



# USER MANUAL

EN

Edition: 1 from 24.09.2020

Supersedes the edition:

## SWS-60

**Power supply system for PoE switches, 52VDC/60W**



**Features:**

- Supply voltage ~200 - 240 V
- High efficiency (90%)
- Metal enclosure – color white RAL9003
- Removable universal mounting plate
- Protections:
  - SCP short circuit protection
  - OLP overload protection
  - OVP overvoltage protection
  - surge protection
  - antisabotage protection: unwanted enclosure opening
- Warranty – 2 years from production date

**TABLE OF CONTENTS:****1. Technical description.****1.1. General description****1.2. Block diagram****1.3. Description of PSU components and connectors****1.4. Specifications****2. Installation.****2.1. Requirements****2.2. Installation procedure****3. Maintenance****1. Technical description.****1.1. General description.**

SWS-60 is designed for uninterrupted power supply of PoE switches with 52 V DC. It was designed based on high energy efficiency switching power supply module placed in metal enclosure (color RAL 9003). Enclosure is equipped with a tamper switch signaling opening the door (front panel). Device is equipped with removable universal mounting plate, which allows to mount PoE switches with dimensions up to 200x110x50 (WxHxD) [mm]. For example Pulsar's models: **S64, SG64, SFG64, SFG64F1, S108, SG108**.

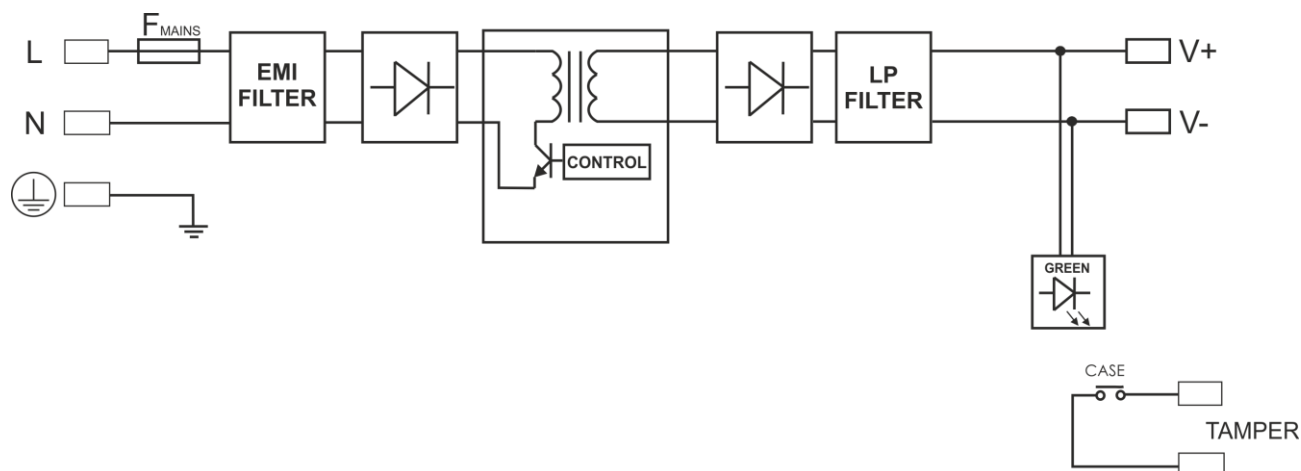
**1.2. Block diagram (Fig.1).**

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]	PSU module
[2]	Mounting holes
[3]	Screws for locking mounting plate
[4]	Cable bushing
[5]	<b>TAMPER</b> ; microswitch of antisabotage protection (NC)
[6]	Switch power cable terminated with a DC 2.1/5.5 plug

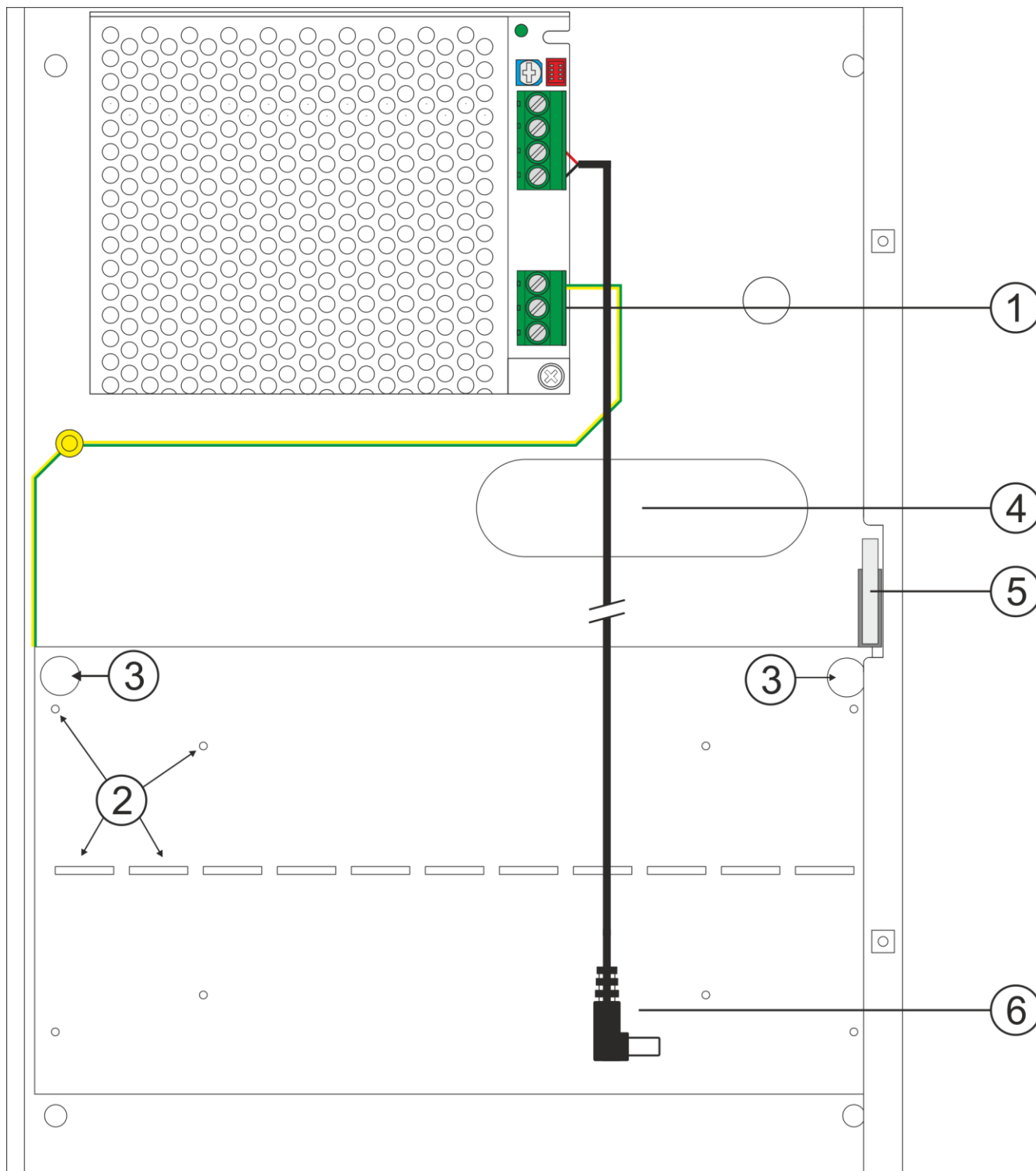
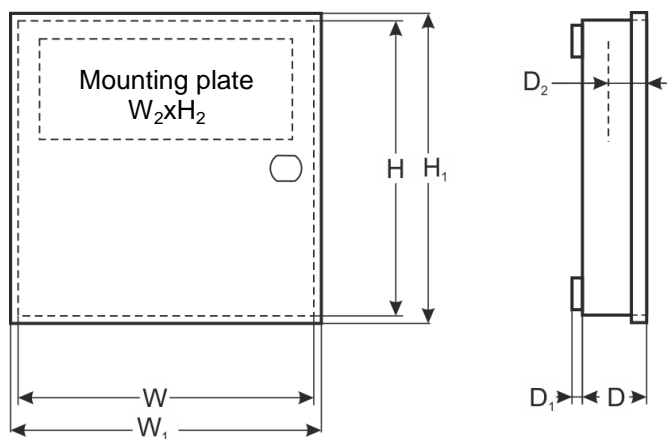


Fig.3. View of PSU.

#### 1.4. Specifications:

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



**Table 2. Specifications.**

<b>Power supply</b>	~ 200 – 240 V; 0,7 A; 50/60 Hz
<b>Inrush current</b>	40 A
<b>Efficiency</b>	90%
<b>PoE supply</b>	52 V DC; 60 W
<b>Voltage adjustment range</b>	48 V – 53 V DC
<b>Ripple voltage</b>	100 mV p-p max.
<b>Short circuit protection (SCP)</b>	electronic, automatic recovery
<b>Overload protection (OLP)</b>	105 – 150% of power supply, automatic recovery
<b>Surge protection</b>	varistors
<b>Over voltage protection (OVP)</b>	> 60 V (activation requires disconnecting the load or supply for about approx. 1 min..)
<b>Connectors</b>	Power input: $\Phi$ 0,63-2,50 (AWG 22-10) PoE power supply output: DC plug 2.1/5.5
<b>Operating conditions</b>	Temperature -10°C ÷ 40°C, Relative humidity 5%-90% without condensation
<b>Dimensions</b>	W=230, H=300, D+D <sub>1</sub> =82+8 [+/- 2mm] W <sub>1</sub> =235, H <sub>1</sub> =305 [+/- 2mm] W <sub>2</sub> =200, H <sub>2</sub> =110, D <sub>2</sub> =50 [+/- 2mm]
<b>Enclosure</b>	Steel sheet, DC01 0,7mm color RAL 9003
<b>Closing</b>	Cheese head screw x 2 (at the front, lock assembly possible)
<b>Notes</b>	Enclosure does not adjoin assembly surface so that cables can be led..
<b>Additional equipment</b>	Mounting screws (x4)
<b>Net / gross weight</b>	1,93 / 2,03 [kg]
<b>Declaration</b>	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	2500 V AC min. 1500 V AC min. 500 V AC min.
Insulation resistance: - between input circuit and output or protection circuit	100 MΩ, 500 V DC

**Table 4. Operating parameters.**

Environmental Class	II
Operating temperature	-10°C...+40°C
Storage temperature	-20°C...+60°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	Wg PN-83/T-42106

## 2. Installation.

### 2.1 Requirements.

Device is to be mounted by a qualified installer, holding relevant permits and licenses (applicable and required for a given country) for ~230 V in and low-voltage installations. The unit should be mounted in confined spaces, in accordance with the II environmental class, 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 min. 3 A in the power supply circuits outside the power supply unit.

1. Mount the device in a selected location and connect the wires.
2. Remove mounting plate by unscrewing screws, then release plate from hooks (slide up and slightly pull).
3. 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  $\oplus$ . Use a three-core cable (with a yellow and green protection wire) to make the connection. Lead the cables to the appropriate clips through the insulating bushing of the PSU.



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.

4. Check output voltage and adjust if necessary using potentiometer.
5. Screw switch to mounting plate.
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.

**Pulsar sp. j.**

Siedlec 150, 32-744 Łapczyca, Poland  
Tel. (+48) 14-610-19-40, Fax. (+48) 14-610-19-50  
E-mail: [biuro@pulsar.pl](mailto:biuro@pulsar.pl), [sales@pulsar.pl](mailto:sales@pulsar.pl)  
[http:// www.pulsar.pl](http://www.pulsar.pl), [www.zasilacze.pl](http://www.zasilacze.pl)