



Features:

- Switched mode power supply
- Wide output range 0-72VDC
- Analog control by an external 0-5VDC
- Power failure alarm output
- Master-slave connection

The PF1600-PS series are a high power, lightweight, advanced power supply series using modern switching technology. All units can be used as a power supply or constant voltage battery charger. The output voltage and output current can be adjusted from 0 to maximum value by a internal adjustment trimmers on the front panel, with an optional 0-5V analog control or serial bus. The reliable PAP power supply series meets the safety and EMC requirements established by the EU.

Specifications		
Input voltage	55-250VAC (55-200VAC reduced power, see curve p. 2)	
Input current	1600W / 9A	
Power factor	>0,98	
Efficiency (240VAC, 10%-100% load)	86%	
Inrush current	<30A, cold start	
Input fuse (inside the unit)	10A	
Line regulation	±0.1%	
Load regulation	±0.5%	
Output setting accuracy	±0.1%	
Output ripple (f>50Hz)	<50 mVrms	
Hold-up time	>5 ms	
Status LED indicator Orange	orange: power OK	
Isolation	input-chassis	1500 VAC
	input-output	3750 VAC
	output-chassis	500 VAC
Standards	safety	EN 60950, EN60335-2-29 +A2
	EMC	EN 55022B, EN50081-1, EN50082-2
Approvals	All models CE marked.	
Protection class	mechanical	IP20 metal enclosure
	electrical	Class 1
Dimensions	w x h x d	267 x 135 x 85 mm
Weight	1,9 kg without cables	
Mounting	Wall, bench	
Connectors	input	power chord 1,5m
	output	2m 10 mm ² cable
Cooling	Temperature controlled fan	
Operating temp range	0°C - +40°C (fixed assembly)	

Power supply models

Model	Input voltage range**	Nominal output voltage	Voltage setting range	Nominal output current	Current setting range	Maximum power
PF1600-PS12 PF1600-PS12-AI*	55-250VAC	12VDC	0-18VDC	120A	0-120A	1600W
PF1600-PS24 PF1600-PS24-AI*	55-250VAC	24VDC	0-36VDC	60A	0-60A	1600W
PF1600-PS36 PF1600-PS36-AI*	55-250VAC	36VDC	0-54VDC	40A	0-40A	1600W
PF1600-PS48 PF1600-PS48-AI*	55-250VAC	48VDC	0-72VDC	30A	0-30A	1600W

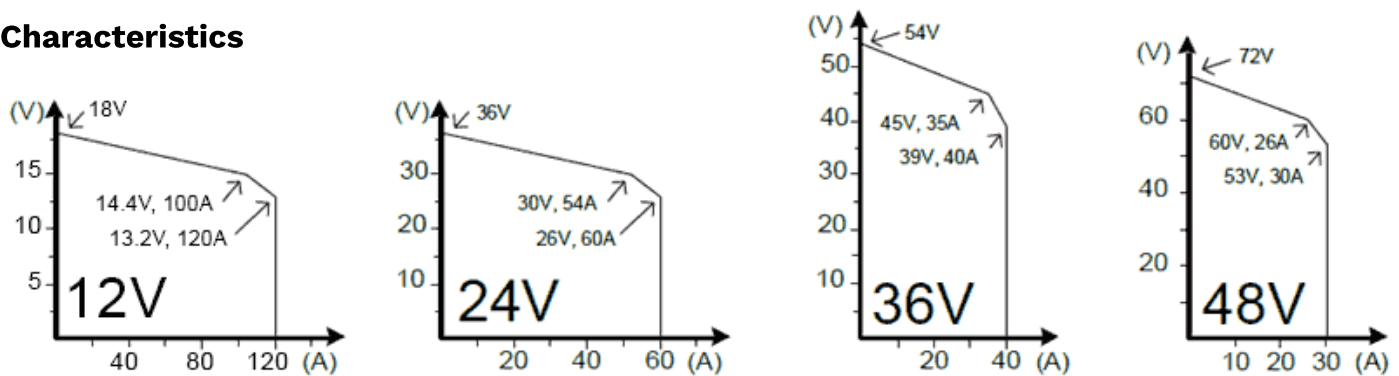
* Cable sets with modular connectors are included: 1,5 m cable for analog control.

** Reduced power 55-200VAC, see curves.

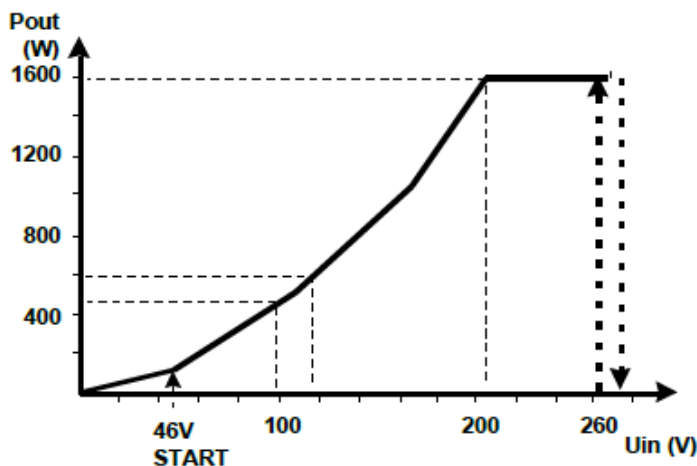
Customized versions on request

- Cyclic battery chargers or customized charging curves for all kind of batteries
- Sense models

Characteristics



Output power / input voltage de-rating characteristic (see power limitation and start-up at DC-input).



Nominal output current / voltage characteristics PF1600-PS.

Output voltage and current limit adjustment

Trimmer or analog control adjustable modules, type example PF1600-PS24 or PF1600-PS24-AI:

The output voltage and output current limit of the power supply can be adjusted as follows:

- Trimmer adjustable models: with the multi-turn potentiometers accessible from the front panel.
- Analog controllable models by an external 0-5VDC voltage. See detailed description

Both voltage and current can be adjusted from zero to the maximum value. Maximum 1600W output power is available within the adjustment range.

LED

STATUS LED indicates different phases during charging process. In normal power supply operation an orange LED indicates a healthy output voltage.

Overcurrent protection

The output of the power supply is protected against overcurrents and short circuits by an automatic, self-resetting electronic current limiter.

Series/parallel connection

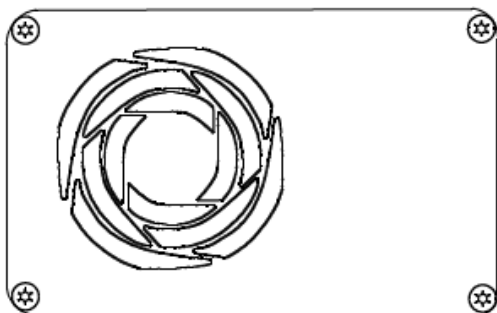
Parallel operation: No restrictions, passive load sharing

Series operation: Up to 500V total voltage

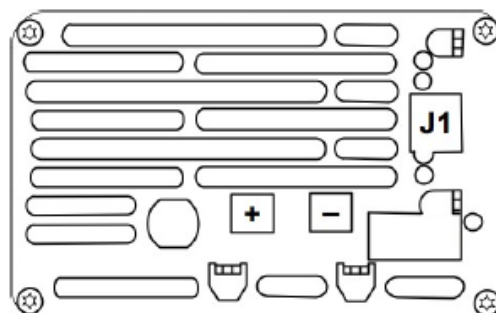
Warning

Dangerous voltages, capable of causing death are present in the power supply. Do not remove the cover. There are no operator serviceable parts inside the unit. Refer servicing to qualified service personnel only.

Modular connectors



FRONT PANEL

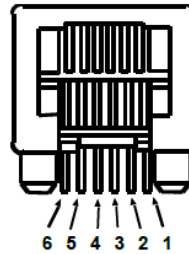
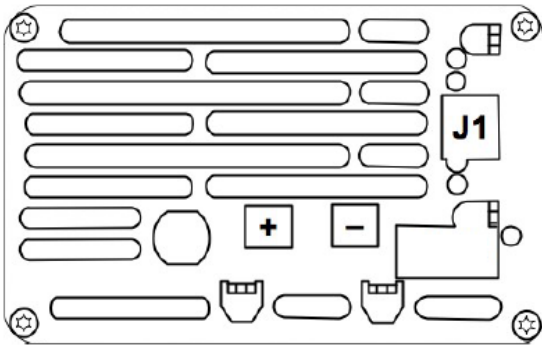


REAR PANEL

J1 Option Analog

Analog control

The optional analog control input J1 allows full control of the output current and voltages and it provides the measured values for both of these. A +5V supply power is available for the supply of the control logic. The analog input has an isolation value of 500 V towards the input and output of the power supply.



- Pin configuration
- 1 Ground
 - 2 Current control input
 - 3 Voltage control input
 - 4 Measured current value
 - 5 Measured voltage value
 - 6 +5V (max. 20mA) output

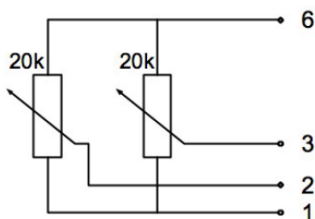
Pin configuration of the modular connector J1.
The analog control card is connected via an AMP modular 6 connector.

Controlling the analog card

All control voltages must be between 0 and +5V, Higher voltages are not allowed. The control logic is positive, so that a +5V control voltage gives a maximum value from the power supply, while 0V means minimum output. As soon the control connector is unplugged from the modular connector, the power supply are reset to the minimum output values.

The measured values can be read from the measurement signals. The measured values are scaled equal to the target values. If the power supply is set to the voltage reference, the measured value must be equal to the target. The same counts for the current control and its measured value. Measured signals (both together) can be loaded with max 20mA; otherwise proper operation cannot be guaranteed.

The modular connector is isolated from the input, output and enclosure of the power supply. This enables the possibility to parallel or series connect several power supplies maintaining equal voltages. The number of connected devices is not limited. The 500V insulation voltage may, however, not be exceeded. This manual cannot be applied in case the connector of the analog card differs from a modular connector (9-pin D-connector). In that case it is an incompatible analog controlled power supply.



Connecting example using the internal +5Vdc supply and external potentiometers. The +5V can be used as a supply for external circuits. The circuit given to the left, lets the power supply operate as a potentiometer controlled device. It is important to keep in mind that the +5V output may not be loaded more than 20mA, otherwise proper operation cannot be guaranteed.