

PSB series power supply



Enclosed, switch mode buffer power supply 13,8V DC, without automatic operation control

CODE: **PSB-30012200** v1.0/II
TYPE: **PSB 13,8V/20A enclosed switch mode buffer power supply**

EN**

Features of the power supply:

- DC 13,8V/20A uninterruptible power supply*
- wide AC input voltage range 176÷264V
- built-in power factor correction system (PFC)
- high efficiency 85%
- controlling of battery charging and maintaining
- protecting of battery against excessive discharging (UVP)
- battery charging current 2A/4A/8A, changed by jumper
- forced cooling - built-in fan
- battery output is full protected against short-circuit and reverse connection
- LED optical signalisation
- protections:
 - short-circuit protection SCP
 - over voltage protection OVP
 - surge protection
 - overload protection OLP
 - overheat protection OHP
- warranty – 2 year from the production date



DESCRIPTION

Buffer-type power supply units are intended for continuous power supply to devices that require stabilised voltage of **12V DC (+/-15%)**. The power supply provides a voltage of **U=13,8V DC** with an output current of:

1. **Output current of 18A + 2A battery charging***
2. **Output current of 16A + 4A battery charging***
3. **Output current of 12A + 8A battery charging***

Total device current + battery charging current: 20A max.*

In case of power voltage decay, prompt switching to battery supply occurs. The power supply is equipped with short circuit protection, overload protection, overvoltage and thermal overload protection. The power supply is fitted with a fan for forced cooling, switching on depending on the temperature and the load of the power supply.

TECHNICAL DATA

Supply voltage	176÷264V AC
Current consumption	1,5A@230VAC max.
Supply power	300W max.
Efficiency	85%
Power factor PF	>0,95 @230V AC
Output voltage	11V÷ 13,8VDC – buffer operation 9,5V÷13,8V DC – battery operation
Output current $t_{AMB}<30^{\circ}C$	18A + 2A battery charging - see chart 1 16A + 4A battery charging - see chart 1 12A + 8A battery charging - see chart 1
Output current $t_{AMB}=40^{\circ}C$	12,6A + 2A battery charging - see chart 1 11,2A + 4A battery charging - see chart 1 8,4A + 8A battery charging - see chart 1
Voltage adjustment range	12÷14V DC
Ripple voltage	120mV p-p max.
Battery charging current	2A, 4A or 8A max.
Short-circuit protection SCP	electronic
Overload protection (battery) OLP	glass fuse
Surge protection	varistors
Overvoltage protection OVP	>16V (activation requires disconnecting the load or supply for about 20 s.)
Excessive discharge protection UVP	$U<9,5V (\pm 5\%)$ – disconnection of battery
Optical signalisation	green LED- presence of AC voltage
Output of optical signalization	LED AC- presence of AC voltage LED DC- presence of DC voltage on power supply output
Additional accessories	Module MPSB12 (technical outputs)
Operation conditions	2-nd environmental class, temperature: -10 °C+40 °C relative humidity 20%...90%, without condensation
Dimensions	L=275, W=115, H=50 [±2mm]
Net/gross weight	1,23kg / 1,31kg
Protection class EN 60950-1:2007	I (first) - requires a protective conductor (PE)
Declarations, warranty	CE, RoHS, 2 year from the production date
Connectors	power-supply: $\Phi 0,63\pm 2,5$ I/O PCB: $\Phi 0,41\pm 1,63$ battery output BAT: $\Phi 0,63\pm 2,5$ I/O PCB: $\Phi 0,41\pm 1,63$ output of optical signalization: plug 3-pin 5 mm

* See chart 1

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Output current vs temperature

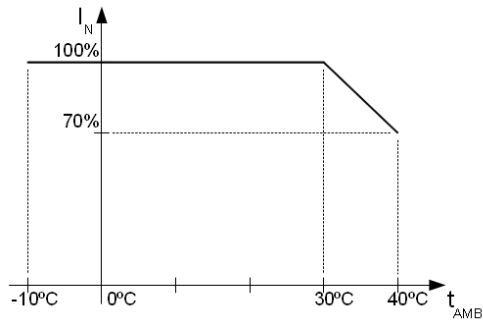


Chart 1.
Allowable output current from the power supply depending on ambient temperature.

Dimensions and fitting of the PSB-30012200 power supply

