

## DEVICE DESCRIPTION

PBI type Compact CW/CS rectifiers are low power systems (up to 25 kW) that can operate independently. PBI CW are suitable for wall mounting. PBI CS type rectifiers can be mounted in an upright position. PBI CW/CSs are equipped with full monitoring of the system operation and the necessary functionalities (thermal compensation, batteries circuit continuity). They are ideal for cooperation with small batteries. Small-sized device embodiment allows for mounting it in a small room.

PBI CW and CS rectifiers are cooled by air circulation forced by fans. The fans run with three speeds in function of the device internal temperature.

## Specification:

- IGBT technology with microprocessor DSP controller;
- Three operation modes (buffer, automatic, manual);
- High stability of output voltage and current;
- Battery voltage temperature compensation;
- Very low current and output voltage ripple;
- Charging algorithm (according to DIN 41773), consistent with EUROBAT recommendations for different types of batteries;
- Internal protections against power systems overheating (reduce the output current without removing the voltage at the output circuits);
- Wide variety of external communication protocols: MODBUS RTU, IEC870-5-103, DNP3, IEC 61850. Protocol type selected from the control panel menu;



- Modular design;
- Battery temperature monitoring;
- Quiet operation and high efficiency;
- Battery current monitoring and limitation;
- Protection against short circuit (electronic and thermofusible);
- Electromagnetic compatibility (EMI filters);
- Galvanic isolation from the power supply network;
- Archiving events and operating states (SD card);
- Monitoring of both poles ground fault insulation state;
- RS485, USB, Ethernet integrated communication interface;

## Environmental

Operating temperature (EN 50178 class 3k3)	0 to +55 °C
Storage temperature	-15 to +65 °C
Humidity (EN 50178 class 3k3)	max 95% (without condensation)
Service and technical support access	From the front
Cable entry	From the bottom
Altitude	1000 m (a.s.m.l.)

## COMPACT RECTIFIERS, TYPE PBI CW AND CS (CW - compact housing for wall-mounting, CS - compact housing for floor-mounting)

Nominal current	Output voltage	Input voltage	CW type	Dimension*	Typ CS	Dimension*
10 A	220 VDC	3 x 400 VAC (1 x 230 VAC)	PBI 220/10 CW	CW4	PBI 220/10 CS	CS4
20 A	220 VDC	3 x 400 VAC (1 x 230 VAC)	PBI 220/20 CW	CW4	PBI 220/20 CS	CS4
25 A	220 VDC	3 x 400 VAC	PBI 220/25 CW	CW4	PBI 220/25 CS	CS4
	110-125 VDC**	3 x 400 VAC (1 x 230 VAC)	PBI 110-125/25 CW		PBI 110-125/25 CS	
	60 VDC		PBI 60/25 CW		PBI 60/25 CS	
	48 VDC		PBI 48/25 CW		PBI 48/25 CS	
24 VDC		PBI 24/25 CW	PBI 24/25 CS			
30 A	220 VDC	3 x 400 VAC	PBI 220/30 CW	CW4	PBI 220/30 CS	CS4
	110-125 VDC**	3 x 400 VAC (1 x 230 VAC)	PBI 110-125/30 CW		PBI 110-125/30 CS	
50 A	220 VDC	3 x 400 VAC	PBI 220/50 CW	CW4	PBI 220/50 CS	CS4
	110-125 VDC**	3 x 400 VAC (1 x 230 VAC)	PBI 110-125/50 CW		PBI 110-125/50 CS	
	60 VDC		PBI 60/50 CW		PBI 60/50 CS	
	48 VDC		PBI 48/50 CW		PBI 48/50 CS	
24 VDC		PBI 24/50 CW	PBI 24/50 CS			
75 A	220 VDC	3 x 400 VAC	PBI 220/75 CW	CW6	PBI 220/75 CS	CS6
	110-125 VDC**		PBI 110-125/75 CW	CW4	PBI 110-125/75 CS	CS4
	60 VDC		PBI 60/75 CW		PBI 60/75 CS	
	48 VDC	PBI 48/75 CW	PBI 48/75 CS			
24 VDC	3 x 400 VAC (1 x 230 VAC)	PBI 24/75 CW	PBI 24/75 CS			
100 A	220 VDC	3 x 400 VAC	PBI 220/100 CW	CW6	PBI 220/100 CS	CS6
	110-125 VDC**		PBI 110-125/100 CW	CW4	PBI 110-125/100 CS	CS4
	60 VDC		PBI 60/100 CW		PBI 60/100 CS	
	48 VDC	PBI 48/100 CW	PBI 48/100 CS			
24 VDC	3 x 400 VAC (1 x 230 VAC)	PBI 24/100 CW	PBI 24/100 CS			

\* CW4: 400 x 600 x 255; CS4: 400 x 1200 x 255; CW6: 500 x 700 x 250; CS6: 500 x 1400 x 250 (WxHxD); \*\*Covers the range from 110 to 125 VDC;

## RECTIFIERS, TYPE PBI – TECHNICAL PARAMETERS

<b>RECTIFIER SUPPLY</b>	
Supply voltage Un	380/400/415 VAC
Supply voltage frequency	50/60 Hz
<b>RECTIFIER</b>	
AC supply voltage tolerance	+/- 15% Un
Supply voltage frequency tolerance	+/- 10%
Nominal output voltage DC	400/220/125/110/60/48/24
Output voltage stability	+/- 0,6%
Output voltage ripple(resistive load)	+/- 0,6%
Float charge voltage temperature compensation	0 – 10 m V/°C/cell
Float charge voltage temperature compensation range	-10 to +50 °C
Nominal output current	10 - 1500 A
Output current stability	+/- 1%
Output current pulsation	+/- 1%
Overload	1.1In within 3 s
Efficiency	>92%
Battery charging method	IUU charging method in accordance with DIN 41773
Interface language	PL   EN   RUS   DE   CZ
<b>ENVIRONMENTAL</b>	
Operating temperature (EN 50178 class 3k3)	0 to +55 °C
Storage temperature	-15 to +65 °C
Humidity (EN 50178 class 3k3)	max 80% (without condensation)
Service and technical support access	from the front
Cable entry	from the bottom
Altitude	1000 m (a.s.m.l.)

