



Southwestern Industries, Inc

White Paper

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Power Line Conditioners Recommended with all ProtoTRAK equipment

Comparing power line conditioners to alternatives

There are several types of units that perform the function of filtering noise from the AC power line, and they vary in price according to their capabilities. Some perform the additional function of regulating the output voltage. An explanation of the various types follows:

- UPS – Uninterruptible Power Supply – The primary function of this type of power supply is to provide power for a short time after the main power is interrupted. The battery in this unit will allow you to save your programs or go through a power-down procedure. Some of these units also filter noise or voltage spikes from the AC line and/or regulate the output.
- Noise Suppressor – These units suppress noise spikes on the AC line only. They do **not** provide any voltage regulation.
- Power Line Conditioners – These units primarily regulate the output voltage of the AC line and suppress noise spikes. Southwestern Industries recommends the use of line conditioners.

Deciding if a power line conditioner should be installed

A power line conditioner should be installed on a machine if any of the following conditions are present:

- the input power to the machine is greater than 129 VAC or less than 110 VAC
- the power input constantly fluctuates within the allowable margins that are stated above
- noise-emitting equipment is utilized on the same power line as the machine; examples of noise-emitting equipment are band saws, power drills and fluorescent lights
- intermittent errors occur within the system. Intermittent errors on machines have occasionally been attributed to noisy electrical power sources

Determining what size power line conditioner to use on a machine

The main criterion in selecting a power line conditioner is its power rating. The power rating is determined according to the machine type. Use the table below to determine the minimum line conditioner power rating:

Machine Type	Minimum Line Conditioner Power Rating
K2SX, K3SX, K4SX	1.2 kVA
DPMSX2, DPMSX3, DPMSX5	1.2 kVA
FHM5, FHM7	1.6 kVA
1630SLX, 1840SLX	1.2 kVA
1540SLX, 2460SLX	1.2 kVA
1440ELX	1.2 kVA

Connecting the power line conditioner

The power line conditioner should be installed within 10 feet of the machine. The longer the cord is, the more the power is degraded. Connect the line conditioner directly to the electrical cabinet. The line conditioner should be dedicated to the machine only and should **not** be used for other components that are not part of the machine. For retrofits, connect the line conditioner to the pendant.

Visit the following Web sites for manufacturers of line conditioners:

www.tripplite.com/products/conditioners/index.cfm

www.sola-hevi-duty.com/products/powerconditioning/Index.htm

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