



Features:

- Switched mode power supply
- Wide output range 0-900VDC
- Analog control by an external 0-5VDC
- Power failure alarm output
- Master-slave connection

The PF3200-PS series are a high power, lightweight, advanced power supply 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 an external 0-5V analog control, with internal adjustment trimmers.

Specifications					
Input voltage	70-264VAC 1-phase (70-230VAC, reduced power) 70-369VDC				
Efficiency	89% at full load, >90% at 50% load (230VAC input)				
Input current	16A (max)				
Frequency	47-63Hz				
Power factor	>0,98				
Inrush current	soft start				
Output ripple	<1%rms from maximum output voltage (1MHz bandwidth)				
Mechanics	Wall mounting, see dimensions p. 3				
Connectors	<table border="1"> <tr> <td>Input</td> <td>Input power cord</td> </tr> <tr> <td>Output</td> <td>Models 12V, 24V, 36V, 48V, copper busbar terminals Models 72V, 110V, 160V, 10mm² 3m output cables Models 220V, 280V, 560V, 900V SPT5/2-H-7,5 Phoenix</td> </tr> </table>	Input	Input power cord	Output	Models 12V, 24V, 36V, 48V, copper busbar terminals Models 72V, 110V, 160V, 10mm ² 3m output cables Models 220V, 280V, 560V, 900V SPT5/2-H-7,5 Phoenix
Input	Input power cord				
Output	Models 12V, 24V, 36V, 48V, copper busbar terminals Models 72V, 110V, 160V, 10mm ² 3m output cables Models 220V, 280V, 560V, 900V SPT5/2-H-7,5 Phoenix				
Enclosure	Aluminum case, IP20				
Weight	7.1 kg without cables				
Output grounding	Floating				
Ambient temperature range	0°C...+40°C at full load, abs. max. +55°C				
Overtemperature protection	Processor controlled on/off				
Overcurrent protection	Electrical current limit				
Reverse polarity protection	With fuse (12VDC version doesn't have fuse)				
Standards	<table border="1"> <tr> <td>Safety</td> <td> Class 1 EN 60950-1 LIMITATIONS <i>Conformity can be limited depending on the end application output control method or unit mechanical structure.</i> <i>Note: If the charger's rated output voltage is higher than 60VDC the charger doesn't fulfill 1.2.8.7 (Safety Extra Low Voltage). Standard parts (2.1 Protection against electric shock) must be taken into account in installation.</i> EN60335-2-29:2004 EN60335-1:2002 +A11:2004 +A1:2004 +A12:2006 +A2:2006 EN50366:2003 +A1:2006 LIMITATIONS <i>Conformity can be limited depending on the end application output control method or unit mechanical structure.</i> <i>Note: If the charger's rated output voltage is higher than 36V it doesn't fulfill article 10.101 ("The no-load d.c. output voltage shall not exceed 42.4V").</i> </td> </tr> <tr> <td>EMC</td> <td>Limits EN55022 Class B; Application must be discussed in detail</td> </tr> </table>	Safety	Class 1 EN 60950-1 LIMITATIONS <i>Conformity can be limited depending on the end application output control method or unit mechanical structure.</i> <i>Note: If the charger's rated output voltage is higher than 60VDC the charger doesn't fulfill 1.2.8.7 (Safety Extra Low Voltage). Standard parts (2.1 Protection against electric shock) must be taken into account in installation.</i> EN60335-2-29:2004 EN60335-1:2002 +A11:2004 +A1:2004 +A12:2006 +A2:2006 EN50366:2003 +A1:2006 LIMITATIONS <i>Conformity can be limited depending on the end application output control method or unit mechanical structure.</i> <i>Note: If the charger's rated output voltage is higher than 36V it doesn't fulfill article 10.101 ("The no-load d.c. output voltage shall not exceed 42.4V").</i>	EMC	Limits EN55022 Class B; Application must be discussed in detail
Safety	Class 1 EN 60950-1 LIMITATIONS <i>Conformity can be limited depending on the end application output control method or unit mechanical structure.</i> <i>Note: If the charger's rated output voltage is higher than 60VDC the charger doesn't fulfill 1.2.8.7 (Safety Extra Low Voltage). Standard parts (2.1 Protection against electric shock) must be taken into account in installation.</i> EN60335-2-29:2004 EN60335-1:2002 +A11:2004 +A1:2004 +A12:2006 +A2:2006 EN50366:2003 +A1:2006 LIMITATIONS <i>Conformity can be limited depending on the end application output control method or unit mechanical structure.</i> <i>Note: If the charger's rated output voltage is higher than 36V it doesn't fulfill article 10.101 ("The no-load d.c. output voltage shall not exceed 42.4V").</i>				
EMC	Limits EN55022 Class B; Application must be discussed in detail				

Power supply models

Model	Input voltage range**	Nominal output voltage	Voltage setting range	Current setting range	Maximum power
PF3200-PS12 PF3200-PS12AI*	70-264VAC / 70-369VDC	12VDC	0-18VDC	0-200A	3000W
PF3200-PS24 PF3200-PS24AI*	70-264VAC / 70-369VDC	24VDC	0-36VDC	0-127A	3200W
PF3200-PS36 PF3200-PS36AI*	70-264VAC / 70-369VDC	36VDC	0-54VDC	0-95.5A	3200W
PF3200-PS48 PF3200-PS48AI*	70-264VAC / 70-369VDC	48VDC	0-72VDC	0-64A	3200W
PF3200-PS72 PF3200-PS72AI*	70-264VAC / 70-369VDC	72VDC	0-108VDC	0-42A	3200W
PF3200-PS110 PF3200-PS110AI*	70-264VAC / 70-369VDC	110VDC	0-165VDC	0-25A	3000W
PF3200-PS160 PF3200-PS160AI*	70-264VAC / 70-369VDC	160VDC	0-230VDC	0-20A	3000W
PF3200-PS220 PF3200-PS220AI*	70-264VAC / 70-369VDC	220VDC	0-320VDC	0-14A	3000W
PF3200-PS280 PF3200-PS280AI*	70-364VAC / 70-369VDC	280VDC	0-420VDC	0-10A	3200W
PF3200-PS560 PF3200-PS560AI*	70-364VAC / 70-369VDC	560VDC	0-840VDC	0-5A	3200W
PF3200-PS900 PF3200-PS900AI*	70-364VAC / 70-369VDC	900VDC	0-900VDC	0-3.5A	3200W

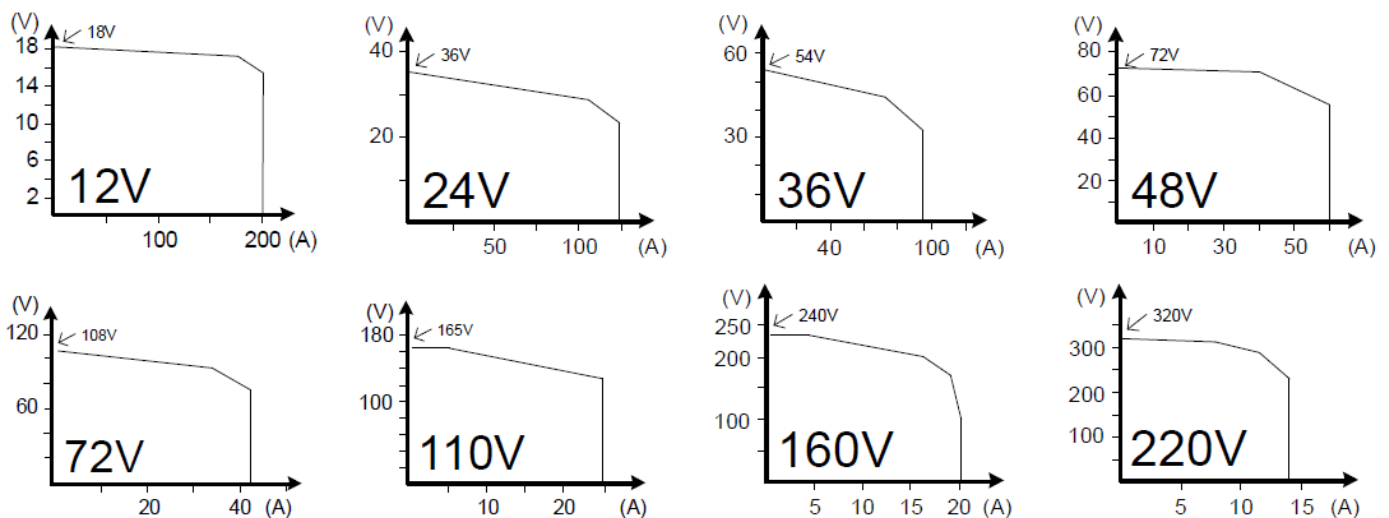
* Cable sets with modular connectors are included: 1,5 m cable for analog control.

**Reduced power 70-230VAC.

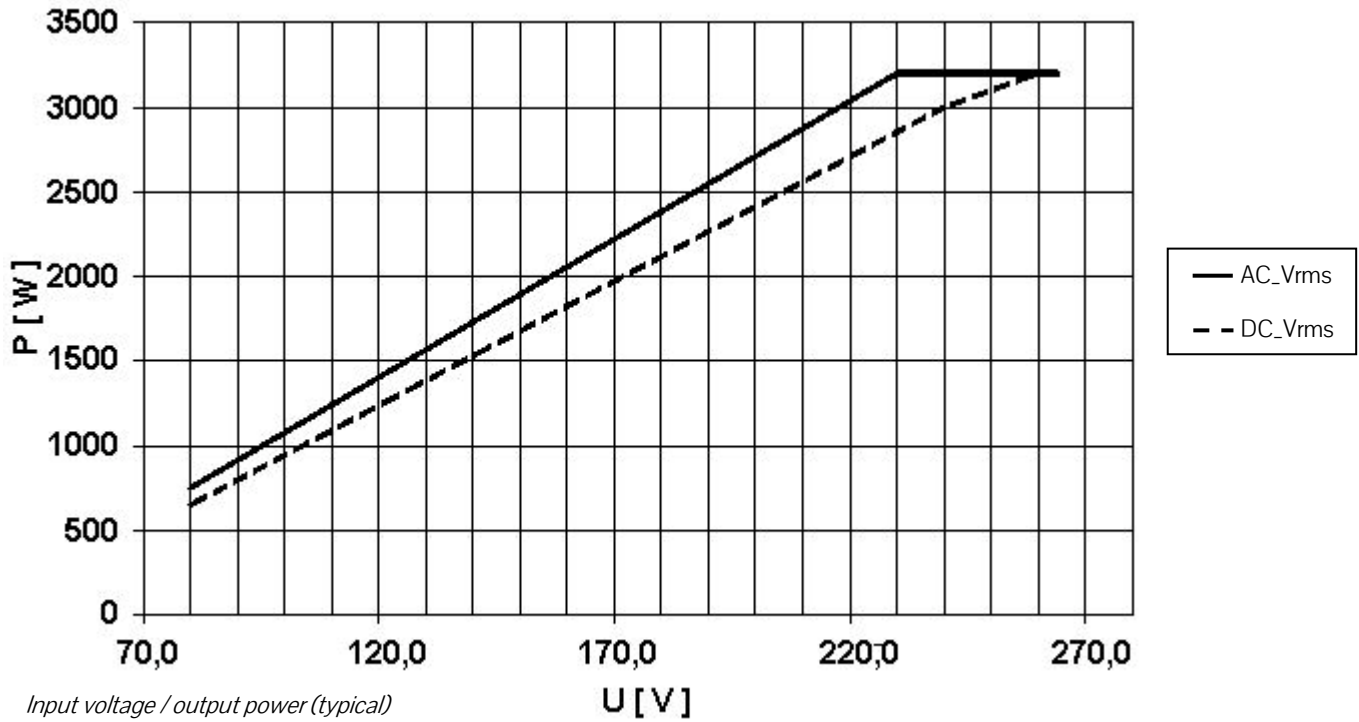
Customized versions on request

- Cyclic battery chargers including the charging algorithms.
- Temperature compensation, sense, external LED, external ON/OFF

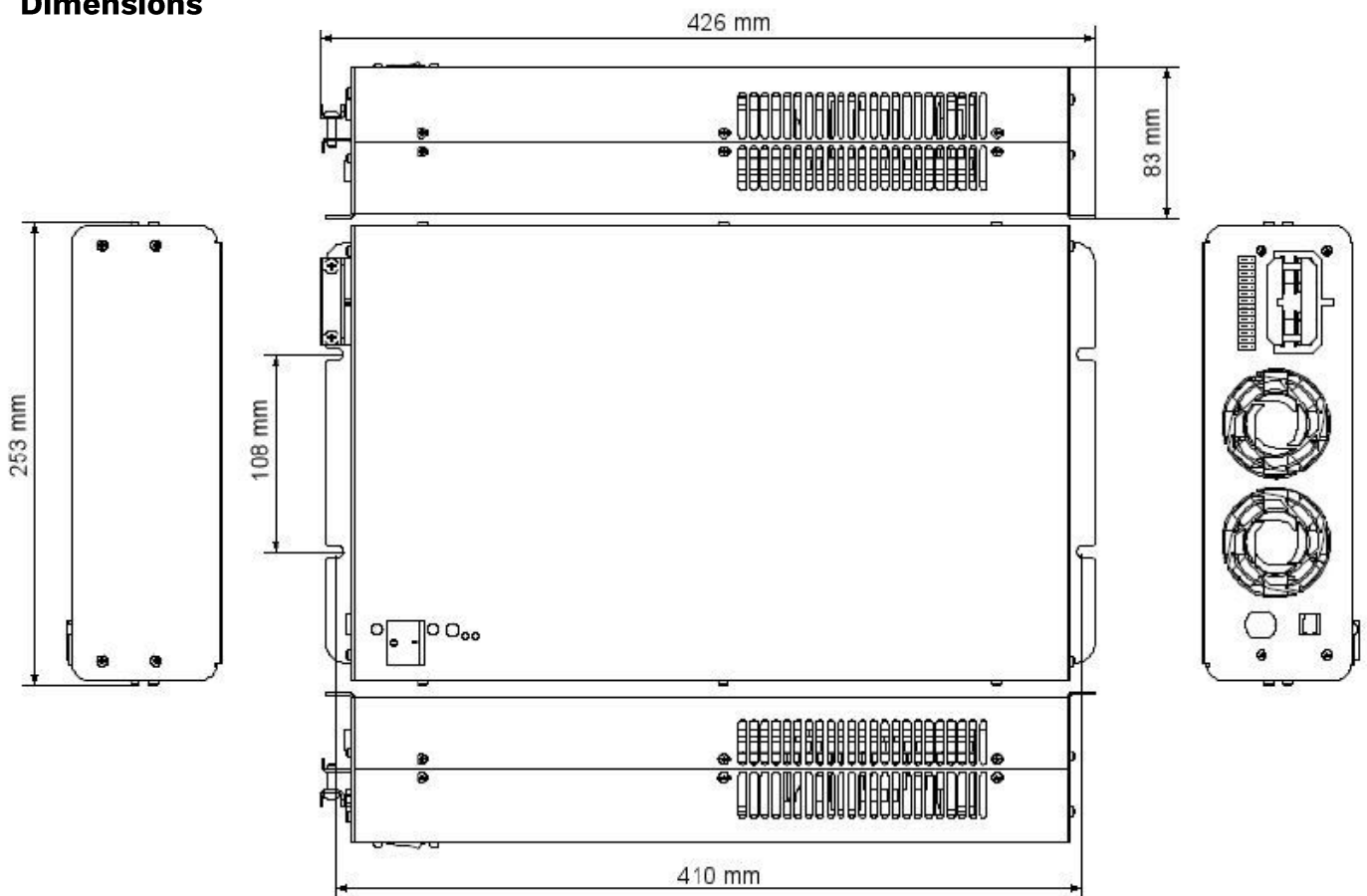
Characteristics



Nominal output current / voltage typical characteristics PF3200-PS.



Dimensions



Output voltage and current limit adjustment

Trimmer or analog control adjustable modules, type example PF3200-PS24 or PF3200-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 top cover.
- 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 3200W / 3000W 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.

Stand-by LED is ON when mains network (AC) is connected, but the power supply's output is switched OFF by the switch on top cover. Stand-by LED goes OFF when the power supply's output is switched ON.

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

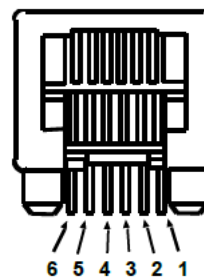
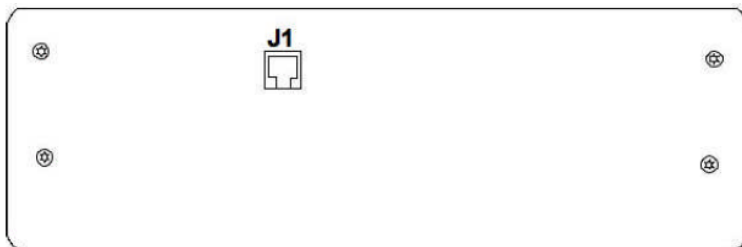
Series operation: up to 500V total voltage. For more information about use with an AI or S option, ask the manufacturer.

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.

Optional isolated 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 isolated analog control card is connected to the AMP Modular 6 connector J1.



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

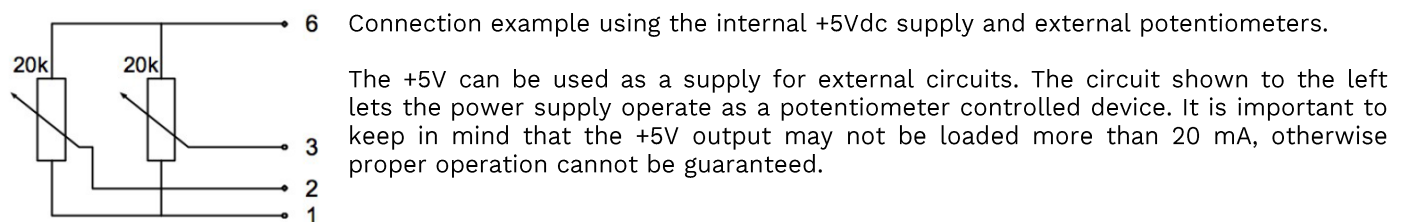
Pin configuration of the modular connector J1.

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 +5VDC 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 is 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.

The modular connector is isolated from the output of the power supply. This enables the possibility to parallel connect several power supplies maintaining equal voltages. For more information on connecting power outputs in serial and using an analog card, ask the manufacturer. See also limitations to standards on page 1.



Instructions for calibration

The manufacturer calibrates the analog control interface. Recalibration is not necessary as long as the analog control card is used between 0 and +5V. A qualified person is required for recalibration of the device. Calibration is done using a pair of multi-meters and the schematic example given above. The calibration procedure is as follows.

1. Adjust the potentiometers to 5V for the voltage and 2V for the current targets. Connect a digital voltage meter to the power supply output. Adjust the 'Voltage Set' potentiometer to the maximum output voltage.
2. Connect a digital voltage meter to pin 5 of the modular connector J1. Adjust the trimmer 'Voltage Meas.' so that the digital voltage meter shows always the same value as pin 3 (target voltage).
3. Connect a digital current meter to the output so that the output is shorted. Adjust the current target potentiometer to +5V. Adjust the 'Current Set' trimmer to the device maximum output current (see specifications for the device). Make sure that the current meter has the correct measurement range. Never exceed the maximum current value for the device. Contact the distributor in case the maximum current is not known.
4. Measure using a digital multimeter the voltage at pin 4 of the modular connector J1. Adjust using the 'Current Meas.' to the same voltage level as on pin 2 (target current).