

Features

- N+1 redundancy provides highest reliability
- Diagnostics and fault indication
- Modular and hot swappable
- Automatic load sharing
- Adjustable voltage
- Fanless
- Class I/Div 2, ATEX Zone 2 approved

Function

The PS3500-PM-1.24.15 power supply module works with the PS2500/PS3500 series backplanes. The power supply is well suited for emergency shut down systems, fieldbus / HART networks, as well as any general-purpose process applications.

Each 24 V, 15 A module plugs directly into a 3- or 6-position backplane allowing a maximum capacity of 45 A or 90 A of uninterrupted power. The output voltage is adjustable from 22.5 V to 30 V DC.

Universal input power is standard and allows a battery backup, eliminating the need for a UPS connection. The power supply modules are highly efficient (up to 91%) and use natural convection cooling.

Each module operates with automatic load sharing, so modules are hot swappable with no effect on the output supply.

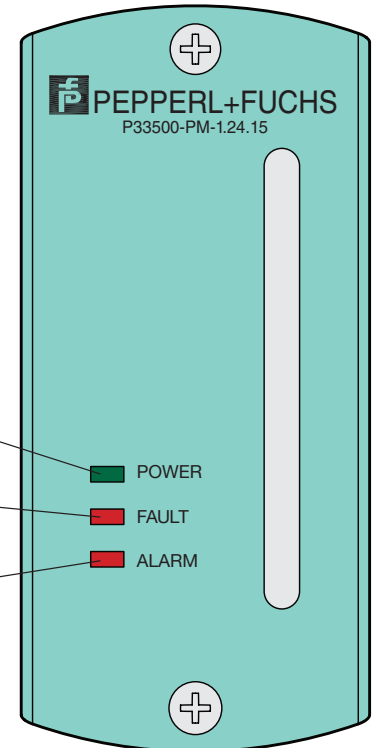
Assembly

Front View

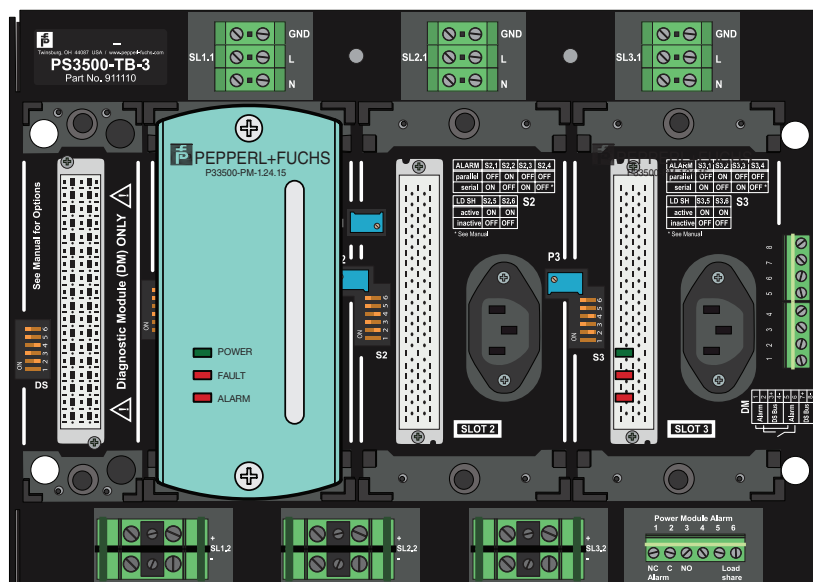
LED green:
Power supply

LED red:
Fault

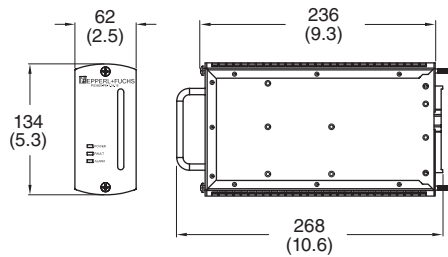
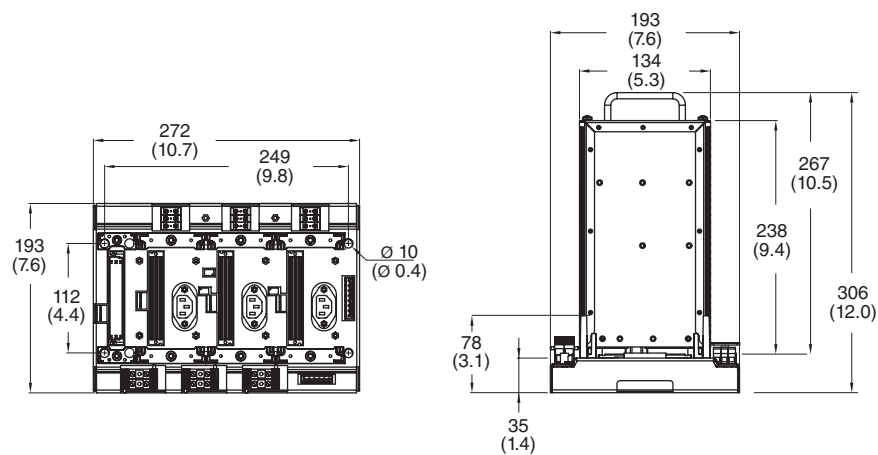
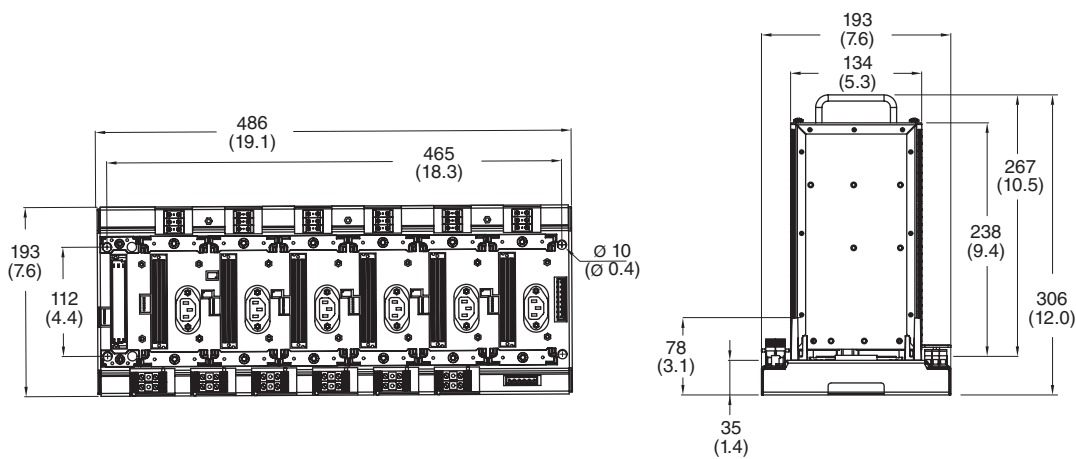
LED red:
Alarm



Connection



Input	
Input current	max 6.5 A
Inrush current	< 50 A peak for 50 µs
Voltage	90 ... 250 V AC; ± 10 %, 90 ... 300 V DC
Power factor	> 0.97, 50 ... 100 % load
Output	
Current	15 A
Voltage	24 V DC ± 1 % (22.5 ... 30 V DC adjustable)
Ripple	35 mV _{rms} (< 100 mV _{pp})
Fault signal	relay 2 A, 220 V DC, 250 V AC, 60 W
Response time	min. hold-up time: ≥ 25 ms at nominal input voltage and output load
Input regulation	< 100 mV (90 ... 250 V AC ; 90 ... 300 V DC)
Load regulation	< 100 mV (0 ... 15 A output load)
Turn-on/turn-off voltage transient	200 ms to final value (no over/under shoot)
Temperature coefficient	max. ± 0.01 % per °C
Short-circuit current	≤ 20 A
Efficiency	up to 91 %
Electrical isolation	
Input/output	4.25 kV DC
Input/ground	2.12 kV DC
Output/ground	2.12 kV DC
Indicators/settings	
Display elements	LED Power, green: power on LED Fault, red: fault indication LED Alarm, red: module shut-down
Directive conformity	
Electromagnetic compatibility	
Directive 2004/108/EC	EN 61326:1999 EN 61000 sections 3-2, 3-3, 4-2, 4-4, 4-5, 4-6, and 4-11
Conformity	
Electrical isolation	IEC 61131-2
Electromagnetic compatibility	NE 21
Protection degree	EN 60529
Shock resistance	EN 60068-2-27
Vibration resistance	EN 60068-2-6
Ambient conditions	
Ambient temperature	-25 ... 45 °C (248 ... 318 K) , derated: 0,4 A/°C, (from 45 ... 70 °C)
Storage temperature	-40 ... 85 °C (233 ... 358 K)
Relative humidity	< 95 % , non-condensing
Shock resistance	15 g , 11 ms
Vibration resistance	1 g , 58 ... 150 Hz
Mechanical specifications	
Protection degree	IP20
Mass	approx. 1.8 kg (4.125 lbs)
Dimensions	134 x 62 x 268 mm (5.3 x 2.5 x 10.6 in)
Data for application in conjunction with hazardous areas	
EC-Type Examination Certificate	ITS 09 ATEX 46140 X
Group, category, type of protection	Ⓔ Il3 G Ex nC IIC T4
Directive conformity	
Directive 94/9/EC	EN 60079-0, EN 60079-15
International approvals	
ETL Intertek	listed ANSI/UL 508 - 2005 ANSI/ISA 12.12.01 - 2.07 CSA C22.2 No. 213 C22.2 No.214CSA C22.2 No. 213 CAN/CSA C22.2 No.14-05 With update No.3, 2008
Approved for	Class I, Zone 2, Group IIC T4 Class I, Division 2, Groups A, B, C, D, T4
General information	
Supplementary information	Statement of Conformity, Declaration of Conformity and instructions have to be observed where applicable. For information see www.pepperl-fuchs.com .

Dimensions mm (in)**System dimensions mm (in)****3500-TB-3****3500-TB-6****Curves**

