

Modular Rectifier/ Battery Charger

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PSR308

PSS18

PSR312/PSR327

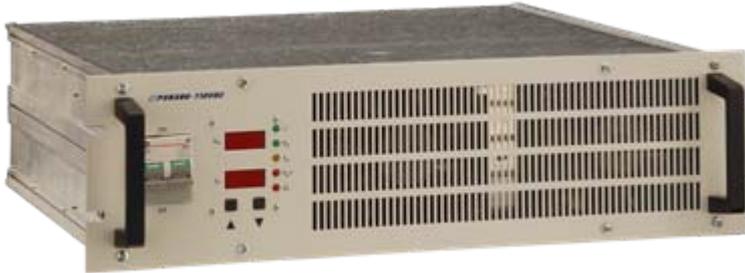
PSR380

800W

1800W¹

1200W²/ 2700W

8000W



1/6-19" x 3U

1/3-19" x 6U

1/4-19" x 3U

19" x 3U

24V DC

48V DC

60V DC

110V DC

220V DC

¹) Convection cooling

Modular Rectifier 800W

PSR308 (600W @115VAC)



Standard 19" rack 4U – with slots for 6 pieces of rectifier and one fan rack



Standard 19" rack 4U – with slots for 5 pieces of rectifier + 1 slot for DC controller UPC3 + 1 slot for fan rack

Modular Rectifier 800W

PSR308 (600W @115VAC)

Main technical data

Input:

Voltage: 90VAC to 276 VAC, 50Hz, Single Phase (wide input range => standard)

Current: 3,9AAC@230VAC; 5,5AAC@115VAC

Output:

	Output power 800W@230VAC					Output power 600W@115VAC				
Vnom	24V	48V	60V	110V	220V	24V	48V	60V	110V	220V
Inom	33A	16,5A	13,5A	7,5A	3,7A	25A	12,5A	10A	5,5A	2,7A

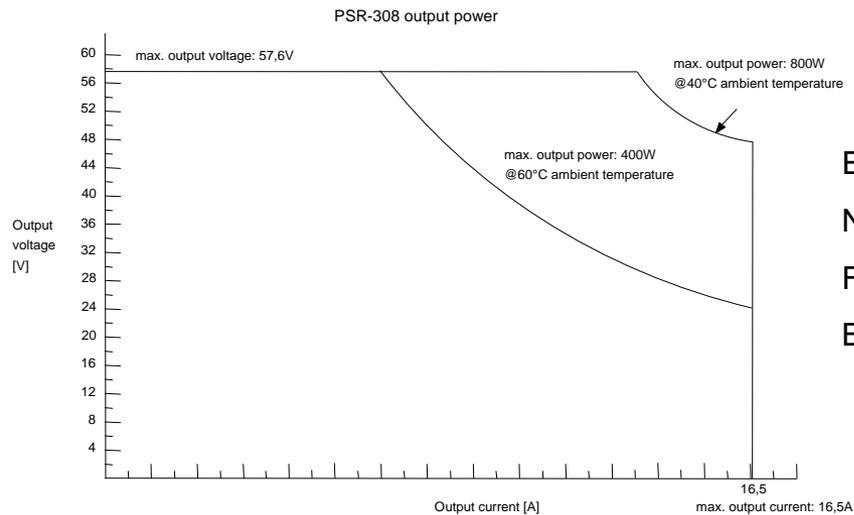
Max. number of rectifier working in parallel: 48 pieces (48x 800W = 38.400W)

PSR308 (600W @115VAC)

Output:

Power reduced 800W@230VAC / 600W@115VAC (temperature compensated)

Power factor >0,99 at $P_{Nom} > 50\%$



Example PSR308/48-16,4:

Nominal values: 48V x 16,5A = 800W

Float charge voltage for lead batteries: 54,5V x **14,7A** = 800W

Boost charge: 57,6V x **13,9A** = 800W

PSR308 (600W @115VAC)

Special features

- >> **Wide input range: 90VAC to 276VAC**
- >> Electrical isolation between input and output
- >> Input overvoltage protection
- >> Charging line against IV characteristic according DIN 41772/41773 **in combination with constant power line and derating at higher temperature**. At internal temperature of >80°C the rectifier shut off (switch on at < 70°C)
- >> **Decoupling circuit for the output >> Hot pluggable (backplane connection)**
- >> Ready for paralleling >> Current sharing based on decrease line of max. 1% for the output voltage >> Load balance max +/- 10% I_{Nom} >> **up to 4kW (with monitoring unit) / 4,8kW in one rack 19" x 4U**
- >> Output is short circuit proof
- >> Output overvoltage protection: Rectifier switch off at adjustable overvoltage level. Factory setting: 2,5V per cell for lead batteries
- >> Efficiency $\geq 90\%$
- >> Can bus interface for communication with external monitoring unit to send information (status, output values, internal temperature) and to receive settings
- >> Suitable for NiCd batteries (please order special version)
- >> Working temperature: -20°C up to +45°C
- >> **Forced cooling with external speed controlled fan rack**

PSR308 (600W @115VAC)

Signalling

Rectifier has 4 LED at the front plate.

There is no display.

The rectifier sends all information (status, measured values) via CAN bus to an external monitoring unit.



Mains input within nominal values

Output voltage within allowed value

Output over voltage

Common alarm

Relay signalling:

Dry contact for common alarm. Contact rating: 0,5A at 60VDC (once per 19" rack as common alarm for all rectifiers; com, nc)

PSR308 (600W @115VAC)

Needed / available accessories

>> Rack with backplane to carry 5 pieces of rectifier and one piece monitoring unit UPC3, 4HU.



>> article number: 102-308-517.LV02 (24-60VDC)

>> article number: 102-308-517.HV02 (110-220VDC)

>> Rack with backplane to carry 6 pieces of rectifier, 4HU.



>> article number: 102-308-607.LV02 (24-60VDC)

>> article number: 102-308-607.HV02 (110-220VDC)

PSR308 (600W @115VAC)

Needed / spare parts

- > Cover plates to cover not used PSR slot, 3HU, RAL7035.
 - >> article number: 881-MEC-BPL.03.14.B

- > 19"-fan rack, 1HU, RAL7035 (standard it's part of the delivery of the 19"rack)
 - >> article number: 102-308-FR1.LV01 (for nominal DC voltages 24-60V)
 - >> article number: 102-308-FR1.HV01 (for nominal DC voltages 110-220V)

Modular Rectifier 1800W

PSS18 - 1800W (1200W/24V version)



Standard 19" rack 7U – with slots for 3 pieces of rectifier

PSS18 - 1800W (1200W/24V version)

Main technical data

Input:

Voltage: 230VAC +15/-20%, 50Hz, Single Phase

Current: 7,9AAC (5,2AAC for 24VDC)

Output:

	Output power 1800W				
Vnom	24V	48V	60V	110V	220V
I nom	40A	30A	25A	13,3A	6,7A

Max. number of rectifier working in parallel: 9 pieces (9x 1800W = 16.200W)

PSS18 - 1800W (1200W/24V version)

Special features

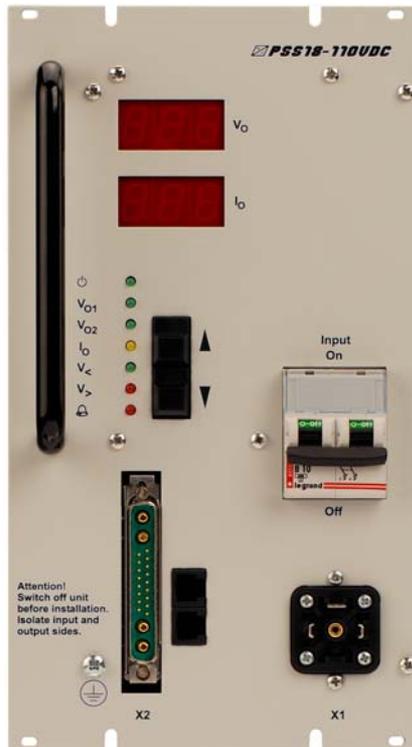
- >> Electrical isolation between input and output
- >> Input overvoltage protection
- >> Charging line against IV characteristic according DIN 41772/41773
- >> ***NO Decoupling circuit for the output***
- >> Ready for paralleling >> Current sharing based on decrease line of max. 1% for the output voltage >> Load balance max +/- 10% I_{Nom} >> optional active current sharing (load balance max. +/- 5% I_{Nom})
- >> Output is short circuit proof
- >> Output overvoltage protection: Rectifier switch off at adjustable overvoltage level. Factory setting: 2,5V per cell for lead batteries
- >> ***Digital display for output voltage / current and adjustment of internal default settings***
- >> Efficiency $\geq 91\%$
- >> Can bus interface for communication with external monitoring unit to send information (status, output values, internal temperature) and to receive settings
- >> Wall bracket available
- >> ***Convection cooling***
- >> ***Ability for stand-alone operation***
- >> ***Three internal charging lines (float charge, boost charge and battery test)***

PSS18 - 1800W (1200W/24V version)

Signalling

Rectifier has 7 LED at the front plate.

The rectifier sends all information (status, measured values) via CAN bus to an external monitoring unit.



LED's for:

- Mains input within nominal values
- Output voltage (charging line 1) within allowed value
- Output voltage (only for charging line 2) within allowed value
- Rectifier in current limitation
- Output voltage within allowed value for voltage low
- Output overvoltage
- Common alarm

Relay signalling:

Dry contact for common alarm. Contact rating: 1A at 24VDC / 0,5A at 120VAC

Rectifier with 220VDC output have either common alarm relay or CAN bus!

PSS18 - 1800W (1200W/24V version)

Needed / available accessories

>> Rack for 3x PSS18, 7HU (not wired)



>> article number: 880-MEC-BGT-7.A0B (24VDC)

>> Set of input / output connectors (standard: part of delivery scope)

>> article number: 880-100-STK.02 (24-110VDC)

>> article number: 880-100-STK.03 (only 220VDC)

PSS18- 1800W (1200W/24V version)

Needed / spare parts

>> Cover plates to cover not used PSS slot, 6HU, RAL7035.

>> article number: 881-MEC-BPL.06.28.B

>> Wall bracket (Zink-plated)

>> article number: 880-MEC-WHF.00

Modular Rectifier 2700W

PSR327(312) - 2700W (1200W/24V version)



Standard 19" rack 3U – 4 prewired slots



Standard 19" rack 3U – 3 prewired slots + 1 prewired slot for DC controller UPC3

Also NiCd versions available!

PSR327(312) - 2700W (1200W/24V version)

Main technical data

Input:

Voltage: 230VAC -15%/+20%, 50Hz, Single Phase

Current: 12,9AAC@230VAC

Output:

	Output power 1200W	Output power 2700W			
Vnom	24V	48V	60V	110V	220V
Inom	50A	56,0A	45A	25A	12,5A

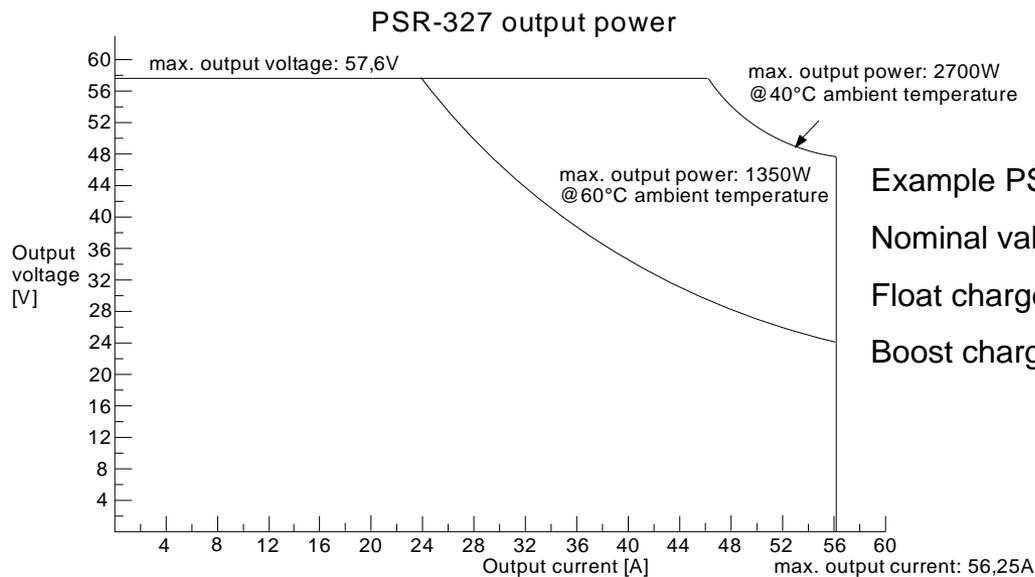
Max. number of rectifier working in parallel: 48 pieces (48x 2700W = 129.600W)

PSR327(312) - 2700W (1200W/24V version)

Output:

Power reduced 2700W@48-220VDC / 1200W@24VDC (temperature compensated)

Power factor >0,99 at $P_{Nom} > 50\%$



Example PSR327/48-56:

Nominal values: 48V x 56A = 2700W

Float charge voltage for lead batteries: 54,5V x **49,5A** = 2700W

Boost charge: 57,6V x **46,8A** = 2700W

PSR327(312) - 2700W (1200W/24V version)

Special features

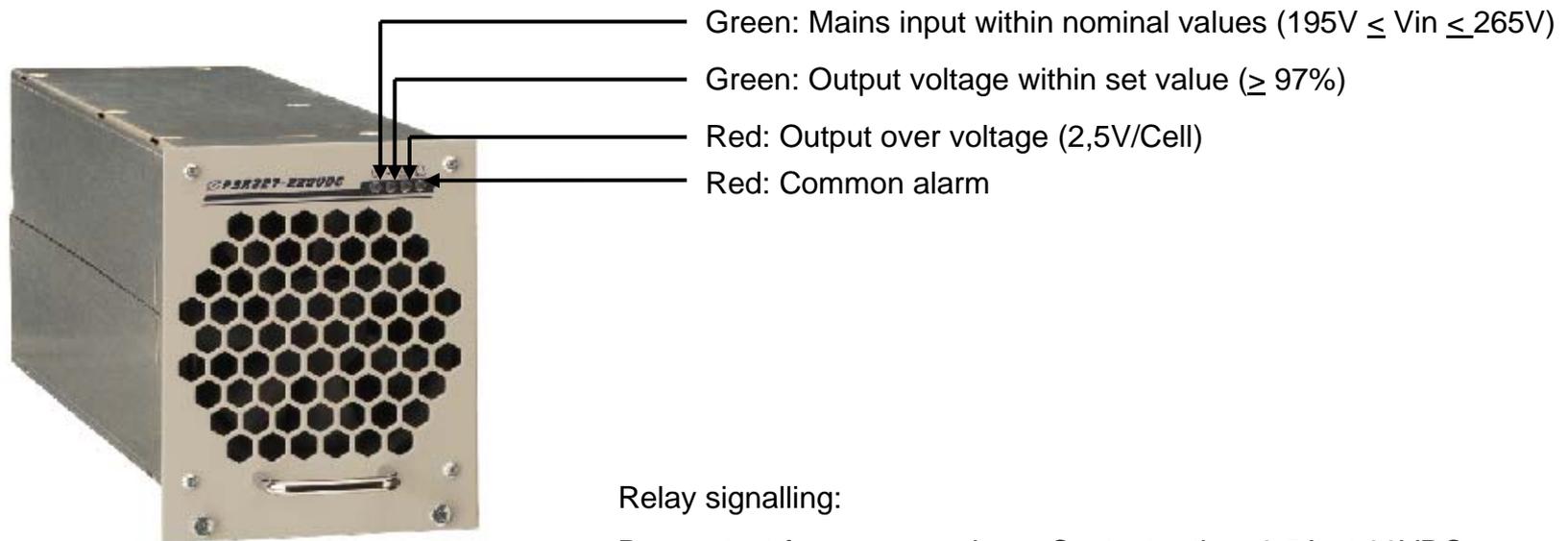
- >> Electrical isolation between input and output
- >> Input overvoltage protection
- >> Charging line against IV characteristic according DIN 41772/41773 in combination with constant power line and derating at higher temperature. At internal temperature of $>80^{\circ}\text{C}$ the rectifier shut off (switch on at $< 70^{\circ}\text{C}$)
- >> **Decoupling circuit for the output >> Hot pluggable (backplane connection)**
- >> Ready for paralleling >> Current sharing based on decrease line of max. 1% for the output voltage >> Load balance max $\pm 10\% I_{\text{Nom}}$ >> **up to 8,1kW (with monitoring unit) / 10,8kW in one rack 19" x 3U**
- >> Output is short circuit proof
- >> Output overvoltage protection: Rectifier switch off at adjustable overvoltage level. Factory setting: 2,5V per cell for lead batteries
- >> Efficiency $\geq 91\%$
- >> Can bus interface for communication with external monitoring unit to send information (status, output values, internal temperature) and to receive settings
- >> Suitable for NiCd batteries (please order special version)
- >> Working temperature: -20°C up to $+55^{\circ}\text{C}$
- >> Max. altitude $\leq 1500\text{m}$
- >> **Internal temperature controlled ventilator (monitored by speed indicator)**

PSR327(312) - 2700W (1200W/24V version)

Signalling

Rectifier has only 4 LED at the front plate. There is no display.

The rectifier sends all information (status, measured values) via CAN bus to external monitoring unit.



Relay signalling:

Dry contact for common alarm. Contact rating: 0,5A at 60VDC
(once per 19" rack as common alarm for all rectifiers; com, nc)

PSR327(312) - 2700W (1200W/24V version)

Needed / available accessories

- Rack with backplane to carry 3 pieces of rectifier and one piece monitoring unit UPC3, 3HU.



>> article number: 102-327-318.LV01 (24-60VDC)

>> article number: 102-327-318.HV01 (110-220VDC)

- Rack with backplane to carry 4 pieces of rectifier, 3HU.



>> article number: 102-327-408.LV01 (24-60VDC)

>> article number: 102-327.408.HV01 (110-220VDC)

PSR327(312) - 2700W (1200W/24V version)

Needed / available accessories

- Cover plates to cover not used PSR slot, 3HU, RAL7035.

>> article number: 881-MEC-BPL.03.20.B

- Monitoring unit UPC3

>> article number: 301-003-498.00 for 24VDC

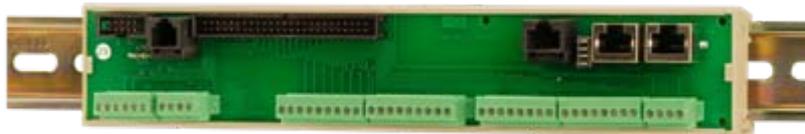
>> article number: 301-003-598.00 for 48/60VDC

>> article number: 301-003-798.00 for 110VDC

>> article number: 301-003-898.00 for 220VDC

- Connection board (required for connecting of inputs and outputs of UPC3)

>> article number: 302-DCC-CB1.00



Modular Rectifier 8000W

PSR380 - 8000W



Standard 19" rack 3U -1 prewired slot

**3-phase input
without neutral!**

Modular Rectifier 8000W

PSR380 - 8000W

Technical information

Input:

Voltage: 3x400VAC -15%/+20%, 50Hz, three Phase **without Neutral**

Current: 3x 12,9AAC@400VAC

Output:

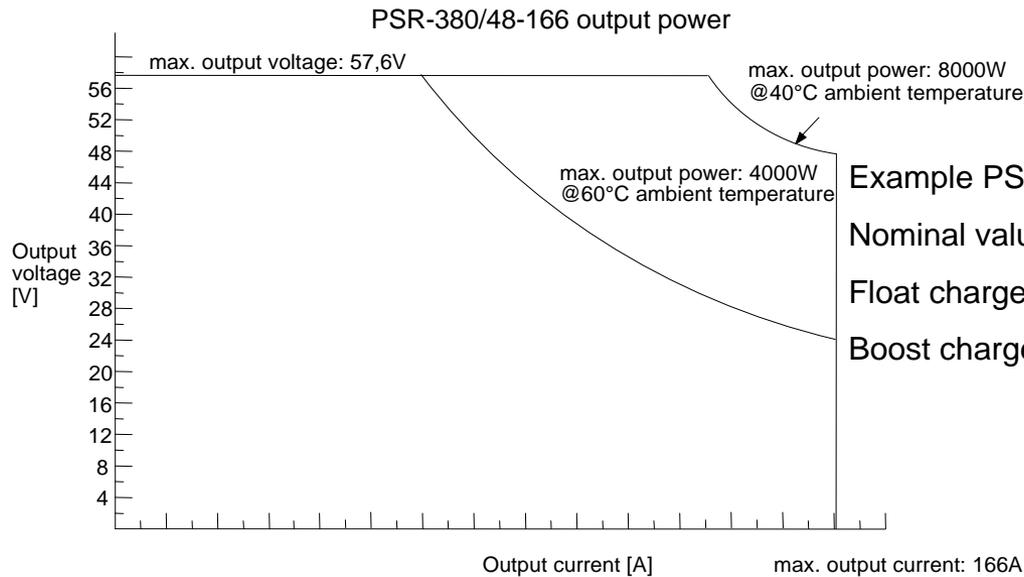
	Output power 8000W		
Vnom	48V	110V	220V
Inom	166A	74A	37A

Max. number of rectifier working in parallel (in theory): 48 pieces (48x 8000W = 384.000W)

PSR380 - 8000W

Output:

Power reduced 8000W@48-220VDC (temperature compensated)



Example PSR380/48-166:

Nominal values: 48V x 166A = 8000W

Float charge voltage for lead batteries: 54,5V x **146,8A** = 8000W

Boost charge: 57,6V x **138,8A** = 8000W

PSR380 - 8000W

Special features

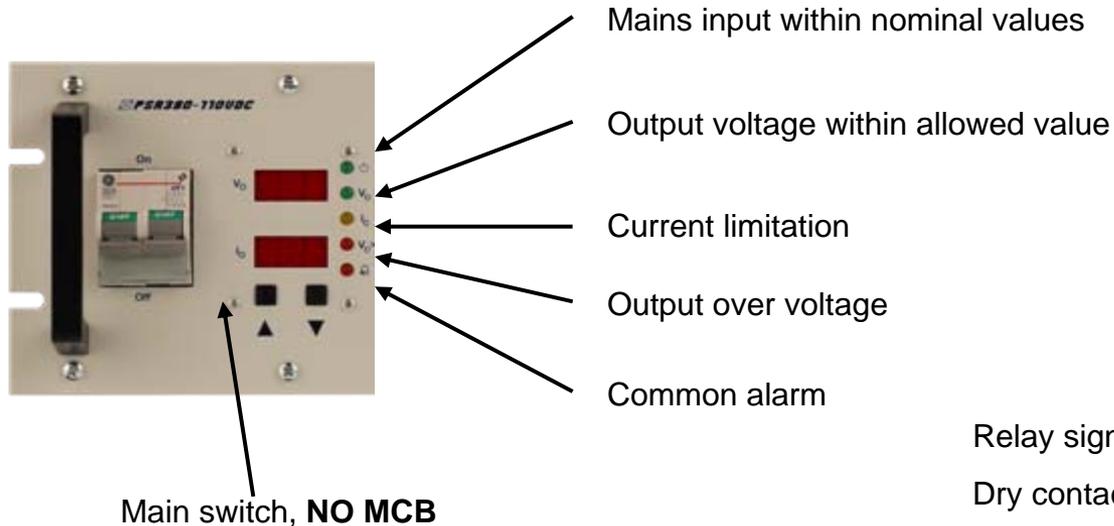
- >> Electrical isolation between input and output
- >> **Three phase input without neutral**
- >> Input overvoltage protection
- >> Charging line against IV characteristic according DIN 41772/41773 in combination with constant power line and derating at higher temperature. At internal temperature of $>80^{\circ}\text{C}$ the rectifier shut off (switch on at $< 70^{\circ}\text{C}$)
- >> **No Decoupling circuit for the output** (110VDC and 220VDC, 48VDC with decoupling circuit)
- >> Ready for paralleling >> Current sharing based on decrease line of max. 1% for the output voltage >> Load balance max $\pm 10\% I_{\text{Nom}}$
- >> Output is short circuit proof
- >> **Digital display for output voltage / current and to adjust default values**
- >> Output overvoltage protection: Rectifier switch off at adjustable overvoltage level. Factory setting: 2,5V per cell for lead batteries
- >> Efficiency $\geq 89\%$
- >> Can bus interface for communication with external monitoring unit to send information (status, output values, internal temperature) and to receive settings
- >> Working temperature: -20°C up to $+55^{\circ}\text{C}$
- >> **Internal temperature controlled ventilator (monitored by speed indicator; front-to-rear airflow)**

PSR380 - 8000W

Signalling

The rectifier has a display of 2 lines, 3 signs for output voltage and output current. It has also 5 LED to signal actual states.

The rectifier sends all information (status, measured values) via CAN bus to external monitoring unit.



Relay signalling:

Dry contact for common alarm.

Contact rating: 0,5A@125VAC, 1A@24VDC

PSR380 - 8000W

Needed / available accessories

>> Assembly set 19" rack (3) incl. backplane for 1 piece of rectifier PSR380

>> article number: 102-380-101.HV01 (110/220VDC)

>> article number: 102-380-101.LV01 (48VDC)

Other applicable products?

Rectifier in wall cabinet

PSR06-W series

Input: 110-230VAC

Output: 24V/20A

48V/10A

60V/8,2A

110V/4,5A

Mechanical design:

wall cabinet 280 x 285 x 95 mm (HxWxD)



Monoblock rectifier

MBR series

Input: 3x 230/400VAC

Output: 110VDC/50-1000A
220VDC/ 50-1000A

Mechanical design:
stand cabinet in RAL7035

