



USER MANUAL

EN

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SWB-300RACK

v1.3

**Buffer power supply system for PoE switches,
RACK-3U, 54VDC/4x17Ah/300W**



Features:

- Supply voltage ~200 - 240 V
- High efficiency (87%)
- Battery charging and maintenance control
- Deep discharge battery protection
- Battery charging current: 0,5 A/1 A/2 A, jumper selectable
- RACK - 3U brackets, with adjustable mounting height on 5 levels
- Enclosure construction is compliant with requirements of General Data Protection Regulation GDPR (possibility of installing two locks with different codes)
- Possibility of installing additional mounting plate (BM-1)
- Optical indication
- Metal enclosure – color white RAL9003
- Protections:
 - SCP short circuit protection
 - OLP overload protection
 - OVP overvoltage protection
 - surge protection
 - antisabotage protection: unwanted enclosure opening
 - OHP overheat protection
 - against reverse polarity connection
- Forced cooling – built-in fan
- Warranty – 2 years from production date

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Buffer power supply system for PoE switches, SWB-300RACK is designed for uninterrupted power supply of PoE switches with 54 V DC. It was designed based on high energy efficiency switching power supply module placed in metal enclosure (color RAL 9003). Enclosure has a place for 4 pcs of 17 Ah / 12 V (SLA) battery and is equipped with a tamper switch signaling opening the door (front panel). Device is equipped with special system of mounting RACK 19" and 10" switches with possibility of choosing 5 (3 for 10") mounting heights and convenient way to remove devices. There are also special holders for fastening belts for devices without RACK mountings, you can also use the RAPDS adapter. Examples of Pulsar switch models: **SF108WP, S116WP, S124WP, SF116WP, SF124WP.**

Device can operate in one of two configurations:

1. PoE output power 300 W
2. PoE output power 270 W + 0,5 A battery charging
3. PoE output power 240 W + 1 A battery charging
4. PoE output power 210 W + 2 A battery charging

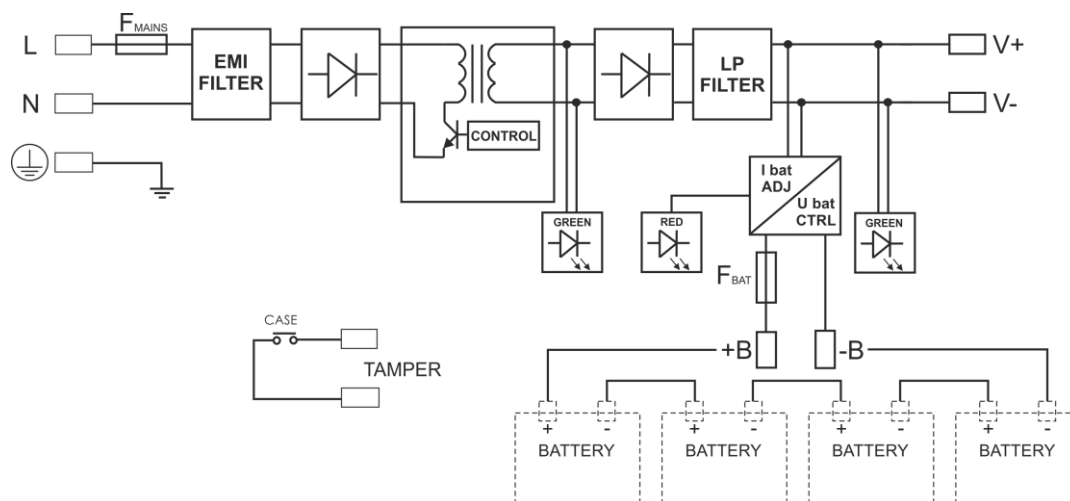
1.2. Block diagram (Fig.1).

Fig.1. Block diagram of PSU.

1.3. Description of PSU components and connectors.

Table 1. View of PSU (see Fig. 3).

Element no.	Description
[1]	L-N power supply connector 230 V,  Connector of a protective conductor
[2]	RACK mounting brackets
[3]	Brackets for mounting straps
[4]	Cable bushing
[5]	TAMPER ; microswitch of antisabotage protection (NC)
[6]	Power cable terminated with EDG 5.08-2P plug (DC 2.1/5.5 reduction included)
[7]	BAT +, BAT - battery output + BAT red, - BAT black
[8]	Selection jumper for charging current: - J1=  J2=  J3=  I_{bat} =0,5 A - J1=  J2=  J3=  I_{bat} =1 A - J1=  J2=  J3=  I_{bat} =2 A Description:  jumper installed,  jumper removed
[9]	Mounting holes to install additional mounting plate

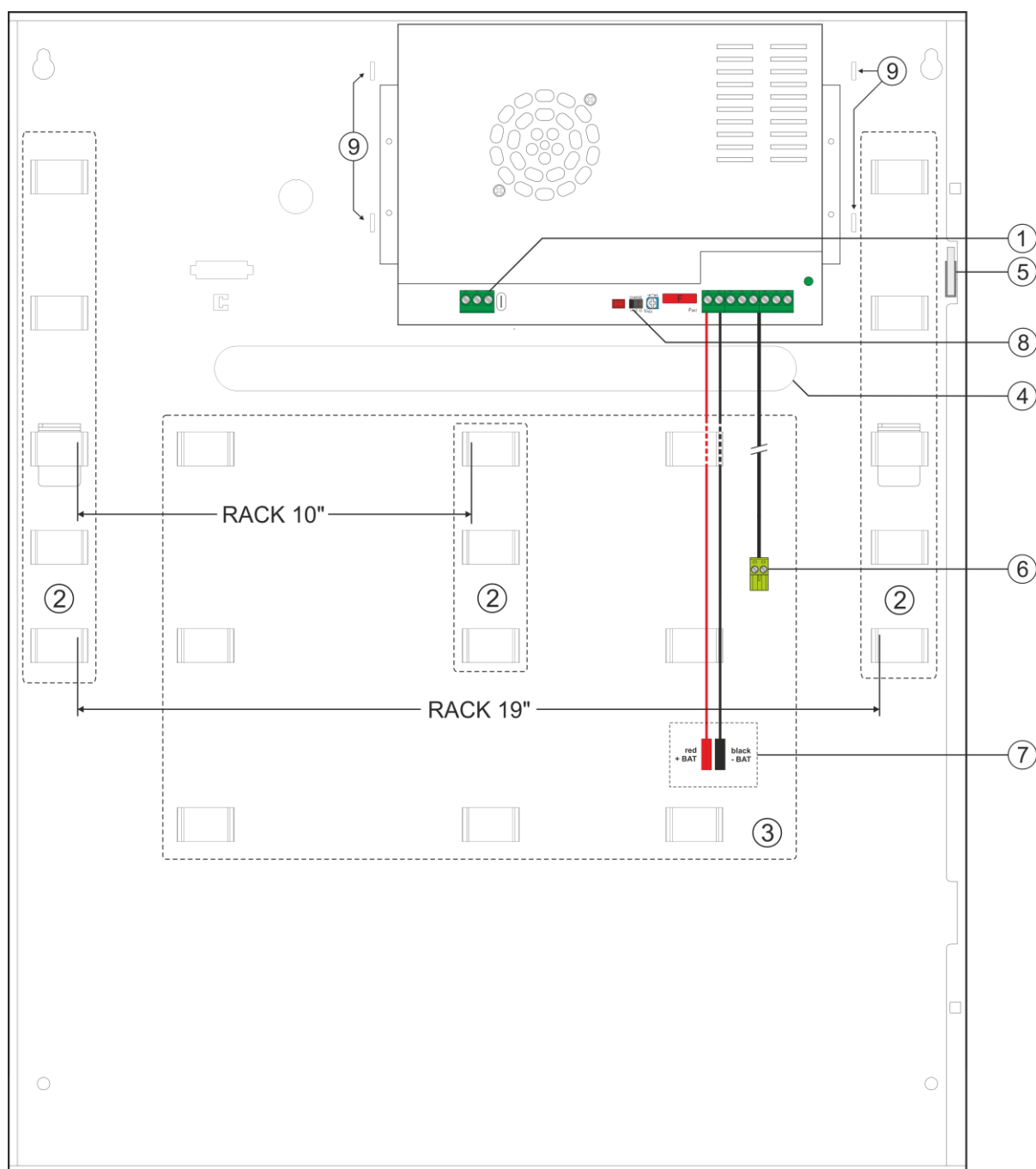
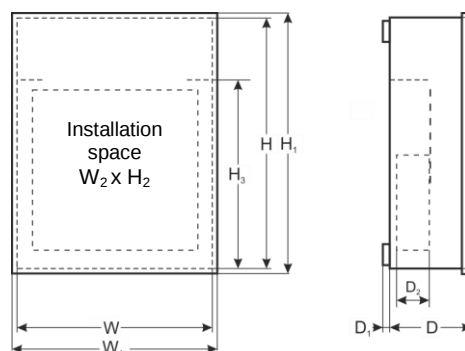


Fig.3. View of PSU.

1. 4. Specifications:

- electrical parameters (tab. 3)
- mechanical parameters (tab. 4)
- operation safety (tab. 5)
- operating parameters (tab. 6)

**Table 2. Specifications.**

Power supply	~ 200 – 240 V; 1,5 A; 50/60 Hz
Inrush current	60 A
Efficiency	87%
PoE supply	54 V DC; 300 W
Ripple voltage	150 mV p-p max.
Battery charging voltage	44-54 V DC
Battery charging current	0,5 A / 1 A / 2 A jumper selectable
Short circuit protection (SCP)	electronic, automatic recovery
Overload protection (OLP)	105 – 150% of power supply, automatic recovery
Surge protection	varistors
Current consumption by PSU during battery-assisted operation	about 25 mA
LED optical indication output	LED AC - presence of AC voltage LED DC - presence of DC voltage in the output of the PSU LED CHARGE - battery charging process
Connectors	Power input: $\Phi 0,63-2,50$ (AWG 22-10) PoE power supply output: DC plug 2.1/5.5 BAT output: battery wires $\Phi 6$ (M6-1,5) – 45cm
Operating conditions	Temperature $-10^{\circ}\text{C} \div 40^{\circ}\text{C}$, Relative humidity 5%-90% without condensation
Dimensions	$W=535$, $H=650$, $D=165$ [mm, +/-2] $W_1=540$ $H_1=655$, $D_1=14$ [mm, +/-2] $W_2=530$ $H_2=430$, $D_2=155$ [mm, +/-2] $H_3=560$; 485; 410; 355; 300 [mm, +/-2] (for RACK 19") $H_3=410$; 355; 300 [mm, +/-2] (for RACK 10")
Enclosure	Steel sheet, DC01 1,2mm color RAL 9003
Closing	Cheese head screw x 2 (at the front, possibility of installing two locks with different codes)
Notes	Enclosure does not adjoin assembly surface so that cables can be led..
Additional equipment	Mounting screws (x4)
Net / gross weight	11,06 / 12,12 [kg]
Declaration	CE

Table 3. Operation safety.

Protection class EN 62368-1	I (first)
Degree of Protection EN 60529	IP20
Electrical strength of insulation: - between input input and output circuits of the PSU - between input circuit and protection circuit - between output circuit and protection circuit	4000 V DC min. 2500 V DC min. 500 V DC min.
Insulation resistance: - between input circuit and output or protection circuit	100 M Ω , 500 V DC

Table 4. Operating parameters.

Operating temperature	$-10^{\circ}\text{C} \dots +40^{\circ}\text{C}$
Storage temperature	$-20^{\circ}\text{C} \dots +60^{\circ}\text{C}$
Relative humidity	20%...90%, without condensation
Vibrations during operation	unacceptable
Impulse waves during operation	unacceptable
Direct insulation	unacceptable
Vibrations and impulse waves during transport	According to PN-83/T-42106

2. Installation.

2.1 Requirements.

Device is designed to be installed only by qualified installer with necessary permits and authorisations (required in installation country) to connect (interfere) with the 230 V mains supply. Unit should be mounted in confined spaces, in accordance, with normal relative humidity (RH=90% maximum, without condensing) and temperature from -10°C to +40°C.

As power supply is designed for a continuous operation and is not equipped with a power-switch, therefore, an appropriate overload protection in power supply circuit should be provided. Moreover, user should be informed how to disconnect power supply unit from mains supply (most frequently through separating and assigning an appropriate fuse in the fuse-box).

2.2 Installation procedure.

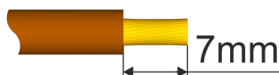


CAUTION!

Before installation, cut off voltage in 230 V power-supply circuit. To switch power off, use an external switch, in which distance between contacts of all poles in disconnection state is not less than 3mm.

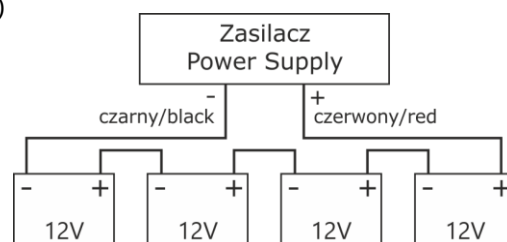
It is required to install an installation switch with a nominal current of 6 A in the power supply circuits outside the power supply unit.

1. Mount the device in a selected location and connect the wires.
2. Connect the power cables (~230 V) to L-N clips of the PSU. Connect the ground wire to the clip marked by the earth symbol ⚡. Lead the power cables to the relevant terminals of the power supply via an isolation conduit. Wires should be deisolated to a length of 7mm



Shock protection circuit shall be done with a particular care: yellow and green wire coat of power cable should be connected to terminal marked with the grounding symbol on PSU enclosure. Operation of PSU without the properly made and fully operational shock protection circuit is UNACCEPTABLE! It can cause damage to equipment or an electric shock.

3. Connect battery in correct polarity.
4. Make the selection is done with use of the IBAT jumpers (see: tab.1)
5. Screw brackets to devices and install them inside enclosure. Remember to place devices starting from rear of enclosure.
6. Connect switch using cable terminated with a DC 2.1/5.5 plug.
7. Mount inside enclosure.
8. Connect the power 230 V
9. After installing and checking proper working, the enclosure can be closed.



3. Maintenance.

Any and all maintenance operations may be performed following the disconnection of the PSU module from the power supply network. The PSU does not require performing any specific maintenance measures, however, in the case of significant dust rate, its interior is recommended to be cleaned with compressed air. In the case of a fuse replacement, use a replacement of the same parameters.

**WEEE LABEL**

Waste electrical and electronic equipment must not be disposed of with normal household waste. According to the European Union WEEE Directive, waste electrical and electronic equipment should be disposed of separately from normal household waste.



CAUTION! The power supply unit is adapted for cooperation with the sealed lead-acid batteries (SLA). After the operation period they must not be thrown but recycled according to the applicable law.

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