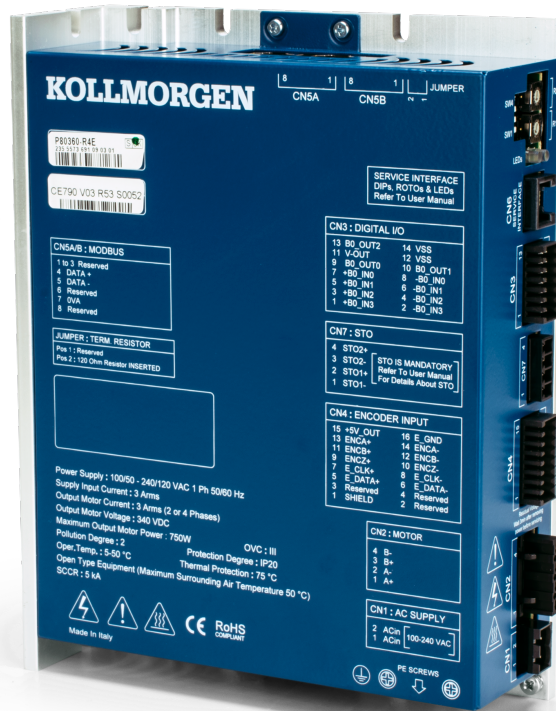


P80360-R4E

Quick Start Guide



P8000



For complete information refer to the user documents for the P8000 Stepper series of drives. Download the P8000 Installation Manuals and all Kollmorgen user documents at:

www.kollmorgen.com/en-us/products/drives/stepper/p8000

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

KOLLMORGEN

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Documents available from: www.kollmorgen.com

- **Installation Manual** for each model in the P8000 series (PDF format):
These manuals provide instructions for installation and drive setup.

Disclaimer

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

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1 Installing the Drive

This section describes how to install the drive.

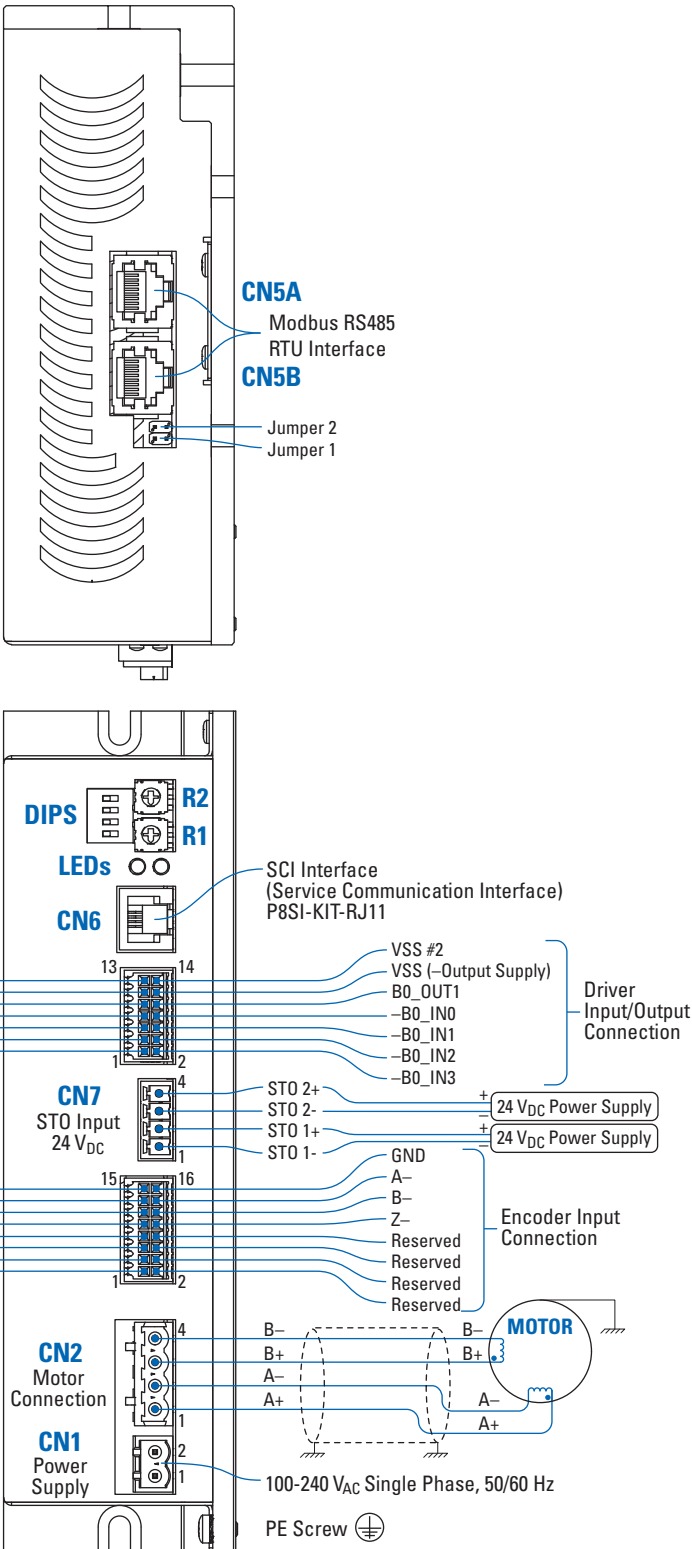
1.1 General Description

- The P80360-R4E AC stepper drive offers sinusoidal operation, which keeps the current sinusoidal regardless of the selected step angle.
- The P80360-R4E is designed to run 2-phase stepper motors, with step angles of 0.9° or 1.8°, from a power supply of 120-240 VAC, single phase 50/60 Hz.
- Feedback is offered via incremental encoders (single ended or differential).
- The drive current is programmable up to 3.0 Arms (4.2 Apeak) through the Kollmorgen Space software.
- The drive communicates via RS-485 via its Service SCI Interface or Modbus RTU Interface.
- Baud rate and node selections are done via the DIP switches 1 – 4 and roto switches R2 & R1. (See P80360-R4E Installation Manual for different addresses)

1.2 General Connections

- AC Power & PE (protective earth ground)
- Safe Torque Off (STO)
- Motor
- Feedback
- Service SCI Interface Serial connection
- Modbus RTU RS-485 connection
- I/O

1.3 Minimum Wiring for Drive Operation




NOTE: Your installation may vary from this configuration.

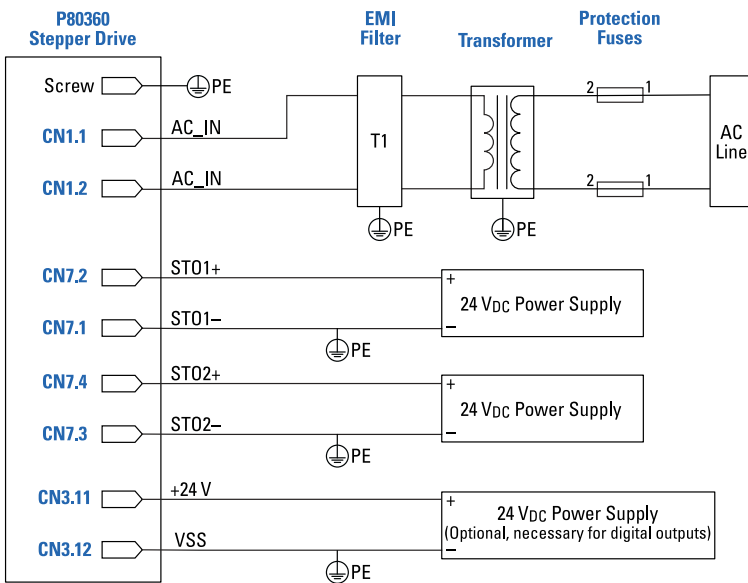
Step 1: Connect AC Power and Protective Earth (ground) CN1



120/240 VAC Line, Neutral and PE (ground)

CN1.1	AC In Line	PWR_In	AC power
CN1.2	AC In Neutral	PWR_In	AC power

Ensure PE (ground) connection for the AC Power Supply Input is connected to the PE Screw located on the drive with the symbol . Bolt the drive to a conductive metal plate, per the installation manual.



NOTE

A transformer is required for use with 240 V_{AC} in Europe. A transformer with a center tap should be used in order to maintain 120 V_{AC} (line-to-ground) maximum rated voltage. The transformer is optional, or unnecessary, for 120 V_{AC} (line-to-ground) power systems.

Step 2: Connect Logic Power and STO CN7

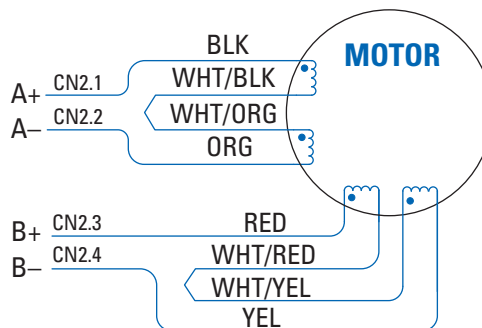
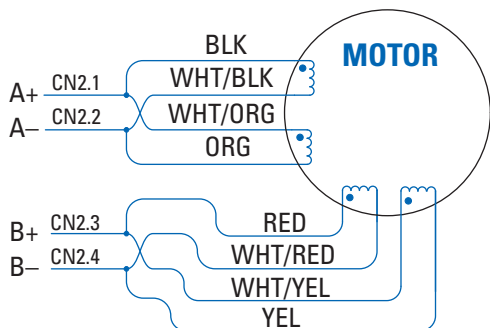
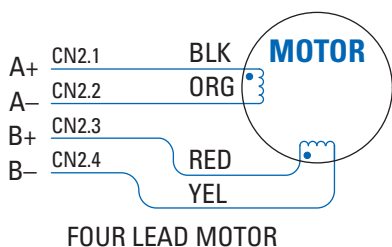


CN7.1	STO -	PWR_IN	STO1 Input negative
CN7.2	STO +	PWR_IN	STO1 Input positive
CN7.3	STO -	PWR_IN	STO2 Input negative
CN7.4	STO +	PWR_IN	STO2 Input positive

Step 3: Connect Motor Power CN2



CN2.1	A+ (A)	PWR_OUT	Motor phase A+ (A)
CN2.2	A- (A/)	PWR_OUT	Motor phase A- (A/)
CN2.3	B+ (B)	PWR_OUT	Motor phase B+ (B)
CN2.4	B- (B/)	PWR_OUT	Motor phase B- (B/)

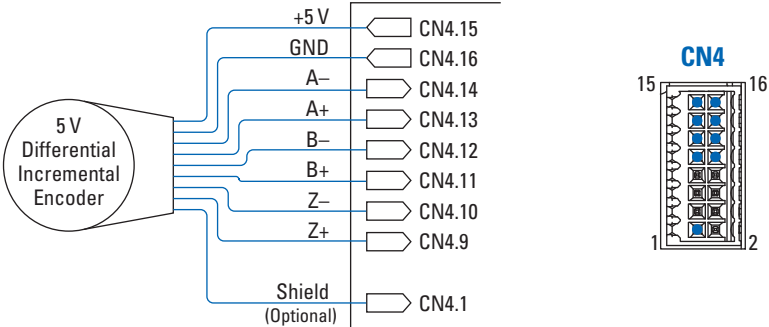


Step 4: Connect Encoder Feedback CN4

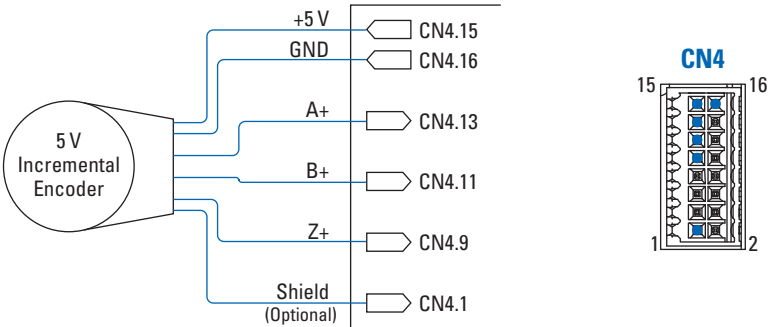


CN4.1	SHIELD	/	Cable shield connection for feedback interface
CN4.2	Reserved		
CN4.3	Reserved		
CN4.4	Reserved		
CN4.5	Reserved		
CN4.6	Reserved		
CN4.7	Reserved		
CN4.8	Reserved		
CN4.9	ENCZ+	DIG_IN	Encoder Zero differential input positive
CN4.10	ENCZ-	DIG_IN	Encoder Zero differential input negative
CN4.11	ENCB+	DIG_IN	Encoder Phase B differential input positive
CN4.12	ENCB-	DIG_IN	Encoder Phase B differential input negative
CN4.13	ENCA+	DIG_IN	Encoder Phase A differential input positive
CN4.14	ENCA-	DIG_IN	Encoder Phase A differential input negative
CN4.15	+5V OUT	PWR_OUT	5VDC power supply output
CN4.16	E_GND	PWR_OUT	Negative side of supply

The following figure shows the connection schematic for differential incremental encoder:



The following figure shows the connection schematic for a single-handed incremental encoder:



Step 5: Connect Serial Communications (SCI Service Interface) CN6

CN6.1	TX/RX	Transmit / Receive Line
CN6.2	De/re	Drive Enable Negated / Receive Enable
CN6.3	+5V	+5V Power out
CN6.4	GND+	GND power out

Step 6: Connect Modbus RS-485 RTU Communications CN5A or CN5B

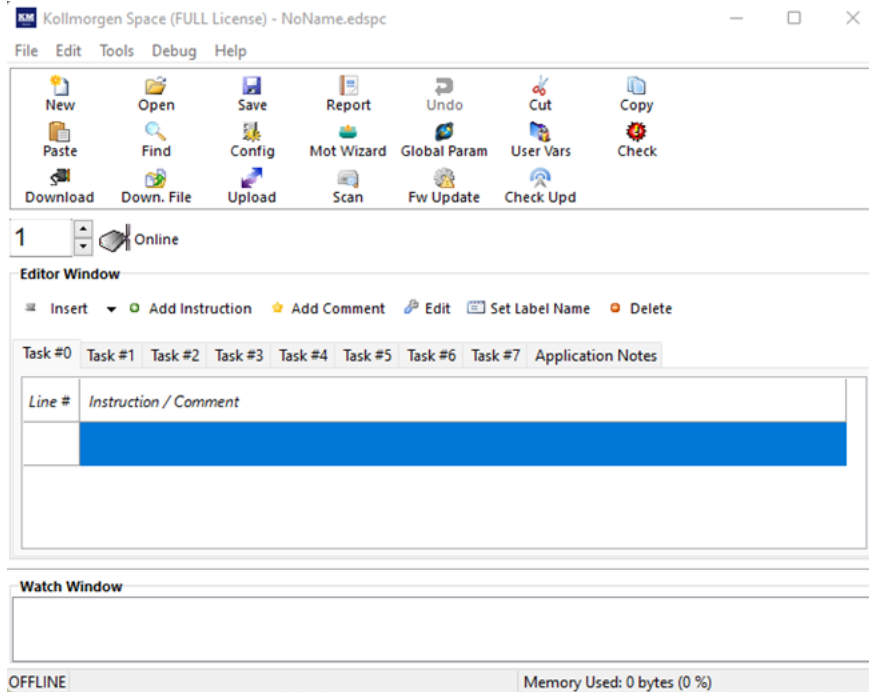
CN5.1	Reserved	---	Reserved
CN5.2	Reserved	---	Reserved
CN5.3	Reserved	---	Reserved
CN5.4	DATA+	Digital I/O	Positive RS485 signal
CN5.5	DATA -	Digital I/O	Negative RS485 signal
CN5.6	Reserved	---	Reserved
CN5.7	OVA	PWR_OUT	Signal GND for Modbus RS-485 RTU
CN5.8	Reserved	---	Reserved

Step 7: Connect Digital I/O CN3

CN3.1	+B0_IN3	DIG_IN	Digital Input B0_IN3 positive side
CN3.2	- B0_IN3	DIG_IN	Digital Input B0_IN3 negative
CN3.3	+B0_IN2	DIG_IN	Digital Input B0_IN2 positive
CN3.4	- B0_IN2	DIG_IN	Digital Input B0_IN2 negative
CN3.5	+ B0_IN1	DIG_IN	Digital Input B0_IN1 positive
CN3.6	- B0_IN1	DIG_IN	Digital Input B0_IN1 negative
CN3.7	+ B0_IN0	DIG_IN	Digital Input B0_IN0 positive
CN3.8	- B0_IN0	DIG_IN	Digital Input B0_IN0 negative
CN3.9	B0_OUT	DIG_OUT	PNP digital output B0_OUT0
CN3.10	B0_OUT1	DIG_OUT	PNP digital output B0_B0_OUT1
CN3.11	V_OUT	PWR_IN	24VDC input supply for digital outputs
CN3.12	VSS #1	PWR_IN	Negative side of supply for digital outputs
CN3.13	B0_OUT2	DIG_OUT	PNP digital output B0_OUT2
CN3.14	VSS #2	PWR_IN	Negative side of supply for digital outputs

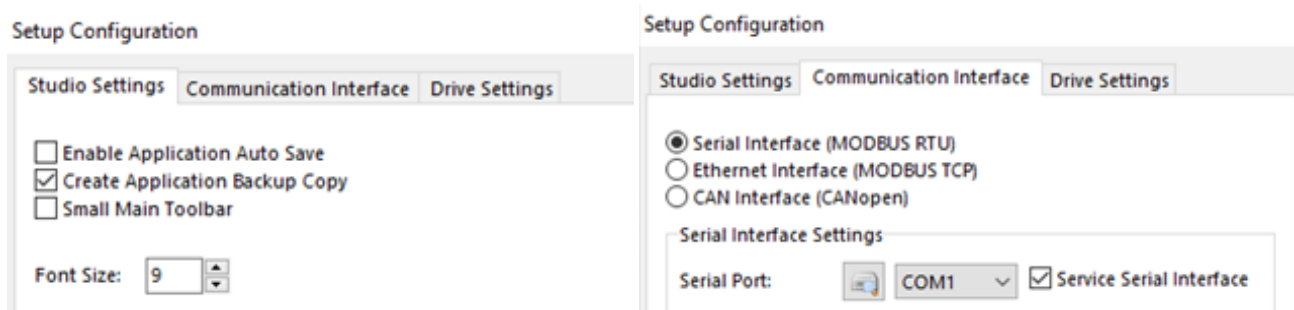
2 Configuring Kollmorgen Space

To start the Kollmorgen Space software double click on the icon on your Windows desktop. The main Space window will appear.



The **Setup Configuration** window allows the user to change some application editor settings and communication interface settings necessary for the proper connection to the drive.

1. Click the **Config** button in the toolbar to open the Setup Configuration window.
2. Select the Serial Interface (MODBUS RTU) button to use the Modbus protocol onboard the P80360-R4E drive. For connection via the Service SCI Interface to debug and program, be sure to check the Service Serial Interface box and select the proper serial port.
3. Available serial ports can be found using the search icon next to the serial port pulldown menu.



3 Accessories

CONKIT-P80360-R4E – Mating Connectors for CN1, CN2, CN3, CN4, and CN7



P8SI-KIT-RJ11 – Service SCI Interface Kit (CN6 Port). Programming and Debugging Cable



About KOLLMORGEN

Kollmorgen, a Regal Rexnord brand, has more than 100 years of motion experience, proven in the industry's highest-performing, most reliable motors, drives, linear actuators, AGV (Automated Guided Vehicle) control solutions, and automation control platforms. We deliver breakthrough solutions that combine exceptional performance, reliability and ease of use, giving machine builders an irrefutable marketplace advantage.



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