

Teknic E3PS12-75 Power Supply Quick Reference

Rev. M 09/14/15

Introduction

Teknic model E3PS12-75 is a 75 VDC intelligent power supply designed to provide the same reliable power and performance as its predecessor (3PS12-75) with several added capabilities:

- Drop-in compatibility with Teknic SSt-3PS12-75.
- 115 VAC or 230 VAC* nominal input voltage.
- Automatic DC bus dump on power down.
- Easy adjustment for high, medium or low AC line voltage.
- Intelligent regenerative energy management.
- Embedded microcontroller.

**Note: Teknic does not supply or sell 230VAC power cables for this product. Users operating at 230VAC must build or otherwise source this cable. Cable pinout can be found under "Mating Connectors" at right.*

General Safety

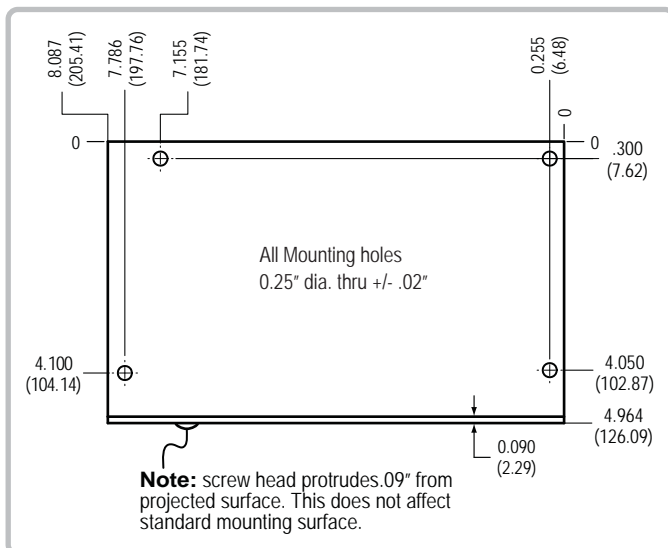
The E3PS12-75 should be installed and operated as specified herein. Failure to do so may impair or defeat any protections provided by the equipment. Please read and follow all instructions before installing or operating this device.

Mounting Safety

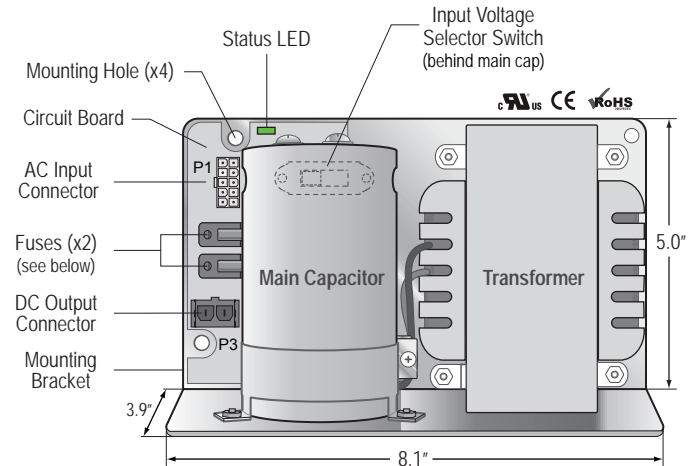
The power supply should be mounted behind covers or machine skins that can only be opened with a tool. The covers or machine skins should be marked as having hazardous voltages within. Alternatively, the supply can be mounted behind doors that have a safety interlock that removes power to the supply when opened.

The power supply should not be mounted in an area where the ambient temperature exceeds 40°C.

Mounting Dimensions inch (mm)

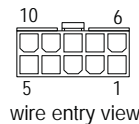


E3PS12-75 Parts



Mating Connectors

AC Input Connector / Pinout

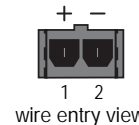


Housing: Molex/39-01-2100
Terminals: Molex/39-00-0059
Crimp Tool: Molex/638190900
Extractor Tool: Molex/11-03-0044
Cable: 18AWG, 300V, Stranded

Pos.	115 VAC	230 VAC*
1	no connect	no connect
2	no connect	no connect
3	GND	GND
4	AC IN	no connect
5	AC IN	no connect
6	Jump to 9	AC IN
7	Jump to 10	Jump to 9
8	no connect	no connect
9	Jump to 6	Jump to 7
10	Jump to 7	AC IN

Note: Teknic does not supply or sell a 230VAC input cable for this product.

DC Output Connector / Pinout



Housing: Molex/44441-2002
Terminals: Molex/43375-0001
Crimp Tool: Molex/63811-7200
Cable: 14-16AWG, 600V, Stranded

Pos.	Signal
1	DC Bus (V+)
2	DC Bus (V-)

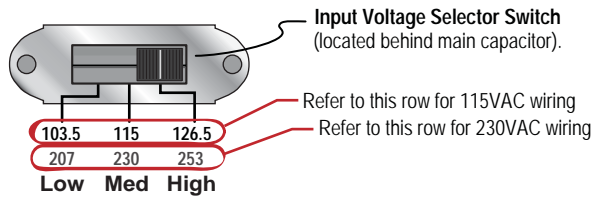
Replacement Fuses

Cooper Bussman MDQ-2
Description: Fuse, 3AB, 2A, slow blow, 250VAC

Important: Use only the fuse type listed above **regardless of AC line voltage used**. Using the wrong fuse can damage the power supply, create a fire hazard, cause nuisance circuit breaker trips, and void the product warranty.

Setting The Input Voltage Selector Switch

The Input Voltage Selector Switch is a 3-position slide switch located behind the supply's main capacitor. It is used to select one of three tap points on the main transformer, providing a convenient way to adjust for low, medium, or high local line voltage.



Procedure: Setting The Input Voltage Selector Switch

Note: Remove AC power and discharge supply before adjusting.

1. Initially set switch to **High** voltage setting as shown above.
2. Turn on AC line power to supply.
3. Status LED should blink rapidly (16 Hz).
4. Move switch to progressively lower settings until Status LED turns on solid.
5. Back up one position until Status LED blinks rapidly. (Most applications use the center (Med) position.)

Regenerative Energy Management

When an axis decelerates rapidly the motor behaves like a generator, sending energy from the motor phases back into the power supply. This becomes a problem when this regenerated energy exceeds the supply's ability to absorb it, and can cause the DC output to spike.

The E3PS12-75 automatically channels the right amount of regenerated energy back into the supply, while safely dissipating the rest across a bank of dump resistors. This has the dual benefit of capturing and using "free" energy while protecting the power supply from potentially damaging voltage levels.

Regen Note: The first few times the supply dissipates energy across the dump resistors a small amount of smoke may be seen. This is normal and will stop after the initial burn off occurs.

Three Year Warranty

The E3PS12-75 is warranted to be free from defects in workmanship and materials for a period of 36 months from date of purchase.

LED Blink Codes (Note: LED is off when DC voltage < 25 VDC)

Condition	LED Behavior	User Action	LED Blink Frequency	Duty Cycle (% on)
On-Normal	Rapid Blink: Normal operating mode.	No action required.	16 Hz	50%
Input Voltage Switch set incorrectly.	On Solid: DC output voltage is set too high! Remove power and adjust Voltage Selector Switch as described at right.	Move Input Voltage Selector Switch to higher setting. Rapid blink will occur when the Voltage Selector Switch is set correctly.	—	100%
Regen Event Occurred	Blink: Normal operating mode. A regen event occurred at least once since AC power was last applied.	No action required. This is an informational code that will not affect power supply operation. Note: blink code will persist until AC power is cycled.	3 Hz	50%
Regen Capacity Exceeded	Strobe: Continuous regen capacity was exceeded since AC power was last applied.	Upgrade to higher regen capacity supply. Note: blink code will persist until AC power is cycled.	0.5 Hz	2.5%

Specifications

Specification	Value
Rated Load Current (RMS)	3.5 amps
Peak Current Capability	12 amps
Output Voltage, No Load	82.0 VDC max.
Output Voltage @ Rated Current	72.0 VDC min.
Input Voltage (110 VAC nom. range)	96 – 131 VAC
Input Voltage (220 VAC nom. range)	192 – 262 VAC
Power Consumption (max.)	382 W
In-rush Current (@115 VAC / 230 VAC)	50 A (pk) / 25 A (pk)
Input Frequency Range	50 - 60 Hz
Energy Storage	81 joules
Output Capacitance (min.)	20,000 uF
Weight	12 lbs.
Dimensions	8.1" x 5.0" x 3.9"
CE/UL Certification	Yes
RoHS Status	RoHS compliant

Operating Environment:

Temperature	0-40° C
Humidity (non-condensing)	10% - 90%
Environment Type	Pollution Degree 2

Accessory Cables (sold separately)

Note: Teknic does not supply or sell a 230VAC input cable for this product. A wiring table for 230VAC cable is available on page 1 of this document.

