

Battery Charger / Rectifier



- Wall cabinet version with enhanced functionality
- Outstanding dynamic performance and high overall efficiency
- Temperature compensation of charge voltage
- Digital displays for output voltage, current, and adjustment values

Rectifiers of the PSR-W series are a combination of modern switching AC to DC power conversion technology combined with a flexible wall mounting concept.

These power supplies are especially designed for following applications:

- power supply for all small to medium power DC loads
- rectifiers in DC systems with battery backup
- telecommunication
- railroad signalling systems
- industrial control systems
- low-voltage switchgear supplies
- charging and buffering of stationary batteries in electrical power plants

The combination of an active power factor correction unit and a soft-switching DC to DC-converter provides a wide input voltage range, high efficiency, small dimensions, and low weight.

The input current is sinusoidal with power factor 1.

A constant voltage/constant current control performs correction of output voltage deviations due to input voltage or load transients within less than 1.5 ms and permits constant current operation down to continuous short circuit.

A micro controller unit with two control keys and digital displays on the front panel provides continuous monitoring of input and output voltage, output current, and temperature, and offers easy adjustment and programming of output parameters and monitoring thresholds.

TYPE LISTING

Type	PSR06/24-20W	PSR06/48-10W	PSR06/60-8.2W	PSR06/108-4.5W
Order code	C25-3011.00000	C25-3012.00000	C25-3013.00000	C25-3014.00000
Category	Primary Switch Mode Rectifier			

AC INPUT

Nominal voltage	230 V AC +15/-20%			
Nominal current	2.7A			
Input frequency	47-63 Hz			
Power factor λ	>0.95 at output power>25 % ; >0.99 at output power>50 %			
Total harmonic distortion	< 8 % input current			
Overall efficiency	≥ 89%	≥ 89 %	≥ 90 %	≥ 90 %
External Fusing	6 A gL	6 A gL	6 A gL	6 A gL

DC OUTPUT

Nominal voltage	24 V DC	48 V DC	60 V DC	108 V DC
Nominal current	20 A DC ± 2% (10.0-20.0 A DC adjustable)	10 A DC ± 2% (5.0-10.0 A DC adjustable)	8.2 DC ± 2% (4.1-8.2 A DC adjustable)	4.5 A DC ± 2% (2.3-4.5 A DC adjustable)
Charge line characteristic	IU-Line acc. to DIN 41772 / DIN 41773			
Charge line 1 (equalize charge)	27.2 V DC ± 1% (23.4-28.8 V DC)	54.5 V DC ± 1% (46.6-57.6 V DC)	68.1 V DC ± 1% (58.5-72 VDC)	122.6 V DC ± 1% (105-130 V DC)
Charge line 2 (boost charge)	28.2 V DC ± 1% (24-30 V DC)	57.6 V DC ± 1% (48-60 V DC)	72 V DC ± 1% (60-73 V DC)	129.6 V DC ± 1% (108-135 V DC)
Voltage ripple	≤ 20 mV _{ss}			
Psophometric ripple	≤ 1.0 mV _{eff}	≤ 1.8 mV _{eff}	≤ 1.8 mV _{eff}	≤ 1.8 mV _{eff}
Dynamic behav-	< 3 % V _{nom} for load transients between 10% - 90% - 10% I _{nom} ; recovery time < 1.5 ms			
Short circuit prot.	Continuous short circuit proof, 1x I _{nom}			
Parallel operation	< 20 pieces			
Internal decoupling circuit	Optional	Optional	Optional	—

STANDARD FEATURES

LED indication	Output voltage O.K. (green); output voltage low (green); output voltage high (red); constant current operation (yellow); general fault (red)
Digital displays	Output voltage; output current; adjustment parameter indication
Relais contacts	General fault
Monitoring	Output voltage high/low, output voltage, output current, short circuit,
Controls	Boost charge, temperature compensation of charge voltage, voltage drop compensation by sense links

ENVIRONMENT

Ambient temperature	Operation: -10°C to +40°C Storage: -30°C to +50°C
Climatic conditions	IEC 721-3-3 class "B" 3K3/3Z1/3B1/3C2/3S2/3M2
Humidity class	F
Dust	< 1 mg/m ³
Altitude	≤ 1000 m a.s.l. ; extensions on request
Audible noise	< 30 dB (A) in 1m distance

PSR06-W Series

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MECHANICAL CONSTRUCTION

Construction type	Wall cabinet for direct mounting (4x screw M4 needed)
Dimensions [mm] W / H / D	285 / 280 / 95
Weight	5.3 kg
Cooling	Natural convection
Protection class	IP20 (mech.); 1 (electr.)
Surface	Powder coating (RAL 7032)

COMPLIANCES

Conducted and radiated emissions EN 50081-1	EN 55011 / EN 55022 class B
Safety	EN 60950 ; VDE 0100 part 410; VDE 0110, EN 50178, EN 60146
Interference Immunity EN 50082-2	Case: Electrostatic discharge: EN 61000-4-2 (6 kV contact, 8 kV air discharge) Radiated radio frequency: EN 61000-4-3 (10V/m, 30 MHz - 1 GHz)
	Power line: EN 61000-4-4 (2 kV, other 2 kV) EN 61000-4-5 (4 kV unsymmetrical, 2 kV symmetrical, others: 2 kV unsymmetrical)
	Control line EN 61000-4-4 (2 kV) EN 61000-4-5 (2 kV unsymmetrical)

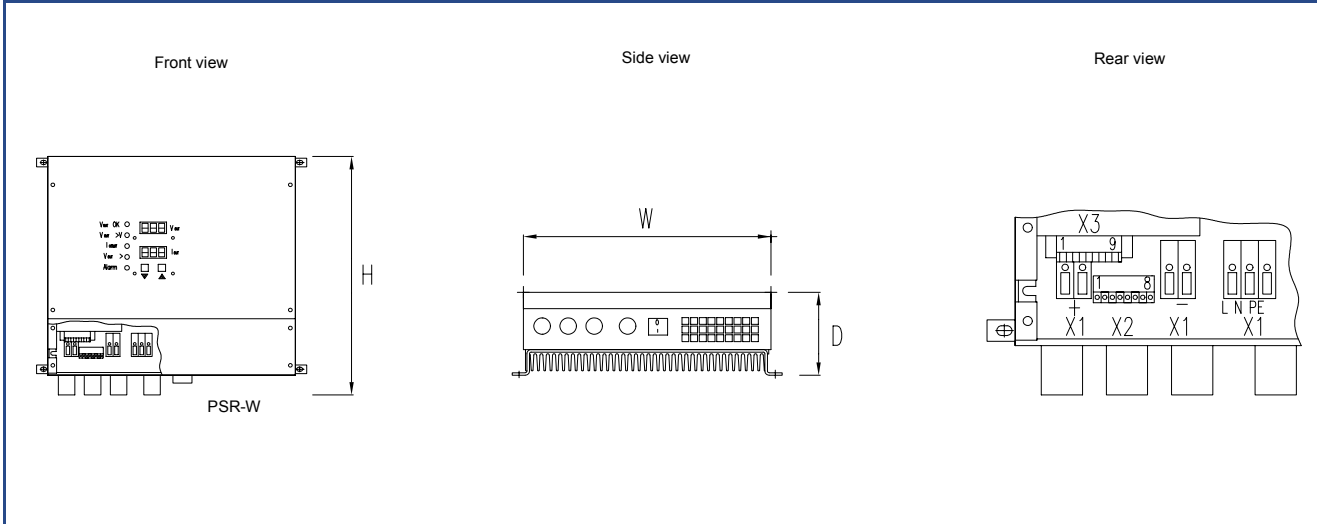


Options:

- Temperature sensor with 2 m cable, mat. no. C20-1900.00000

The modules type PSR06-W are available as 1/6 19" cassette for cabinet mounting, for example in case of parallel operation or bigger power supply systems. The picture shows a modular power supply system with PSR06 units.

MECHANICAL DIMENSIONS / CONNECTION VIEW



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