P80630-SDN Stepper Drive
Safety Notes

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Part Number: 903-806305-00

RoHS compliant

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

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1 Introduction

These Safety Notes do not contain complete documentation for the P80630-SDN stepper drive. See the Installation Manual for full product and safety information.

2 Safety Guidelines

Only qualified personnel are permitted to transport, assemble, commission, and maintain this equipment. Properly qualified personnel are persons who are familiar with the transport, assembly, installation, commissioning and operation of motors, and who have the appropriate qualifications for their jobs.

Read all available documentation before assembling and using. Incorrect handling of products in this manual can result in injury and damage to persons and machinery. Strictly adhere to the technical information regarding installation requirements. In no event will Kollmorgen be responsible or liable for indirect or consequential damage resulting from the misuse of this product. Read this manual completely to effectively and safely operate the P8000 unit.

⚠ WARNING The circuits in the P8000 drive are a potential source of severe electrical shock. Follow the safety guidelines to avoid shock

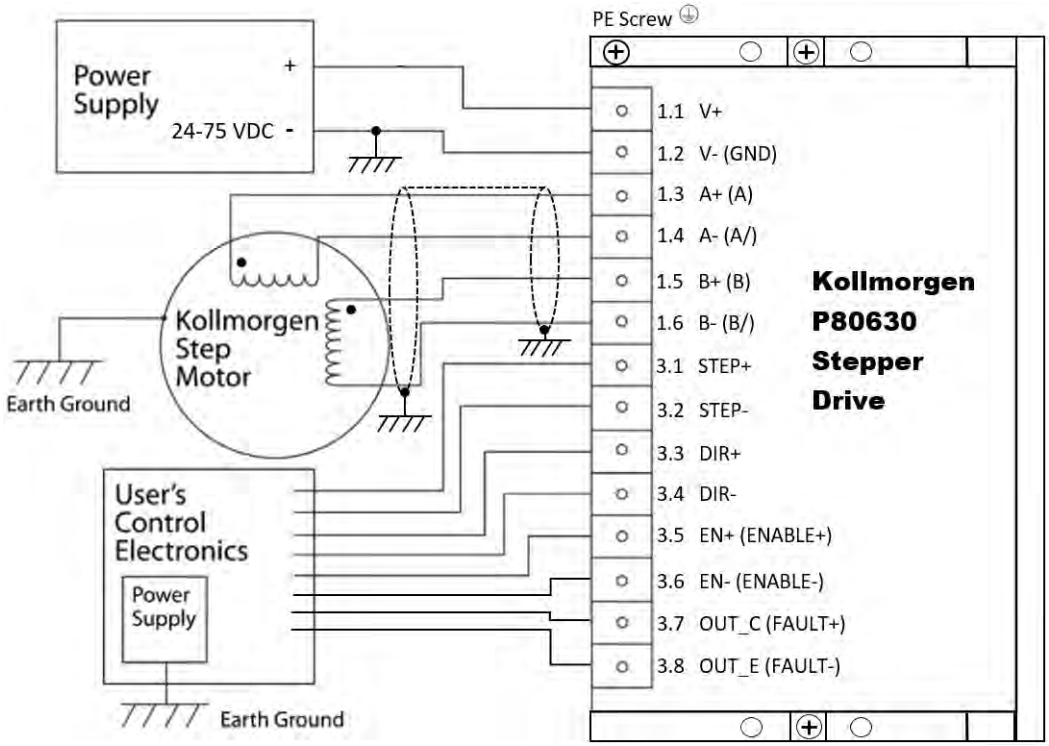
⚠ WARNING Mis-wiring of the P8000 drive may result in damage to the unit and void the warranty. Improper grounding of the drive may cause serious injury to the operator

It is the machine builder's responsibility to ensure that the complete machine complies with the Machine Directive (EN60204). The following requirements relate directly to the stepper controller:

- Do not operate the drive without the motor case tied to earth ground. Keep all covers and cabinet doors shut during operation.
- Do not make any connections to the internal circuitry. The input and output signals are the only safe connection points.
- Never plug or unplug connectors with power applied. During operation, the product has electrically charged components and hot surfaces. Control and power cables can carry a high voltage, even when the motor is not rotating.
- Never disconnect or connect the product while the power source is energized.
- Be careful of the motor terminals (CN1 Port) when disconnected from the motor. With the motor disconnected and power applied to the drive, these terminals have high voltage present, even with the motor disconnected.
- After removing the power source from the equipment, wait at least 2 minutes before touching or disconnecting sections of the equipment that normally carry electrical charges (e.g., capacitors, contacts, screw connections). To be safe, measure the electrical contact points with a meter before touching the equipment.
- Do not use the Enable Input as a safety shutdown. Always remove power to the drive for a safety shutdown.
- If the drive indicates a fault condition, find the cause of the fault and fix it prior to resetting the fault or power cycling the drive.

3 System Diagram

The following diagram shows an installation of the drive in a typical system.



NOTE

Your installation may vary from this configuration. Always use shielded, twisted pairs for STEP and DIR inputs. Route away from motor leads.

4 Working Status (LED)

Visualization Status			Description
1		Green ON	Driver enabled
2		Green Blinking (1sec)	Driver disabled
3		Red ON	Protection: Motor is in open phase condition
4		Red Blinking (200ms)	Protection: Motor phase shortcut (short circuit)
5		Red ON (2sec) + Yellow (1sec) Blink	Protection: Over voltage
6		Red ON (2sec) + Yellow (1sec) Blink + Yellow (1sec) Blink	Protection: Under voltage
7		Red ON (2sec) + Yellow (1sec) Blink + Yellow (1sec) Blink + Yellow (1sec) Blink	Thermal Protection: Over temperature
8		Yellow Blinking (200ms)	Motor stalled

When any of the following situations occur, the drive is placed in a fault condition.

Defect	Cause	Action
Intervention of the thermal protection	Can be caused by a prolonged duty cycle, high current in the motor, or high voltage paired with a low inductance motor	Improve the drive cooling by a natural or fan airflow. Consider using a motor with a higher torque vs. current rating.
Intervention of the current protection	Short circuit on the motor power stage(s) of the drive	Check the motor windings and cables to remove the short circuits; replace any faulty cables or the motor if necessary
Intervention of the over/under voltage protection	Supply voltage out of range	Check the value for the supply voltage.
Open phase motor protection	Motor windings to the drive are not connected properly	Check the motor cables and connections to the drive.

NOTE

The fault condition will remain until the drive is reset by the following method:

- Power Cycle

⚠CAUTION

Remember to avoid ON/OFF switching of the DC connection to the drive.

Hard-wire the drive to the power supply and switch the power supply AC input ON/OFF instead. Switching the DC to the drive results in very high inrush currents. This could potentially damage the P8000 drive or the ON/OFF switch.

Support and Services

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