Nr:	445
Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.7
EEPROM	No

Short Description	RDP state

Description

With the parameter RDPON the actual RDP state is displayed:

0: no RDP function active (default)
1: RDP active

ASCII -Command	READY
Syntax Transmit	READY
Syntax Receive	READY <Data>
Type	Variable ro
Format	Integer8
DIM	-
Range	0, 1
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	35DD (hex)
PROFIBUS PNU:	1821 (dec) IND = 1 (de
DPR Objekt Nr:	221
Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Status of the Software Enable

Description

Requests the status of the internal software enable.
READY = 0 Disabled
READY = 1 Enabled

ASCII -Command	RECDONE
Syntax Transmit	RECDONE
Syntax Receive	RECDONE <Data>
Type	Variable ro
Format	Integer8
DIM	-
Range	0, 1
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Oscilloscope

Available in	S300/700		
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	35DE (hex)
PROFIBUS PNU:	1822 (dec) IND = 1 (de
DPR Objekt Nr:	222
Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Scope: Recording Done

Description

The RECDONE command can be used to request the status of the SCOPE recording. The command returns a 1 if the recording is finished and the data can now be requested with the |GET| command.

ASCII -Command	RECING
Syntax Transmit	RECING
Syntax Receive	RECING <Data>
Type	Variable ro
Format	Integer8
DIM	-
Range	0, 1
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Oscilloscope

Available in	S300/700
MMI	☑
CAN-Bus	☑
PROFIBUS	☑
Sercos	☐
SERCOS IDN:	
CAN Object No:	35DF (hex)
PROFIBUS PNU:	1823 (dec) IND = 1 (de
DPR Objekt Nr:	223
Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Scope: Recording in Progress

Description

Returns a 1 if the recording is active. At the end of a recording, or if the recording has not started, a 0 is returned.

ASCII -Command	RECOFF
Syntax Transmit	RECOFF [Data]
Syntax Receive	RECOFF
Type	Command
Format	-
DIM	-
Range	-
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Oscilloscope

Available in	S300/700		
MMI	☑	CAN-Bus	☐
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	35E0 (hex)
PROFIBUS PNU:	1824 (dec) IND = 1 (de
DPR Objekt Nr:	224
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Scope: Cancel Scope Recording

Description

RECOFF stops the SCOPE recording (if started). State after RECOFF: |RECRDY|=1, |RECING|=0, |RECDONE|=0.

ASCII -Command	RECORD
Syntax Transmit	RECORD [Data]
Syntax Receive	RECORD <Data>
Type	Variable rw
Format	String
DIM	-
Range	1 .. 10000 (=Time);1 .. 1024(=Points); ASCII String (=
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Oscilloscope

Available in	S300/700		
MMI	☑	CAN-Bus	☐
PROFIBUS	☐	Sercos	☐

SERCOS IDN:	
CAN Object No:	-
PROFIBUS PNU:	-
DPR Objekt Nr:	
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Scope: Capture Data for Recording

Description

The RECORD command can be used to define the data for the next SCOPE recording. The command is used in the following form.

RECORD time number var1 [var2] [var3] [var4]

time: the sampling interval in 250 µs- steps
number: the number of sample points to be recorded.
The maximum possible number depends on the number and size of the variables to be recorded.
If the number entered is too large, it will automatically be limited (when recording Long/Float variables, a maximum of 512 sample points can be recorded).
var1,var2,var3 - names of the variables to be recorded. Apart from the names for macro variables, the following names can be used.
|I| - actual value of current
|ICMDVAL| - setpoint for current
|PE| - following error
|V| - actual value of velocity
|VCMD| - setpoint for velocity
|VBUS| - DC-bus (DC-link) voltage
|PFB| - actual position

ASCII -Command	RECRDY
Syntax Transmit	RECRDY [Data]
Syntax Receive	RECRDY <Data>
Type	Variable ro
Format	Integer8
DIM	-
Range	0, 1
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Oscilloscope

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	35E1 (hex)
PROFIBUS PNU:	1825 (dec) IND = 1 (de
DPR Objekt Nr:	225

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Scope: Status of RECORD Function

Description

After the recording has been made trigger-ready by |RECORD| / |RECTRIG|, the RECRDY command generates a 0. As soon as the trigger condition defined by RECRDY is fulfilled, and the recording starts, RECRDY generates a 1. When the drive is started, RECRDY is set to 1.

(RECRDY=0 means “waiting for trigger event”)

ASCII -Command	RECTRIG
Syntax Transmit	RECTRIG [Data]
Syntax Receive	RECTRIG <Data>
Type	Variable rw
Format	String
DIM	-
Range	ASCII String (=Mode);Depends upon Mode (=Level);0
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Oscilloscope

Available in	S300/700		
MMI	☑	CAN-Bus	☐
PROFIBUS	☐	Sercos	☐

SERCOS IDN:	
CAN Object No:	-
PROFIBUS PNU:	-
DPR Objekt Nr:	
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Scope: Activate Recording Function

Description

The RECTRIG command prepares the SCOPE function for a data recording.
The command is used in the following form.

RECTRIG mode level location direction

mode: designates the name of a variable that is to be used to trigger the recording. If the designation IMM is used, the recording starts immediately. In this case, the parameters “level”, “location” and “direction” do not have to be specified.

level: specifies the value of the variable that has to be reached to trigger the recording.

location: give the number of points that are to be recorded previous to the moment of the trigger event.

direction: specifies in which direction the value must pass the threshold “level” of the “mode” variable in order to trigger the recording.
direction=0 falling (variable value falls below threshold level)
direction=1 rising (variable value goes above threshold level)

ASCII -Command	REFIP
Syntax Transmit	REFIP [Data]
Syntax Receive	REFIP <Data>
Type	Variable rw
Format	Float
DIM	A
Range	0.0 .. min(IPEAK,IPEAKN)
Default	min(IPEAK,IPEAKN,DICONT/2)
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700		
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	35E2 (hex)
PROFIBUS PNU:	1826 (dec) IND = 1 (de
DPR Objekt Nr:	226

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Peak Rated Current for Homing 7

Description

The REFIP parameter can be used to set the peak current for homing to a stop. When Homing mode 7 is started (homing to a stop and searching for a zero mark), |IPEAK|, the normal value for peak current, is set to the value REFIP. When the homing movement is finished, the |IPEAK| parameter is reset to the previous (normal) value.

- - - - - - - - - - - - -

REFIP is also used for the wake & shake procedure (|FBTYPE|=7,8). It sets the current limit for the first phase (rough angle adjustment). The second wake & shake phase is done by the |IPEAK| setting.

ASCII -Command	REFIP2	Available in	S300/700
Syntax Transmit		MMI ☐	CAN-Bus ☑
Syntax Receive		PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Float	SERCOS IDN:	
DIM		CAN Object No:	36E3 (hex)
Range	0 ...IPEAK	PROFIBUS PNU:	1683 (dec) IND = 17 (d
Default	IPEAK	DPR Objekt Nr:	483
Opmode			
Drive Status			
Start Firmware	1.0		
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Peak Rated Current for Commutation process

Description

REFIP2 limits the peak current during the wake & shake procedure.
After wake & shake is finished the current is reset to the |IPEAK| value.

>>> see also |REFIP|

ASCII -Command	REFLS
Syntax Transmit	REFLS [Data]
Syntax Receive	REFLS <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	0, 1, 2, 3
Default	0
Opmode	8
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	

Available in	S300/700
MMI ☐	CAN-Bus ☑
PROFIBUS ☑	Sercos ☐

SERCOS IDN:	
CAN Object No:	365D (hex)
PROFIBUS PNU:	1949 (dec) IND = 1 (de
DPR Objekt Nr:	349

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Effect HW-limitswitches by homing

Description

REFLS defines the drive behavior when activating a hardware limit during a homing move.

REFLS=0 Change direction at NSTOP and PSTOP
REFLS=1 Change direction at PSTOP, create error message F26 (limit switch) at NSTOP
REFLS=2 Change direction at NSTOP, create error message F26 (limit switch) at PSTOP
REFLS=3 Create error message F26 (limit switch) at NSTOP and PSTOP

REFLS used when /NREF/ (homing mode) = 1 or 3

ASCII -Command	REFMODE
Syntax Transmit	REFMODE [Data]
Syntax Receive	REFMODE <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	0 .. 8
Default	0
Opmode	8
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	1.0
Configuration	☑
Function Group	-

Available in	S300/700
MMI	☐
CAN-Bus	☑
PROFIBUS	☑
Sercos	☐
SERCOS IDN:	
CAN Object No:	363C (hex)
PROFIBUS PNU:	1916 (dec) IND = 1 (de
DPR Objekt Nr:	316
Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	2.2
EEPROM	Yes

Short Description	Source of the Zero Pulse in Homing Mode

Description

The command REFMODE selects the source of the zero pulse in homing mode.

REFMODE=0 Resolver- or singleturn encoder-zero, Zero crossing per rev of a multiturn encoder / at |EXTPOS|=1 Data-Pin connector X1

REFMODE=1 digital INPUT1
REFMODE=2 digital INPUT2
REFMODE=3 digital INPUT3
REFMODE=4 digital INPUT4
REFMODE=5 Data-Pin of connector X1
REFMODE=6 Zero pulse of the connector X5
REFMODE=7 Zero crossing of the absolute multiturn encoder (per rev)

ASCII -Command	REFNOFFS	Available in	S300/700		
Syntax Transmit	REFNOFFS [Data]	MMI	☐	CAN-Bus	☑
Syntax Receive	REFNOFFS <Data>	PROFIBUS	☑	Sercos	☐
Type	Variable rw				
Format	Integer16	SERCOS IDN:			
DIM	-	CAN Object No:	386D (hex)		
Range	-360 ... 360	PROFIBUS PNU:	1677 (dec) IND = 33 (d		
Default	90	DPR Objekt Nr:	877		
Opmode	-				
Drive Status	-				
Start Firmware	2.51				
Configuration	☐	Data Type BUS/DPR	Integer16		
Function Group		Weighting 10^3			

Last Change of this Object	1.9
EEPROM	Yes

Short Description	position of analog zero puls

Description

To get a better reference position accuracy the external zero pulse can be used additional. The input is selecte by REFMODE.
The S300/S700 has two different methods to use an external zero pulse:

1. Edge detection of the zero pulse REFNOFFS=0
If the edge is detected the position is reset (|ROFFS|), the motor slows down and returns to the position of the edge detection position.
If the reference motion is to fast the accuracy of this method isn't good.

2. Edge detection of the zero pulse with additional analoge positioning REFNOFFS=1...360
The accuracy of this methode is not influenced by the reference speed, but it can only be used with feedbacks that includes sine cosine signals. The zero pulse is only to detect the sine cosine cycle.

ASCII -Command	REFNPOS
Syntax Transmit	REFNPOS [Data]
Syntax Receive	REFNPOS <Data>
Type	Variable ro
Format	Integer16
DIM	
Range	0 ... 359
Default	0
Opmode	All
Drive Status	-
Start Firmware	2.51
Configuration	☐
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	386E (hex)
PROFIBUS PNU:	1678 (dec) IND = 33 (d
DPR Objekt Nr:	878
Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	1.9
EEPROM	No

Short Description	external zero pulse offset inside sine/c0sine cycle

Description

Only S700

Position of the external zeropuls (|REFMODE|, |REFNOFFS|) within an encoder periode.
See also (|REFNOFFS|)

ASCII -Command	REFPOS
Syntax Transmit	REFPOS [Data]
Syntax Receive	REFPOS <Data>
Type	Variable ro
Format	Integer32
DIM	Counts
Range	0 ... 1048576
Default	-
Opmode	8
Drive Status	-
Start Firmware	2.14
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	35E3 (hex)
PROFIBUS PNU:	1827 (dec) IND = 1 (de
DPR Objekt Nr:	227

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.3
EEPROM	No

Short Description	Reference Switch Position

Description

The REFPOS command returns the position (20-bit, within one turn) to be used for detecting the “Reference criterion” during the homing movement. The “Reference criterion” depends on |NREF|, the type of homing movement.

|NREF|=0,5,6 REFPOS = position for starting the homing movement
|NREF|=1,3 REFPOS = position for detecting the rising edge of the reference switch
|NREF|=2,4 REFPOS = position for detecting the falling edge of the reference switch
|NREF|=7 REFPOS = position for detecting a stop (|PE|>|PEMAX| / 2)
|NREF|=8 REFPOS is not altered

ASCII -Command	RELTIME	Available in	S300/700
Syntax Transmit	RELTIME [Data]	MMI ☐	CAN-Bus ☑
Syntax Receive	RELTIME <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer32	SERCOS IDN:	
DIM		CAN Object No:	389E (hex)
Range	0, 10000....100000	PROFIBUS PNU:	1726 (dec) IND = 33 (d
Default		DPR Objekt Nr:	926
Opmode			
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.3
EEPROM	

Short Description	switching on of the thyristor voltage control

Description

Defines the max time for switching on of the thyristor voltage control (S748 / S772 only)
After the switching on of mains, the thyristor control is switched on after the bus voltage VBUS becomes constant.
In case of poor mains quality this phase can lasts a long time. The parameter RELTIME limitates this time to the configured number of msec. The thyristor controls is switched on when VBUS>350V and the RELTIME expired.

RELTIME=0 switches the time limitation off.

ASCII -Command	REMOTE
Syntax Transmit	REMOTE
Syntax Receive	REMOTE <Data>
Type	Variable ro
Format	Integer8
DIM	-
Range	0 .. 1
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Digital I/O

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	35E4 (hex)
PROFIBUS PNU:	1828 (dec) IND = 1 (de
DPR Objekt Nr:	228
Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Status of the Hardware Enable

Description

The REMOTE command indicates the state of the hardware enable input .
1 indicates a High state of the inputs (hardware enable is set), a 0 indicates a Low state.

ASCII -Command	RESAMPL	Available in	S300/700
Syntax Transmit	RESAMPL [Data]	MMI ☑	CAN-Bus ☐
Syntax Receive	RESAMPL <Data>	PROFIBUS ☐	Sercos ☐
Type	Variable rw		
Format	Integer16	SERCOS IDN:	
DIM		CAN Object No:	-
Range	0 .. 8191	PROFIBUS PNU:	-
Default	1000	DPR Objekt Nr:	
Opmode	all		
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	Integer16
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	Resolver cable break supervision

Description

The parameter RESAMPL describes the minimum resolver amplitude. Not only the amplitude but also sine/cosine phase is monitored. This functionality can activeted with set bits 4 and 5 in the parameter |CPHASE|.

ASCII -Command	RESOLVER
Syntax Transmit	RESOLVER [Data]
Syntax Receive	RESOLVER <Data>
Type	Variable rw
Format	Integer8
DIM	
Range	0 ... 2
Default	1
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	1.0
Configuration	☑
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☐	Sercos	☐

SERCOS IDN:	
CAN Object No:	3520 (hex)
PROFIBUS PNU:	1632 (dec) IND = 1 (de
DPR Objekt Nr:	32

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Resolver excitation gain adjust +/- 20%

Description

RESOLVER 0 will reduce the excitation by 20%.
RESOLVER 2 will increase the excitation by 20%.

ASCII -Command	RESPHASE
Syntax Transmit	RESPHASE [Data]
Syntax Receive	RESPHASE <Data>
Type	Variable rw
Format	Integer16
DIM	-
Range	+/-90 bei S300 (+/-511 bei S700)
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	35E5 (hex)
PROFIBUS PNU:	1829 (dec) IND = 1 (de
DPR Objekt Nr:	229
Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Resolver Phase

Description

Please refer to the ASCII command |CALCRP|.

ASCII -Command	RK
Syntax Transmit	RK [Data]
Syntax Receive	RK <Data>
Type	Variable rw
Format	Integer16
DIM	Counts
Range	12000 ..19000
Default	16384
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	35E6 (hex)
PROFIBUS PNU:	1830 (dec) IND = 1 (de
DPR Objekt Nr:	230

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Gain Adjust for Resolver Sine Signal

Description

The RK parameter can be used to correct any amplitude difference that may exist between the sine and cosine signals from the resolver. The relationships are as follows:
RK = 16384 no alteration of the amplitude of the sine signal
RK < 16384 sine signal amplitude is reduced
RK > 16384 sine signal amplitude is increased

An incorrect setting of this correction factor will result in velocity/velocity variations (ripple) which are strongly dependent on the position.
The |CALCRK| command enables an automatic determination of the correction factor RK.

This value will not be changed by a parameter download, since it only depends on the equipment.

ASCII -Command	ROFFS	Available in	S300/700
Syntax Transmit	ROFFS [Data]	MMI ☑	CAN-Bus ☑
Syntax Receive	ROFFS <Ddata>	PROFIBUS ☑	Sercos ☑
Type	Variable rw		
Format	Integer32	SERCOS IDN:	52
DIM	µm	CAN Object No:	35E7 (hex)
Range	long int	PROFIBUS PNU:	1831 (dec) IND = 1 (de
Default	0	DPR Objekt Nr:	231
Opmode	8		
Drive Status	-		
Start Firmware	1.0		
Configuration	☐	Data Type BUS/DPR	Integer32
Function Group	Setting-up Mode	Weighting 10^3	

Last Change of this Object	2.10
EEPROM	Yes

Short Description	Reference Offset

Description

The ROFFS parameter is used for Resolver or single-turn encoder (homing to reference point is possible)

The ROFFS parameter can be used to assign a freely chosen absolute position as the reference position (zero position) that will be reached at the end of a homing movement.
The scaling of the position depends on the settings for |PGEARI|, |PGEARO|, |PRBASE|.
If the resolution is set to 1 (|PGEARI|=|PGEARO|), then internal units (counts) will be used.

If a homing is executed and the feedback is an absolute encoder, then the drive calculates after completion of homing a reference offset and stores it automatically in the serial EEPROM.

ASCII -Command	ROFFSABS	Available in	S300/700
Syntax Transmit	ROFFSABS [Data]	MMI ☑	CAN-Bus ☑
Syntax Receive	ROFFSABS <Ddata>	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer32	SERCOS IDN:	
DIM	µm	CAN Object No:	3656 (hex)
Range	long int	PROFIBUS PNU:	1942 (dec) IND = 1 (de
Default	0	DPR Objekt Nr:	342
Opmode	8		
Drive Status	-		
Start Firmware	0.39		
Configuration	☐	Data Type BUS/DPR	Integer32
Function Group	Setting-up Mode	Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Reference Offset

Description

The ROFFSABS parameter is used with an absolute encoder (multi-turn, homing to reference point is also possible)
The ROFFSABS sets an offset to the absolute encoder position. This procedure is executed by drive power on. The parameter must be saved in the EEPROM (using the |SAVE| command) after every alteration of the ROFFSABS variable, and the amplifier must then be switched off and on again (|COLDSTART| command).

Example:
If a position 10000 (|PFB|) is shown when the amplifier is switched on with ROFFSABS = 0, ROFFSABS = –10000 will shift the position to the value 0.

ASCII -Command	ROFFSSSI
Syntax Transmit	ROFFSSSI [Data]
Syntax Receive	ROFFSSSI <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	INT32
Default	0
Opmode	All
Drive Status	-
Start Firmware	2.28
Configuration	☐
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3864 (hex)
PROFIBUS PNU:	1668 (dec) IND = 33 (d
DPR Objekt Nr:	868
Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.1
EEPROM	Yes

Short Description	SSI absolute position offset

Description

This parameter defines the SSI position offset for the |NREF|=8 homing move.

ASCII -Command	RS232T
Syntax Transmit	RS232T [Data]
Syntax Receive	RS232T <Data>
Type	Variable rw
Format	Integer16
DIM	ms
Range	0 .. 10000
Default	2500
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	35E8 (hex)
PROFIBUS PNU:	1832 (dec) IND = 1 (de
DPR Objekt Nr:	232

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	Yes

Short Description	RS232 Watch Dog

Description

If the monitoring of the serial interface is activated (RS232 watchdog), then the RS232T command can be used to set the time for the watchdog timer.

please have a look |ACTRS232|

ASCII -Command	RSTVAR
Syntax Transmit	RSTVAR
Syntax Receive	RSTVAR
Type	Command
Format	-
DIM	-
Range	-
Default	-
Opmode	All
Drive Status	Disabled
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700
MMI	☑
CAN-Bus	☑
PROFIBUS	☑
Sercos	☑

SERCOS IDN:	262
CAN Object No:	35E9 (hex)
PROFIBUS PNU:	1833 (dec) IND = 1 (de
DPR Objekt Nr:	233
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Restore Variables (Default Values)

Description

The RSTVAR command resets all parameters / variables to the default settings. The parameters which are stored in the EEPROM are not immediately affected by this. The default settings only become permanent when the |SAVE| command is used (save parameters in the EEPORM).

In case configuration settings had been changed |SAVE| and |COLDSTART| is required.

ASCII -Command	RSVERROFF
Syntax Transmit	RSVERROFF [Data]
Syntax Receive	RSVERROFF <Data>
Type	Variable rw
Format	Integer8
DIM	
Range	0 .. 1
Default	0
Opmode	All
Drive Status	-
Start Firmware	3.66
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	389C (hex)
PROFIBUS PNU:	1724 (dec) IND = 33 (d
DPR Objekt Nr:	924

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	2.3
EEPROM	No

Short Description	Resolver error supervision off

Description

RSVERROFF=1 switches off the supervision of the following error messages in the case that the power stage is disabled:

1.F04 Resolver error
2.F06 motor temperature
3.F08 Overspeed

This function allows to disconnect the resolver motor from the drive without generating an error message. For safety reasons this setting cannot be stored permanently in the drive.

ASCII -Command	RUNIN	Available in	S300/700
Syntax Transmit	-	MMI ☐	CAN-Bus ☐
Syntax Receive	-	PROFIBUS ☐	Sercos ☐
Type	-		
Format	-	SERCOS IDN:	
DIM	-	CAN Object No:	3756 (hex)
Range		PROFIBUS PNU:	1798 (dec) IND = 17 (d
Default		DPR Objekt Nr:	598
Opmode			
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	internal parameter

Description

This parameter is internal and is not documented. It could be a customized or test/service parameter.

It is not allowed to change this parameter!

ASCII -Command	S
Syntax Transmit	S
Syntax Receive	S
Type	Command
Format	-
DIM	-
Range	-
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Oscilloscope/Service

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	35EA (hex)
PROFIBUS PNU:	1834 (dec) IND = 1 (de
DPR Objekt Nr:	234
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Stop Motor and Disable Drive

Description

The S command stops the drive (using the braking ramp |DECSTOP|). As soon as the velocity/velocity falls below the standstill threshold (|VEL0|) the output stage is disabled.
The S command corresponds to the command |K| (or |DIS|) if the |STOPMODE| option is set to 1.

ASCII -Command	S1DLY
Syntax Transmit	S1DLY [Data]
Syntax Receive	S1DLY <Data>
Type	Variable rw
Format	Integer32
DIM	msec
Range	0 .. 100000
Default	0
Opmode	All
Drive Status	-
Start Firmware	5.17
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	38B9 (hex)
PROFIBUS PNU:	1753 (dec) IND = 33 (d
DPR Objekt Nr:	953

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.7
EEPROM	Yes

Short Description	switch-on delay

Description

The parameter S1DLY the initialization of the (only!) S700 may be delayed. A delay can be useful in conjunction with option cards that have a very long initialization phase.

ASCII -Command	SAVE
Syntax Transmit	SAVE
Syntax Receive	SAVE
Type	Command
Format	-
DIM	-
Range	-
Default	-
Opmode	All
Drive Status	Reset (Coldstart)
Start Firmware	1.0
Configuration	☐
Function Group	Amplifier

Available in	S300/700
MMI	☑
CAN-Bus	☑
PROFIBUS	☑
Sercos	☑
SERCOS IDN:	264
CAN Object No:	35EB (hex)
PROFIBUS PNU:	1835 (dec) IND = 1 (de
DPR Objekt Nr:	235
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Save Data in EEPROM

Description

The SAVE command stores the present settings of the amplifier parameters in the serial EEPROM. At the same time, the checksum for the parameter field is updated and also saved in the serial EEPROM. The save process takes about 2 seconds. During this time, the 24V supply for the amplifier must not be switched off. If this supply voltage is switched off during the save process, this may result in invalid data (or none) being saved in the serial EEPROM. A checksum error will be detected at the next power-on of the equipment, and the fault message F09 will be generated.
Furthermore, all the amplifier parameters will be reset to the default values. In order to reset the F09 fault, the SAVE command must be used once more, and the amplifier must be switched off and on again.

A SAVE command is set, if an absolute feedback is used and a homing is executed.The reference offset is calculated and the command SAVE is set.

ASCII -Command	SBAUD	Available in	S300/700
Syntax Transmit	SBAUD [Data]	MMI ☑	CAN-Bus ☑
Syntax Receive	SBAUD <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer8	SERCOS IDN:	
DIM	MBaud	CAN Object No:	35EC (hex)
Range	2, 4, 8, 16	PROFIBUS PNU:	1836 (dec) IND = 1 (de
Default	4	DPR Objekt Nr:	236
Opmode	All		
Drive Status	Disabled + Reset (Coldstart)		
Start Firmware	1.00		
Configuration	☑	Data Type BUS/DPR	Integer8
Function Group	-	Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Sercos: Baud Rate

Description

This parameter sets the transmission rate for SERCOS in MBAUD.

ASCII -Command	SCAN
Syntax Transmit	SCAN
Syntax Receive	SCAN <Data>
Type	Command
Format	Integer8
DIM	-
Range	-
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.00
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	35ED (hex)
PROFIBUS PNU:	1837 (dec) IND = 1 (de
DPR Objekt Nr:	237
Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	2.6
EEPROM	No

Short Description	Detect CAN Stations

Description

For a CAN network with several drives connected, there is an option for using a serial connection to one of the devices (master) to communicate with all the other amplifiers. To do this, the SCAN command is initiated on the master device, which performs an automatic detection of all the drivess that are connected. The response to the SCAN command contains the total number and a list of the addresses of all the drive devices that have been detected.

The time taken to carry out this command is strongly dependent on the baud rate (|CBAUD|) that is has been set for CAN, and is in the range from 1 second (at 1 Mbaud/1 Mbps) to 37 seconds (at 10Kbaud/10 kbps).

ASCII -Command	SDLY	Available in	S300/700		
Syntax Transmit	SDLY [Data]	MMI	☐	CAN-Bus	☑
Syntax Receive	SDLY <Data>	PROFIBUS	☑	Sercos	☐
Type	Variable rw				
Format	Integer32	SERCOS IDN:			
DIM	-	CAN Object No:	3757 (hex)		
Range	0 ... 100 000	PROFIBUS PNU:	1799 (dec) IND = 17 (d		
Default	0	DPR Objekt Nr:	599		
Opmode	All				
Drive Status	-				
Start Firmware	1.31				
Configuration	☐	Data Type BUS/DPR	Integer32		
Function Group		Weighting 10^3			

Last Change of this Object	2.8
EEPROM	Yes

Short Description	Start delay

Description

SDLY sets the start delay for the program execution.
After the boot up the RTO function and the supervisor program execution will be delayed for SDLY msec.

See also |ERRCODE *| F10

ASCII -Command	SERCERR
Syntax Transmit	SERCERR
Syntax Receive	SERCERR <Data>
Type	Variable ro
Format	Integer32
DIM	-
Range	0 ... 8
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☐
PROFIBUS	☐	Sercos	☐

SERCOS IDN:	
CAN Object No:	-
PROFIBUS PNU:	-
DPR Objekt Nr:	

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Wrong access to SERCOS command

Description

The command SERERR displays an error generated by an wrong access with the command SERCOS to an IDN.

See also object SERCOS.

ASCII -Command	SERCLIST
Syntax Transmit	SERCLIST [Data]
Syntax Receive	SERCLIST <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	0 ... 8
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☐
PROFIBUS	☐	Sercos	☐

SERCOS IDN:	
CAN Object No:	-
PROFIBUS PNU:	-
DPR Objekt Nr:	
Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Acess to IDN list

Description

The command SERCLIST enables the access to an element of the IDN list. After that, the IDN can be read by command SERCOS. See also object SERCOS.

ASCII -Command	SERCOFFS	Available in	S300/700
Syntax Transmit	-	MMI ☐	CAN-Bus ☐
Syntax Receive	-	PROFIBUS ☐	Sercos ☐
Type	-		
Format	-	SERCOS IDN:	
DIM	-	CAN Object No:	-
Range		PROFIBUS PNU:	-
Default		DPR Objekt Nr:	
Opmode			
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	internal parameter

Description

This parameter is internal and is not documented. It could be a customized or test/service parameter.

It is not allowed to change this parameter!

ASCII -Command	SERCOS
Syntax Transmit	SERCOS [Data]
Syntax Receive	SERCOS <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	0 .. 8
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☐
PROFIBUS	☐	Sercos	☐

SERCOS IDN:	
CAN Object No:	-
PROFIBUS PNU:	-
DPR Objekt Nr:	
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Read the Data of an Sercos IDN

Description

Gives the contents of an Sercos IDN. Write access changes the selected number of the IDN, read access gives the contents of the selected IDN. If the selected IDN is a list, only the list value where |SERCLIST| points to is displayed. If SERCOS generates an error (e.g. wrong IDN number), |SERCERR| is set to "1" and a value of "0" is displayed.

ASCII -Command	SERCSET
Syntax Transmit	SERCSET [Data]
Syntax Receive	SERCSET <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	Long Int
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	43 + P3028
CAN Object No:	3691 (hex)
PROFIBUS PNU:	2001 (dec) IND = 1 (de
DPR Objekt Nr:	401

Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.13
EEPROM	No

Short Description	Set Sercos / EtherCAT Settings

Description

The object SERCSET gives the possiblity to change some of the Sercos or EtherCAT settings. Changes have to be saved in the EEPROM and effect at the next start-up of the drive. The not described bits effect other Sercos settings. In so far, this command should only be used in combination with the MMI. See also Sercos IDN Manual.

Attention: If the fieldbus is switched, the unuesed bits have to be erased!

By using EtherCAT fieldbus, the meaning of the bits is as follows:
Bit 0-15: reserve
Bit 16 (0x0001 0000) = 1: Bootstrap over master activate a coldstart of the amplifier
Bit 17 (0x0002 0000) = 1: no monitoring of warning n17

Bit 18 (0x0004 0000) = 0: If bit 17 is set, 10 telegrams must neglect before synchronization is lost. This monitoring is only active in the status "operational".
Bit 18 (0x0004 0000) = 1: no EtherCAT interrupts are monitored

Bit 19 (0x0008 0000) = 1: in fault state - during reset a coldstart is executet - F29 will be set
Bit 20 (0x0010 0000) = 1: actual values will be written in 250 ms instead of interrupt (faster)
Bit 21 (0x0020 0000) = 1: Bit 5 in statusword will be updatet at source of the quickstop as well (so hardware- and software limit switch)
Bit 22-31: reserve

By using SERCOS fieldbus, the meaning of the bits is as follows:

Bit	Significane	Meaning
0	0x0000 0001	= 1: IDN 3015 Hardware Limit Switch Effect
1	0x0000 0002	= 1: IDN 3016 |CLRFAULT| Command Effect
2	0x0000 0004	= 1: IDN 3028 switch on procedure HW & SW - Enable
3	0x0000 0008	= 1: IDN 3052 acceleration feed forward
4-11	0x0000 0FF0	= 1: IDN 55 polarity Target Position, Bit 8 Hardware Limit Switch
12-15	0x0000 F000	=1: IDN 43 polarity Target Speed
16	0x0001 0000	= 1: SLEN binary
17	0x0002 0000	= 1: MST Check für DMS
18	0x0004 0000	= 1: IDN 3059 external feed forward only current

19	0x0008 0000	= 1: IDN 3059 external feed forward speed and current
20	0x0010 0000	= 1: IDN 3040 quadrature interpolation
21	0x0020 0000	= 1: Control of |OPMODE| switched off (FW 3.55)
22	0x0040 0000	reserve
23	0x0080 0000	= 1: Switches Bit 3 in the AT-Status off
24-31	0xFF00 0000	= 1: IDN 76

ASCII -Command	SERIALNO
Syntax Transmit	SERIALNO
Syntax Receive	SERIALNO <Data>
Type	Variable ro
Format	Integer32
DIM	-
Range	10 ASCII characters
Default	Factory default
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Basic Setup

Available in	S300/700
MMI	☑
CAN-Bus	☑
PROFIBUS	☑
Sercos	☐
SERCOS IDN:	
CAN Object No:	35EF (hex)
PROFIBUS PNU:	1839 (dec) IND = 1 (de
DPR Objekt Nr:	239
Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Drive Serial Number

Description

Serial number of drive amplifier.

ASCII -Command	SETENCOFFS
Syntax Transmit	SETENCOFFS [param1] [param2] [param3]
Syntax Receive	-
Type	Command
Format	Integer32
DIM	-
Range	-2147483648 .. 2147483647
Default	0
Opmode	All
Drive Status	-
Start Firmware	5.86
Configuration	☐
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☐
PROFIBUS	☐	Sercos	☐

SERCOS IDN:	
CAN Object No:	-
PROFIBUS PNU:	-
DPR Objekt Nr:	
Data Type BUS/DPR	Interger32
Weighting 10^3	

Last Change of this Object	2.12
EEPROM	No

Short Description	function for zero offset

Description

The function SETENCOFFS supports the zero offset for the encoder systems HIPERFACE (Sick Stegmann) and ENDAT 2.1 & 2.2 (Heidenhain).

HIPERFACE:
There are two parameters when required. The position value and the hardware password. It runs the "Set position" HIPERFACE own command (0x43). For details, see the manufacturer-specific documentation.

EnDAT:
It will require up to three parameters when calling. The number of parameters depends on the type of function execution. The following function calls are supported:

1. mode of zero offset
0 - back to the delivery status
1 - electronic zeroing
2 - to a certain position
3 - to a certain value

2. type of zero offset (required only type 2 & 3)

3. HW password: For details, see the manufacturer-specific documentation (D722024-03-A-01 / Pkt.10 EnDAT zero offset).

ASCII -Command	SETREF
Syntax Transmit	SETREF
Syntax Receive	SETREF
Type	Command
Format	Command
DIM	-
Range	-
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700
MMI ☑	CAN-Bus ☑
PROFIBUS ☑	Sercos ☐
SERCOS IDN:	
CAN Object No:	35F0 (hex)
PROFIBUS PNU:	1840 (dec) IND = 1 (de
DPR Objekt Nr:	240
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Set Reference Point

Description

The SETREF command is used to declare the present position as the reference point (i.e. the actual position is set to the value of |ROFFS|) and to set the bit that permits the execution of motion blocks.
The SETREF command corresponds to the execution of a homing to a reference with |NREF|=0.

ASCII -Command	SKIP1SP
Syntax Transmit	SKIP1SP [Data]
Syntax Receive	SKIP1SP <Data>
Type	Variable rw
Format	Integer16
DIM	rpm
Range	0 .. 3000
Default	0
Opmode	1,2
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	388B (hex)
PROFIBUS PNU:	1707 (dec) IND = 33 (d
DPR Objekt Nr:	907
Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.1
EEPROM	Yes

Short Description	Skip Speed 1

Description

Skip Speed 1.
Used in V/f Control scheme to avoid operation in a speed range (defined by SKIP1W) around this speed.
This way resonances can be masked out.
See: |SKIP1W|, |SKIP2SP|, |SKIP2W|.

ASCII -Command	SKIP1W
Syntax Transmit	SKIP1SP [Data]
Syntax Receive	SKIP1SP <Data>
Type	Variable rw
Format	Integer16
DIM	rpm
Range	0 .. 500
Default	0
Opmode	1,2
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	388C (hex)
PROFIBUS PNU:	1708 (dec) IND = 33 (d
DPR Objekt Nr:	908

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.1
EEPROM	Yes

Short Description	Skip Width 1

Description

Skip Width 1.
Used in V/f Control scheme to avoid operation in the speed range (+/- 0.5 * SKIP1W) around SKIP1SP.
This way resonances can be masked out.
See: |SKIP1SP|, |SKIP2SP|, |SKIP2W|.

ASCII -Command	SKIP2SP
Syntax Transmit	SKIP1SP [Data]
Syntax Receive	SKIP1SP <Data>
Type	Variable rw
Format	Integer16
DIM	rpm
Range	0 .. 3000
Default	0
Opmode	1,2
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	388D (hex)
PROFIBUS PNU:	1709 (dec) IND = 33 (d
DPR Objekt Nr:	909

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.1
EEPROM	Yes

Short Description	Skip Speed 2

Description

Skip Speed 2.
Used in V/f Control scheme to avoid operation in a speed range (defined by SKIP2W) around this speed.
This way resonances can be masked out.
See: |SKIP2W|, |SKIP1SP|, |SKIP1W|.

ASCII -Command	SKIP2W
Syntax Transmit	SKIP1SP [Data]
Syntax Receive	SKIP1SP <Data>
Type	Variable rw
Format	Integer16
DIM	rpm
Range	0 .. 500
Default	0
Opmode	1,2
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	388E (hex)
PROFIBUS PNU:	1710 (dec) IND = 33 (d
DPR Objekt Nr:	910

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.1
EEPROM	Yes

Short Description	Skip Width 2

Description

Skip Width 2.
Used in V/f Control scheme to avoid operation in the speed range (+/- 0.5 * SKIP2W) around SKIP2SP.
This way resonances can be masked out.
See: |SKIP2SP|, |SKIP1SP|, |SKIP1W|.

ASCII -Command	SLACCMAX	Available in	S300/700
Syntax Transmit	SLACCMAX [Data]	MMI ☐	CAN-Bus ☐
Syntax Receive	SLACCMAX <Data>	PROFIBUS ☐	Sercos ☐
Type	Variable rw		
Format	Integer32	SERCOS IDN:	
DIM	-	CAN Object No:	-
Range	1 .. 268435455	PROFIBUS PNU:	-
Default	10	DPR Objekt Nr:	
Opmode	All		
Drive Status	-		
Start Firmware	-		
Configuration	☐	Data Type BUS/DPR	Integer32
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	slopes in sensorless mode

Description

The parameter SLACCMAX desribe the ramp in sensorless mode. At the beginning, try at most SLACCMAX = |ACC| = |DEC|. If this value shows troubles at transition point, make the slopes slower, specially the value for SLACCMAX

ASCII -Command	SLEN
Syntax Transmit	SLEN [Data]
Syntax Receive	SLEN <Data>
Type	Variable rw
Format	Integer8
DIM	m
Range	0 .. 45
Default	5
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	35F2 (hex)
PROFIBUS PNU:	1842 (dec) IND = 1 (de
DPR Objekt Nr:	242

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	2.14
EEPROM	Yes

Short Description	Sercos Optical Range

Description

This parameter can be used to set the optical range (in meters) for a standardized 1mm² plastic optical fiber cable.

minimum output at 0
maximum output at 45

ASCII -Command	SLIDK01	Available in	S300/700
Syntax Transmit	SLIDK01 [Data]	MMI ☐	CAN-Bus ☐
Syntax Receive	SLIDK01 <Data>	PROFIBUS ☐	Sercos ☐
Type	Variable rw		
Format	Integer16	SERCOS IDN:	
DIM		CAN Object No:	-
Range	-5000 .. 5000	PROFIBUS PNU:	-
Default	1	DPR Objekt Nr:	
Opmode	all		
Drive Status	-		
Start Firmware			
Configuration	☐	Data Type BUS/DPR	Integer16
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	factor (weight) for Ud

Description

SLIDK01 sets a weight for “voltage in D”. It affects directly and aggressively the performance of sensorless. A value of 0.23 is recommended. But if you are losing orientation, the valued can be reduced to 0.20. An even smaller value can show some troubles in performance.

ASCII -Command	SLIMAX	Available in	S300/700
Syntax Transmit	-	MMI ☐	CAN-Bus ☐
Syntax Receive	-	PROFIBUS ☐	Sercos ☐
Type	-		
Format	-	SERCOS IDN:	
DIM	-	CAN Object No:	-
Range		PROFIBUS PNU:	-
Default		DPR Objekt Nr:	
Opmode			
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.12
EEPROM	Yes

Short Description	internal parameter

Description

This parameter is internal and is not documented. It could be a customized or test/service parameter.

It is not allowed to change this parameter!

ASCII -Command	SLIQK	Available in	S300/700
Syntax Transmit	SLIQK [Data]	MMI ☐	CAN-Bus ☐
Syntax Receive	SLIQK <Data>	PROFIBUS ☐	Sercos ☐
Type	Variable rw		
Format	Integer8	SERCOS IDN:	
DIM		CAN Object No:	-
Range	-5000 .. 5000	PROFIBUS PNU:	-
Default	1	DPR Objekt Nr:	
Opmode	All		
Drive Status	-		
Start Firmware			
Configuration	☐	Data Type BUS/DPR	Integer8
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	factor (weight) for load-current iq

Description

SLIQK sets a factor (weight) for “load-current iq” in position calculation under Sensorless. Its value depends on |DIPEAK| and therefore, its value should be selected from following table:

S701; SLIQK = 1
S706: SLIQK = 4
S712: SLIQK = 8
S724: SLIQK = 10
S748: SLIQK = 20
S772: SLIQK = 30

ASCII -Command	SLIQK1	Available in	S300/700
Syntax Transmit	SLIQK1 [Data]	MMI ☐	CAN-Bus ☐
Syntax Receive	SLIQK1 <Data>	PROFIBUS ☐	Sercos ☐
Type	Variable rw		
Format	Integer8	SERCOS IDN:	
DIM	-	CAN Object No:	-
Range	-2 .. 2	PROFIBUS PNU:	-
Default	0	DPR Objekt Nr:	
Opmode	all		
Drive Status	-		
Start Firmware	-		
Configuration	☐	Data Type BUS/DPR	Integer8
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	second factor (weight) for “load-current"

Description

The parameter SLIQK1 sets a second weight for “load-current Iq” in sensorless mode. Its value should be set to one

ASCII -Command	SLJSWITCH	Available in	S300/700
Syntax Transmit	SLJSWITCH [Data]	MMI ☐	CAN-Bus ☐
Syntax Receive	SLJSWITCH <Data>	PROFIBUS ☐	Sercos ☐
Type	Variable rw		
Format	Integer16	SERCOS IDN:	
DIM	rpm	CAN Object No:	-
Range	0 .. 599 (dual use: 72000)	PROFIBUS PNU:	-
Default	500	DPR Objekt Nr:	
Opmode	all		
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	Integer16
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	threshold from stepper to sensorless mode

Description

SLJSWITCH sets a threshold (in rpm) to commute from stepper mode into sensorless mode. This value should be at least 15% of motor nominal speed.

ASCII -Command	SLMODE	Available in	S300/700
Syntax Transmit	SLMODE [Data]	MMI ☐	CAN-Bus ☐
Syntax Receive	SLMODE <Data>	PROFIBUS ☐	Sercos ☐
Type	Variable rw		
Format	-	SERCOS IDN:	
DIM	-	CAN Object No:	-
Range	0 .. 5	PROFIBUS PNU:	-
Default	1	DPR Objekt Nr:	
Opmode	All		
Drive Status	Disabled + Reset (Coldstart)		
Start Firmware			
Configuration	☑	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.7
EEPROM	Yes

Short Description	stepper mode for sensorless

Description

Withe the parameter SLMODE the stepper mode will be choosen

Vorraussetzung |FBTYPE|=10 und |MTYPE|= 1

ASCII -Command	SLOTIO
Syntax Transmit	SLOTIO
Syntax Receive	SLOTIO <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	-
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700		
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	35F3 (hex)
PROFIBUS PNU:	1843 (dec) IND = 1 (de
DPR Objekt Nr:	243
Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	I/O-Expansion Card: I/O States

Description

The SLOTIO command returns the states of the inputs and outputs on the I/O-expansion card (slot card) in the format Hxxxxxxxx

Bit number	Bit combination	Input/Output	Description
0	0x00000001	Input	Bit 0 Motion block number (A0)
1	0x00000002	Input	Bit 1 Motion block number (A1)
2	0x00000004	Input	Bit 2 Motion block number (A2)
3	0x00000008	Input	Bit 3 Motion block number (A3)
4	0x00000010	Input	Bit 4 Motion block number (A4)
5	0x00000020	Input	Bit 5 Motion block number (A5)
6	0x00000040	Input	Bit 6 Motion block number (A6)
7	0x00000080	Input	Bit 7 Motion block number (A7)
8	0x00000100	Input	Reference switch
9	0x00000200	Input	Acknowledge Contouring error
10	0x00000400	Input	Start next motion block
11	0x00000400	Input	Start jog mode
12	0x00001000	Input	Continue a motion block
13	0x00002000	Input	Start motion block no. A0 ... A7
14	0x00004000	Output	“In-Position” signal
15	0x00008000	Output	“In-Position2” signal (next)
16	0x00010000	Output	Contouring error
17	0x00020000	Output	“Position register 1” signal
18	0x00040000	Output	“Position register 2” signal
19	0x00080000	Output	“Position register 3” signal
20	0x00100000	Output	“Position register 4” signal
21	0x00200000	Output	“Position register 5” signal
22	0x00400000	Status	24Volt - On
23	0x00800000	Status	Slot fault
24...31			Reserve

ASCII -Command	SLTEMPM	Available in	S300/700
Syntax Transmit	SLTEMPM [Data]	MMI ☐	CAN-Bus ☐
Syntax Receive	SLTEMPM <Data>	PROFIBUS ☐	Sercos ☐
Type			
Format	-	SERCOS IDN:	
DIM		CAN Object No:	-
Range		PROFIBUS PNU:	-
Default		DPR Objekt Nr:	
Opmode			
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.3
EEPROM	

Short Description	monitoring of the motor temperature

Description

SLTEMPM=0 – no monitoring of the motor temperature in sensless mode (|FBTYPE|=10 und 11)
SLTEMPM=1 – monitoring of the motor temperature in sensless mode (|FBTYPE|=10 und 11)

ASCII -Command	SLTSWITCH	Available in	S300/700
Syntax Transmit	SLTSWITCH [Data]	MMI ☐	CAN-Bus ☐
Syntax Receive	SLTSWITCH <Data>	PROFIBUS ☐	Sercos ☐
Type	Variable rw		
Format	Integer16	SERCOS IDN:	
DIM	ms	CAN Object No:	-
Range	0 .. 10000	PROFIBUS PNU:	-
Default	200	DPR Objekt Nr:	
Opmode	All		
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	Integer16
Function Group		Weighting 10^3	

Last Change of this Object	2.12
EEPROM	Yes

Short Description	transition time to nominal speed

Description

SLTSWITCH defines a time (in ms) to remain at velocity threshold (|SLJSWITCH|). This means, if SLTSWITCH is 100ms, the motor stops the acceleration and rotates for 100ms at |SLJSWITCH|. After those 100ms, the commutation into Sensorless takes place and motor accelerates further. A value of zero means an instantaneous commutation.

ASCII -Command	SMNUMBER
Syntax Transmit	SMNUMBER
Syntax Receive	SMNUMBER <Data>
Type	Variable ro
Format	Integer16
DIM	-
Range	0 .. 32767
Default	0
Opmode	-
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3695 (hex)
PROFIBUS PNU:	2005 (dec) IND = 1 (de
DPR Objekt Nr:	405

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Stored Motor Number in the feedback Device

Description

SMNUMBER gives the motor number, that is stored in the feedback device (EnDAT or HIPERFACE).

This Object makes sense with |FBTYPE| = 2 or 4, otherwise "0" is returned.

ASCII -Command	SOFTIN
Syntax Transmit	SOFTIN [Data]
Syntax Receive	SOFTIN <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	Integer32
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.00
Configuration	☐
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	354E (hex)
PROFIBUS PNU:	1678 (dec) IND = 1 (de
DPR Objekt Nr:	78
Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.14
EEPROM	No

Short Description	Input variable for digital software inputs INPUT5…INPUT20

Description

The bit variable SOFTIN describes the actual state of the virtual digital inputs |INPUT5| … |INPUT20|
The relation between the Bit number and the digital input is as follows:

Bit0 |INPUT5|
Bit1 |INPUT6|
….
Bit15 |INPUT20|

The write access to the parameter SOFTIN affects directly the state of the corresponding digital input
For example:

SOFTIN 5 : the digital inputs INPUT5 and INPUT7 becomes the state high

The function of the virtual digital inputs can be configured by the commands IN5MODE…IN20MODE

In case that an external I/O slot card is used, only a reduced number of virtual inputs is available (INPUT19…INPUT20)

ASCII -Command	SOFTOUT	Available in	S300/700
Syntax Transmit	SOFTOUT [Data]	MMI ☐	CAN-Bus ☑
Syntax Receive	SOFTOUT <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable ro		
Format	Integer32	SERCOS IDN:	
DIM	-	CAN Object No:	354F (hex)
Range	Integer32	PROFIBUS PNU:	1679 (dec) IND = 1 (de
Default	0	DPR Objekt Nr:	79
Opmode	All		
Drive Status	-		
Start Firmware	1.00		
Configuration	☐	Data Type BUS/DPR	Integer32
Function Group		Weighting 10^3	

Last Change of this Object	1.3
EEPROM	No

Short Description	State variable for the virtual digital Outputs

Description

The bit variable SOFTOUT describes the actual state of the virtual digital outputs |OUTPUT3| … |OUTPUT18|

The relation between the Bit number and the digital output is as follows:

Bit0 |OUTPUT3|
Bit1 |OUTPUT4|
….
BIT15 |OUTPUT18|

The function of the virtual digital outputs can be configured by the commands |O3MODE|…|O18MODE|

In case that an external I/O slot card is used, only a reduced number of virtual outputs is available OUTPUT11…OUTPUT18)

ASCII -Command	SPHAS
Syntax Transmit	SPHAS
Syntax Receive	SPHAS <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	-
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.67
Configuration	☐
Function Group	-

Available in	S300/700
MMI ☐	CAN-Bus ☑
PROFIBUS ☑	Sercos ☐
SERCOS IDN:	
CAN Object No:	35F4 (hex)
PROFIBUS PNU:	1844 (dec) IND = 1 (de
DPR Objekt Nr:	244
Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Sercos Phase

Description

Shows the present Sercos phase.

Phase 0 Close ring and reset
Phase 1 Drive identification
Phase 2 Communication initialization
Phase 3 Parameter initialization
Phase 4 Ready for operation

ASCII -Command	SRND	Available in	S300/700
Syntax Transmit	SRND [Data]	MMI ☐	CAN-Bus ☑
Syntax Receive	SRND <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer32	SERCOS IDN:	
DIM	-	CAN Object No:	3637 (hex)
Range		PROFIBUS PNU:	1911 (dec) IND = 1 (de
Default	-PGEARI/2	DPR Objekt Nr:	311
Opmode	-		
Drive Status	Disabled + Reset (Coldstart)		
Start Firmware	1.0		
Configuration	☑	Data Type BUS/DPR	Integer32
Function Group	-	Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Start Position of Modulo Axes

Description

The SRND parameter is used to define the start of the range of movement for a modulo axes (|POSCNFG|=2). The end of the range can be set by the |ERND| command. All positioning operations are made in the positioning range <SRND...|ERND|-1>.
The entry for SRND is made in SI units (taking account of |PGEARI|, |PGEARO|).

ASCII -Command	SSIGRAY
Syntax Transmit	SSIGRAY [Data]
Syntax Receive	SSIGRAY <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	0,1
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	35F6 (hex)
PROFIBUS PNU:	1846 (dec) IND = 1 (de
DPR Objekt Nr:	246
Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	SSI format selection

Description

The command is used to select the SSI format

SSIGRAY 0 = Binär
SSIGRAY 1 = Gray

ASCII -Command	SSIINV
Syntax Transmit	SSIINV [Data]
Syntax Receive	SSIINV <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	0 .. 3
Default	0
Opmode	All
Drive Status	Disable
Start Firmware	3.55
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	35F7 (hex)
PROFIBUS PNU:	1847 (dec) IND = 1 (de
DPR Objekt Nr:	247
Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	2.1
EEPROM	Yes

Short Description	polarity of SSI Clock

Description

nur S300:

The behavior of the SSI interface at X5.
The SSIINV command has different interpretations, depending on whether the SSI is configured as an output or an input.

1. SSI output
SSIINV = 0: normal clock level
SSIINV = 1: inverted clock level
SSIINV = 2: normal clock level, only 12 Bit resolution
SSIINV = 3: inverted clock level, only 12 Bit resulotion

ASCII -Command	SSIMASK
Syntax Transmit	SSIMASK [Data]
Syntax Receive	SSIMASK <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	0…0xFFFFFFFF (dec: -2147483648 .. 2147483647)
Default	0XFFFFFFFF (dec: -1)
Opmode	All
Drive Status	-
Start Firmware	5.87
Configuration	☐
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	390C (hex)
PROFIBUS PNU:	1836 (dec) IND = 33 (d
DPR Objekt Nr:	1036
Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	filter mask for received SSI data

Description

By using the variable SSIMASK the warning- / error bits can be filtered in the incoming SSI data. In the SSI date only the position information is expected, the existing state information must be hidden by deleting the bits in SSIMASK.

The received SSI-date with the SSIMASK value is calculated with an AND operation. The result is further processed as position information.

ASCII -Command	SSIRESOL
Syntax Transmit	SSIRESOL [Data]
Syntax Receive	SSIRESOL <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	0 .. 32 Bits
Default	0
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	3.07
Configuration	☑
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	387B (hex)
PROFIBUS PNU:	1691 (dec) IND = 33 (d
DPR Objekt Nr:	891

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.14
EEPROM	Yes

Short Description	resolution of the SSI Linear encoder

Description

Defines the resolution of the SSI Linear encoder (FBTYPE=26/28).
This parameter includes the number of counts delivered by the SSI encoder pro motor polpitch.
e.g.
SSI-Resolution 1µm
Polpitch 28 mm = 28000 µm
ENCLINES=1000
SSIRESOL=28

ASCII -Command	SSIREVOL
Syntax Transmit	SSIREVOL [Data]
Syntax Receive	SSIREVOL <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	0 .. 16
Default	4
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	1.0
Configuration	☑
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3619 (hex)
PROFIBUS PNU:	1881 (dec) IND = 1 (de
DPR Objekt Nr:	281

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	2.2
EEPROM	Yes

Short Description	Number of multiturn bits (SSI)

Description

The command SSIREVOL defines the number of multiturn-bits by the SSI – transmission (receive)
In combination with command SSIRXD all bits in the SSI-telegramm are defined.

SSIRXD – all SSI-bits
SSIREVOL – bits for multiturn-information

Bits per feedback turn = SSIRXD - SSIREVOL

Default value S700: 12

ASCII -Command	SSIRXD
Syntax Transmit	SSIRXD [Data]
Syntax Receive	SSIRXD <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	1 ... 33
Default	24
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	365E (hex)
PROFIBUS PNU:	1950 (dec) IND = 1 (de
DPR Objekt Nr:	350

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Sets the number of received SSI-bits

Description

The command ‘SSIRXD’ sets the number of received SSI-bits .

REGISTER max. 32 bit

number of bits:

1 => SSIRXD 1

2 => SSIRXD 2

…

32 => SSIRXD 32

33 => SSIRXD 33

ASCII -Command	SSITIME
Syntax Transmit	SSITIME [Data]
Syntax Receive	SSITIME <Data>
Type	Variable rw
Format	Integer8
DIM	µsec
Range	1 ... 15
Default	10
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	5.87
Configuration	☑
Function Group	

Available in	S300/700
MMI ☐	CAN-Bus ☑
PROFIBUS ☑	Sercos ☐
SERCOS IDN:	
CAN Object No:	390B (hex)
PROFIBUS PNU:	1835 (dec) IND = 33 (d
DPR Objekt Nr:	1035
Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	2.10
EEPROM	Yes

Short Description	SSI setting time

Description

This parameter set the SSI settling time at |SSITOUT| = 3

ASCII -Command	SSITOUT
Syntax Transmit	SSITOUT [Data]
Syntax Receive	SSITOUT <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	0 .. 3
Default	0
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	1.0
Configuration	☑
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3661 (hex)
PROFIBUS PNU:	1953 (dec) IND = 1 (de
DPR Objekt Nr:	353
Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	2.10
EEPROM	Yes

Short Description	Transmit setting time SSI

Description

The command SSIOUT sets the monoflop - setting time of the SSI - transmittion.

SSI - OUTPUT:
SSITOUT = 0 <= setting time 13 µsec
SSITOUT = 1 <= setting time 3 µsec

since |FW| 5.87:
SSITOUT = 2 <= setting time 8 µsec
SSITOUT = 3 <= free programmable settling time (input via the parameter |SSITIME|)

SSI - INPUT:
This parameter defines the clock-frequency, which is used for the read of the SSI-data word.

SSITOUT 0: 1MHz only for 1. & 2. feedback (|FBTYPE|, |EXTPOS|)
SSITOUT 1: 500 kHzonly for 1. & 2. feedback (|FBTYPE|, |EXTPOS|)
SSITOUT 2: 250 kHzonly for second feedback (|EXTPOS|)
SSITOUT 3: 125 kHzonly for second feedback (|EXTPOS|)

ASCII -Command	SSTAT
Syntax Transmit	SSTAT [Data]
Syntax Receive	SSTAT <Data>
Type	Variable ro
Format	String
DIM	-
Range	-
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	95
CAN Object No:	35FA (hex)
PROFIBUS PNU:	1850 (dec) IND = 1 (de
DPR Objekt Nr:	250

Data Type BUS/DPR	String
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	status of the Sercos interface as text string

Description

Presents the actual status of the Sercos interface, as a text string.

ASCII -Command	STAGECODE
Syntax Transmit	-
Syntax Receive	STAGECODE <Data>
Type	Variable ro
Format	Integer8
DIM	-
Range	1, 2, .., 19
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3682 (hex)
PROFIBUS PNU:	1986 (dec) IND = 1 (de
DPR Objekt Nr:	386

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Power Stage Identification

Description

Give the identification of the power stage-

STAGECODE=0 not allowed (Hardware error)
STAGECODE=1 S 303
STAGECODE=2 S 306
STAGECODE=3 S 310
STAGECODE=4 S 341
STAGECODE=5 S 343
STAGECODE=6 S 346
STAGECODE=7..9 earmarked
STAGECODE=10 S 701
STAGECODE=11 S 703
STAGECODE=12 S 706
STAGECODE=13 S 712
STAGECODE=14 S 724
STAGECODE=15 S 712P (30A/400V)
STAGECODE=16 S 724P (72A/400V)
STAGECODE=17 S 748
STAGECODE=18 S 772
STAGECODE=19..41 earmarked
STAGECODE=42 S 701
STAGECODE=43 S 703
STAGECODE=44 S 706
STAGECODE=45 S 712
STAGECODE=46 S 724
STAGECODE=47 S 721P (30A/230V)
STAGECODE=48 S 724P (72A/230V)

ASCII -Command	STAT
Syntax Transmit	STAT
Syntax Receive	STAT
Type	Variable ro
Format	Integer16
DIM	-
Range	int (=Word)
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700		
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	35FB (hex)
PROFIBUS PNU:	1851 (dec) IND = 1 (de
DPR Objekt Nr:	251
Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.10
EEPROM	No

Short Description	Drive Status Word

Description

The STAT command provides a 16-bit status word in hexadecimal format (Hxxxx).

Bit	Value	Interpretation
0	0x0001	=0 if output stage is enabled
		=1 output stage disabled
1	0x0002	=0 if controller is ready for operation (BTB)
		=1 fault present
2	0x0004	=0 no password active
		=1 password active (PASSX>0)
3	0x0008	=0 no service function active
		=1 if service function is active
4	0x0010	=0 no PLC-password active (|PASSXPLC|=0)
		=1 PLC-password active (|PASSXPLC|>0)
5	0x0020	=1 after a hardware reset, is cancelled by |CLRHR|
6	0x0040	=1 configuration variable was altered (|SAVE| and |COLDSTART|)
		=0 no configuration variable altered
7	0x0080	=1 safety relay is active (AS-Option)
		=0 safety relay is not active
8	0x0100	=1 discrepancy between RAM and EEPROM parameters (cancelled by |SAVE| command).
		=0 RAM and EEPROM parameters are the same
9	0x0200	=1 slot-expansion card is available
		=0 slot-expansion card is not available
10	0x0400	=1 RAM parameter modified (cancelled by |DUMP| command)
		=0 no change in RAM parameters since the last |DUMP|.
11...15		Reserve

Bits 5, 6, 8 and 10 are used for an external signal that internal parameters have been changed

Bit 5 hardware reset
Bit 5 is set if the parameters are copied from the serial EEPROM to the RAM (this happens after a hardware reset of a LOAD command). If this bit is set, all the parameters should be requested by the parameterization software (|DUMP| command) and bit 5 should be cancelled by the |CLRHR| command.

Bit 6 configuration variable was altered
Any alteration of a configuration variable (a variable that makes it necessary to recompile the macro, i.e. to reset the amplifier) means that this bit will be set to 1. If this bit is set, the parameterization software should generate a |SAVE| / |COLDSTART| command (controller reset) at a suitable moment. Bit 6 is only cancelled by a hardware reset (|COLDSTART|).

Bit 8 discrepancy between EEPROM and RAM parameters
Any alteration of a RAM parameter means that this bit is set to 1. If this bit is set, the parameterization software should generate a |SAVE| command (save the data in the EEPROM) at a suitable moment (e.g. on exiting the program). This bit is cancelled by a |SAVE| command.

Bit 10 RAM parameters modified

Any alteration of a RAM parameter through a parameterization channel other than the RS232 means that this bit is set to 1. If this bit is set, the parameterization software should generate a |DUMP| command (read all data) at a suitable moment. This bit is cancelled by a |DUMP| command.

ASCII -Command	STATCODE
Syntax Transmit	STATCODE
Syntax Receive	STATCODE <Data>
Type	Command
Format	String
DIM	-
Range	-
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Drive Status

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	385E (hex)
PROFIBUS PNU:	1662 (dec) IND = 33 (d
DPR Objekt Nr:	862
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Plain Text Warnings

Description

The warnings are displayed as plain text.

See also |STATCODE *|

ASCII -Command	STATCODE *
Syntax Transmit	STATCODE *
Syntax Receive	STATCODE <Data>
Type	Command
Format	Integer32
DIM	-
Range	0 .. 0xFFFFFFFF
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700		
MMI	☑	CAN-Bus	☐
PROFIBUS	☐	Sercos	☐

SERCOS IDN:	
CAN Object No:	-
PROFIBUS PNU:	-
DPR Objekt Nr:	
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.13
EEPROM	No

Short Description	Status Variable “Warnings”

Description

The STATCODE * command returns the internal warnings in the form of a bit-variable.
The assignments for the individual bits can be seen in the following table.

Bit	Display	Meaning
0 / 0x00000001	n01	=1 |I2T| Threshold override
1 / 0x00000002	n02	=1 Regen message
2 / 0x00000004	n03	=1 Contouring error
3 / 0x00000008	n04	=1 watchdog limit reached
4 / 0x00000010	n05	=1 Line phase missing
5 / 0x00000020	n06	=1 Software limit switch 1 active
6 / 0x00000040	n07	=1 Software limit switch 2 active
7 / 0x00000080	n08	=1 Wrong motion task started Bit is set if a not defined motion task was sellected, the target position is out of range (software limit switches) or wrong (out of range) settings for |ACCR|, |DECR| are used . If a |FW| >=2.31 is used the checksum of the table motion task is active, this means the conversion tool 4.0 is necessary. In case a table motion task is created by an older conversion version it will effect a n08 warning. The warning gets also active, if |AUTOHOME| is used or a digital input is selected as reference input (for example |IN1MODE| 16) and |OPMODE| <> 4 or 8. Starting a not existing table motion task can also be the reason (|FW| > 2.14)
8 / 0x00000100	n09	=1 Reference point not set
9 / 0x00000200	n10	=1 PSTOP active is set as long as the hardware limit switch PSTOP active is cleared when the hardware limit switch PSTOP is inactive.

10 / 0x00000400	n11	=1 NSTOP active is set as long as the hardware NSTOP active is deleted as soon as the hardware NSTOP is inactive.
11 / 0x00000800	n12	=1 Default motor settings loaded is set at start-up phase when the engine number from the serial EEPROM and the engine number from the EnDAT or Hiperface encoder are different. If you enter a valid motor number and storing the data in the encoder |HSAVE| and in the internal EEPROM |SAVE| is no longer issued this warning the next time the timer.
12 / 0x00001000	n13	=1 Slot warning (I/O extension board) If no 24V supply voltage for the I/O card, the warning n13 generated and executed once an emergency stop. Subsequently, however, the drive can be moved without 24V I/O supply. If the application requires it, the user can by setting the bits generate an additional error F24 and thereby prevent any motor movement |WMASK|. The monitoring of the 24V power supply can by configure |CPHASE|.
13 / 0x00002000	n14	= 1 This warning is issued in the following situations: 1. Wake & Shake active (e.g., |FBTYPE| = 7,8 ...) As soon as the output stage has been enabled and the determination of the motor phase has been terminated, the warning is cleared. 2. Safe brake test (SBT) active This function can only be activated if a safety card (S700) is used. As long as the warning n14 is active, the external setpoints (for example, from the fieldbus interface) are ignored.
14 / 0x00004000	n15	reserved
15 / 0x00008000	n16	Is active, if one or more of the warnings n17...n31 are active.
16 / 0x00010000	n17	Fieldbus-Sync is not locked
17 / 0x00020000	n18	Using Multiturn encoder feedback, a overrun over the maximum number of resolutions (+/-2048) was detected
18 / 0x00040000	n19	The motion task ramps are limited (range overflow on motion task data)
19 / 0x00080000	n20	Invalid motion task
20 / 0x00100000	n21	PLC program error (for details see plc code)
21 / 0x00200000	n22	max. motortemperatur reached (the user can shut down the process before the temperature eror will interrupt the process immediately)
22 / 0x00400000	n23	Sin Cos Feedback warning level reached see also |VWM|
23 / 0x00800000	n24	Bit is set to 1, if during boot up process the plausibility check is negative see also |ERRPARAM|
24...30	n25 .. n31	reserved

31 / 0x80000000	n32	=1 Beta version of the firmware

ASCII -Command	STATIO	Available in	S300/700
Syntax Transmit	STATIO	MMI ☑	CAN-Bus ☑
Syntax Receive	STATIO <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable ro		
Format	7 x Integer8	SERCOS IDN:	
DIM	-	CAN Object No:	35FC (hex)
Range	0,1 (=State)	PROFIBUS PNU:	1852 (dec) IND = 1 (de
Default	-	DPR Objekt Nr:	252
Opmode	All		
Drive Status	-		
Start Firmware	1.0		
Configuration	☐	Data Type BUS/DPR	-
Function Group	Digital I/O	Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	I/O Status

Description

The STATIO command returns the actual state of the digital inputs and outputs of the servo amplifier, in the following sequence.
IN1 IN2 IN3 IN4 ENABLE OUT1 OUT2

A 0 at the appropriate position means that the corresponding input/output is in the Low state, a 1 signifies the High state.

ASCII -Command	STATUS
Syntax Transmit	STATUS
Syntax Receive	STATUS <Data>
Type	Multi-line Return Command
Format	Integer16 Integer32 Integer16 Integer16 Integer16
DIM	-
Range	int (=Word); long int (=DoubleWord)
Default	-
Opmode	All
Drive Status	-
Start Firmware	2.13
Configuration	☐
Function Group	Drive Status

Available in	S300/700		
MMI	☑	CAN-Bus	☐
PROFIBUS	☐	Sercos	☐

SERCOS IDN:	
CAN Object No:	-
PROFIBUS PNU:	-
DPR Objekt Nr:	
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.13
EEPROM	No

Short Description	Detailed amplifier status

Description

The STATUS command returns the detailed status information in the form of a 5 status variables in hexadecimal format.

Word no. 1 Format Hxxxx
Bit 0 =0 if hardware enable is set (ENABLE input = 24V)
Bit 1 =0 if software enable is set
Bit 2 reserve
Bit 3 =0 if amplifier is ready for operation (BTB / no fault)

Word no. 2 Format Hxxxx
Bits 0 ... 31 fault variable (see |ERRCODE|)

Word no. 3 Format Hxxxx
Word no. 4 Format Hxxxx
=0 no service function active
=1 service function “constant current/velocity” is active
=2 jog mode |MJOX| is active

Word no. 5 Format Hxxxx

Bit	Value	Interpretation
0	0x0001	=1 motion block / homing movement / jog mode is active
1	0x0002	=1 reference point set
2	0x0004	=1 reference switch occupied (home position)
3	0x0008	=1 IN-POSITION signal
4	0x0010	=1 position has been latched (positive edge)
5	0x0020	=1 homing in progress
6	0x0040	=1 jog mode is running
7	0x0080	=1 position has been latched (negative edge)
8 ... 15		reserve

ASCII -Command	STEP
Syntax Transmit	STEP [Data]
Syntax Receive	STEP <Data>
Type	Variable rw
Format	Integer16 Float Integer16 Float
DIM	ms (DurationN) / rpm (velocityN)
Range	Duration:0 to 32767; velocity:-VLIM to +VLIM
Default	Duration:1000; velocity1/2: 100/-100
Opmode	0
Drive Status	Enabled
Start Firmware	1.0
Configuration	☐
Function Group	

Available in	S300/700
MMI ☐	CAN-Bus ☐
PROFIBUS ☐	Sercos ☐
SERCOS IDN:	
CAN Object No:	-
PROFIBUS PNU:	-
DPR Objekt Nr:	
Data Type BUS/DPR	Integer16 Float Integer
Weighting 10^3	

Last Change of this Object	1.9
EEPROM	-

Short Description	Step Service Operation

Description

Only S700:

The STEP command is used to implement a service function through the operating mode “digital velocity control” (|OPMODE|=0).
The command can be used in the following forms.
1. STEP
The command provides the present settings for the service function.
2. STEP T1 V1
A digital setpoint V1 (RPM) is provided for time T1 (in msec). After T1 has elapsed, the digital setpoint is set to 0.
3. STEP T1 V1 T2 V2
A digital setpoint V1 (RPM) is provided for time T1 (in msec). After T1 has elapsed, a digital setpoint V2 (RPM) is provided for time T2 (in msec). After T2 has elapsed, the T1/V1 cycle starts again. This command can be used to create an endless reversing operation.
e.g. STEP 1000 500 1000 -500

The service operation can always be cancelled by using the |STOP| command.
The “digital velocity control” operating mode is a precondition for implementing the STEP command.

ASCII -Command	STOP
Syntax Transmit	STOP
Syntax Receive	STOP
Type	Command
Format	Command
DIM	-
Range	-
Default	-
Opmode	All
Drive Status	Enabled
Start Firmware	1.0
Configuration	☐
Function Group	Position Data

Available in	S300/700		
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	35FE (hex)
PROFIBUS PNU:	1854 (dec) IND = 1 (de
DPR Objekt Nr:	254
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	adjust setpoint to 0

Description

The STOP command breaks off the drive movement. The response of the drive varies according to the operating mode that is valid at the moment.

1. |OPMODE|=0 (digital velocity control)
The STOP command has the effect of setting the velocity setpoint to 0.
The drive brakes along the preset braking ramp for the velocity control loop (|DEC|).

2. |OPMODE|=2 (digital current control)
The STOP command has the effect of setting the current setpoint to 0.
The drive coasts down.

3. |OPMODE|=8 (internal motion tasks)
The STOP command has the effect of breaking off the present motion task (jog mode / homing movement).
The drive brakes along the decel ramp that is defined in the motion task. The motion task can be restarted by |CONTINUE| or digital input defined with |INxMODE|=22.

The STOP command has no function in the |OPMODE|=1,3,4,5,6,7 operating modes.

ASCII -Command	STOPMODE
Syntax Transmit	STOPMODE [Data]
Syntax Receive	STOPMODE <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	0, 1
Default	1
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	1.0
Configuration	☑
Function Group	-

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	35FF (hex)
PROFIBUS PNU:	1855 (dec) IND = 1 (de
DPR Objekt Nr:	255
Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	2.10
EEPROM	Yes

Short Description	Brake Response for Disable

Description

STOPMODE defines the response of the drive to a disabling of the output stage.
The following settings are possible:
STOPMODE=0 the output stage is immediately disabled, and the drive coasts down.

STOPMODE=1 the drive is run down under velocity control to velocity 0 (|DECDIS| ramp). When the velocity falls below the standstill threshold |VEL0|, the output stage is disabled. The output stage will also be disabled if the |VEL0| velocity is not reached within 5 seconds (a 5-second time-out).

Note: In Sensorless mode (|FBTYPE|=10) is the speed estimation not possible at low speeds, the actual value is not used but the command value of the setpoint speed. To be sure that the drive speed is at zero, after the speed setpoint had the threshold below VEL0, started a time. When this time has elapsed, it is assumed that the drive speed is zero and the output stage can be disabled. The delay time is derived from the |EMRGTO| value.

ASCII -Command	SWCNFG
Syntax Transmit	SWCNFG [Data]
Syntax Receive	SWCNFG <Data>
Type	Variable rw
Format	Unsigned16
DIM	-
Range	0 .. 65535
Default	0
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	1.0
Configuration	☑
Function Group	Position Data

Available in	S300/700
MMI ☑	CAN-Bus ☑
PROFIBUS ☑	Sercos ☑
SERCOS IDN:	P 3004
CAN Object No:	3600 (hex)
PROFIBUS PNU:	1856 (dec) IND = 1 (de
DPR Objekt Nr:	256
Data Type BUS/DPR	Unsigned16
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Configuration of software limit switches

Description

Configuration of software limit switches

The SWCNFG variable can be considered as a bit-variable. The individual bits are interpreted as follows:

Bit 0 =1 Software limit switch 1 active
Bit 1 =1 Software limit switch 2 active

The software limit sitches are acting only after a homing is done.

see also |SWE1|, |SWE2|

ASCII -Command	SWE1
Syntax Transmit	SWE1 [Data]
Syntax Receive	SWE1 <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	long int
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Position Data

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	50
CAN Object No:	3604 (hex)
PROFIBUS PNU:	1860 (dec) IND = 1 (de
DPR Objekt Nr:	260

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	SW limit switch (smallest position)

Description

The variable SWE1 contains the position value for the limit switch..
The scaling of the position depends on the |PGEARI| / |PGEARO| / |PRBASE| parameters, and is calculated according to the following formula:

SWE1[increments] = SWE1[input] * |PGEARO| / |PGEARI|

1048576 increments/turn for |PRBASE|=20
65536 increments/turn for |PRBASE|=16

SWE1 < |SWE2|

see also description of |SWCNFG|

ASCII -Command	SWE2
Syntax Transmit	SWE2 [Data]
Syntax Receive	SWE2 <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	long int
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Position Data

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	49
CAN Object No:	3606 (hex)
PROFIBUS PNU:	1862 (dec) IND = 1 (de
DPR Objekt Nr:	262
Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	SW limit switch (biggest position)

Description

The variable SWE2 contains the position value for the limit switch.
The scaling of the position depends on the |PGEARI| / |PGEARO| / |PRBASE| parameters, and is calculated according to the following formula:

SWE2[increments] = SWE2[input] * |PGEARO| / |PGEARI|

1048576 increments/turn for |PRBASE|=20
65536 increments/turn for |PRBASE|=16

|SWE1| < SWE2

see also description of |SWCNFG|

ASCII -Command	SYNCSRC
Syntax Transmit	SYNCSRC [Data]
Syntax Receive	SYNCSRC <Data>
Type	Variable rw
Format	Integer16
DIM	-
Range	0 .. 10
Default	0
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	1.0
Configuration	☑
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3683 (hex)
PROFIBUS PNU:	1987 (dec) IND = 1 (de
DPR Objekt Nr:	387

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	source for the synchronization

Description

This parameter defines the source for the synchronization of the control loops to the external fieldbus.

0: No synchronization
1: (reserved) synchronization via Sercos
2: Synchronization via KS3000 Fire-Wire option board
3: Synchronization via CANopen
4: old DPR card
5: new DPR card (e.g. EtherCAT wire card)
6: new DPR card with Aquarius Protokoll (EtherCat)

ASCII -Command	T
Syntax Transmit	T [Data]
Syntax Receive	T <Data>
Type	Command
Format	Float
DIM	A
Range	-DIPEAK .. DIPEAK
Default	-
Opmode	2
Drive Status	Enabled
Start Firmware	1.0
Configuration	☐
Function Group	Oscilloscope/Service

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	360E (hex)
PROFIBUS PNU:	1870 (dec) IND = 1 (de
DPR Objekt Nr:	270

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	1.0
EEPROM	No

Short Description	Digital current setpoint

Description

The “T” command can be used to define a constant current setpoint <i> (in A).
This current setpoint remains effective until a new T / |STOP| / |OPMODE| command is executed.

ASCII -Command	TASK
Syntax Transmit	TASK
Syntax Receive	TASK <Data>
Type	Variable ro
Format	String
DIM	-
Range	max 80 ASCII Characters
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	360F (hex)
PROFIBUS PNU:	1871 (dec) IND = 1 (de
DPR Objekt Nr:	271
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Task workload

Description

The TASK command shows the loading for the individual firmware tasks.
The figures signify the number of functions performed per second.

ASCII -Command	TBRAKE
Syntax Transmit	TBRAKE [Data]
Syntax Receive	TBRAKE <Data>
Type	Variable rw
Format	Integer16
DIM	ms
Range	10 .. 10000
Default	100
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	366E (hex)
PROFIBUS PNU:	1966 (dec) IND = 1 (de
DPR Objekt Nr:	366

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Disable Delaytime with Holding Brake

Description

TBRAKE defines a disable delay time with holding brake.
If the drive is disabled, it controls the holding brake if selected. After the motor is stopped, the holding brake is switched off and a delay timer (value is TBRAKE) is started. When the time is gone, the drive is disabled.

ASCII -Command	TBRAKE0
Syntax Transmit	TBRAKE0 [Data]
Syntax Receive	TBRAKE0 <Data>
Type	Variable rw
Format	Integer16
DIM	ms
Range	-10 .. 10000
Default	20
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	366F (hex)
PROFIBUS PNU:	1967 (dec) IND = 1 (de
DPR Objekt Nr:	367

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Enable Delaytime with Holding Brake

Description

The parameter TBRAKE0 defines a reaction time of the holding brake when the drive is enabled.
If the drive is enabled (hardware/software enable) the drive controls the holding brake. During the selected time TBRAKE0, the internal velocity setpoint is set to 0. After the time when the brake is open, the setpoint is accepted internally and the motor can run.

Important !
If the value TBRAKE0 is to big, this can cause on a vertical axis a fall down.

If the TRBAKE0 is set to values <0, the internal setpoint is activated before the holding brake is open.

ASCII -Command	TEMPE	Available in	S300/700
Syntax Transmit	TEMPE	MMI ☑	CAN-Bus ☑
Syntax Receive	TEMPE <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable ro		
Format	Integer32	SERCOS IDN:	
DIM	Centigrade Degrees	CAN Object No:	3610 (hex)
Range	-20 .. 90	PROFIBUS PNU:	1872 (dec) IND = 1 (de
Default	-	DPR Objekt Nr:	272
Opmode	All		
Drive Status	-		
Start Firmware	1.0		
Configuration	☐	Data Type BUS/DPR	Integer32
Function Group	Actual values	Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Ambient Temperature

Description

Displays the present internal temperature in °C.

ASCII -Command	TEMPH
Syntax Transmit	TEMPH
Syntax Receive	TEMPH <Data>
Type	Variable ro
Format	Integer32
DIM	Centigrade Degrees
Range	-20 .. 90
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Actual values

Available in	S300/700
MMI	☑
CAN-Bus	☑
PROFIBUS	☑
Sercos	☑

SERCOS IDN:	384
CAN Object No:	3611 (hex)
PROFIBUS PNU:	1873 (dec) IND = 1 (de
DPR Objekt Nr:	273

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Heat Sink Temperature

Description

Displays the present heat sink temperature in °C.

ASCII -Command	TEMPM
Syntax Transmit	TEMPM
Syntax Receive	TEMPM <Data>
Type	Variable ro
Format	Integer32
DIM	Ohms or [MTAB units]
Range	0 .. 10000
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3612 (hex)
PROFIBUS PNU:	1874 (dec) IND = 1 (de
DPR Objekt Nr:	274
Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.10
EEPROM	No

Short Description	Motor Temperature

Description

Indicates the motor temperature, in the form of the resistance of the temperature sensor (in ohms). In existing temperature characteristic MTAB the units change for the parameter |MAXTEMPM| and TEMPM of Ohm to the unit that was used in the characteristic definition.

see also |MAXTEMPM|, |MTAB|

ASCII -Command	TEMPMFILT
Syntax Transmit	TEMPMFILT [Data]
Syntax Receive	TEMPMFILT <Data>
Type	Variable rw
Format	-
DIM	ms
Range	0 .. 50000
Default	0
Opmode	All
Drive Status	
Start Firmware	5.18
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	38BB (hex)
PROFIBUS PNU:	1755 (dec) IND = 33 (d
DPR Objekt Nr:	955
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.7
EEPROM	Yes

Short Description	time constant for the filter of motor temperature sensors

Description

The parameter TEMPMFILT describes the time constant for filtering of temperature value with motor temperature sensors. Interferences of the signal can be eliminated with this function. The measured and filtered temperature value is used for supervising and for monitoring the motor temperature. The time constant of the filter can be set with TEMPMFILT .

ASCII -Command	TEN	Available in	S300/700
Syntax Transmit	-	MMI ☐	CAN-Bus ☐
Syntax Receive	-	PROFIBUS ☐	Sercos ☐
Type	-		
Format	-	SERCOS IDN:	
DIM	-	CAN Object No:	-
Range		PROFIBUS PNU:	-
Default		DPR Objekt Nr:	
Opmode			
Drive Status	-		
Start Firmware	-		
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	internal parameter

Description

This parameter is internal and is not documented. It could be a customized or test/service parameter.

It is not allowed to change this parameter!

ASCII -Command	TEST1	Available in	S300/700
Syntax Transmit	-	MMI ☐	CAN-Bus ☐
Syntax Receive	-	PROFIBUS ☐	Sercos ☐
Type	-		
Format	-	SERCOS IDN:	
DIM	-	CAN Object No:	-
Range		PROFIBUS PNU:	-
Default		DPR Objekt Nr:	
Opmode			
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	internal parameter

Description

This parameter is internal and is not documented. It could be a customized or test/service parameter.

It is not allowed to change this parameter!

ASCII -Command	TESTENC
Syntax Transmit	TESTENC
Syntax Receive	TESTENC
Type	Command
Format	Command
DIM	-
Range	-
Default	-
Opmode	2
Drive Status	Enable
Start Firmware	5.90
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☑	CAN-Bus	☐
PROFIBUS	☐	Sercos	☐

SERCOS IDN:	
CAN Object No:	-
PROFIBUS PNU:	-
DPR Objekt Nr:	

Data Type BUS/DPR	Command
Weighting 10^3	

Last Change of this Object	2.13
EEPROM	No

Short Description	test of feedback and motor

Description

Feedback-/motor test offers the possibility of a wiring test for the encoder or motor connection. When the function is started, a slow movement of the motor is initiated in the current control mode (|OPMODE| = 2) when the output stage is enabled. The movement is purely controlled without the involvement of the position encoder (U/ F mode). The encoder position read is only observed and recorded for the evaluation purposes. The encoder resolution, counting direction as well as the feedback connection can be checked using the position data. For encoders that provide both digital and analogue information (Endat2.1, Hiperface, BiSS-B), it may happen that only the positioning accuracy is lost if the analogue tracks are connected incorrectly. The drive can nevertheless be operated without any problems. Depending on the resolution of the encoder system, such wiring errors can be difficult to find. The present test function continuously reads both the analog (if present) and the digital position information of the encoder and checks them for their plausibility. In case of deviations, it tries to determine the cause of the problem.

The following parameterizations are necessary for the test to be carried out:
- Correct feedback type (|FBTYPE|)
- Correct parameter setting of the current controller
- Positive encoder counting direction (|DIR| = 21)
- Correct motor pole number (|MPOLES|)

ASCII -Command	TRJSTAT
Syntax Transmit	TRJSTAT
Syntax Receive	TRJSTAT <Data>
Type	Variable ro
Format	Integer32
DIM	-
Range	0 .. 0xFFFFFFFF
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Drive Status2

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3613 (hex)
PROFIBUS PNU:	1875 (dec) IND = 1 (de
DPR Objekt Nr:	275

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.3
EEPROM	No

Short Description	Status2 Information

Description

The TRJSTAT command returns the internal status information in the form of a bit-variable.
The status information is primarily used for internal functions. Only the bits that are marked by an “*” can be used for external functions (control system).
Bits 16 ... 20 are also mirrored in the |DRVSTAT| status variable.

Bit	Significance	Meaning
0	0x00000001	=1 the output INPOS2 is updated every msec
1	0x00000002	=1 At the end of the actual motion task, the drive outputs no IN-POSITION signal (a motion task sequence was activated.
2*	0x00000004	=1 Toggle Bit "Motion task finished". Is toggled at the end of a motion task. The toggling of the Bit is done, if the target position is reached and the profile generator is switched off. This is different to the functionality of the IN-POSITION Bit. When the drive is switched on, this Bit is set to low.
3...15		reserved
16*	0x00010000	=1 Motion task active (position control) Is set, if a motion task is started(motion task, Jog, Homing). Is cleared, if a motion task has finished or is stopped (|STOP|).
17*	0x00020000	=1 Reference point set Is set, if the homing move has successfully finished or if the feedback device is a multiturn encoder. Is cleared, when a homing move is started. see also bit no. 21
18*	0x00040000	=1 Home position Is high, if the homing switch is active, otherwise low.
19*	0x00080000	=1 In-Position Is set, if the difference between the actual position and the target position is smaller than |PEINPOS|. Is cleared, if the distance is greater.

20*	0x00100000	=1 Position latch activated (positive latch) Is set, if a positive edge at Latch input 2 (configured by |IN2MODE|=26) was detected. Is cleared, if the position is read by |LATCH2P16| / |LATCH2P32|.
21*	0x00200000	=1 Homing move is active Is set, if a Homing move was started. Is cleared, if the homing move is successful or stopped (|STOP|).
22*	0x00400000	=1 Jog move active Is set, if a Jog move is started. Is cleared, if the Jog move is stopped.
23	0x00800000	=1 Position latch activated (negative latch) Is set, if a negative edge at Latch input 2 (configured by |IN2MODE|=26) was detected. Is cleared, if the position is read by |LATCH2N16| / |LATCH2N32|.
24	0x01000000	=1 Emergency stop active Is set, if an emergency stop has occurred (DEC-phase after an error, active hardware limit switches, Input configured as Emergency stop with level low.
25	0x02000000	=1 position latch at input1 (positive transition), if a rising edge at input 1 is detected, when input1 is defined as latch input (|IN1MODE|=26). Is reset, if the latched position is read by |LATCH1P16| or |LATCH1P32|.
26	0x04000000	=1 position latch at input1 (negative transition), if a falling edge at input 1 is detected, when input1 is defined as latch input (|IN1MODE|=26). Is reset, if the latched position is read by |LATCH1N16| or |LATCH1N32|.
27	0x08000000	reserved
28	0x10000000	= 1 (REFDONE) This bit will be set at the end of the homing and the motor is on halt. = 0 This bit will be erased at the start at a motion task or homing.
29	0x20000000	=1 Amplifier is in acceleration stage of a motion task
30	0x40000000	=1 Amplifier is in deceleration stage of a motion task

ASCII -Command	TRUN
Syntax Transmit	TRUN
Syntax Receive	TRUN <Data>
Type	Variable ro
Format	String
DIM	hhhhh:mm
Range	00000:00 to 99999:45
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Basic Setup

Available in		S300/700	
MMI	☑	CAN-Bus	☐
PROFIBUS	☐	Sercos	☐

SERCOS IDN:	
CAN Object No:	-
PROFIBUS PNU:	-
DPR Objekt Nr:	
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Run-time counter in min

Description

The run-time counter shows the operating life of the amplifier (if the 24V is applied) in minutes.
The internal resolution of the run-time counter is 1 second.
Since the run-time counter value is included in the serial EEPROM of the amplifier, it is only updated in the EEPROM every 8 minutes So switching off the 24V supply can cause a loss in the record of up to 8 minutes.

ASCII -Command	TRUNS
Syntax Transmit	TRUN
Syntax Receive	TRUN <Data>
Type	Variable ro
Format	String
DIM	hhhhh:mm
Range	00000:00 to 99999:45
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Basic Setup

Available in	S300/700
MMI	☑
CAN-Bus	☑
PROFIBUS	☑
Sercos	☐
SERCOS IDN:	
CAN Object No:	3614 (hex)
PROFIBUS PNU:	1876 (dec) IND = 1 (de
DPR Objekt Nr:	276
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Run-time counter in s

Description

FW >=1.61
The run-time counter shows the operating life of the amplifier (if the 24V is applied) in seconds.
The internal resolution of the run-time counter is 1 second.
Since the run-time counter value is included in the serial EEPROM of the amplifier, it is only updated in the EEPROM every 8 minutes So switching off the 24V supply can cause a loss in the record of up to 8 minutes.

ASCII -Command	TSTEP	Available in	S300/700
Syntax Transmit	TSTEP [Data]	MMI ☐	CAN-Bus ☐
Syntax Receive	TSTEP <Data>	PROFIBUS ☐	Sercos ☐
Type	Variable rw		
Format	Integer16 Float Integer16 Float	SERCOS IDN:	
DIM	ms (DurationN) / As (CurrentN)	CAN Object No:	-
Range	Duration:0 to 32767; Current:IPEAKN to IPEAKP	PROFIBUS PNU:	-
Default	-	DPR Objekt Nr:	
Opmode	2		
Drive Status	Enabled		
Start Firmware	2.32		
Configuration	☐	Data Type BUS/DPR	Integer16 Float Integer
Function Group		Weighting 10^3	

Last Change of this Object	1.9
EEPROM	No

Short Description	Service operation torque steps

Description

S700 and S300 |FW| > 2.32:

The TSTEP command is used to implement a service function through the operating mode "digital torque control" (|OPMODE|=2).
The command can be used in the following forms.
1. TSTEP
The command provides the present settings for the service function.
2. TSTEP T1 C1
A digital setpoint C1 (Amperes) is provided for time T1 (in msec). After T1 has elapsed, the digital setpoint is set to 0.
3. TSTEP T1 C1 T2 C2
A digital setpoint C1 (Amperes) is provided for time T1 (in msec). After T1 has elapsed, a digital setpoint C2 (Amperes) is provided for time T2 (in msec). After T2 has elapsed, the T1/C1 cycle starts again. This command can be used to create an endless reversing operation (rectangular torque progression and triangular velocity progression; T1 and T2 have to be selected as short as the motor cannot be accelerated beyond +/-|VOSPD|, otherwise the error F08 is generated).
e.g. TSTEP 100 0.5 100 -0.5

The service operation can always be cancelled by using the |STOP| command.
The "digital torque control" operating mode is a precondition for executing the TSTEP command.

ASCII -Command	UCOMP
Syntax Transmit	UCOMP [Data]
Syntax Receive	UCOMP <Data>
Type	Variable rw
Format	Integer32
DIM	PUNIT
Range	
Default	0
Opmode	8
Drive Status	-
Start Firmware	2.14
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3631 (hex)
PROFIBUS PNU:	1905 (dec) IND = 1 (de
DPR Objekt Nr:	305
Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.3
EEPROM	Ja

Short Description	Backlash Compensation

Description

For many applications it is necessary to approach motion block positions from one direction only (to avoid backlash errors arising from the interplay of the rack and pinion). To do this, at the start of a motion block the target position for the motion block is shifted by a correction value, and the motion block is only started for the real target value when this corrected position has been reached. The behavior of this function is controlled by the UCOMP parameter. The value of this parameter is the size of the correction, the sign shows the direction in which the correction is to be made. If the sign is positive, the correction is only made for positive velocities (i.e. the target position is always approached from the right), if it is negative, the correction is only made for negative velocities. This function is switched off if UCOMP is set to 0 (default setting).

e.g.

1. Actual position = 0, target position = 1000, UCOMP = 100 -> the drive moves to position 1100, reverses, and stops at position 1000.
2. Actual position = 1000, target position = 0, UCOMP = 100 -> the drive moves directly to position 0
3. Actual position = 1000, target position = 0, UCOMP =-100 -> the drive moves to position -100, reverses, and stops at position

ASCII -Command	UID
Syntax Transmit	UID [Data]
Syntax Receive	UID <Data>
Type	Variable rw
Format	Integer16
DIM	All
Range	-32768 .. 32767
Default	0
Opmode	All
Drive Status	
Start Firmware	1.0
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3616 (hex)
PROFIBUS PNU:	1878 (dec) IND = 1 (de
DPR Objekt Nr:	278
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.7
EEPROM	Yes

Short Description	User-ID

Description

The UID variable is used to distinguish customers. Many customers already have numbers assigned.

ASCII -Command	UMAX	Available in	S300/700
Syntax Transmit	UMAX [Data]	MMI ☐	CAN-Bus ☐
Syntax Receive	UMAX <Data>	PROFIBUS ☐	Sercos ☐
Type	Variable rw		
Format	-	SERCOS IDN:	
DIM		CAN Object No:	-
Range	0 .. 2000	PROFIBUS PNU:	-
Default	1900	DPR Objekt Nr:	
Opmode			
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.7
EEPROM	

Short Description	maximal output voltage at field weakening

Description

UMAX is a parameter for using a induction maschine and describes the maximal output voltage at field weakening.

ASCII -Command	UPDATE
Syntax Transmit	UPDATE [Data]
Syntax Receive	UPDATE
Type	Command
Format	-
DIM	Name
Range	ALL,USER,TABLE,PROG,PORDER,MBASE,Lookup
Default	-
Opmode	All
Drive Status	Disabled
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700		
MMI	☐	CAN-Bus	☐
PROFIBUS	☐	Sercos	☐

SERCOS IDN:	
CAN Object No:	-
PROFIBUS PNU:	-
DPR Objekt Nr:	

Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Program Update via RS232

Description

The UPDATE command makes it possible to program the internal Flash EEPROM via the serial interface.

Procedure for a software update:

1. Connect the amplifier to the serial interface of a PC.
2. Start the terminal program HINT2.EXE COM2: 38400 (the computer should be booted in DOS mode).
This establishes the connection between the PPC and the command interpreter of the Drive. To check the connection, enter the LIST command. The response should be a list of all the available commands, shown on the screen.
3. Enter the command |UPDATE| ALL xxxx in the command line.
xxxx - Name of the firmware file that is to be programmed. Take care that the file xxx for programming is in the active directory. If no file name is entered, then the name ALL is used as a default.

Attention !!! When the drive is programmed with ALL, the loaded motion tasks are deleted. Save motion tasks before programming the firmware.

The programming takes about 40 minutes.

The addresses that are programmed are displayed during the programming procedure. If the display remains static, but the download has not been completed (this problem has been observed on several PCs), then operate the ENTER key. The programming will then carry on.
If the programming procedure is interrupted, then the amplifier will report this in the monitor program at the next power-on (a “-” sign in the first position of the display).
In this case, the download can be restarted by the following command sequence:
X: xxxx
xxxx - Name of the firmware file to be programmed.
Procedure for loading a motor database:

A standard motor database is included as a subset of the firmware. If a customer-specific motor database is required, then it can be loaded after the firmware has been programmed.
This requires the following command:

|UPDATE| MBASE xxxx

xxxx - Name of the motor database file that is to be programmed. Take care that the file xxx for programming is in the active directory. If no file name is entered, then the name MBASE is used as a default.

ASCII -Command	UVLTMODE
Syntax Transmit	UVLTMODE [Data]
Syntax Receive	UVLTMODE <Data>
Type	Variable rw
Format	Integer8
DIM	-
Range	0, 1
Default	1
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	1.0
Configuration	☑
Function Group	-

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3617 (hex)
PROFIBUS PNU:	1879 (dec) IND = 1 (de
DPR Objekt Nr:	279

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Undervoltage Mode

Description

The configuration variable UVLTMODE activates or inhibits the undervoltage monitoring of the amplifier.
If the monitoring is activated (UVLTMODE=1), then the fault message F05 (undervoltage) is generated as soon a s the DC-bus voltage falls below the undervoltage threshold |VBUSMIN| and the output stage is activated .

ASCII -Command	V
Syntax Transmit	V
Syntax Receive	V <Data>
Type	Variable ro
Format	Float
DIM	MSPEED
Range	-15000 .. 15000
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Actual values

Available in	S300/700		
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	40
CAN Object No:	3618 (hex)
PROFIBUS PNU:	1880 (dec) IND = 1 (de
DPR Objekt Nr:	280

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Actual Velocity

Description

The present velocity of the motor.

ASCII -Command	VBUS
Syntax Transmit	VBUS
Syntax Receive	VBUS <Data>
Type	Variable ro
Format	Integer32
DIM	V
Range	0 .. 900
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Actual values

Available in	S300/700
MMI ☑	CAN-Bus ☑
PROFIBUS ☑	Sercos ☑
SERCOS IDN:	380
CAN Object No:	361A (hex)
PROFIBUS PNU:	1882 (dec) IND = 1 (de
DPR Objekt Nr:	282
Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	DC-bus voltage

Description

The present voltage of the DC-bus.

ASCII -Command	VBUSBAL
Syntax Transmit	VBUSBAL [Data]
Syntax Receive	VBUSBAL <Data>
Type	Variable rw
Format	Integer16
DIM	- / V
Range	0, 1, 2, 3, 4, 40..750
Default	depends on type of drive
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	1.0
Configuration	☑
Function Group	Basic Setup

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	361B (hex)
PROFIBUS PNU:	1883 (dec) IND = 1 (de
DPR Objekt Nr:	283
Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.8
EEPROM	Yes

Short Description	Maximum Line Voltage

Description

This setting is for the maximum permissible voltage for the motor. For instance, if a motor that is rated for a 400V supply is connected to the amplifier, then the setting must be VBUSBAL = 2 (400V). This sets regen and overvoltage thresholds in the amplifier to acceptable values for the motor. This ensures that the motor windings are not damaged.

VBUSBAL - Setting in the range of 40 to 750 are used to choose the maximum network voltage.
In this case ist |VBUSMAX| = 1,2 x VBUSBAL

only for S300:
VBUSBAL=0 (115 V) |VBUSMAX| = 235V, regen threshold = 200V

only for S300/S700:
VBUSBAL=1 (230 V) |VBUSMAX| = 455V, regen threshold = 400V
VBUSBAL=2 (400 V) |VBUSMAX| = 800V, regen threshold = 720V
VBUSBAL=3 (480 V) |VBUSMAX| = 900V, regen threshold = 840V

additional for S748/S772 since FW-version 5.67
VBUSBAL=4 (480V) |VBUSMAX| = 900V, regen threshold = 790V

The default value of VBUSBAL depends on the type of the drive:
S303,S306,S310 : VBUSBAL=2
S341,S343,S346 : VBUSBAL=3
S700: 230V version VBUSBAL=1
S700: 400V version VBUSBAL=3
S748/S772: since FW 5.67 VBUSBAL=4

ASCII -Command	VBUSBOFFS
Syntax Transmit	VBUSBOFFS [Data]
Syntax Receive	VBUSBOFFS <Data>
Type	Variable rw
Format	-
DIM	Volt
Range	0 .. 83
Default	0
Opmode	All
Drive Status	
Start Firmware	5.19
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	38BF (hex)
PROFIBUS PNU:	1759 (dec) IND = 33 (d
DPR Objekt Nr:	959
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.7
EEPROM	Yes

Short Description	abatement of the Regen switch on threshold

Description

This parameter abatements the regen switch on threshold by VBUSBOFFS in volt. By increasing this value the regen resistor is switched on earlier.

ASCII -Command	VBUSCNTMAX	Available in	S300/700
Syntax Transmit	-	MMI ☐	CAN-Bus ☐
Syntax Receive	-	PROFIBUS ☐	Sercos ☐
Type	-		
Format	-	SERCOS IDN:	
DIM	-	CAN Object No:	35EE (hex)
Range		PROFIBUS PNU:	1838 (dec) IND = 1 (de
Default		DPR Objekt Nr:	238
Opmode			
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	internal parameter

Description

This parameter is internal and is not documented. It could be a customized or test/service parameter.

It is not allowed to change this parameter!

ASCII -Command	VBUSFACT
Syntax Transmit	VBUSFACT [Data]
Syntax Receive	VBUSFACT <Data>
Type	Variable rw
Format	Float
DIM	
Range	0.1 .. 10
Default	1.0
Opmode	All
Drive Status	-
Start Firmware	5.53
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	38C2 (hex)
PROFIBUS PNU:	1762 (dec) IND = 33 (d
DPR Objekt Nr:	962

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.7
EEPROM	Yes

Short Description	gain factor for the deceleration ramp control

Description

In order to limit the DC link voltage rise that occurs during braking, the slope of the deceleration ramp is controlled depending on the intermediate circuit voltage.

When decelerating the motor, due to the regenerative operation, the DC link voltage increases. If the intermediate circuit voltage exceeds the regen threshold, the control of the ballast resistor is activated. With further increase in the DC link voltage, when the overvoltage threshold is exceeded, the error F02 "DC-link overvoltage" is generated. To avoid this error, the rise in the DC link voltage must be limited. This can be achieved by the braking ramp slope is regulated depending on the intermediate circuit voltage.

VBUSFACT: Gain factor for the deceleration ramp control

Determines the degree of influence of the braking ramp by the increase in the DC link voltage. If the value is higher, the braking curve is flatter.

Please have a look to |VBUSRAMP|

ASCII -Command	VBUSLIM
Syntax Transmit	VBUSLIM [Data]
Syntax Receive	VBUSLIM <Data>
Type	Variable rw
Format	-
DIM	%
Range	70...95
Default	90
Opmode	All
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	35F5 (hex)
PROFIBUS PNU:	1845 (dec) IND = 1 (de
DPR Objekt Nr:	245

Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.6
EEPROM	Yes

Short Description	threshold of the phase failure monitoring

Description

This parameter describes th threshold of the phase failure monitoring function.

The dimension of this bar is % of the avarage DC bus. If the bar of the DC bus for min. 25msec fall below, there will be generatet a warning (n05) or a fault (F19) depending on the settings of |PMODE|.

ASCII -Command	VBUSMAX
Syntax Transmit	VBUSMAX
Syntax Receive	VBUSMAX <Data>
Type	Variable ro
Format	Integer32
DIM	V
Range	235, 455, 800, 900
Default	
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	361C (hex)
PROFIBUS PNU:	1884 (dec) IND = 1 (de
DPR Objekt Nr:	284

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.10
EEPROM	No

Short Description	Maximum DC-bus Voltage

Description

The VBUSMAX parameter shows the value for the monitoring threshold for the fault message F02 (overvoltage).
This fault message is generated as soon as the DC-bus voltage goes above the value of VBUSMAX. The VBUSMAX threshold depends on the setting for |VBUSBAL|.

VBUSBAL=0 (115 V) |VBUSMAX|=235V
VBUSBAL=1 (230 V) |VBUSMAX|=455V
VBUSBAL=2 (400 V) |VBUSMAX|=800V
VBUSBAL=3 (480 V) |VBUSMAX|=900V
VBUSBAL=4 (480 V) |VBUSMAX|=900V (only for S748/S772 from FW 5.67)

ASCII -Command	VBUSMIN
Syntax Transmit	VBUSMIN [Data]
Syntax Receive	VBUSMIN <Data>
Type	Variable rw
Format	Integer16
DIM	V
Range	30 .. 800
Default	100
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	361D (hex)
PROFIBUS PNU:	1885 (dec) IND = 1 (de
DPR Objekt Nr:	285

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Minimum DC-bus Voltage

Description

VBUSMIN defines the lower threshold for monitoring the DC-bus voltage. The fault message F05 (undervoltage) is generated as soon as the DC-bus voltage goes below this threshold. Undervoltage monitoring is only active under the following conditions.

1. Output stage is enabled
2. Monitoring is activated |UVLTMODE|=1
3. MAINSBTB function is not active (|OxMODE|<>3)
4. The switch-off of the monitoring function by a digital input (|INxMODE|=21) is not active.

ASCII -Command	VBUSOFFS
Syntax Transmit	VBUSOFFS [Data]
Syntax Receive	VBUSOFFS <Data>
Type	Variable rw
Format	Float
DIM	V
Range	-10 ... 10
Default	0
Opmode	all
Drive Status	
Start Firmware	5.65
Configuration	☐
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	38D0 (hex)
PROFIBUS PNU:	1776 (dec) IND = 33 (d
DPR Objekt Nr:	976

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	2.11
EEPROM	Yes

Short Description	correction value for the regen threshold S748/S772

Description

This parameter corrected voltage offset between working in DC composite amplifiers. If the ballast benefits are not shared equally among the coupled amplifiers, this can be caused by offsets in the voltage measurement. Increasing this value reduces the ballast power at the associated amplifier.

ASCII -Command	VBUSRAMP
Syntax Transmit	VBUSRAMP
Syntax Receive	VBUSRAMP
Type	Variable rw
Format	Integer16
DIM	%
Range	-100 .. 100
Default	0
Opmode	All
Drive Status	-
Start Firmware	5.33
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	38C1 (hex)
PROFIBUS PNU:	1761 (dec) IND = 33 (d
DPR Objekt Nr:	961
Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.7
EEPROM	Yes

Short Description	switching on threshold for the braking ramp control

Description

In order to limit the DC link voltage rise that occurs during braking, the slope of the deceleration ramp is controlled depending on the intermediate circuit voltage.

When decelerating the motor, due to the regenerative operation, the DC link voltage increases. If the intermediate circuit voltage exceeds the regen threshold, the control of the ballast resistor is activated. With further increase in the DC link voltage, when the overvoltage threshold is exceeded, the error F02 "DC-link overvoltage" is generated. To avoid this error, the rise in the DC link voltage must be limited. This can be achieved by the braking ramp slope is regulated depending on the intermediate circuit voltage.

VBUSRAMP: switching on threshold for the braking ramp control

This parameter describes the voltage threshold at which uses the ramp control.The value refers to the difference between the Balla stone threshold and the overvoltage threshold.
VBUSRAMP = 100%, the regulation sets a threshold for the ballast (100% below the overvoltage threshold)
VBUSRAMP = 20% of the control action starts at a voltage that is 20% below the overvoltage threshold
VBUSRAMP = 0 (default) control turned off

The deceleration ramp is scaled linearly between the "switch-on" and "Overvoltage Threshold".

DC link voltage <switch-on -> no ramp limitation

When specifying a negative value VBUSRAMP can be activated instead of a linear scale, a square scaling.

e.g. VBUSRAMP = -100%

please have alook to |VBUSFACT|

ASCII -Command	VBW
Syntax Transmit	VBW
Syntax Receive	VBW
Type	Command
Format	-
DIM	-
Range	0
Default	0
Opmode	0
Drive Status	Enabled
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700
MMI ☐	CAN-Bus ☐
PROFIBUS ☐	Sercos ☐
SERCOS IDN:	
CAN Object No:	-
PROFIBUS PNU:	-
DPR Objekt Nr:	
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Generate Bode Diagram

Description

VBW [fmin] [fmax] [sample] [switch]

Velocity BandWidth

Using the function VBW the Drive calculates a velocity loop Bode plot. Default are 30 samples (sample) between 20 Hz (fmin) and 800 Hz (fmax). Output are the gain in db and the phase shift in degree of the open loop and the closed loop of the velocity controller. Using |MSG| 2 the results are immediately shown. Standard is to query the data with the |GET| command. To use the function VBW the drive should be in |OPMODE| 0 and enabled. The shaft will move only a few degree. In case of resonance load velocity overshoot can cause a Fault which can result in an uncontrolled coasting of the motor.

[switch] = 1: Filter switched off
GV reduced to 20%
GVTN reduced to 50 ms

ASCII -Command	VCMD
Syntax Transmit	VCMD
Syntax Receive	VCMD <Data>
Type	Variable ro
Format	Float
DIM	MSPEED
Range	-VMAX .. VMAX
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Actual values

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	361E (hex)
PROFIBUS PNU:	1886 (dec) IND = 1 (de
DPR Objekt Nr:	286

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	1.0
EEPROM	No

Short Description	Internal Velocity Setpoint in RPM

Description

The VCMD variable contains the internal velocity setpoint (after the ramp generator) in RPM.
Depending on the operating mode that is set (|OPMODE|=0), this value is either provided directly and digitally (fieldbus, slot card) or derived from the analog velocity setpoint (|OPMODE|=1).
For operating modes that do not use a velocity control loop (|OPMODE|=2,3) the VCMD variable has the value V of the actual velocity.

ASCII -Command	VCOMM
Syntax Transmit	VCOMM [Data]
Syntax Receive	VCOMM <Data>
Type	Variable rw
Format	Float
DIM	[VUNIT]
Range	0 .. 1.2 * MSPEED
Default	3000
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	365A (hex)
PROFIBUS PNU:	1946 (dec) IND = 1 (de
DPR Objekt Nr:	346

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Velocity Threshold for Commutation error

Description

The command VCOMM defines the threshold for the commutation error function.
The definition of an commutation error is that the sign of the actual current has the right relationship to the sign of the change of the velocity of the motor. This indicates a run-away of the motor and causes a disable of the output stage.

This commutation error is supervised, if the actual velocity is above the VCOMM threshold. To disable the function, VCOMM has to be set to |VLIM|.

ASCII -Command	VCTIME	Available in	S300/700
Syntax Transmit	VCTIME [Data]	MMI ☐	CAN-Bus ☑
Syntax Receive	VCTIME <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer32	SERCOS IDN:	
DIM	ms	CAN Object No:	3867 (hex)
Range	0 ... 100	PROFIBUS PNU:	1671 (dec) IND = 33 (d
Default	24	DPR Objekt Nr:	871
Opmode	All		
Drive Status	-		
Start Firmware	2.31		
Configuration	☐	Data Type BUS/DPR	Integer32
Function Group		Weighting 10^3	

Last Change of this Object	1.9
EEPROM	No

Short Description	Commutation error time

Description

VCTIME defines a commutation error surveillance time
Conditions for a commutation error have to be fullfilled for VCTIME msec before an error F25 is generated.

ASCII -Command	VEL0
Syntax Transmit	VEL0 [Data]
Syntax Receive	VEL0 <Data>
Type	Variable rw
Format	Float
DIM	-
Range	
Default	5
Opmode	All
Drive Status	
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700
MMI ☐	CAN-Bus ☑
PROFIBUS ☑	Sercos ☐

SERCOS IDN:	
CAN Object No:	3620 (hex)
PROFIBUS PNU:	1888 (dec) IND = 1 (de
DPR Objekt Nr:	288

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Standstill Threshold

Description

The VEL0 (Velocity "0") parameter defines the velocity threshold (in RPM) for the standstill signal.
The standstill signal is required for the following functions:
1. Standstill signal in the status register |DRVSTAT|.
2. If the brake is configured (|MBRAKE|=1), then, if the output stage is disabled, first of all the velocity is reduced to 0, and the brake is only applied after the velocity has fallen below the standstill threshold.
3. If the |ACTFAULT| option is activated (active braking in the event of a fault), or the |STOPMODE| option (active braking if the output stage is disabled), then the standstill threshold defines the velocity below which the output stage will actually be disabled.

The minimum VEL0 value is changed from 0 rpm to 1 rpm in |FW| >= 2.14

ASCII -Command	VER
Syntax Transmit	VER [*]
Syntax Receive	VER <Data>
Type	Variable ro
Format	String
DIM	-
Range	max 50 ASCII Characters
Default	-
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Basic Setup

Available in		S300/700	
MMI	☑	CAN-Bus	☐
PROFIBUS	☐	Sercos	☐

SERCOS IDN:	
CAN Object No:	-
PROFIBUS PNU:	-
DPR Objekt Nr:	
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Firmware Version

Description

The command VER returns the version designation and the date of creation for the firmware.
The expanded form of the command (VER *) returns a version list for the various firmware and hardware components.
- Version of the basic firmware
- Hardware revision
- CPLD version
- CAN: firmware version
- Version of the motor database (MDB)
- Profibus/Sercos firmware version

ASCII -Command	VINPOS
Syntax Transmit	VINPOS [Data]
Syntax Receive	VINPOS <Data>
Type	Variable rw
Format	Float
DIM	
Range	0 .. 120% of MSPEED
Default	10
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	1.37
Configuration	☑
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3856 (hex)
PROFIBUS PNU:	1654 (dec) IND = 33 (d
DPR Objekt Nr:	854

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	2.13
EEPROM	Yes

Short Description	Velocity within InPosition window

Description

VINPOS command defines the size of the velocity InPosition windows for the VINPOS state message (Bit 1 in DRVSTAT2).
As long as the difference between the last target velocity (VCMD) and the actual velocity (V) is within the width of the velocity In-Position window (VINPOS), a 1 is signalled, otherwise a 0
The signal change is not signaled before the new state was valid at least |INPT0| msec.

ASCII -Command	VJOG
Syntax Transmit	VJOG [Data]
Syntax Receive	VJOG <Data>
Type	Variable rw
Format	Integer32
DIM	see VUNIT
Range	-500008 ... 500008
Default	10000
Opmode	8
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Setting-up Mode

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3621 (hex)
PROFIBUS PNU:	1889 (dec) IND = 1 (de
DPR Objekt Nr:	289

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Speed for Jog Mode

Description

Jog mode is effectively an endless motion task, and is implemented by the internal position control loop.
The sign for the speed indicates the direction for jog operation. The scaling of the velocity is given in position control loop units, and depends on the |PGEARI| and |PGEARO| parameters.

ASCII -Command	VLIM	Available in	S300/700
Syntax Transmit	VLIM [Data]	MMI ☑	CAN-Bus ☑
Syntax Receive	VLIM <Data>	PROFIBUS ☑	Sercos ☑
Type	Variable rw		
Format	Float	SERCOS IDN:	91
DIM	(> VUNIT)	CAN Object No:	358C (hex)
Range	0.0 .. MSPEED	PROFIBUS PNU:	1740 (dec) IND = 1 (de
Default	3000	DPR Objekt Nr:	140
Opmode	All		
Drive Status	-		
Start Firmware	1.0		
Configuration	☐	Data Type BUS/DPR	Integer32
Function Group	velocity	Weighting 10^3	*

Last Change of this Object	2.14
EEPROM	Yes

Short Description	Max. velocity

Description

The VLIM parameter defines the maximum velocity (velocity control loop) in units defined by |VUNIT|.
VLIM is also used for limiting the following parameters:
1. |MVANGLB| <= 0.9*VLIM
2. |MSPEED| >= VLIM
3. |PVMAX| <= (VLIM * |PGEARI| * 2^|PRBASE|) / (60 * |PGEARO|)

When used together with the |VLIMN| and/or |VLIMP| parameters, it is possible to implement a directionally-dependent rotational velocity limit. The VLIM command determines the maximum velocity for both positive and negative directions.

ASCII -Command	VLIMN
Syntax Transmit	VLIMN [Data]
Syntax Receive	VLIMN <Data>
Type	Variable rw
Format	Float
DIM	(> VUNIT)
Range	0.0 .. MSPEED
Default	3000
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	velocity

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	39
CAN Object No:	3623 (hex)
PROFIBUS PNU:	1891 (dec) IND = 1 (de
DPR Objekt Nr:	291
Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	2.14
EEPROM	Yes

Short Description	Max. negative velocity

Description

The VLIMN parameter defines the maximum velocity for the negative direction (velocity control loop) in units defined by |VUNIT|.VLIMN is also used for limiting |PVMAXN|:
PVMAXN <= (VLIMN * |PGEARI| * 2^|PRBASE|) / (60 * |PGEARO|)

When used together with the |VLIMP| parameter, it is possible to implement a directionally-dependent rotational velocity limit. The |VLIMP| command determines the maximum velocity for the positive direction.

ASCII -Command	VLIMP	Available in	S300/700
Syntax Transmit	VLIM [Data]	MMI ☑	CAN-Bus ☑
Syntax Receive	VLIM <Data>	PROFIBUS ☑	Sercos ☑
Type	Variable rw		
Format	Float	SERCOS IDN:	38
DIM	(> VUNIT)	CAN Object No:	3622 (hex)
Range	0.0 .. MSPEED	PROFIBUS PNU:	1890 (dec) IND = 1 (de
Default	3000	DPR Objekt Nr:	290
Opmode	All		
Drive Status	-		
Start Firmware	1.0		
Configuration	☐	Data Type BUS/DPR	Integer32
Function Group	velocity	Weighting 10^3	*

Last Change of this Object	2.14
EEPROM	Yes

Short Description	Max. velocity

Description

The VLIMN parameter defines the maximum velocity for the positiv direction (velocity control loop) in units defined by |VUNIT|.
VLIMPis also used for limiting |PVMAXN|:
PVMAXP <= (VLIMP * |PGEARI| * 2^|PRBASE|) / (60 * |PGEARO|)

When used together with the |VLIMN| parameter, it is possible to implement a directionally-dependent rotational velocity limit. The |VLIMN| command determines the maximum velocity for the negative direction.

ASCII -Command	VLO
Syntax Transmit	VLO [Data]
Syntax Receive	VLO <Data>
Type	Variable rw
Format	Float
DIM	-
Range	0 ... 30
Default	0.5
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	363D (hex)
PROFIBUS PNU:	1917 (dec) IND = 1 (de
DPR Objekt Nr:	317

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Software resolver/digital converter feedforward

Description

VLO is a parameter of the Luenberger Velocity Observer. To reduce the delay of the derivation the observer can be served with the torque component of the current. The effective inertia is estimated by the gain of the velocity loop (GV). Setting VLO to zero the acceleration will not influence the observer. With a value of 1 the acceleration is full enabled. With VLO 0.5 the Observer will use 50% of the acceleration torque. Reducing VLO can result in an instable velocity loop.

ASCII -Command	VLO_X
Syntax Transmit	VLO_X [Data]
Syntax Receive	VLO_X <Data>
Type	Variable rw
Format	Float
DIM	-
Range	0 ... 30
Default	0.5
Opmode	All
Drive Status	-
Start Firmware	
Configuration	☐
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	38C0 (hex)
PROFIBUS PNU:	1760 (dec) IND = 33 (d
DPR Objekt Nr:	960

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	2.7
EEPROM	Yes

Short Description	Software resolver/digital converter feedforward

Description

VLO_X is a parameter of the Luenberger Velocity Observer. To reduce the delay of the derivation the observer can be served with the torque component of the current. The effective inertia is estimated by the gain of the velocity loop (GV). Setting VLO_X to zero the acceleration will not influence the observer. With a value of 1 the acceleration is full enabled. With VLO_X 0.5 the Observer will use 50% of the acceleration torque. Reducing VLO_X can result in an instable velocity loop.

Switching over parameter sets is realized with a pointer, which always points to one of the two parameter structures (parameter set 1: default or parameterset 2: shadow parameters). While switching the pointer between these two structures all parameters that are defined in the structures are switched over in parallel. Because the parameters are already converted in the structures, it is avoided that undefined conditions occure.

The parameters of the second parameter set are defined similarly to the major parameter set by ASCII commands. To define the second parameter set, the sequence "_X" must be added to the ASCII command.

Example:
The command "GV" is used to define the gain of the velocity controller. To change this parameter in the second parameter set the command "GV_X" must be used.

To save memory in the amplifier, only those parameters are stored in the second set, which differ from the first parameter set. If no parameter is preset for the second set, thes econd set is initialised automatically identical to the first set. The user must therefore only define the rerquired parameters for the second set, not all parameters.

The automatical initialising of the second parameters set always requires an update of the set, if a parameter of the first set has been changed. This could result in a reset of special second set parameters. To avoid this, the parameterizing of the second set must always been done after initializing the first set.

As soon as PAR_X gets a different value than PAR,this parameter is saved in the serial EEPROM. The value of PAR_X now appears in the DUMP list at the end of the parameter section.

All parameters that can be used for this functionality can be listed combined with their values by the command |PARDUMP|.

ASCII -Command	VMIX
Syntax Transmit	VMIX [Data]
Syntax Receive	VMIX <Data>
Type	Variable rw
Format	Float
DIM	
Range	0.0 .. 1.0
Default	1.0
Opmode	All
Drive Status	-
Start Firmware	5.92
Configuration	☐
Function Group	

Available in	S300/700		
MMI	☑	CAN-Bus	☐
PROFIBUS	☐	Sercos	☐

SERCOS IDN:	
CAN Object No:	3625 (hex)
PROFIBUS PNU:	1893 (dec) IND = 1 (de
DPR Objekt Nr:	293
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.13
EEPROM	Yes

Short Description	Velocity Mix: Feedback / external Encoder

Description

If an external encoder is used for position control |EXTPOS|=1 the commutation and speed control uses the feedback device of the motor (feedback device selected by |FBTYPE|).

VMIX sets the ratio of the motor feedback and external device used by the speed controler.

e.g.
VMIX=1.0 Velocity exclusively from the feedback device selected by FBTYPE (100 %)
VMIX=0.5 50 % feedback device selected by FBTYPE / 50 % external encoder

VMIX is available if |FILTMODE| = 0 or 1.
VMIX is available only in position mode |OPMODE| = 8

ASCII -Command	VMUL
Syntax Transmit	VMUL [Data]
Syntax Receive	VMUL <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	1 .. 65535
Default	1
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3626 (hex)
PROFIBUS PNU:	1894 (dec) IND = 1 (de
DPR Objekt Nr:	294

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.13
EEPROM	Yes

Short Description	Velocity scale factor

Description

VMUL is required by many fieldbus systems (PROFIBUS,CANBUS), since some fieldbus protocols only permit speed values in 16-bit format.The VMUL parameter is used to scale the speed (position control loop) for jog mode and motion tasks. This scaling factor can then be used to expand the 16-bit speed value from the fieldbus to give the internal 32-bit value.

See also: manual for PROFIBUS, CANBUS

ASCII -Command	VOHPD	Available in	S300/700
Syntax Transmit	VOLPD [Data]	MMI ☐	CAN-Bus ☐
Syntax Receive	VOLPD <Data>	PROFIBUS ☐	Sercos ☐
Type	Variable rw		
Format	Float	SERCOS IDN:	
DIM		CAN Object No:	-
Range	0 .. 10	PROFIBUS PNU:	-
Default	0	DPR Objekt Nr:	
Opmode	All		
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	Integer32
Function Group		Weighting 10^3	*

Last Change of this Object	2.1
EEPROM	Yes

Short Description	Higher order velocity-observer high-pass damping

Description

Higher order velocity-observer high-pass damping

See also |MRESBW|, |VOLPD|, |VOHPD|

ASCII -Command	VOHPF	Available in	S300/700
Syntax Transmit	VOHPF [Data]	MMI ☐	CAN-Bus ☐
Syntax Receive	VOHPF <Data>	PROFIBUS ☐	Sercos ☐
Type	Variable rw		
Format	Integer32	SERCOS IDN:	
DIM	Hz	CAN Object No:	-
Range	0 .. 10000	PROFIBUS PNU:	-
Default	0	DPR Objekt Nr:	
Opmode	All		
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	Integer32
Function Group		Weighting 10^3	

Last Change of this Object	2.1
EEPROM	Yes

Short Description	Higher order velocity-observer high-pass frequency

Description

Higher order velocity- observer high-pass frequency

See also |MRESBW|, |VOLPD|, |VOHPD|

ASCII -Command	VOLPD	Available in	S300/700
Syntax Transmit	VOLPD [Data]	MMI ☐	CAN-Bus ☐
Syntax Receive	VOLPD <Data>	PROFIBUS ☐	Sercos ☐
Type	Variable rw		
Format	Float	SERCOS IDN:	
DIM		CAN Object No:	-
Range	0 .. 10	PROFIBUS PNU:	-
Default	0.5	DPR Objekt Nr:	
Opmode	All		
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	Integer32
Function Group		Weighting 10^3	*

Last Change of this Object	2.13
EEPROM	Yes

Short Description	Higher order velocity-observer low-pass damping

Description

Higher order velocity-observer low-pass damping

If VOLPD is set to a nonzero value, the higher order velocity observer is activated and used instead of the regular observer. MRESBW then defines the low-pass-filter frequency and VOLPD its damping.

See also |MRESBW|, |VOHPF|, |VOHPD|.

ASCII -Command	VOMODE	Available in	S300/700
Syntax Transmit	-	MMI ☐	CAN-Bus ☐
Syntax Receive	-	PROFIBUS ☐	Sercos ☐
Type	-		
Format	-	SERCOS IDN:	
DIM	-	CAN Object No:	-
Range		PROFIBUS PNU:	-
Default	4	DPR Objekt Nr:	
Opmode			
Drive Status	-		
Start Firmware	2.20		
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.12
EEPROM	Yes

Short Description	internal parameter

Description

This parameter is internal and is not documented. It could be a customized or test/service parameter.

It is not allowed to change this parameter!

ASCII -Command	VOMOPDE	Available in	S300/700
Syntax Transmit	-	MMI ☐	CAN-Bus ☐
Syntax Receive	-	PROFIBUS ☐	Sercos ☐
Type	-		
Format	-	SERCOS IDN:	
DIM	-	CAN Object No:	-
Range		PROFIBUS PNU:	-
Default		DPR Objekt Nr:	
Opmode			
Drive Status	-		
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	internal parameter

Description

This parameter is internal and is not documented. It could be a customized or test/service parameter.

It is not allowed to change this parameter!

ASCII -Command	VOSPD
Syntax Transmit	VOSPD [Data]
Syntax Receive	VOSPD <Data>
Type	Variable rw
Format	Float
DIM	rpm
Range	0.0 .. 1.2*MSPEED
Default	3600
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	velocity

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	P 3021
CAN Object No:	3627 (hex)
PROFIBUS PNU:	1895 (dec) IND = 1 (de
DPR Objekt Nr:	295

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Overspeed

Description

The VOSPD parameter sets the overspeed threshold. As soon as the actual velocity exceeds this limit, the fault message F08 (overspeed) is generated and the output stage is disabled.

ASCII -Command	VOSPDREF
Syntax Transmit	VOSPDREF [Data]
Syntax Receive	VOSPDREF <Data>
Type	Variable rw
Format	Float
DIM	rpm
Range	0.0 .. 1.2 * MSPEED
Default	0
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	3.15
Configuration	☑
Function Group	

Available in	S300/700
MMI	☐
CAN-Bus	☐
PROFIBUS	☐
Sercos	☐
SERCOS IDN:	
CAN Object No:	-
PROFIBUS PNU:	-
DPR Objekt Nr:	
Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	2.1
EEPROM	Yes

Short Description	Overspeed limit for homing phase

Description

This parameter defines the overspeed limit value during the homing phase.
In the case of VOSPDREF=0 the main overspeed limit VOSPD is activ.
After the homing move is done , the VOSPDREF becomes inactiv.
In the case that no homing move is required the VOSPDREF can be deactivated by writing the 0 value.

ASCII -Command	VOUTMAX
Syntax Transmit	VOUTMAX [Data]
Syntax Receive	VOUTMAX <Data>
Type	Variable rw
Format	Integer32
DIM	%
Range	0 .. 1
Default	0.95
Opmode	all
Drive Status	-
Start Firmware	-
Configuration	☐
Function Group	

Available in	S300/700		
MMI	☐	CAN-Bus	☐
PROFIBUS	☐	Sercos	☐

SERCOS IDN:	
CAN Object No:	-
PROFIBUS PNU:	-
DPR Objekt Nr:	
Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	sensorless mode: maximum output voltage

Description

The parameter VOUTMAX specifies the maximum output voltage in sensorless mode: 1 = 100%

ASCII -Command	VREF
Syntax Transmit	VREF [Data]
Syntax Receive	VREF <Data>
Type	Variable rw
Format	Integer32
DIM	(>VUNIT)
Range	0 ... VLIM/VLIMN
Default	10000
Opmode	8
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Setting-up Mode

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	41
CAN Object No:	3628 (hex)
PROFIBUS PNU:	1896 (dec) IND = 1 (de
DPR Objekt Nr:	296

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Speed for homing

Description

The VREF is used to define the velocity value (VREF>0) for homing to a reference. The direction of the reference is taken from the |DREF| variable.
The scaling of the velocity is given in position control loop units, and depends on the |PGEARI| and |PGEARO| parameters.

ASCII -Command	VREF0
Syntax Transmit	VREF0 [Data]
Syntax Receive	VREF0 <Data>
Type	Variable rw
Format	Float
DIM	-
Range	0.01 .. 2.0
Default	0.125
Opmode	8
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3698 (hex)
PROFIBUS PNU:	2008 (dec) IND = 1 (de
DPR Objekt Nr:	408

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Homing mode reduction factor

Description

The parameter VREF0 reduces the homing speed, after the load reaches e.g. the reference switch, while searching for a zero pulse of an external encoder.
The selection of the source of the zero pulse can be selected by |REFMODE|.
The second homing speed can be reduced by VREF0 in % of |VREF|.

Example 1:

|REFMODE|=1 Zeropulse via digital input 1
|NREF|=1 Homing move with reference switch with zero pulse
|VREF|=10000 Homing speed 10000 µm/sec
VREF0=0.2 Reduction of the speed to 2000 µm/sec

Starting a homing move, the drive starts to find the reference switch with the speed of 10000 µm/sec. If the reference switch was found, the speed is reduced to 2000 µm/sec and then the search for the zero pulse is started. If the zero pulse was recognised at digital input 1(high level), the homing move is stopped.

Example 2:

|REFMODE|=2 Zero pulse via digiatl input 2
|NREF|=5 Zero pulse in one turn of the motor
|VREF|=10000
VREF0=0.2

The criteria for the search of the zero pulse is fulfilled, so the reference move is directly started with 2000 µm/sec.

ASCII -Command	VSCALE1
Syntax Transmit	VSCALE1 [Data]
Syntax Receive	VSCALE1 <Data>
Type	Variable rw
Format	Integer16
DIM	VUNIT / 10 V
Range	-16000 .. 16000 (for VUNIT=0)
Default	3000 (for VUNIT=0)
Opmode	1
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Analog I/O

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3629 (hex)
PROFIBUS PNU:	1897 (dec) IND = 1 (de
DPR Objekt Nr:	297
Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.10
EEPROM	Yes

Short Description	SW1 velocity scaling factor

Description

If the analog input 1 is used as the setpoint input for velocity control, then the VSCALE1 parameter can be used to set the scaling of the input voltage.
A 10V velocity setpoint input at input 1 produces a velocity of VSCALE1.

Attention: VSCALE1/VSCALE2 may not be smaller than 2UPM!

ASCII -Command	VSCALE2
Syntax Transmit	VSCALE2 [Data]
Syntax Receive	VSCALE2 <Data>
Type	Variable rw
Format	Integer16
DIM	rpm / 10 V
Range	-16000 .. 16000 (for VUNIT=0)
Default	3000 (for VUNIT=0)
Opmode	1
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	Analog I/O

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	362A (hex)
PROFIBUS PNU:	1898 (dec) IND = 1 (de
DPR Objekt Nr:	298

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.10
EEPROM	Yes

Short Description	SW2 velocity scaling factor

Description

If the analog input 2 is used as the setpoint input for velocity control, then the VSCALE2 parameter can be used to set the scaling of the input voltage.
A 10V velocity setpoint input at input 2 produces a velocity of VSCALE2.

Attention: VSCALE1/VSCALE2 may not be smaller than 2UPM!

ASCII -Command	VSTART
Syntax Transmit	VSTART [Data]
Syntax Receive	VSTART <Data>
Type	Variable rw
Format	Float
DIM	
Range	0 .. 1
Default	0.05
Opmode	1,2
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in	S300/700
MMI ☑	CAN-Bus ☑
PROFIBUS ☑	Sercos ☐
SERCOS IDN:	
CAN Object No:	3888 (hex)
PROFIBUS PNU:	1704 (dec) IND = 33 (d
DPR Objekt Nr:	904
Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	2.1
EEPROM	Yes

Short Description	Starting Voltage for V/f Control

Description

Starting Voltage for V/f Control (induction motor).
Given as a fraction of the nominal voltage.
Used to calculate V/f trajectory at lower speeds.
Voltage when velocity command is 0 (J = 0).

ASCII -Command	VSTFR
Syntax Transmit	VSTFR [Data]
Syntax Receive	VSTFR <Data>
Type	Variable rw
Format	Float
DIM	VUNIT
Range	0 ... 230 UPM
Default	0
Opmode	0, 1, 4 ... 8
Drive Status	-
Start Firmware	1.30
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	36A5 (hex)
PROFIBUS PNU:	2021 (dec) IND = 1 (de
DPR Objekt Nr:	421

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	1.1
EEPROM	Yes

Short Description	Velocity for max. friction compensation

Description

see |ISTFR|

ASCII -Command	VTIMEKD
Syntax Transmit	VTIMEKD [Data]
Syntax Receive	VTIMEKD <Data>
Type	Variable rw
Format	Float
DIM	ms
Range	--
Default	1
Opmode	0, 1
Drive Status	-
Start Firmware	6.00
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	38DC (hex)
PROFIBUS PNU:	1788 (dec) IND = 33 (d
DPR Objekt Nr:	988

Data Type BUS/DPR	Integer32
Weighting 10^3	*

Last Change of this Object	2.12
EEPROM	Yes

Short Description	time const. of d component for the volume flow controller

Description

This parameter can be used to configure the time constant (in ms) of the D component for the volume flow controller.

ASCII -Command	VTUNE	Available in	S300/700
Syntax Transmit	VTUNE [Data]	MMI ☐	CAN-Bus ☐
Syntax Receive	VTUNE <Data>	PROFIBUS ☐	Sercos ☐
Type	Command		
Format	Integer16 Float	SERCOS IDN:	
DIM	Ms (DurationN) / rpm (velocityN)	CAN Object No:	-
Range	0..32767	PROFIBUS PNU:	-
Default		DPR Objekt Nr:	
Opmode	0		
Drive Status	Enable		
Start Firmware	3.65		
Configuration	☐	Data Type BUS/DPR	Integer16 Float
Function Group		Weighting 10^3	

Last Change of this Object	2.2
EEPROM	No

Short Description	Autotuning Velocity Loop

Description

The step height and –duration can be set according to the machine:

1. VTUNE
Without parameters, the velocity set point varies between +100rpm and -100 for the duration of 400ms.

2. VTUNE T1 V1
The velocity set point varies between +V1 and –V1 (rpm) for the duration T1 (ms)

The slope of the steps is defined by ACC and DEC.
For best results the slope should be set as steep as possible (Observe machine constraints !).

The process can be stopped ant any time using the STOP command.

ASCII -Command	VUNIT
Syntax Transmit	VUNIT [Data]
Syntax Receive	VUNIT <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	0 .. 8
Default	0
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	1.0
Configuration	☑
Function Group	

Available in	S300/700		
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	365F (hex)
PROFIBUS PNU:	1951 (dec) IND = 1 (de
DPR Objekt Nr:	351

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	Yes

Short Description	Systemwide Definition of Velocity / Speed

Description

VUNIT gives the systemwide definition of velocity / speed resolution. This parameter effects all parameters that are related to velocity of the velocity controller and speed of the position controller.

VUNIT = 0 gives velocity in RPM (example |OPMODE| = 0)
gives speed in µm/sec (example |OPMODE| = 8).
VUNIT = 1 Unit = RPM
VUNIT = 2 Unit = Rad/Sec
VUNIT = 3 Unit = Degree/Sec
VUNIT = 4 Unit = increments in PRBASE-format / 250µs

example: PRBASE = 24
1500U/min = 25U/s = 25*2^24/4000 IncrPRBASE / 250µs = 104857 IncrPRBASE / 250µs

VUNIT = 5 Unit = |PUNIT| / Sec
VUNIT = 6 Unit = |PUNIT| / Min
VUNIT = 7 Unit = 1000 * |PUNIT| / Sec
VUNIT = 8 Unit = 1000 * |PUNIT| / Min

Remark:
1. All parameters that are related to velovity have a fixed format of 32 Bit with 3 fractional digits. This causes a problem with some of the VUNIT settings (especially VUNIT=6), related to the resolution of the position controller (|PGEARI|), that not the full range of speed can be used. Under this condition, a different setting of VUNIT is necessary.

2. All parameters that are related to speed have a fixed format of 32 Bit with no fractional digits. This causes a problem with some of the VUNIT settings (especially VUNIT=3) to give fractional digits. Under this condition, a different setting of VUNIT is necessary.

Definition of the Calculation factors

VUNIT=1 1 UPM = 1048576*32/(4000*60) =~ 139.8 Counts
VUNIT=2 1 Rad/sec = 1048576*32/(4000*2*PI) =~ 1335 Counts
VUNIT=3 1 Grad/sec = 1048576*32/(4000*360) =~ 23.3 Counts
VUNIT=4 1 Counts/250µs = 32 Counts
VUNIT=5 1 |PUNIT| / sec = |PGEARO| / (125 * |PGEARI|)
VUNIT=6 1 |PUNIT| / min = (|PGEARO| * 60) / (125 * |PGEARI|)
VUNIT=7 1000 |PUNIT| / sec = |PGEARO| / (125 * |PGEARI| * 1000)
VUNIT=8 1000 |PUNIT| / min = (|PGEARO| * 60) / (125 * |PGEARI| * 1000)

ASCII -Command	VWM
Syntax Transmit	VWM [Data]
Syntax Receive	VWM <Data>
Type	Variable rw
Format	Integer16
DIM	-
Range	0 ... 1500
Default	400
Opmode	All
Drive Status	-
Start Firmware	1.35
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3759 (hex)
PROFIBUS PNU:	1801 (dec) IND = 17 (d
DPR Objekt Nr:	601

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	1.2
EEPROM	No

Short Description	limit value for SinCos voltage

Description

VWM defines the limit value for n23 warning (SinCos voltage too low). This warning can be used to get a message when a SinCos encoder (linear unit) becomes dirty

ASCII -Command	WMASK
Syntax Transmit	WMASK [Data]
Syntax Receive	WMASK <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	-21474836470 ... 21474836470
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	
CAN Object No:	363E (hex)
PROFIBUS PNU:	1918 (dec) IND = 1 (de
DPR Objekt Nr:	318

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Warning as fault mask

Description

The WMASK parameter can be used to reconfigure a warning as the fault message F24.
The WMASK parameter is a bit-variable, with bit assignments that correspond to the |STATCODE *| status variable. The bit that is set within the WMAKS variable means that the corresponding warning bit in the |STATCODE *| variable should generate an F24 fault message, as well as a warning. Unlike warnings, a fault message results in the disabling of the output stage, and the opening of the BTB contact. A reconfiguration of a warning to a fault message can be especially relevant for the following warnings: contouring/following error, threshold detection, hardware limit switch. The value has to be entered in decimal.

See also |LASTWMASK|

ASCII -Command	WPOS
Syntax Transmit	WPOS
Syntax Receive	WPOS <Data>
Type	Variable ro
Format	Integer8
DIM	-
Range	0, 1, 2
Default	0
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	1.0
Configuration	☑
Function Group	-

Available in	S300/700		
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	P 3041
CAN Object No:	3636 (hex)
PROFIBUS PNU:	1910 (dec) IND = 1 (de
DPR Objekt Nr:	310

Data Type BUS/DPR	Integer8
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Enable position registers

Description

Going above/below a position is detected and signaled by the position register within 1 millisecond. The functional range can be set to continually or once.
The fast position registers are enabled through the WPOS configuration variable.
WPOS=0 Position register disabled
WPOS=1 Position register enabled, no spontaneous CAN message on change of status.
WPOS=2 Position register enabled, spontaneous CAN message on change of status (this setting is only via CAN-Bus possible).

Changes of the WPOS variable between 0 and >0 can only be made offline (|SAVE| and |COLDSTART|), a change between 1 and 2 can also be made online.

There is a total of 16 position registers P1 ... P16, that can be configured with the help of 3 control variables. The position signals are indicated through a status variable. All control/status variables can be considered as 32-bit variables, whereby the lower 16 bits (bits 0 ... 15) are used for the configuration of the position registers P1 ... P16.

Control variables:
|WPOSE| Enable/disable a position register
Bit=0 the corresponding position register is not monitored
Bit=1 the position register is monitored

|WPOSP| Polarity for the position signaling
Bit=0 Position signal is generated on going above/beyond (overrun) the position
Bit=1 Position signal is generated on going below/behind (underrun) the position

|WPOSX| – Type of position monitoring
Bit=0 position is monitored continuously
Bit=1 position is monitored once. When the position signal is generated, the corresponding enable bit (WPOSE) is set to 0, so that the monitoring is disabled for this position register,

Status variable:
|POSRSTAT| (z_data.Posrstat) – Position signaling
Bit=0 position signaling inactive
Bit=1 position signaling active (position overrun for |WPOSP|=0 or underrun for |WPOSP|=1).

Position register:
The position registers 1 to 16 can be accessed by the ASCII command P1 ... P16. Position values are displayed in the same units as the position control loop (|PGEARI| / |PGEARO| conversion).
The variables that are required for the fast position registers (|WPOSE|, |WPOSP|, |WPOSX|, P1 ... P16) can be saved in the serial EEPROM by using the SAVE command. Those position registers P1 ... P16 which are not used should be set to 0 (since the default value for a position register is 0, no space will be occupied in the serial EEPROM).
The individual position signals from the status register |POSRSTAT| can be output from the digital outputs of the motherboard.

|OxMODE|=40
This function is used to produce the result of a logical OR operation (on the bit-variable |POSRSTAT| and a bit-mask from the auxiliary variable |OxTRIG|) at the digital output x.

|OxMODE|=41
This function is used to produce the result of a logical AND operation (on the bit-variable |POSRSTAT| and a bit-mask from the auxiliary variable |OxTRIG|) at the digital output x.

ASCII -Command	WPOSE
Syntax Transmit	WPOSE
Syntax Receive	WPOSE <Data>
Type	Variable ro
Format	Integer32
DIM	-
Range	0 ..65535
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in	S300/700
MMI ☐	CAN-Bus ☑
PROFIBUS ☑	Sercos ☑

SERCOS IDN:	P 3042
CAN Object No:	363F (hex)
PROFIBUS PNU:	1919 (dec) IND = 1 (de
DPR Objekt Nr:	319

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Enable fast position registers 1 ... 16

Description

The bit-variable WPOSE is used to configure the fast position registers P1 ... P16 individually. The WPOSE variable can be considered as a 32-bit variable, whereby the lower 16 bits (bits 0 ... 15) are used for the configuration of the position registers P1 ... P16.

Bit=0 the corresponding position register is not monitored
Bit=1 the position register is monitored
See also |WPOS|

ASCII -Command	WPOSP
Syntax Transmit	WPOSP [Data]
Syntax Receive	WPOSP <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	0 .. 65535
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	-

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☑

SERCOS IDN:	P 3043
CAN Object No:	3640 (hex)
PROFIBUS PNU:	1920 (dec) IND = 1 (de
DPR Objekt Nr:	320

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Polarity of fast position registers 1 ... 16

Description

The bit-variable WPOSP is used to configure the fast position registers P1 ... P16 individually. The WPOSP variable can be considered as a 32-bit variable, whereby the lower 16 bits (bits 0 ... 15) are used for the configuration of the position registers P1 ... P16.

Bit=0 Position signal is generated on going above/beyond (overrun) the position

Bit=1 Position signal is generated on going below/behind (underrun) the position

See also |WPOS|

ASCII -Command	WPOSX
Syntax Transmit	WPOSX [Data]
Syntax Receive	WPOSX <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	0 ... 65535
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3641 (hex)
PROFIBUS PNU:	1921 (dec) IND = 1 (de
DPR Objekt Nr:	321

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.0
EEPROM	No

Short Description	Mode of fast position registers 1 ... 16

Description

The bit-variable WPOSX can be used to configure the fast position registers |P1| ... |P16| individually. The WPOSX variable can be considered as a 32-bit variable, whereby the lower 16 bits (bits 0 ... 15) are used for the configuration of the position registers P1 ... P16.
Bit=0 Position is monitored permanently
Bit=1 Position is monitored once. If a 1 is set the Enable-Bit |WPOSE| is set to 0, so the monitor function is diabled .

See also |WPOS|

ASCII -Command	WSAMPL
Syntax Transmit	WSAMPL [Data]
Syntax Receive	WSAMPL <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	0 ... 2^31-1
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	36D1 (hex)
PROFIBUS PNU:	1665 (dec) IND = 17 (d
DPR Objekt Nr:	465

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	1.8
EEPROM	Yes

Short Description	Minimum move of W&S mode

Description

WSAMPL sets the minimum movement for W&S - function in |FBTYPE| = 7 and 8. The units are internal counts.
If WSAMPL = 0, the calculation is automatically done with |ENCLINES|.

see also |WSLOOP|

ASCII -Command	WSCNFG
Syntax Transmit	WSCNFG [Data]
Syntax Receive	WSCNFG <Data>
Type	Variable rw
Format	Integer32
DIM	-
Range	-
Default	-
Opmode	All
Drive Status	Disabled + Reset (Coldstart)
Start Firmware	2.53
Configuration	☑
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3874 (hex)
PROFIBUS PNU:	1684 (dec) IND = 33 (d
DPR Objekt Nr:	884

Data Type BUS/DPR	Integer32
Weighting 10^3	

Last Change of this Object	2.0
EEPROM	Yes

Short Description	Type of commutation alignment

Description

The configuration parameter WSCNFG defines the type of the commutation alignment used for |FBTYPE|=7,8,16,17,19,21

WSCNFG=0	Method 1:	Standard Wake & Shake
WSCNFG=1	Method 2:	commutation alignment by PID position control loop (|CALCMP|)
WSCNFG=2	Method 3:	commutation alignment by fixed commutation vector (|ZERO|)

ASCII -Command	WSLOOP
Syntax Transmit	WSLOOP [Data]
Syntax Receive	WSLOOP <Data>
Type	Variable rw
Format	Integer16
DIM	-
Range	1 ... 50
Default	5
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	36E2 (hex)
PROFIBUS PNU:	1682 (dec) IND = 17 (d
DPR Objekt Nr:	482

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	1.8
EEPROM	Yes

Short Description	W&S Loops

Description

Max. number of Wake&Shake repeats |MPHASE| is calculated as mean value of all W&S repeats

see also |WSAMPL|

ASCII -Command	WSRED	Available in	S300/700
Syntax Transmit	-	MMI ☐	CAN-Bus ☐
Syntax Receive	-	PROFIBUS ☐	Sercos ☐
Type	-		
Format	-	SERCOS IDN:	
DIM	-	CAN Object No:	375C (hex)
Range		PROFIBUS PNU:	1804 (dec) IND = 17 (d
Default		DPR Objekt Nr:	604
Opmode			
Drive Status			
Start Firmware			
Configuration	☐	Data Type BUS/DPR	-
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	internal parameter

Description

This parameter is internal and is not documented. It could be a customized or test/service parameter.

It is not allowed to change this parameter!

ASCII -Command	WSTIME
Syntax Transmit	WSTIME [Data]
Syntax Receive	WSTIME <Data>
Type	Variable rw
Format	Integer16
DIM	ms
Range	0 ... 100
Default	0
Opmode	All
Drive Status	-
Start Firmware	1.0
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	36D0 (hex)
PROFIBUS PNU:	1664 (dec) IND = 17 (d
DPR Objekt Nr:	464

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	1.8
EEPROM	Yes

Short Description	Operation time of the W&S - function

Description

WSTIME defines the operation time of the W&S - function in |FBTYPE| = 7 and 8. The different current vectors are switched on for this time and the move distance is proportional to the WSTIME value. See also |WSAMPL|.
If WSTIME is set to "0", the calculation depends on the value of |GV| and is done automatically.

ASCII -Command	WSTIME2
Syntax Transmit	WSTIME2 [Data]
Syntax Receive	WSTIME2 <Data>
Type	Variable rw
Format	Integer16
DIM	ms
Range	0 .. 500
Default	0
Opmode	All
Drive Status	-
Start Firmware	2.26
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3863 (hex)
PROFIBUS PNU:	1667 (dec) IND = 33 (d
DPR Objekt Nr:	867

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.1
EEPROM	Yes

Short Description	W&S delay time

Description

WSTIME2 defines the delay time of the W&S - function for FBTYPE = 7 and 8. This time is a delay time between the switching of different current vectors during the wake & shake procedure.The default value for this delay is 1 msec (WSTIME2=0). This time should be increased in the case of movement interferences between single current vectors.

ASCII -Command	WSTIME3
Syntax Transmit	WSTIME3 [Data]
Syntax Receive	WSTIME3 <Data>
Type	Variable rw
Format	Integer16
DIM	ms
Range	0 .. 500
Default	0
Opmode	All
Drive Status	-
Start Firmware	2.31
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☐	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3865 (hex)
PROFIBUS PNU:	1669 (dec) IND = 33 (d
DPR Objekt Nr:	869

Data Type BUS/DPR	Integer16
Weighting 10^3	

Last Change of this Object	2.3
EEPROM	Yes

Short Description	W&S delay time

Description

This time is a delay time between the switching of the coarse calculation done in current mode and the fine calculation of the commutation angle done in velocity mode during the wake & shake procedure. The default value for this delay is 0 msec (WSTIME3=0). This time should be increased in the case of interferences while switching from the coarse to the fine calculation. Choosing too big values just enlarges the wake and shake procedure duration.

ASCII -Command	ZERO
Syntax Transmit	ZERO
Syntax Receive	ZERO
Type	Variable w
Format	Command
DIM	
Range	
Default	-
Opmode	2
Drive Status	
Start Firmware	
Configuration	☐
Function Group	

Available in		S300/700	
MMI	☑	CAN-Bus	☑
PROFIBUS	☑	Sercos	☐

SERCOS IDN:	
CAN Object No:	3857 (hex)
PROFIBUS PNU:	1657 (dec) IND = 33 (d
DPR Objekt Nr:	857
Data Type BUS/DPR	-
Weighting 10^3	

Last Change of this Object	2.10
EEPROM	No

Short Description	automatic calculation of commutation angle

Description

With this parameter ZERO the automatic calculation of commutation angle will be started.

Optionally, the execution time can be specified (in ms). Untimed 1000 ms is used. Meaningful number range from 1000 to 20000 ms. The motor shaft should rotate while load-free. The parameter |REFIP2| peak rated current for commutation limits the peak current during the wake & shake procedure.

ASCII -Command	ZEROTIME	Available in	S300/700
Syntax Transmit	ZEROTIME [Data]	MMI ☐	CAN-Bus ☑
Syntax Receive	ZEROTIME <Data>	PROFIBUS ☑	Sercos ☐
Type	Variable rw		
Format	Integer32	SERCOS IDN:	
DIM	ms	CAN Object No:	3912 (hex)
Range	100 .. 60000	PROFIBUS PNU:	1842 (dec) IND = 33 (d
Default	10000	DPR Objekt Nr:	1042
Opmode	All		
Drive Status	-		
Start Firmware	5.90		
Configuration	☐	Data Type BUS/DPR	Integer32
Function Group		Weighting 10^3	

Last Change of this Object	2.11
EEPROM	Yes

Short Description	Default value for the ZERO function

Description

The command ZEROTIME defines the current application for commutation (s. command |ZERO|). If the command |ZERO| is called with no parameters, the current application is taken from the parameter ZEROTIME. This is especially useful when the |ZERO| function through the fieldbus starts.

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