

Technical Description



DEUTSCH

SynqNet - Erweiterungskarte

ENGLISH

SynqNet - Expansion Card

FRANÇAIS

SynqNet - Carte d'Expansion

ITALIANO

SynqNet - Scheda di Espansione

S300 & S600 & S700 Servo Amplifiers

Edition: March 2021



For safe and proper use, follow these instructions.
Keep them for future reference.

Contents



Deutsch

(→ #3)



Français

(→ #7)



English

(→ #5)



Italiano

(→ #9)

Documents available from www.kollmorgen.com

- **Instructions Manual** (PDF format):
This manual provides instructions for installation and servo amplifier setup.
- **Accessories Manual** (PDF format):
It provides information for accessories like cables, filters, chokes and brake resistors.
- **CAN-BUS Fieldbus Interface** (PDF format):
Describes how to use your servo amplifier in CANopen applications.
- **DeviceNET Fieldbus Interface** (PDF format):
Describes how to use your servo amplifier in DeviceNET applications.
- **EtherCAT Fieldbus Interface** (PDF format):
Describes how to use your servo amplifier in EtherCAT applications.
- **PROFIBUS DP Fieldbus Interface** (PDF format):
Describes how to use your servo amplifier in PROFIBUS DP applications.
- **PROFINET Fieldbus Interface** (PDF format):
Describes how to use your servo amplifier in PROFINET applications.
- **sercos[®] 2 Fieldbus Interface** (PDF format):
Describes how to use your servo amplifier in sercos[®] applications.
- **SynqNet Fieldbus Interface** (PDF format):
Describes how to use your servo amplifier in SynqNet applications.
- **DRIVEGUI.EXE Online help** (CHMs format):
The online help includes the *ASCII Object Reference* which provides information for the parameters and commands used to setup the servo amplifier.

Technical changes which improve the performance of the device may be made without prior notice!

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1 Erweiterungskarte -SYNQNET-

Dieses Kapitel beschreibt die SynqNet Erweiterungskarte. Informationen zu Funktionsumfang und Softwareprotokoll finden Sie in der SynqNet Dokumentation.

1.1 Frontansicht



1.2 Einbau

ACHTUNG

Schalten Sie die Geräte vor Beginn der Arbeiten spannungsfrei.

INFO

- Hebeln Sie die Abdeckung des Optionsschachtes mit einem geeigneten Schraubendreher heraus.
- Achten Sie darauf, dass keine Kleinteile (Schrauben o.ä.) in den geöffneten Optionsschacht fallen.
- Stecken Sie die Erweiterungskarte in den Schacht.
- Verschrauben Sie die Frontplatte der Erweiterungskarte mit den vorgesehenen Schrauben.

1.3 NODE ID-Schalter

Mit Hilfe der hexadezimalen Drehschalter können Sie das obere und untere Byte der Node ID getrennt einstellen. SynqNet verlangt für korrekte Funktion im Netzwerk nicht zwingend eine Adresse, in einigen Anwendungen kann dies jedoch sinnvoll sein, um von einer Applikations-Software erkannt zu werden.

1.4 NODE LED-Tabelle

LED#	Name	Funktion
LED1	LINK_IN	An = Empfang gültig (IN port) Aus = nicht gültig, power off oder Rest.
LED2	CYCLIC	An = Netzwerk zyklisch Blinkt = Netzwerk nicht zyklisch Aus = power off, oder Rest
LED3	LINK_OUT	An = Empfang gültig (OUT port) Aus = nicht gültig, power off oder Rest.
LED4	REPEATER	An = Repeater Ein, Netzwerk zyklisch Blinkt = Repeater Ein, Netzwerk nicht zyklisch Aus = Repeater Aus, power off oder Rest

1.5 SynqNet-Anschlüsse, Stecker X21B und X21C (RJ45)

Anschluss an das SynqNet Netzwerk über RJ45 Buchsen (IN- und OUT-Ports) mit integrierten LEDs.

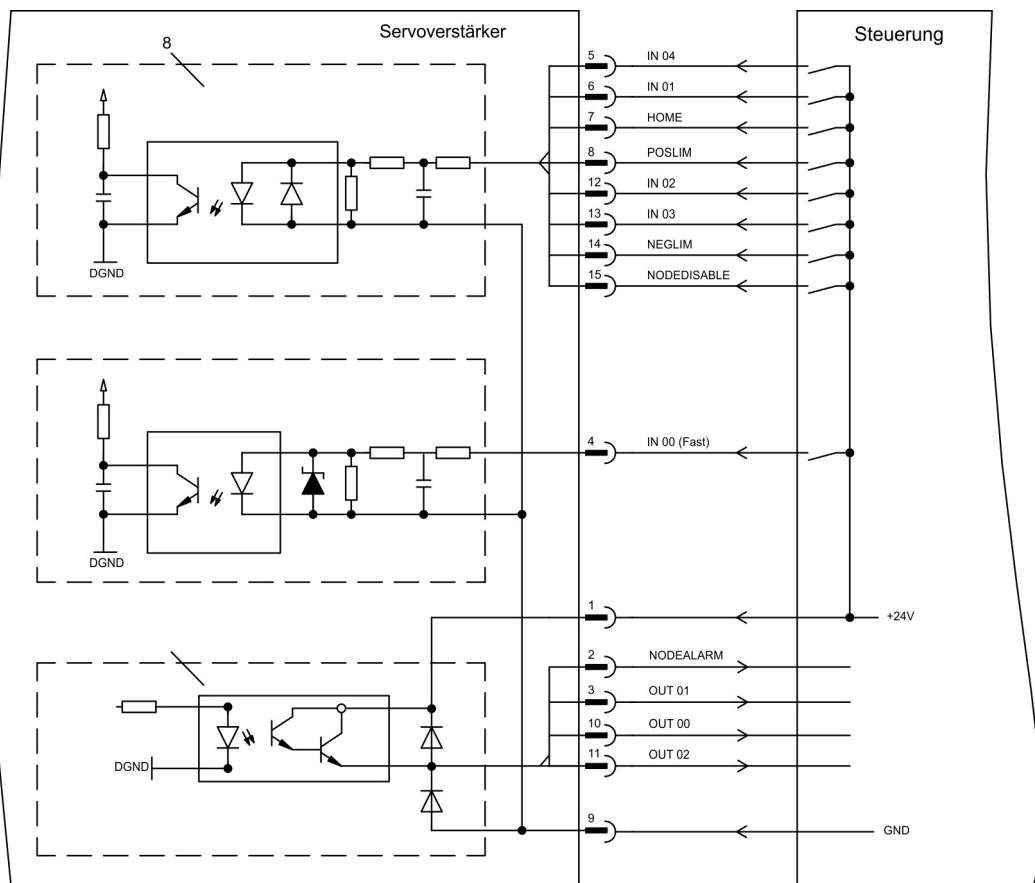
1.6 Digitale Ein- und Ausgänge, Stecker X21A (SubD, 15-polig, Buchse)

Eingänge (In): 24V (20...28V), optisch entkoppelt, ein high-speed Eingang (Pin 4)

Ausgänge (Out): 24V, optisch entkoppelt, Darlington Treiber

Belegungstabelle Stecker X21A (SubD 15 polig)			
Pin	Typ	Beschreibung	
1	In	+24V	Spannungsversorgung
2	Out	NODEALARM	Meldet Problem bei diesem Node
3	Out	OUT_01	digitaler Ausgang
4	In	IN_00 (fast)	Capture Eingang (schnell)
5	In	IN_04	digitaler Eingang
6	In	IN_01	digitaler Eingang
7	In	HOME	Referenzschalter
8	In	POSLIM	Endschalter pos. Drehrichtung
9	In	GND	Spannungsversorgung
10	Out	OUT_00	digitaler Ausgang
11	Out	OUT_02	digitaler Ausgang
12	In	IN_02	digitaler Eingang
13	In	IN_03	digitaler Eingang
14	In	NEGLIM	Endschalter neg. Drehrichtung
15	In	NODEDISABLE	Deaktiviert Node

1.7 Anschlussbild digitale Ein- und Ausgänge, Stecker X21A



2 Expansion card -SYNQNET-

This section describes the SynqNet expansion card. Information on the range of functions and the software protocol can be found in the SynqNet documentation.

2.1 Front view



2.2 Installation

NOTICE Before starting work, switch off the power to the device

- NOTE**
- Use a suitable screwdriver to lever off the cover of the option slot.
 - Take care that no small items (such as screws) fall into the open option slot.
 - Push the expansion card into the slot.
 - Use the screws provided to fasten the front plate of the expansion card in place.

2.3 NODE ID Switch

With these hexadecimal switches you can set the main and low significant bytes of the Node ID separately. SynqNet does not require an address for correct operation in the network, however in some machines this can be a convenient way of identifying build options to the application program.

2.4 NODE LED table

LED#	Name	Function
LED1	LINK_IN	ON = receive valid (IN port) OFF= not valid, power off, or reset.
LED2	CYCLIC	ON = network cyclic BLINK = network not cyclic OFF = power off, or reset
LED3	LINK_OUT	ON = receive valid (OUT port) OFF = not valid, power off, or reset
LED4	REPEATER	ON = repeater on, network cyclic BLINK = repeater on, network not cyclic OFF = repeater off, power off, or reset

2.5 SynqNet Connection, Connector X21B / X21C (RJ45)

Connection to the SynqNet network via RJ45 connectors (IN and OUT ports) with integrated LEDs.

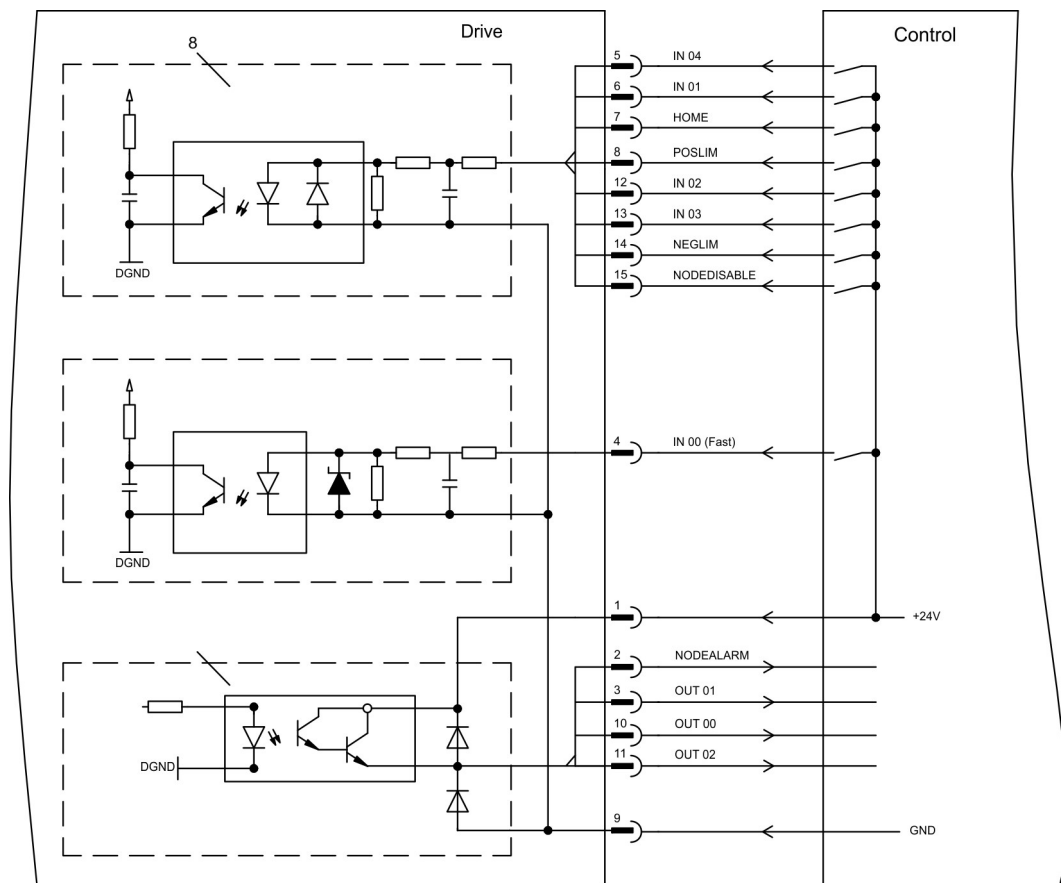
2.6 Digital inputs and outputs, connector X21A (SubD 15-pin, socket)

Inputs (In): 24V (20...28V), opto-isolated, one high-speed input (Pin 4)

Outputs (Out): 24V, opto-isolated, Darlington driver

Pinout connector X21A (SubD 15 pin)			
Pin	Type	Description	
1	In	+24V	power supply
2	Out	NODEALARM	indicates a problem with the node
3	Out	OUT_01	digital output
4	In	IN_00 (fast)	capture input (fast)
5	In	IN_04	digital input
6	In	IN_01	digital input
7	In	HOME	reference switch
8	In	POSLIM	limit switch, positive direction
9	In	GND	power supply
10	Out	OUT_00	digital output
11	Out	OUT_02	digital output
12	In	IN_02	digital input
13	In	IN_03	digital input
14	In	NEGLIM	limit switch, negative direction
15	In	NODEDISABLE	disables Node

2.7 Connection diagram digital inputs and outputs, connector X21A



3 Carte d'expansion -SYNQNET-

SYNQNETCe chapitre décrit la carte d'expansion SynqNet. Pour plus d'informations sur les fonctionnalités et le protocole logiciel, consultez la documentation SynqNet.

3.1 Vue de face



3.2 Montage

AVIS

Avant de commencer le travail, mettez l'appareil hors tension.

INFORMATION

- Soulever le couvercle de l'emplacement des options à l'aide d'un tournevis approprié.
- S'assurer qu'aucune petite pièce (vis ou autres) ne chute dans l'emplacement ouvert.
- Enfichez la carte d'expansion dans le port.
- Vissez la face avant de la carte d'expansion à l'aide des vis prévues à cet effet.

3.3 NODE ID

Avec ces commutateurs hexadécimaux vous pouvez placer les bytes significatifs principaux (MS) et bas (LS) de l'identification de Node. SynqNet n'exige pas une adresse pour l'opération correcte dans le réseau, toutefois dans des quelques machines ceci peut être une manière commode d'identifier des options de construction au programme d'application.

3.4 NODE DEL Table

DEL#	Nom	Fonction
LED1	LINK_IN	ON = receive valid (IN port) OFF= not valid, power off or reset.
LED2	CYCLIC	ON = network cyclic BLINK = network not cyclic OFF = power off or reset
LED3	LINK_OUT	ON = receive valid (OUT port) OFF = not valid, power off or reset
LED4	REPEATER	ON = repeater on, network cyclic BLINK = repeater on, network not cyclic OFF = repeater off, power off or reset

3.5 Communication SynqNet, Connecteur X21B/C (RJ45)

Raccordement au réseau de SynqNet par connecteurs RJ45 (IN et OUT ports) avec les DEL intégrées.

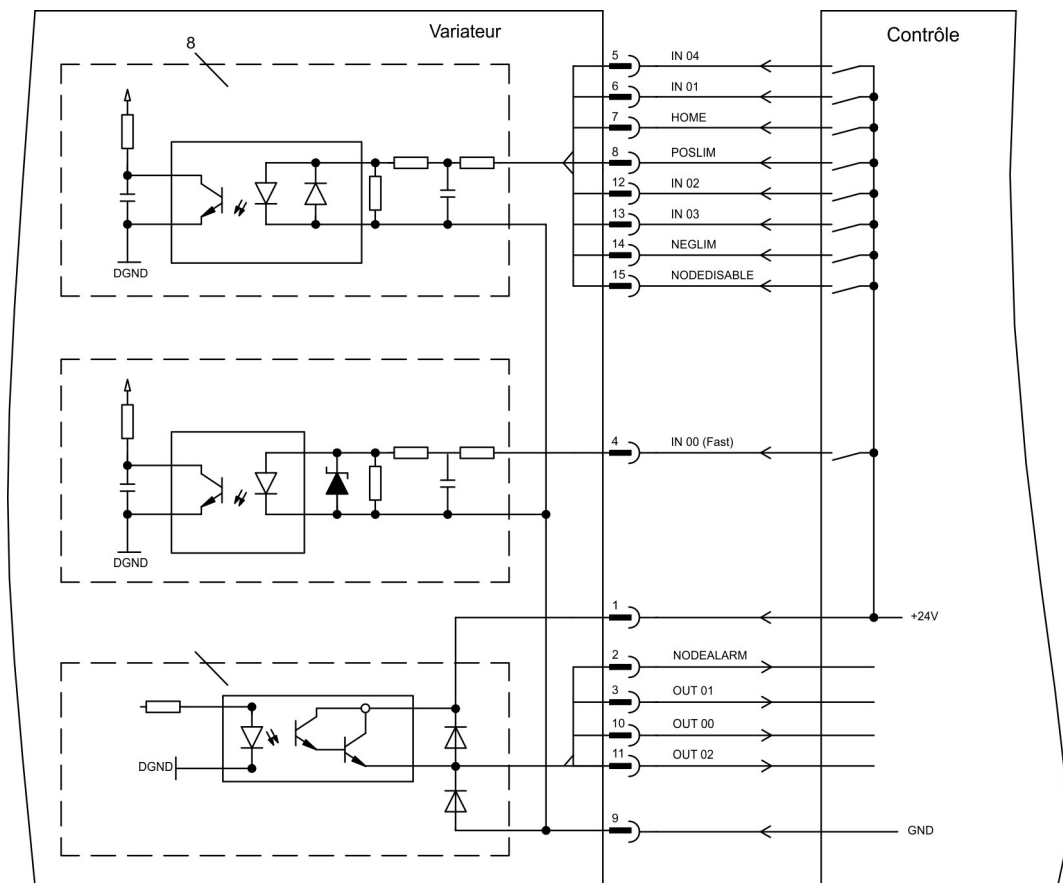
3.6 Entrées/sorties numériques, X21A (SubD 15 pôles, femelle)

Entrées (In): 24V (20...28V), optiquement d'isolement, une entrée vite (pin 4)

Sorties (Out): 24V, optiquement d'isolement, Darlington driver

Tableau de l'affectation des bornes du connecteur X21A (SubD 15 pôles)			
Pin	Type	Description	
1	In	+24V	Alimentation
2	Out	NODEALARM	Indique un problème avec le node
3	Out	OUT_01	Sortie numérique
4	In	IN_00 (fast)	Entrée numérique (vite)
5	In	IN_04	Entrée numérique
6	In	IN_01	Entrée numérique
7	In	HOME	Capteur référence
8	In	POSLIM	Capteur fin de course, direction positif
9	In	GND	Alimentation
10	Out	OUT_00	Sortie numérique
11	Out	OUT_02	Sortie numérique
12	In	IN_02	Entrée numérique
13	In	IN_03	Entrée numérique
14	In	NEGLIM	capteur fin de course, direction négatif
15	In	NODEDISABLE	Disable Node

3.7 Schéma de raccordement entrées/sorties numériques, X21A



4 Scheda di espansione -SYNqNET-

Questo capitolo descrive la scheda di espansione SynqNet. Per informazioni sulle funzioni e sul protocollo software si rimanda alla documentazione SynqNet.

4.1 Vista frontale



4.2 Montaggio

AVVISO

Prima di iniziare il lavoro, spegnere il dispositivo.

INFORMAZIONI

- Utilizzare un cacciavite adatto per rimuovere il coperchio dello slot opzionale.
- Fare attenzione che nessun piccolo oggetto (come le viti) cada nello slot opzionale aperto.
- Inserire la scheda di espansione nello slot.
- Avvitare la piastra frontale della scheda di espansione con le viti in dotazione.

4.3 Selettore NODE ID

Il selettore rotativo esadecimale consente di impostare separatamente il byte superiore e inferiore di Node ID. Per funzionare correttamente in rete SynqNet non esige necessariamente un indirizzo, per alcune applicazioni questo può essere tuttavia utile al riconoscimento da parte di un software applicativo.

4.4 Tabella dei LED NODE

LED#	Nome	Funzione
LED1	LINK_IN	acceso = ricezione valida (porta IN) spento = non valida, mancanza tensione o reset.
LED2	CYCLIC	acceso = rete ciclica intermittente = rete non ciclica spento = mancanza tensione o reset
LED3	LINK_OUT	acceso = ricezione valida (porta OUT) spento = non valida, mancanza tensione o reset.
LED4	REPEATER	acceso = ripetitore acceso, rete ciclica intermittente = ripetitore acceso, rete non ciclica spento = ripetitore spento, mancanza tensione o reset

4.5 Collegamenti SynqNet, connettore X21B e X21C (RJ45)

Collegamenti alla rete SynqNet tramite connettori femmina RJ45 (porte IN e OUT) con LED integrati.

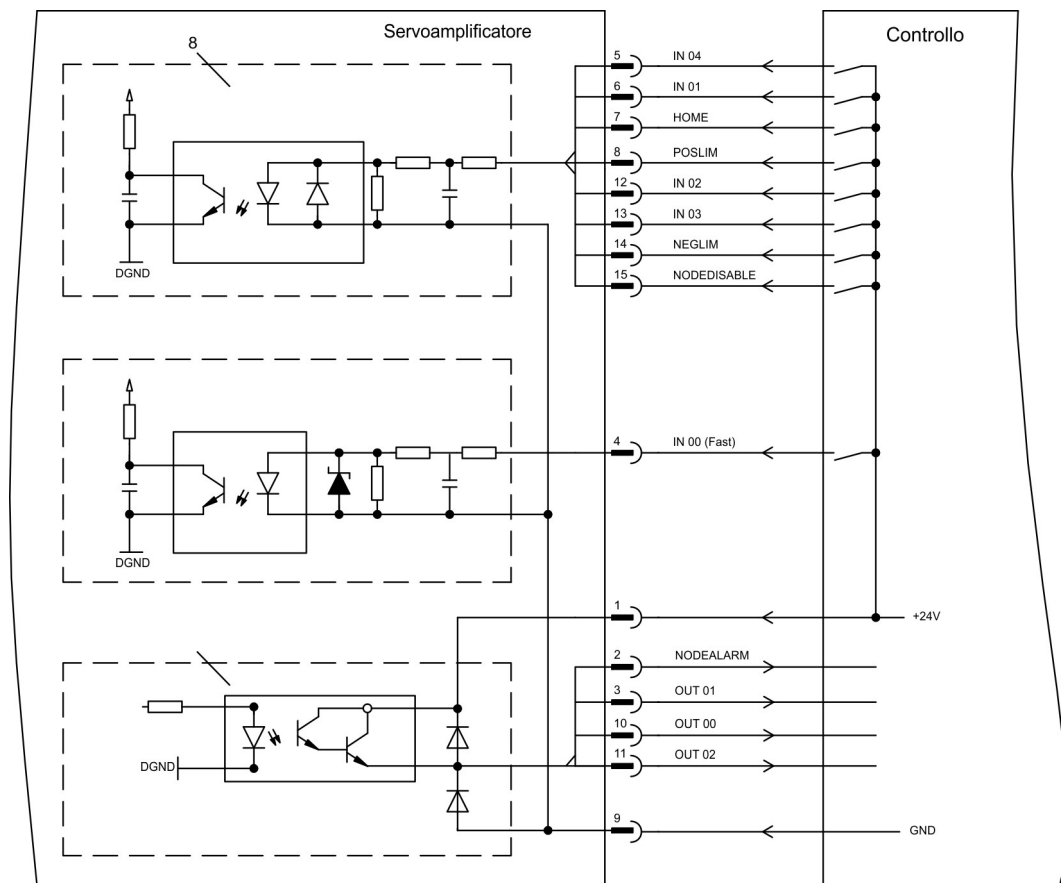
4.6 Ingressi/uscite digitali, connettore X21A (SubD a 15 poli, presa)

Ingressi (In): 24V (20...28V), disaccoppiamento ottico, un ingresso alto-speed (pin 4)

Uscite (Out): 24V, disaccoppiamento ottico, driver Darlington

Tabella di assegnazione connettore X21A (SubD a 15 poli)			
Pin	Tipo	Descrizione	
1	In	+24V	Tensione di alimentazione
2	Out	NODEALARM	Segnala problemi sul nodo
3	Out	OUT_01	Uscita digitale
4	In	IN_00 (fast)	Ingresso Capture (rapido)
5	In	IN_04	Ingresso digitale
6	In	IN_01	Ingresso digitale
7	In	HOME	Commutatore di riferimento
8	In	POSLIM	Fincorsa senso di rotazione pos.
9	In	GND	Tensione di alimentazione
10	Out	OUT_00	Uscita digitale
11	Out	OUT_02	Uscita digitale
12	In	IN_02	Ingresso digitale
13	In	IN_03	Ingresso digitale
14	In	NEGLIM	Fincorsa senso di rotazione neg.
15	In	NODEDISABLE	Nodo disattivato

4.7 Schema di collegamento ingressi / uscite digitali, connettore X21A



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