

PBI buffer rectifier are designed for an uninterruptible power supply DC systems as the power sources or battery supply with nominal voltage 24VDC, 48VDC, 60VDC, 110VDC, 220VDC or other according to customers' requirements.

- Enclosures of rectifiers APS Energia MS type are in 19" industrial cabinet, where are mounted MC and M type rectifier modules.
- DC outputs supply can be done by operation with battery or directly from rectifier.

Characteristics:

- High stability of output voltage and current;
- Electromagnetic compatibility – EMI filters;
- Very low output voltage and current ripple;
- Small dimensions and weight;
- Silent operation;
- High efficiency;
- Integrated communication interface RS485, USB, Ethernet;
- Electronic protection against short circuit, overload, overheating;
- High reliability – implemented self-test system.



Rectifier ensure:

- Battery voltage temperature compensation;
- Galvanic isolation of DC circuits from grid;
- Battery charge current control;
- Logging and operational state registration (CD card);
- Permanent measurement of input and output electrical parameters as well as temperature of battery and environment;
- Each pole earth fault control;
- Communication with SCADA system and TCP/IP network;
- Possibility of communication protocol choice: Modbus RTU, IEC, TCP/IP;
- Accordance with EUROBAT IU battery charging method and DIN 41773.

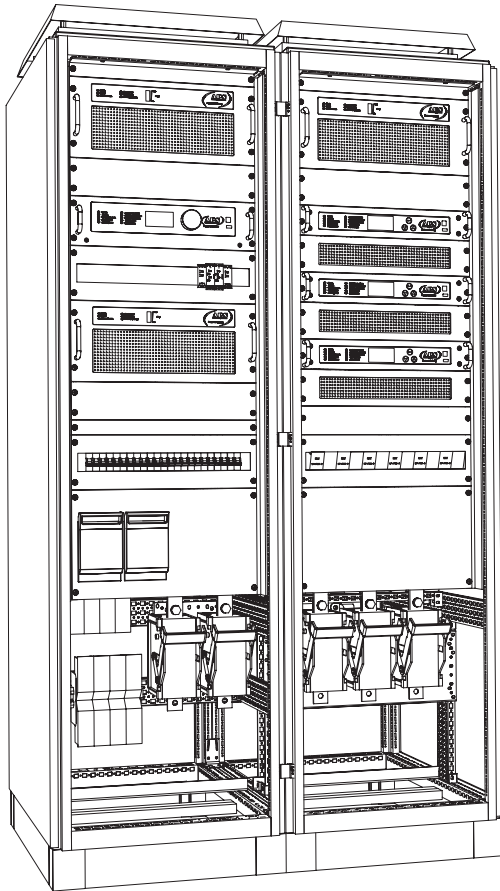
PBI MS

DC OUTPUT VOLTAGE [V]	AC INPUT VOLTAGE [V]	OUTPUT CURRENT [A]	DIMENSIONS
220 V	3 x 400 V	20, 25, 30, 50, 75, 100	600 x 600 x 1600*
220 V	3 x 400 V	150, 200, 300	600 x 800 x 2000*
220 V	3 x 400 V	400, 500, 600	1200 x 800 x 2000*
220 V	3 x 400 V	700, 800, 900	1800 x 800 x 2000*
220 V	3 x 400 V	1000, 1100, 1200, 1300, 1400, 1500	2400 x 800 x 2000*
110 V	3 x 400 V	25, 30, 50, 75, 100	600 x 600 x 1600*
110 V	3 x 400 V	150, 200, 300	600 x 800 x 2000*
110 V	3 x 400 V	400, 500, 600	1200 x 800 x 2000*
110 V	3 x 400 V	700, 800, 900	1800 x 800 x 2000*
110 V	3 x 400 V	1000	2400 x 800 x 2000*
60 V	3 x 400 V	25 50 75 100 150 200	600 x 600 x 1600*
60 V	3 x 400 V	300	600 x 600 x 2000
48 V	3 x 400 V	25, 50, 75, 100, 150, 200	600 x 600 x 1600*
48 V	3 x 400 V	300, 400, 500	600 x 600 x 2000*
48 V	3 x 400 V	600	1200 x 600 x 2000*
24 V	3 x 400 V	25, 50, 75, 100, 200	600 x 600 x 1600*
24 V	3 x 400 V	300, 400, 500	600 x 600 x 2000
24 V	3 x 400 V	600	1200 x 800 x 2000

* minimal size

Uninterruptible power supply DC systems

Uninterruptible power supply DC systems consist of few (up to 16) rectifier modules operating in parallel and can be designed in range of 24, 48, 60, 110, 220 V DC output voltages and output currents from 25A up to 1600A.



System characteristics:

- Parallel module operation;
- Comfortable access from front to the control panel, all connectors and protections;
- Fan cooling with speed control depending on temperature

Main options:

- Integration with output distribution panel;
- ATS - Automatic Power Switching System;
- Counter-cell system;
- Back-up battery automatic system;
- Desired level of voltage and frequency upon customer's request;
- DC output voltage level can be fit to match customer's demands;

PARAMETER:	VALUE
Power supply voltage	3 x 400 (+10 %, -15%) VAC
Power supply frequency	50/60 ±10 % Hz
Output voltage tolerance (*)	+/- 1 %
Output voltage ripple (***)	+/- 1 %
Boost voltage temperature correction	-10 – +50 °C
Temperature compensation of boost charging voltage (*)	0 – 10 mV/oC/cell
Overloading	1.1In by 3 sec.
Output current stability (**)	+/- 1 %
Output current ripple (**)	+/- 1 %
Battery charging characteristic	IU according to DIN 41773
Efficiency	> 92%
Boost mode charging voltage	2,2-2,4 V/cell
Float / Equalizing mode charging voltage	2,2-2,7 V/cell

STANDARD:
EN 61204: 1995/A1:2001 (PN-EN 61204:2001/A1:2002)
EN 61204-3:2000 (PN-EN 61204-3:2006)
EN 61204-6:2001 (PN-EN 61204-6:2002)
EN 61204-7:2006/A11:2009 (PN-EN 61204-7:2007/A11:2009)
EN 50178: 1997 (PN-EN 50178:2003)
EN 60950: 2000 (PN-EN 60950:2002)
EN 61000-6-4:2007/A11:2011 (PN-EN 61000-6-4:2008)
EN 61000-2-4:2002 (PN-EN 61000-2-4:2003)
EN 61000-2-2:2002 (PN-EN 61000-2-2:2003)

(*) boost operation, voltage regulator; (**) battery charge, current regulator; (***) resistive load.

