

PS 2500 SYSTEM

The PS 2500 power supply, uses a modular system. Each (2500/PM) Power Module is rated for 15 Amps at 24Vdc output.

The modules plug into PS 2503 (3 position) or PS 2506 (6 position) surface mount chassis.

The chassis is user configurable for module or line redundant modes by hard wiring the chassis mounted terminal blocks.

- Extra protection from built-in fault blocking output diodes.
- Power Module DC output is adjustable on the chassis from 22.5 to 28 volts.
- AC/DC input capability permits back up battery supply, to avoid the need for a UPS.

HIGH EFFICIENCY

- High conversion efficiency (88% overall), makes the system so efficient, that internal cooling fans are not required in normal operating conditions.

HIGH OUTPUT FROM A SMALL PACKAGE

- PS 2503 chassis for 1 to 3 (2500/PM) Power Modules supplies up to 45 Amps in standard or 30 Amps output in (n+1 with 1 spare Power Module redundancy).
- PS 2506 chassis for 1 to 6 (2500/PM) Power Modules supplies up to 90 Amps in standard 75 Amps in Power Module redundant mode (n+1 with 1 spare Power Module).
- The supply can also be user configured in a fully redundant mode by grouping two sets of 3 Power Modules and supplying each group with a separate supply line.
The power supply system is then fully redundant with a 30 Amps output (n+1 with 1 spare Power Module for each group).
Should a line or Power Module fail, the system will continue to supply 30 Amps.
See figure 3 at page 7 for details.

IN-BUILT ALARM MONITORING

- Each Power Module has integral alarms which monitor,
 - High DC voltage
 - Low DC Voltage
 - Mains Failure
 - Power Module Failure

All alarms are commoned to a set of terminals on a user configurable and/or logic bus and are indicated by front mounted LED indicators on each Power Module.

FLEXIBLE ON-LINE LIVE REPLACEMENT

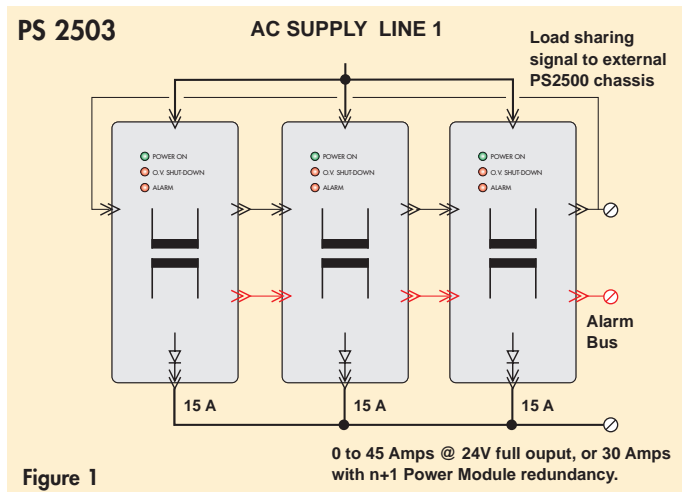
- Power Modules are “Hot Swappable” for live on-line replacement, with automatic fault detection.
- High reliability minimises servicing and maximises Mean Time To Repair.
- All plug-in (2500/PM) Power Modules fully load share with automatic load adjustment.
- Power Modules automatically load compensate for failure of another module.
The failure is indicated on the Power Module LED and signalled on a integral alarm bus.
- Front access construction permits wall mounting or back installation on dual sided cabinets.

PS 2503 CHASSIS WITH POWER MODULES



ALTERNATIVE PS 2500 WIRING CONFIGURATIONS

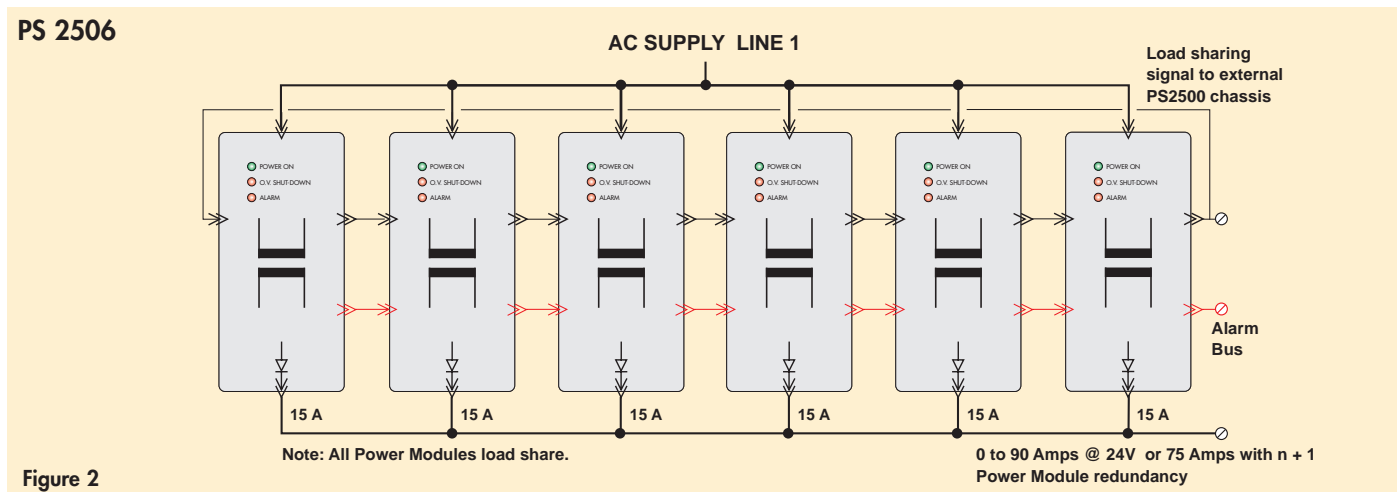
FULL OUTPUT or n+1 REDUNDANCY



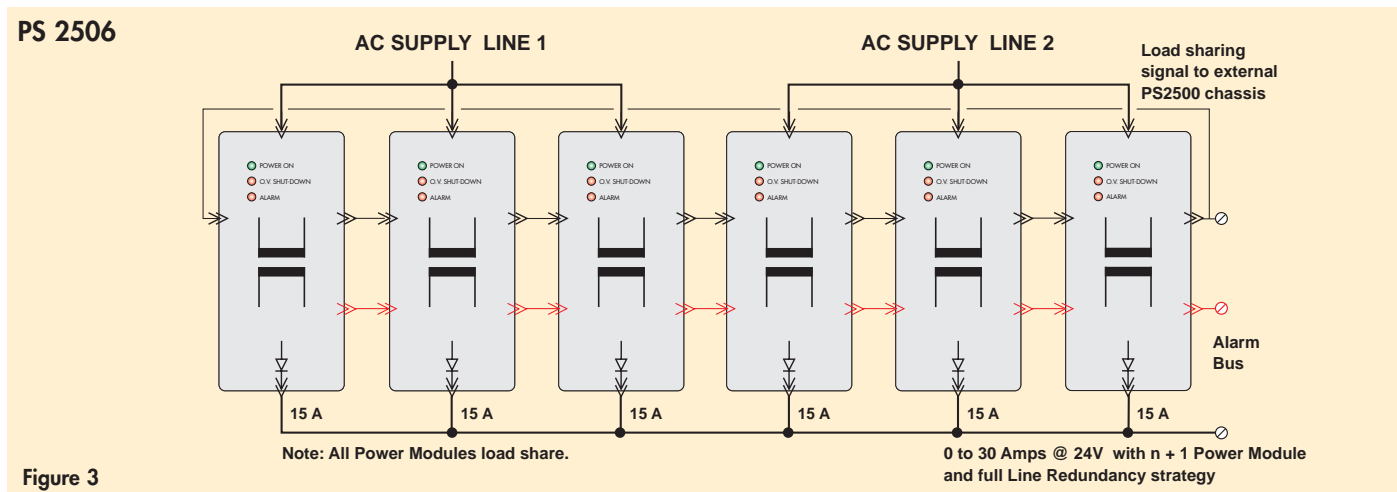
PS 2500 TOTAL USER FLEXIBILITY

- 2500/PM Power Modules load share across all modules, and across chassis.
- Figure 1 shows a PS 2503 Power Supply with 1 supply line and either full load 45 Amps output or n+1 Power Module redundancy with 30 Amps output.
- Figure 2 shows a PS 2506 Power Supply with a full Power output of 90 Amps at 24 volts, or n+1 Power Module redundancy with 75 Amps output.
- Figure 3 shows a fully redundant PS 2506 Power Supply with both redundant supply lines and n+1 Power Module redundancy for a total output of 30 Amps at 24 volts.

HIGH FULL POWER OUTPUT WITH n+1 REDUNDANT CONFIGURATION



FULLY REDUNDANT POWER MODULE AND SUPPLY LINE CONFIGURATION



PS 2500 TECHNICAL SPECIFICATIONS

INPUT

Input line voltage:

- AC : 115 Vrms nominal (2500/PM-115)
(80 to 138 v Rms) single phase 44 to 66 Hz.
- DC : 90 to 180 V.
- AC : 230 Vrms nominal (2500/PM-230)
(161 to 276 v Rms) single phase 44 to 66 Hz.
- DC : 180 to 375 V.

Inrush current limiting:

- AC : 115 V < 15 A peak a max 5 ms.
- AC : 230 V < 8 A peak a max 5 ms.

Steady state input current:

- AC : 115 V - 5.8 Amps average.
- AC : 230 V - 2.9 Amps average.

Internal fuses:

- PS 2500/PM-115 - 6 A (5 x 20 mm glass).
- PS 2500/PM-230 - 3.15A (5 x 20 mm glass).

Input Terminals:

- 3 double sided mains terminals 6 mm² (10 AWG).

OUTPUT

OUTPUT VOLTAGE:

- 24 Vdc ±1% - Adjustable from 22.5 to 28 V on chassis.

Ripple:

- 35 mVrms. (< 100 mV pk - pk).

Temperature Coefficient of output voltage:

- ± 0.01% per °C Max.

Line regulation:

- V min to V max Input < 200 mV.

Load regulation (per power module):

- 0 to 15 Amps Output load < 200 mV.

Turn-on/Turn-off transient:

- Output voltage ramps to final value in less than 100 ms (no over / under shoot).

Minimum hold-up time:

- ≥ 30ms at nominal input voltage and output load.

OUTPUT CURRENT:

- 0 to 15 Amps nominal per (2500/PM) Power Module (PS 2503 - 45 Amps – PS 2506 - 90 Amps total nominal).

Short circuit limit:

- 20 Amps minimum.

Output terminals:

- 2 double side output terminals 10 mm² (6 AWG).
- 65 Amps each.

GENERAL

Isolation:

- Output Versus Ground: 2.12 Kv Vdc.
- Line Versus Ground: 2.12 Kv Vdc.
- Line Versus Output: 4.25 Kv Vdc.

Storage temperature:

- 40°C to + 85°C.

Operating temperature:

- 25°C to + 55°C, (+ 70°C max. for 2 hrs).

CHASSIS OPTIONS

PS2503, 3 position surface mounting chassis accepts 1 to 3 2500/PM Power Modules.

PS2506, 6 position surface mounting chassis accepts 1 to 6 2500/PM Power Modules.

PS 2506 CHASSIS



2500/PM POWER MODULE



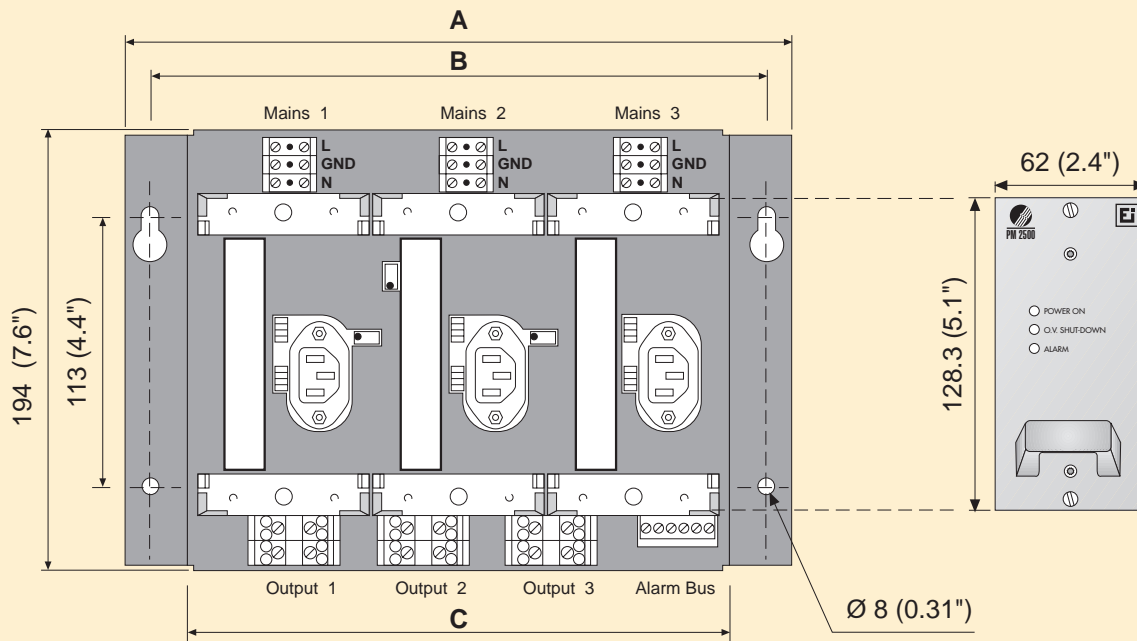
EMI COMPATIBILITY

Conforms to EN-50081-2 for conducted and radiated emission and EN-5082-2 for immunity. Carries CE mark.

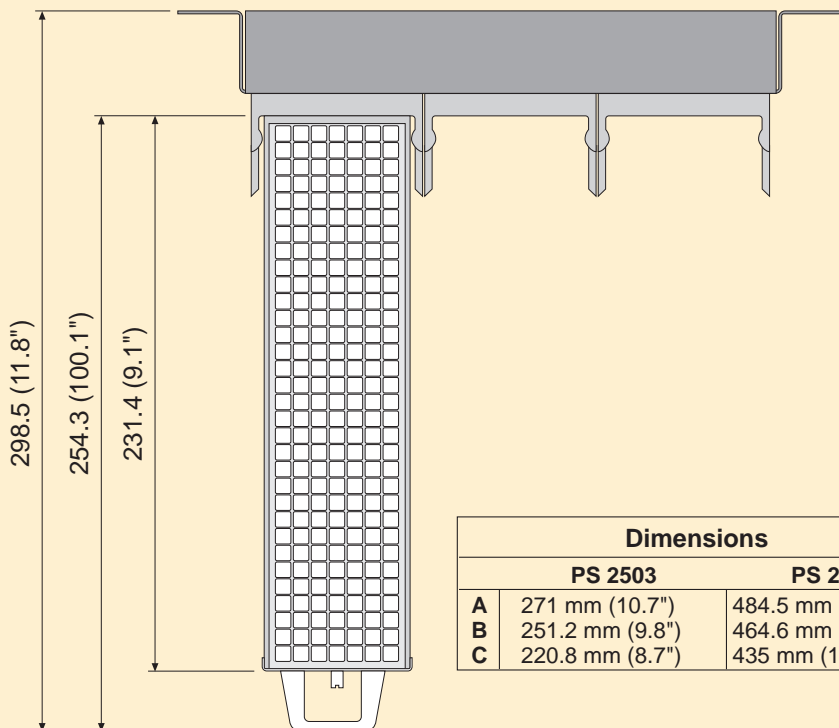
Elcon continually improves product development. Therefore specifications may change without notice.

PS 2500 DIMENSIONS AND MOUNTING: mm (inches)

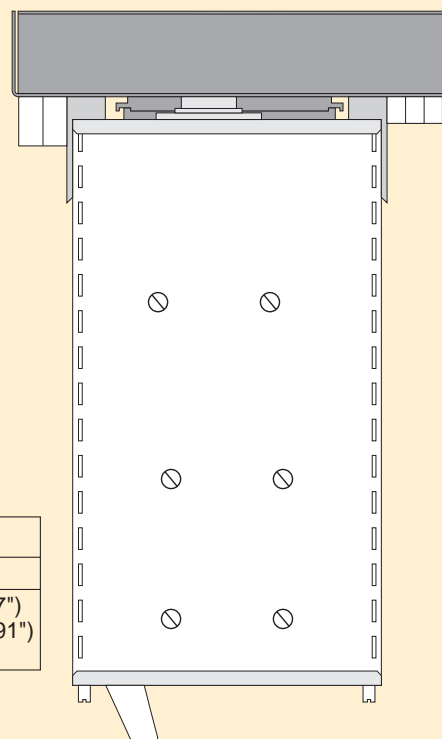
FRONT VIEW



TOP VIEW

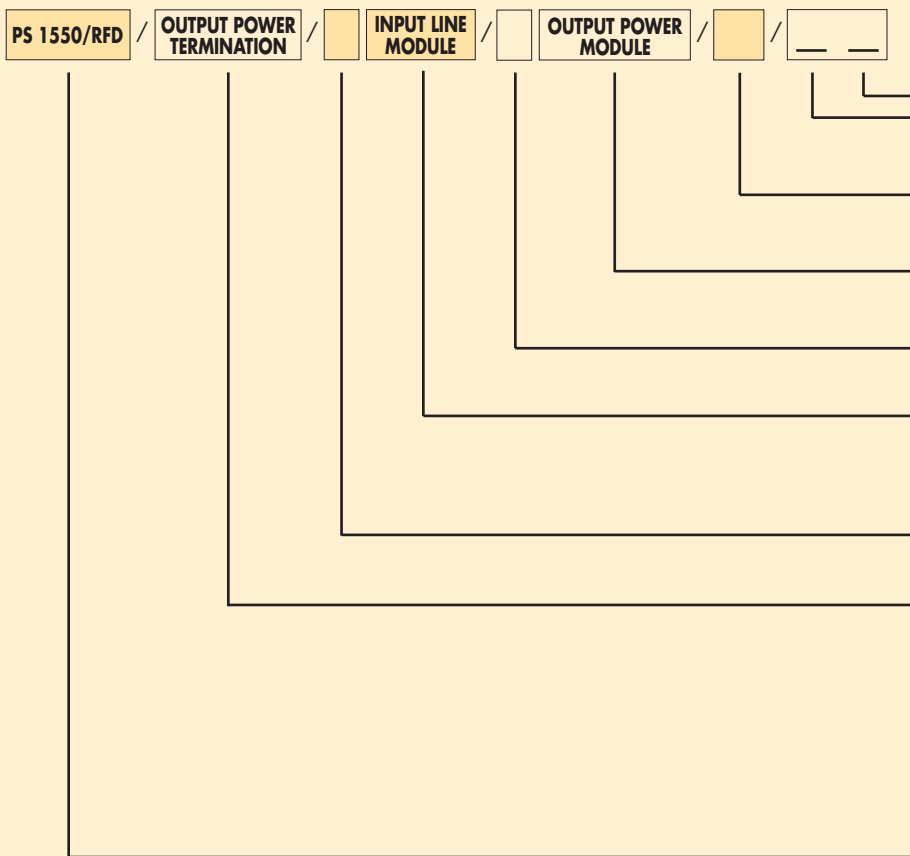


SIDE VIEW



| Dimensions | | |
|------------|-----------------|--------------------|
| | PS 2503 | PS 2506 |
| A | 271 mm (10.7") | 484.5 mm (19.07") |
| B | 251.2 mm (9.8") | 464.6 mm (18.291") |
| C | 220.8 mm (8.7") | 435 mm (17.1") |

PS 1550 ORDERING INFORMATION



Blanking Plates:
Quantity for blank output modules
Quantity for blank input modules

RP Rear Mounting brackets
FP Standard 19" Rack mount

Output Module Options (24 Vdc, 6 A each)
1550/PM-115 (for 110-115 Vac/dc Operation)
1550/PM-230 (for 220-240 Vac Operation)
Qty. (1 to 6)

Input power conditioning module options
1550/LM-115 (for 115±15% Vac/dc operat.)
1550/LM-230 (for 230±15% Vac operation)
If using two modules they must be the same.
Qty. (1 or 2)

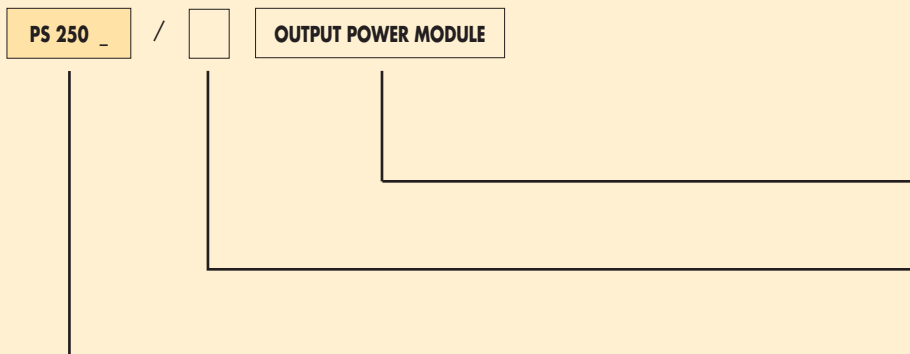
24 Vdc Output Termination Options:
1550/TB-OUT
16 pairs screw terminals
2.5 mm² (12 AWG) 4 A each
1550/TB-OUT 4/20
4 pairs screw terminals
6 mm² (10 AWG) 20 A each
1550/TB-OUT 60
1 pair heavy duty stud 60 Amps each

19" Rack 4U high including supply input/alarm termination and fans

Example Code: PS 1550 RFD / TB-OUT 60 / 2x1550 LM-115 / 5x1550 PM-115 / FP / 01

24 Vdc 30 A Power supply system including fans, 60 Amp output studs, 2 only 1550/LM line modules 115 V, 5 only 1550/PM Power Modules (24 Vdc 6A each), standard 19" rack mounting, with no input blanking plates and 1 output blanking plate.

PS 2500 ORDERING INFORMATION



2500/PM-115 (for 110-115 Vac/dc Operation).
2500/PM-230 (for 220-240 Vac Operation).

Qty. of Power Modules (1-3) for PS2503 Chassis
Qty. of Power Modules (1-6) for PS2506 Chassis

3 3 position chassis.
6 6 position chassis.

Example Code: PS 2503 / 3 x 2503 PM - 230.

3 Position chassis with 3 230ac 2500/PM-230 Power Modules.

PS 2506 / 5 x 2500 PM - 115.

6 Position chassis with 5 only 115ac 2500/PM-115 Power Modules, 1 position spare.