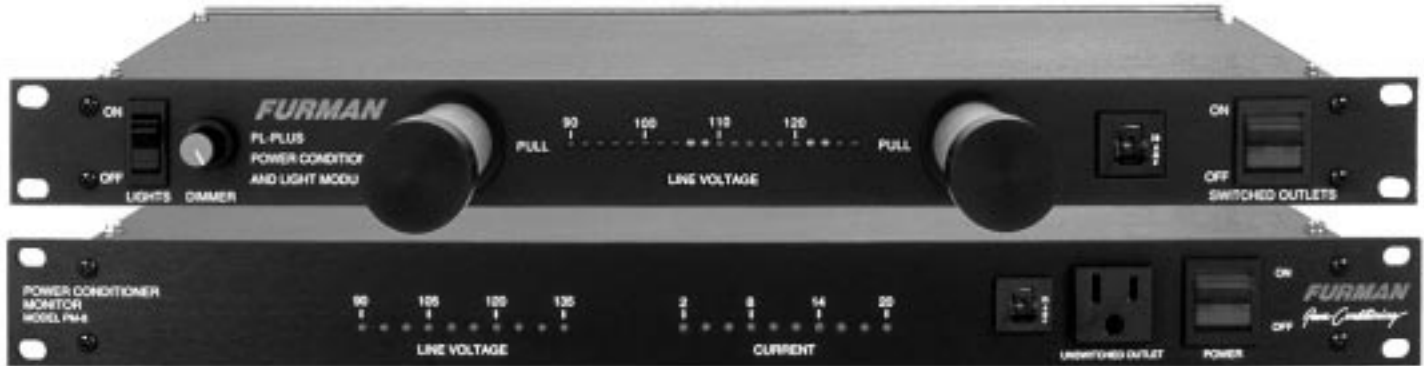


## 15 AMP POWER CONDITIONERS

MODELS PL-8, PL-PLUS, AND PM-8



PL-PLUS and PM-8 shown. PL-8 is similar to PL-PLUS except line voltage monitor is not present.

### PL-8 FEATURES

- Two slide-out, swiveling light fixtures for rack illumination
- Dimmer control for lamp brightness
- Eight accessory outlets in rear controlled by front switch
- Triple-mode varistor spike and surge protection
- RFI filtering
- 15 amp rating, with circuit breaker
- Separate switch for lamps

### PL-PLUS FEATURES

- All PL-8 features, plus...
- Line voltage monitor reads 90 to 128 volts
- Improved RFI filtering with multi-stage filter
- Ten foot heavy duty AC cord

### PM-8 FEATURES

- All PL-PLUS power conditioning features
- No rack lights
- Voltmeter and ammeter: Voltmeter reads 90-135V, ammeter reads true RMS current, 0 to 20A

### DESCRIPTION

Power line disturbances are real, and they are inevitable. According to *Consumer Reports* (November, 1994), "One significant surge a day is the norm. High-exposure areas may experience perhaps a hundred smallish spikes a day." Proper protection is essential for costly equipment, even more so if it is frequently moved from location to location.

The **PL-8 Power Conditioner and Light Module** is the perfect accessory to any equipment rack, providing the basic power protection essential to every audio or video system. Install a PL-8 in the top slot of your rack, and the eight switched AC outlets on the rear panel will power up all your equipment while its two slide-out light fixtures provide discreet illumination of their

controls on stages, in studios, or in any dark place. A dimmer control lets you adjust the lamp brightness to just the right level.

The PL-8 protects your delicate electronic equipment by combining a high voltage surge and transient suppressor with an RFI/EMI interference filter. The fast-acting suppression circuit responds in nanoseconds, clamping spikes and surges to safe levels. The filter works to prevent noise from fluorescent lights, electric motors, radio transmitters, and similar sources of "electronic pollution" from leaking from the AC line into sensitive analog or digital circuits.

The PL-8's lamps come supplied with 7 watt night-light bulbs. Replacements are readily available in 4 watt or 7 watt sizes at most supermarkets and hardware stores. Colored Christmas tree bulbs may also be used. Bulbs are easily replaced without removing the unit from the rack by unscrewing the cap on the end of each light tube.

The PL-8 has a master switch for the rear outlets that glows red when the power is on. There is also a separate switch for the lamps, allowing you to check your equipment settings before applying power to it. The front-panel circuit breaker can be easily and quickly reset should the PL-8 be overloaded.

**Model PL-PLUS** is an enhanced version of the PL-8, offering improved noise filtering and an AC voltmeter. The 20 LED bar-graph voltmeter reads from 90 to 128 volts in 2-volt steps. The normal range voltages are indicated in green, with moderately and extremely high or low voltages in yellow and red respectively. The voltmeter's accuracy is  $\pm 2$  volts. It can easily be recalibrated if necessary. The PL-PLUS also features a longer, 10 foot heavy-duty 14 gauge power cable. In addition, it offers a sophisticated RFI filter network with a greatly improved capacity for stopping line noise. This filter incorporates a toroidal inductor and three high-voltage capacitors to achieve a common-mode noise attenuation of over 50 dB at 10 MHz (see graph overleaf).

The **PM-8 Power Conditioner/Monitor** is the model to choose when rack lights are not needed. The PM-8 has all the power conditioning features of the PL-PLUS. It also has a ninth, unswitched outlet whose front panel location makes it very convenient for equipment in temporary use. It has both a voltmeter and an ammeter. The ammeter reads true RMS current, so it will indicate reliably and meaningfully for all loads, including inductive and capacitive loads such as power amplifiers. (Ammeters that respond only to average AC current may give readings that differ widely from RMS-reading meters.)

The PM-8's voltmeter reads from 90 to 135 volts in 5 volt steps. The normal range voltages are indicated in green, with moderately and extremely high or low voltages in yellow and red respectively. The ammeter reads from 0 to 20 amps, in 2 amp steps. Currents above the 15 amp limit read red, with yellow indicating a warning zone. The meters continue to read even when the master switch is off to allow you to check the voltage before powering up. The meters are designed for continuous, ongoing use.

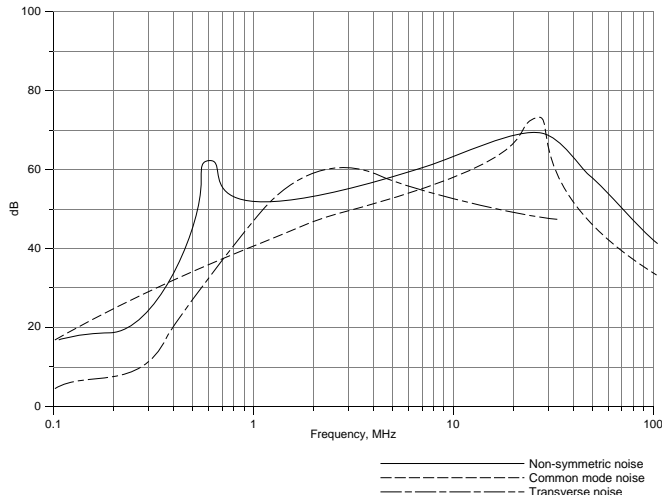
### OPTIONS

- **Models PL-8E, PL-PLUS-E, PM-8E:** "E" suffix versions are for use in countries with 220/240 volt AC lines. Each has ten rear panel outlets, using internationally- accepted IEC-320 connectors. The voltmeter on the PL-PLUS-E reads from 180 to 256 VAC, in 4 volt steps. On the PM-8E, the voltmeter reads from 210 to 255 VAC in 5 volt steps, while the ammeter reads from 1 to 10 amps.
- **Models PL-PRO, PM-PRO:** 20 amp version of the PL-PLUS and PM-8, with many additional high-end features. See separate data sheet on the PRO Series.



Rear Views: Top, 120V units; bottom, 220/240V ("E" suffix) units. The 120V outlets are spaced sufficiently far apart to accommodate three or four "wall wart" cord-mounted power supplies without blocking the adjacent outlets.

### Filter Noise Attenuation (PL-PLUS, PM-8) (Insertion Loss measured in a 50Ω system)



## PL-PLUS ARCHITECTS AND ENGINEERS SPECIFICATIONS

The Power Conditioner and Light Module shall mount in a standard 19" rack, and shall occupy no more than one rack unit (134") of rack space. Rack illumination shall be provided by means of a two-point light source, of at least 7 watts each. A dimmer knob shall be provided to adjust brightness, and there shall be a separate on/off switch for the lights. The lighting assembly shall be sturdy, and shall slide smoothly out of the way when not in use. Bulbs shall be an easily obtainable type, and shall be replaceable without dismantling the unit.

There shall be at least eight outlets supplying conditioned power on the rear panel, with an illuminated front panel master switch. Spikes shall be clamped 400Vpk at 500A in accordance with UL-1449. The unit shall absorb a surge current of up to 6500 amperes for 10 ms without damage. RF noise attenuation shall exceed 40 dB in both transverse and common modes from 1 to 100 MHz.

A bar-graph AC voltmeter shall be provided on the front panel to read line voltage. It shall read from 90 to 128 volts in steps of two volts. It shall be color coded, and of sufficient brightness to be readable in a dark area from a distance of 20 feet. The voltmeter shall read whenever the unit is plugged into the AC mains, regardless of the master switch position.

A 15 amp front panel circuit breaker shall be provided, and the AC cord shall be at least 14 AWG and ten feet long. The unit shall be UL listed.

The unit shall be the Furman Sound PL-PLUS.

### Three Year Warranty

The Furman PL-8 and PL-PLUS, and PM-8 are protected by a three-year limited warranty covering defects in materials and workmanship.

### PL-8, PL-PLUS, PM-8 SPECIFICATIONS

Current rating:	15 amps ("E" versions 10 amps)
Input Voltage:	85 to 135 VAC ("E" versions 190 to 270 VAC)
Meter Accuracy:	PL-PLUS Voltmeter: $\pm 3$ VAC; PM-8 Voltmeter: $\pm 5$ VAC; PM-8 Ammeter: $\pm 2$ amps, calibrated with internal trimpot adjustments
Spike Protection Modes:	Line to neutral, neutral to ground, line to ground
Spike Clamping Voltage:	Initial turn-on at 200 volts; TVSS rating of 400 volts peak at 500 amps, L-N, N-G, L-G (tested to UL-1449) (Initial turn-on for "E" versions, 390 volts peak L-N; 680 volt peak N-G, L-G)
Response time:	1 nanosecond
Maximum surge current:	6,500 amps
Maximum spike energy:	80 joules per mode, 240 joules total protection ("E" versions 130 joules L-N, 160 joules N-G, L-G, 450 joules total)
Noise attenuation:	PL-PLUS, PM-8: Transverse and common modes: 20 dB at 200 kHz, rising to >40 dB, 1 to 100 MHz
Mechanical:	Dimensions: 1.75" H x 19" W x 8" D. Weight: 6 lbs (2.7 kg). Construction: Steel chassis, zinc chromate plating; .125" brushed and black anodized aluminum front panel; glass epoxy printed circuit boards.
Power Consumption:	PL-8, 14 watts; PM-8 and PL-PLUS, 20 watts
Safety Agency Listings:	UL, CUL, CE.

