

AC-DC Uninterruptible Power Supplies



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Model: PFD Series 19" Rack Mounting 12V, 24V or 48V DC output Uninterruptible Power Supplies 150 or 300 Watts

The PFD Series is a no break system to provide constant power without interruption. The multi channel outputs use independent fuses for protection. The quick response short circuit protections limits the maximum output current and prevents the fuse from blowing. The smart interface helps the user to monitor the battery condition, input power condition and load status.



Front Panel

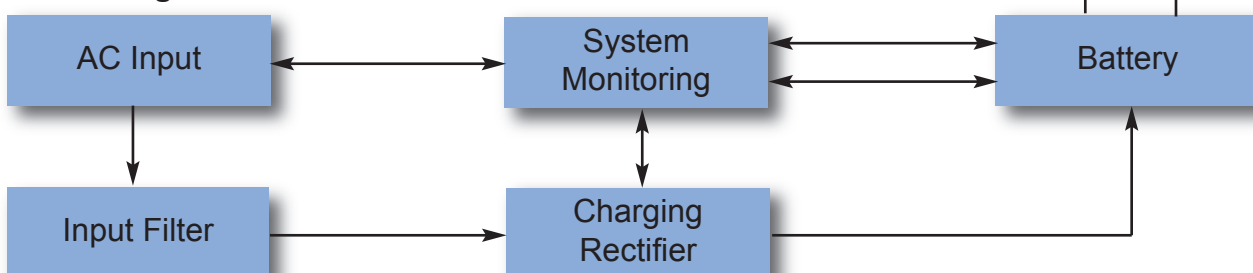


Rear Panel

Features

- Can be used as a power and charging device
- Short circuit protection on outputs
- Total discharge protection
- Soft start characteristics
- Intelligent battery condition monitoring
- Can support different interfaces like USB, RS232 & SNMP Card (optional)
- Battery can be hot swappable
- Zero interruption in the event of a mains failure
- Wide 180-264VAC 50/60Hz input range

Block Diagram



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Functional Description

In normal mode the charger will charge the battery as well as supply constant power to the DC load. The charger current will reduce when load current increases. Sometimes if the peak load current is in excess of what the charger can supply, the battery will supply load current at the same time. When the battery is fully charged the charger will maintain a trickle charge to the battery and current to the DC output. In the case of a power failure, the charger will stop providing current and the battery will take over to maintain the DC output current. The length of battery back up depends on the size of batteries being used. When the battery voltage drops to a pre determined level it will switch off to prevent deep discharge to the battery. We don't specify a maximum battery capacity as this depends very much on how much load you take and how much power is left for battery charging. In general you would probably want to float charge a battery at 10% of capacity to give a reasonable recharge rate. So for example if you were using a 12V 65AH battery for back up and wanted to charge this at 0.1C this would 87.75 Watts for charging so would give 62.25W or 124.5W for load depending on which power model you used. Example is for a 12V system. This would give a reasonable recharge time for the battery. Obviously you can balance your power requirements between charging and load requirements.

Electrical Specification

AC Input Voltage	180-264VAC
Input Current @ 220VAC	1.5A max 150W models, 3A max 300W models
Input Frequency	50/60Hz
Charge Voltage	see table for each model
Charge Current no Load	see table for each model
Max Load Current	see table for each model
Operating Temperature Range	0-40°C
Individual DC Terminal Outputs	3 sets of DC terminals optional up to 6
Output Screw Terminal Load	10A max (< 4 seconds)
Output Protection	Short cct, over load, over voltage & over temperature
Low Battery Signal	see table for each model
Low Battery Disconnect	see table for each model
Dry Contact Signal	AC input fail, Low Battery (open when fault detected, 5A max)
Battery Back up Time	depending on battery size and load required
Cooling	temperature controlled fan
RS232 & USB connection	monitors signals using UPSilon 2000 software
SNMP Card	optional, consult sales office
Battery Input Connection	Anderson type
AC Input Connector	IEC320 C14 socket
DC Output Connectors	screw terminal blocks
Front Panel Indicators	See front panel display table
Reverse Polarity Protection of Battery	via external fuse
Safety Standard	EN60950
Dimensions	1U high 19" rack x 250mm deep
Weight	150 Watt model 3.5kg 300W model 4.5kg

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Front Panel Display

LED	INPUT	OUTPUT	CHARGING	BATTERY
ROW 1	GREEN AC input OK	GREEN DC output OK	GREEN Fully Charged	RED Battery Replacement
ROW 2	YELLOW Power Failure	YELLOW Overload or short cct	YELLOW Charging	YELLOW Battery Low

Model Selection Guide

MODEL	PFD150-12	PFD150-24	PFD150-48	PFD300-12	PFD300-24	PFD300-48
Power Rating	150 Watts	150 Watts	150 Watts	300 Watts	300 Watts	300 Watts
Output Voltage	Nominal 12V (11 to 13.5V)	Nominal 24V (22 to 27V)	Nominal 48V (44 to 54V)	Nominal 12V (11 to 13.5V)	Nominal 24V (22 to 27V)	Nominal 48V (44 to 54V)
Max Charge Power off Load	150 Watts	150 Watts	150 Watts	300 Watts	300 Watts	300 Watts
Max Charge Power on Load	135 Watts	135 Watts	135 Watts	270 Watts	270 Watts	270 Watts
Low Battery Signal	11V	22V	44V	11V	22V	44V
Low Battery Cut Off	10.5V	21V	42V	10.5V	21V	42V