

APS-15

POWER SUPPLY

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The ASP-15 power supply is designed for use with devices requiring the 12 V DC supply voltage.

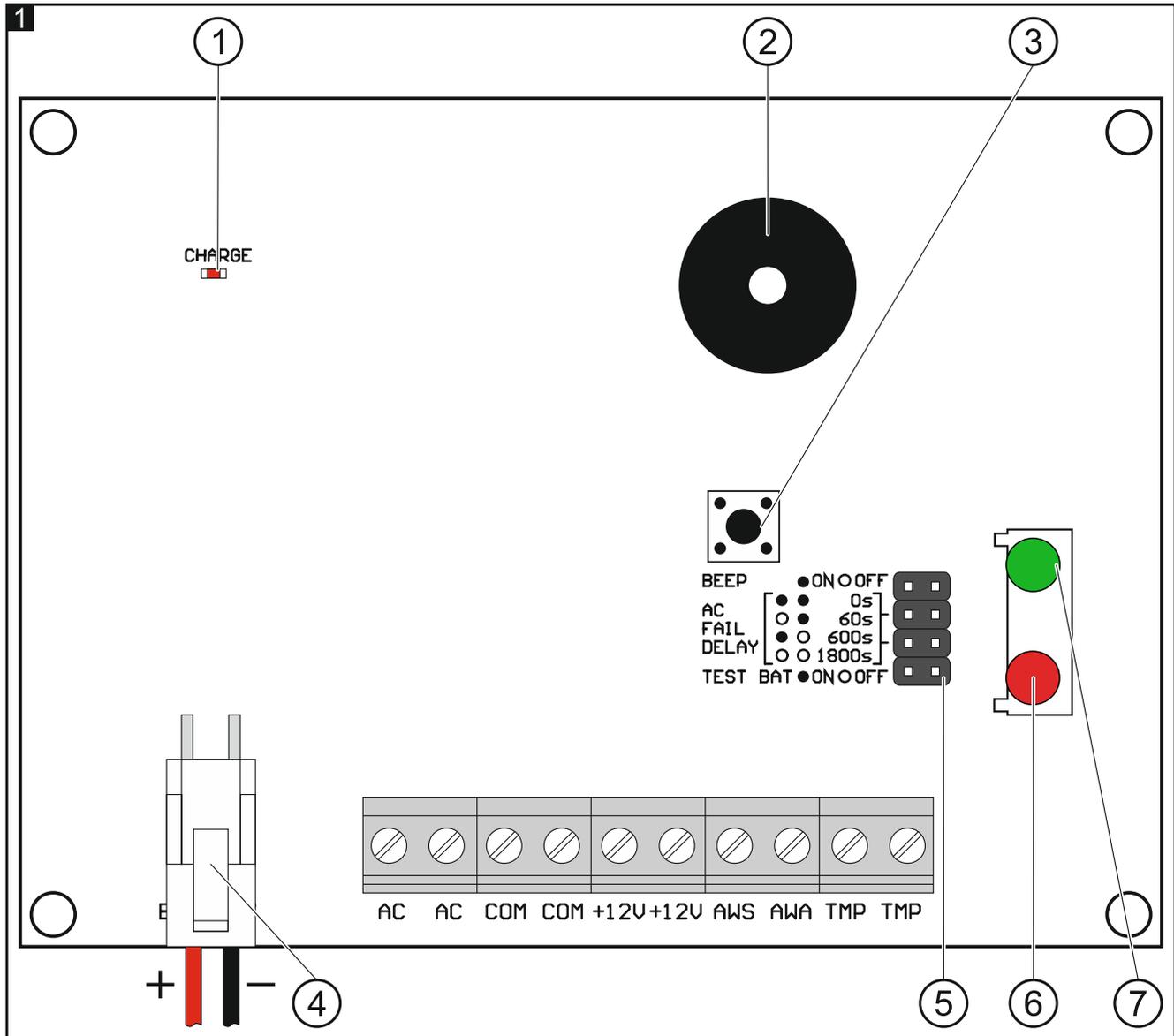
1. Features

- Output current 1.5 A.
- Possibility to work with an emergency backup battery:
 - battery status control,
 - automatic cutoff of discharged battery.
- Pins enabling configuration of the power supply settings.
- 3 LEDs to indicate:
 - AC mains power supply status,
 - battery status,
 - battery charging.
- 2 OC outputs to indicate the following troubles
 - AC mains power loss,
 - low battery.
- Audible signaling of troubles.
- Short-circuit protection of AC mains power supply circuit and battery charging circuit.
- Short-circuit and overload protection of the power output.
- Tamper protection against enclosure opening.

2. Specifications

Power supply type.....	A
Transformer power supply voltage.....	230 V AC
Electronics board power supply voltage (from transformer)	17...20 V AC
Rated output voltage.....	12 V DC
Output current.....	1.5 A
Battery charging current.....	approx. 500 mA
Recommended battery.....	12 V / 7 Ah
Battery trouble voltage threshold	11 V ±10%
Battery cut-off voltage	9.5 V ±10%
Battery protection (polymer fuse).....	2.5 A
AWS output (OC type)	50 mA / 12 V DC
AWA output (OC type)	50 mA / 12 V DC
Environmental class.....	I
Operating temperature range.....	+5...+40°C
Electronics board dimensions	102 x 76 mm
Enclosure dimensions.....	173 x 268 x 87 mm
Weight (without battery).....	2.25 kg

3. Description of the power supply



Explanations for Fig. 1:

- ① red LED indicating the battery charging process. It is on when the battery is being charged. When the battery status control is enabled, the LED goes on for a few seconds every 4 minutes to indicate the battery check.
- ② sounder for trouble indication.
- ③ tamper switch.
- ④ battery connection cables (red +, black -).
- ⑤ pins for configuring the power supply operating parameters. The ● symbol on PCB indicates that the jumper is placed across the pins, and the ○ symbol – that the jumper is removed from the pins.

BEEP	– enable / disable the audible trouble signaling (jumper ON – enabled, jumper OFF – disabled).
AC FAIL DELAY	– define the time that must elapse from the moment AC failure occurs before the AWS output is activated. Set the delay time according to the markings on the electronics board. Permissible times are indicated in Table 1.

TEST BAT – enable / disable the battery status control (jumper ON – enabled, jumper OFF – disabled). Disabling the battery status control turns off the battery trouble signaling on the AWA output.

⑥ red LED indicating the AC mains power supply status:

ON – AC power OK,
flashing – no AC power.

⑦ green LED indicating the battery status:

ON – battery OK (or the battery status control disabled),
flashing – low battery (battery voltage below 11 V).

AC FAIL DELAY pins	Delay time
● ●	0 seconds
○ ●	60 seconds
● ○	600 seconds
○ ○	1800 seconds

Table 1.

Description of terminals:

- AC** – power input (17-20 V AC).
- COM** – common ground.
- +12V** – power supply output (13.6-13.8 V DC).
- AWS** – OC type output indicating loss of 230 V AC power.
- AWA** – OC type output indicating low voltage or failure of the battery.
- TMP** – tamper output (NC).

In the normal state, the OC type output is shorted to common ground (0 V). In the active state (trouble signaling), the output is disconnected from common ground.

4. Installation



Disconnect power before making any electrical connections.

Before installation, prepare a load balance so as not to overload the power supply. In normal operating conditions, the sum of currents consumed by the connected devices and the battery charging current must not exceed 1.5 A.

The power supply has been designed for use with lead-acid batteries or other batteries having similar charging characteristics. Using other batteries than the recommended ones may cause an explosion.

The used batteries must not be discarded, but should be disposed of in accordance with the existing rules for environment protection.

The transformer should be permanently connected to the 230 V AC mains supply. Before you make the cabling, familiarize yourself with the electrical installation of the facility. Make sure that the circuit you choose for powering will be always alive. The circuit should be protected with a proper safety device. The owner or user of the power supply should be instructed on how to disconnect the transformer from the mains (e.g. by indicating the fuse which protects the supply circuit).

A 12 V lead-acid sealed battery can be connected to the power supply as a backup power source. The power supply enclosure can accommodate a battery with 9 Ah or 7 Ah capacity.



If the power supply is to be installed in another enclosure (e.g. SATEL made OPU-3 P or OPU-4 P), skip the steps from 1 to 5 and mount the electronics board as recommended in the installation guide for the given enclosure.

1. Run the cables through the hole in the enclosure base.
2. Use 4 screws to secure the enclosure base to the mounting surface.
3. Turn off power supply in the 230 V AC circuit to which the transformer is to be connected.
4. Connect the 230 V AC cables to the terminals of transformer primary winding. Connect the ground cable to the  terminal on the back panel of the enclosure.
5. Use 4 screws to secure the electronics board to the spacer sleeves, which are fastened with screws to the enclosure base. When closing the enclosure, the LEDs (marked as ⑥ and ⑦ in Fig. 1) must enter the enclosure holes designated as follows:
 -  – red LED (AC supply),
 -  – green LED (battery status).
6. Connect the terminals of transformer secondary winding to the power supply AC terminals.
7. Connect the devices cables to the terminals +12 V and COM.
8. You can connect LEDs, relays etc. to the trouble signaling outputs or connect these outputs with the alarm control panel zones.
9. You can connect the tamper output, for example, to the zone of the alarm control panel.
10. Using jumpers, set the power supply operating parameters.
11. Connect the battery to the dedicated leads (positive terminal to RED lead, negative terminal to BLACK lead).
12. Turn on 230 V AC power supply in the circuit to which the transformer is connected. The power supply unit will start (LEDs will come on).

5. Battery status control

The battery status is checked every 4 minutes and indicated by lighting up of the red LED (indicated as ① in Fig. 1). If the battery voltage drops below 11 V for longer than 12 minutes (3 battery tests), the power supply will signal a battery trouble. The AWA output will be disconnected from the common ground, and the green  LED will start blinking (optionally, the trouble can be audibly signaled). The voltage drop to about 9.5 V will disconnect the battery.

The declaration of conformity may be consulted at www.satel.eu/ce