



PROCESS AUTOMATION

High Integrity Power Supply

N+1 Redundancy



- ◆ *Hot swappable for live replacement*
- ◆ *Active load sharing operation*
- ◆ *High density*
- ◆ *Built-in alarm outputs*
- ◆ *Automatic power factor correction*
- ◆ *Low noise —great for FIELDBUS applications*

INTRODUCTION

Pepperl+Fuchs Elcon, the name you can trust in the high-risk industry of hazardous area protection, is proud to introduce our high-integrity 24 V power supply system. These supplies are particularly well-suited to mission-critical applications throughout the process control industry. From emergency shutdown systems to fieldbus/HART networks, as well as many general-purpose process control applications, P+F Elcon power supplies meet the most demanding requirements of today's control system engineer.

The modular design of P+F Elcon power supply allows the system to be configured in a full, N+1 redundant mode. This guarantees uninterrupted power to your system even during a module failure and subsequent replacement resulting in very low MTTR (Mean Time To Repair). The automatic load-sharing feature eliminates load imbalances common in ordinary linear power supplies. The system is designed with external field connectors for easy cabinet layout as well as LED and alarm output features for quick diagnostic evaluation.

The 24 V, 15 A power module plugs directly into a 3- or 6-position chassis, allowing a maximum capacity of 45 A or 90 A respectively (30 A or 75 A in N+1 configuration). These high-efficiency modules (88% overall) require no internal or external cooling fans; plus, the modules are adjustable from 22.5 V to 28 V for precise voltage regulation. As an added feature, the input is rated for AC or DC voltage, which permits a battery backup supply to be used, eliminating the need for a UPS.

With all these features, we are confident Pepperl+Fuchs Elcon power supplies will meet expectations for your next critical application.



TECHNICAL SPECIFICATIONS

INPUT

Voltage	115 VAC nominal (2500/PM-115); 230 VAC nominal (2500/PM-230); 90-180 VDC (2500/PM-115); 180-375 VDC (2500/PM-230)
Inrush Current Limiting	<15 A peak for 5 msec max (115 VAC); <8 A peak for 5 msec max (230 VAC)
Max Input Current	5.8 A average (115 VAC); 2.9 A average (230 VAC)
Internal Fuses	6 A (5x20 mm glass cartridge) for 2500/PM-115; 3.15 A (5x20 mm glass cartridge) for 2500/PM-230
Input Terminals	3 terminal, double-sided 6 mm ² (10 AWG)
Power Factor	>0.99 50-100% load

GENERAL

Isolation	Output to Ground: 2.12 kVDC; Line to Ground: 2.12 kVDC Line to Output: 4.25 kVDC
Operating Temperature	-25°C to +55°C (+70°C for 2 hrs maximum) -25°C to +60°C (with de-rated output)
Storage Temperature	-40°C to +85°C
MTBF	>1 million hours
Weight	2500/PM (one module): 1.8 kg (4.0 lbs) PS2503 (chassis only): 0.9 kg (2.0 lbs) PS2506 (chassis only): 1.9 kg (4.3 lbs)

OUTPUT

Voltage	24 VDC±1% Adjustable 22.5-28 V on chassis
Ripple	35 mVrms (<100 mVp-p)
Temperature Coefficient of Output Voltage	±0.01% per °C max
Line Regulation	<200 mV (Vmin to Vmax Input)
Load Regulation (per power module)	<200 mV (0-15 A output load)
Turn-on/Turn-off Voltage Transient	100 msec to final value (no over/under shoot)
Minimum Hold-Up Time	≥30 msec at nominal input voltage and output load
Current	0-15 A nominal per 2500/PM Power Module (0-12 A at 60°C ambient)
Short Circuit Limit	20 A minimum
Output Terminals	2 terminal, double sided 10 mm ² (6 AWG); 65 A each

CERTIFICATIONS

Electromagnetic Compatibility	EN-50081-2 for conducted and radiated emissions; EN-50082-2 for immunity; Carries CE Mark
Safety	UL recognized component to U.S. and Canadian safety requirements

WIRING CONFIGURATIONS

PS2503

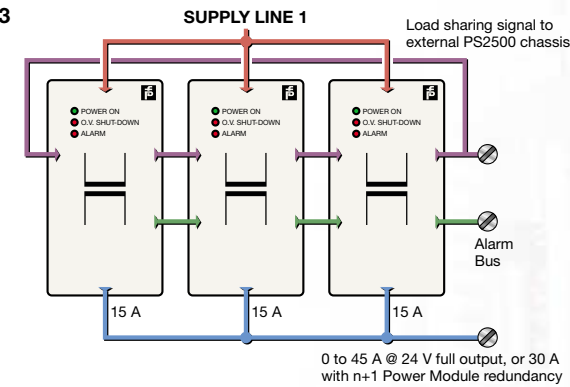


Figure 1

- ◆ 2500/PM Power Modules load share across all modules and across chassis.
- ◆ Figure 1 shows a PS2503 Power Supply with 1 supply line and either full load 45 A output or n+1 Power Module redundancy with 30 A output.
- ◆ Figure 2 shows a PS2506 Power Supply with a full power output of 90 A at 24 V, or n+1 Power Module redundancy with 75 A output.
- ◆ Figure 3 shows a fully redundant PS2506 Power Supply with both redundant supply lines and n+1 Power Module redundancy for a total output of 30 A at 24 V.

PS2506

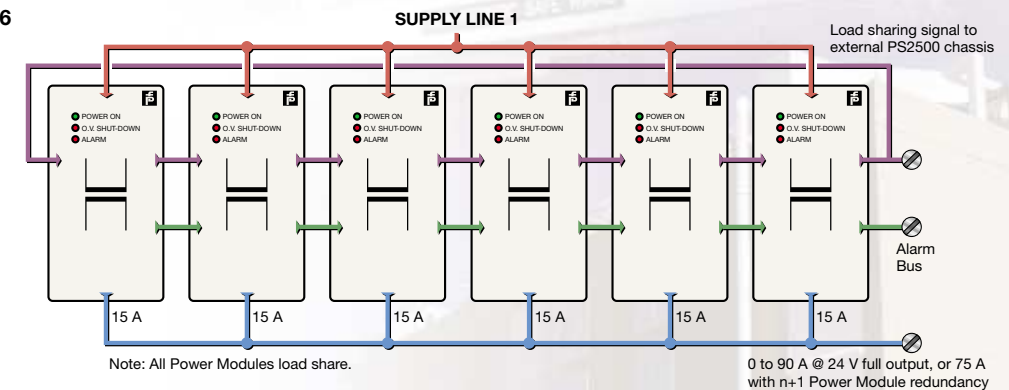


Figure 2

PS2506

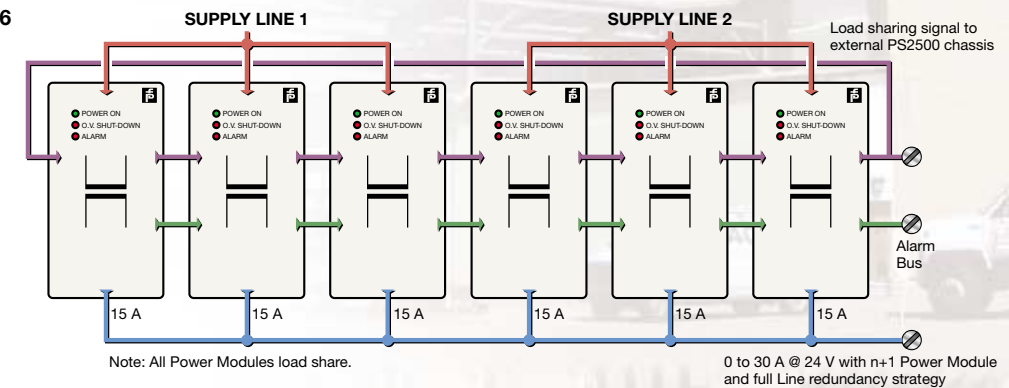


Figure 3

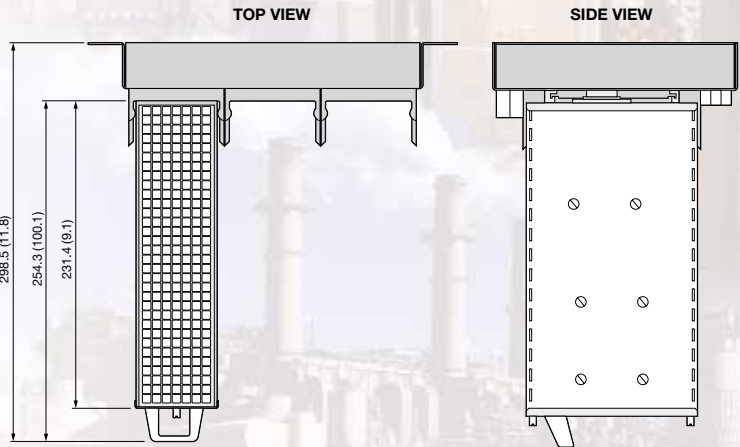
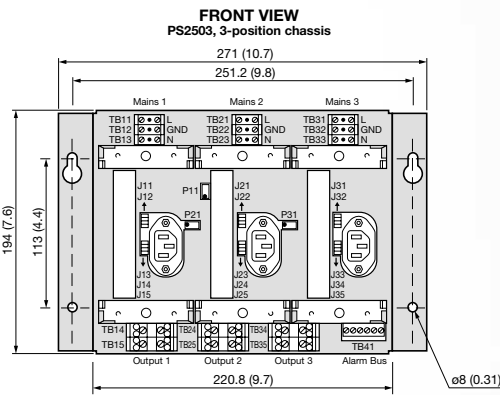
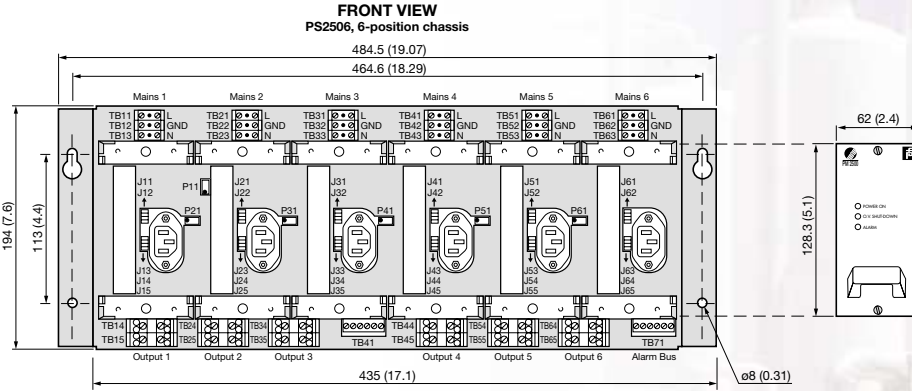
In addition to being able to replace modules under power, Pepperl+Fuchs Elcon power supply modules also feature redundant AC power configurations. This means that if your primary AC supply lines fails, relay modules automatically switch to the secondary AC line with no interruption in power delivery. This does not affect the load sharing or other features of the power supplies, and provides the ultimate in system security and integrity.



PS2500 DIMENSIONS AND MOUNTING

dimensions in mm (inches)

Integrating P+F Elcon power supplies into your system is easy with the compact chassis that puts up to 75 A of redundant n+1 power in a standard 19" rack space. Available in 3- and 6-position configurations, and with 115 or 230 VAC/DC, no other manufacturer can give you more redundant power supply mounting options than P+F Elcon. They're hot-swappable, compact and feature load-sharing ability, making P+F Elcon power supplies the smart choice.



ORDERING INFORMATION

PS250 / -2500/PM-

3 or 6 (3 or 6-position chassis)

1-6 Qty of Power Modules

115 or 230 (for 115 or 230 VAC/DC operation)



The GreenTeam is P+F's network of experts dedicated to providing customized process solutions.



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"Terms & Conditions of Sale" information is printed on every order acknowledgement; copies are available upon request.

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