

APS-30

Power supply

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The APS-30 power supply is designed for use with devices requiring the 12 VDC supply voltage.

1. Features

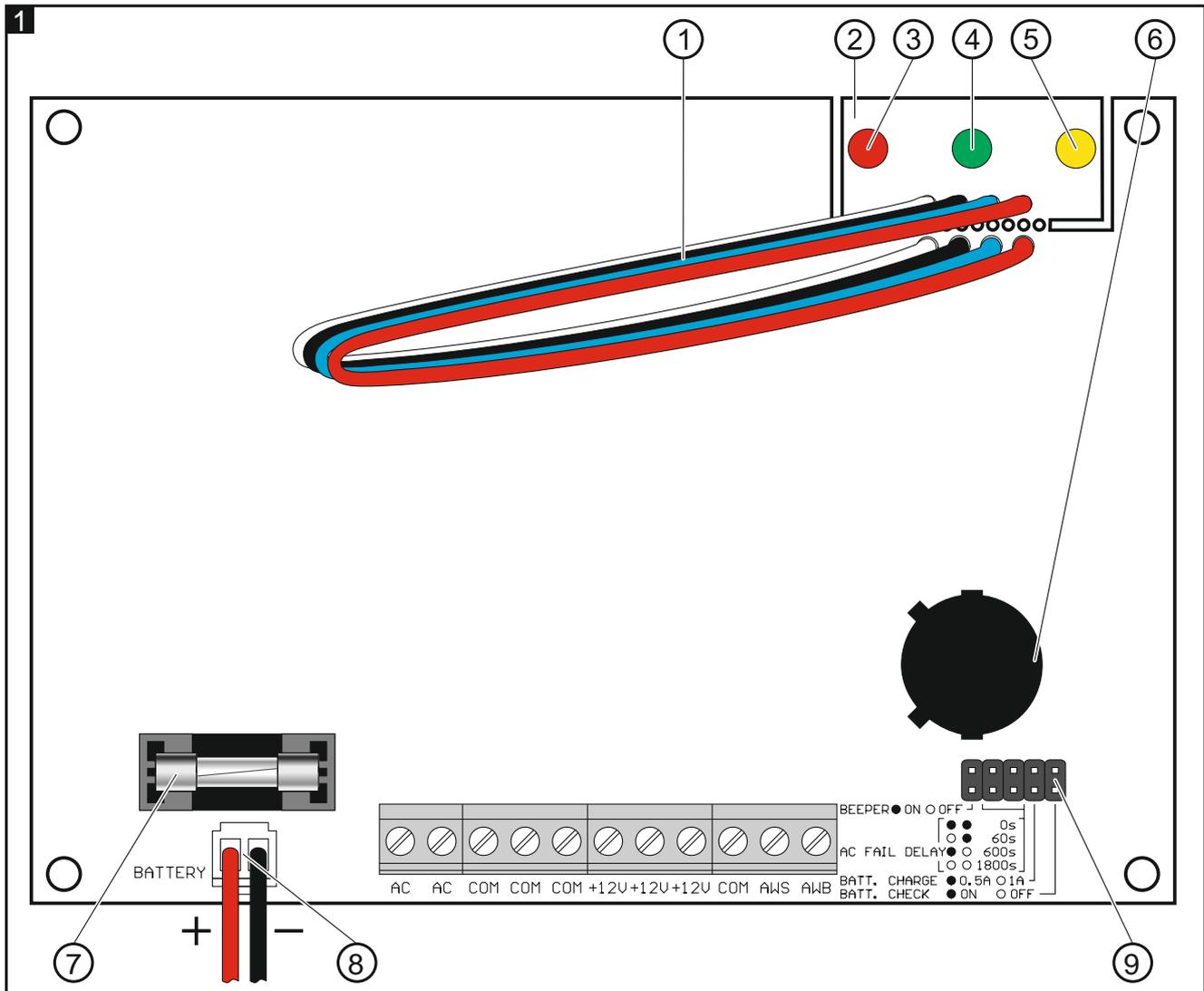
- Output current 3 A.
- Possibility to work with an emergency backup battery:
 - battery status control,
 - automatic cutoff of discharged battery.
- Pins enabling configuration of the power supply settings.
- 3 LEDs to indicate:
 - AC mains power supply status,
 - battery status,
 - battery charging.
- 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. Description of the power supply

Explanations for Fig. 1:

- ① wires connecting the electronics board and the LED board.
- ② LED board.
- ③ red LED indicating the AC mains power supply status:
 - ON – AC power OK,
 - flashing – no AC power.
- ④ green LED indicating the battery status:
 - ON – battery OK (or the battery status control disabled),
 - flashing – low battery (battery voltage below 11 V).
- ⑤ yellow LED indicating the battery charging process. It is on when the battery is being charged (brightness of light depends on current consumption). When the battery status control is enabled, the LED goes on for a few seconds every 4 minutes to indicate the battery check.
- ⑥ sounder for trouble indication.

- ⑦ 3.15 A slow-blow fuse – battery charging circuit protection.
 ⑧ battery connection cables (red +, black -).



- ⑨ 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.

- BEEPER** – 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.
- BATT. CHARGE** – select battery charging current (jumper ON – 0.5 A, jumper OFF – 1 A).
- BATT. CHECK** – 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 AWB output.

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

Table 1.

Description of terminals:

AC – power input (17-24 VAC).

COM – common ground.

+12V – power supply output (13.6-13.8 VDC).

AWS – OC type output indicating loss of 230 VAC power.

AWB – OC type output indicating low voltage or failure of the battery.

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.

3. 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 3 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 VAC 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 17 Ah capacity.

1. Cut the cable tie and remove the transformer.
2. Remove the first (outer) plastic insert by releasing the catches.
3. Unscrew the two screws fastening the second (inner) insert and remove it from the enclosure.
4. Place the enclosure base on the wall and mark the location of mounting holes. Remember about the mounting hole in the tamper element (above the transformer place).
5. Drill the holes for wall plugs (anchors). The wall plugs (anchors) delivered with the power supply are intended for concrete, brick, etc. For other types of surface (drywall, styrofoam), use the appropriately selected wall plugs.
6. Run the wires through the openings in the enclosure base.

7. Using four screws, fasten the enclosure base to the wall (the two lower screws also secure the battery shelf).
8. Using a screw, fasten the tamper element to the wall.
9. Using four screws, fasten the inner insert (two extra screws are provided in the plastic bag).
10. Insert the plastic plugs for fastening the electronics board in their respective holes. The holes are shown in black in Figure 2.
11. Using three screws, attach the transformer to the base.
12. Connect the 230 VAC power leads to the corresponding transformer terminals.



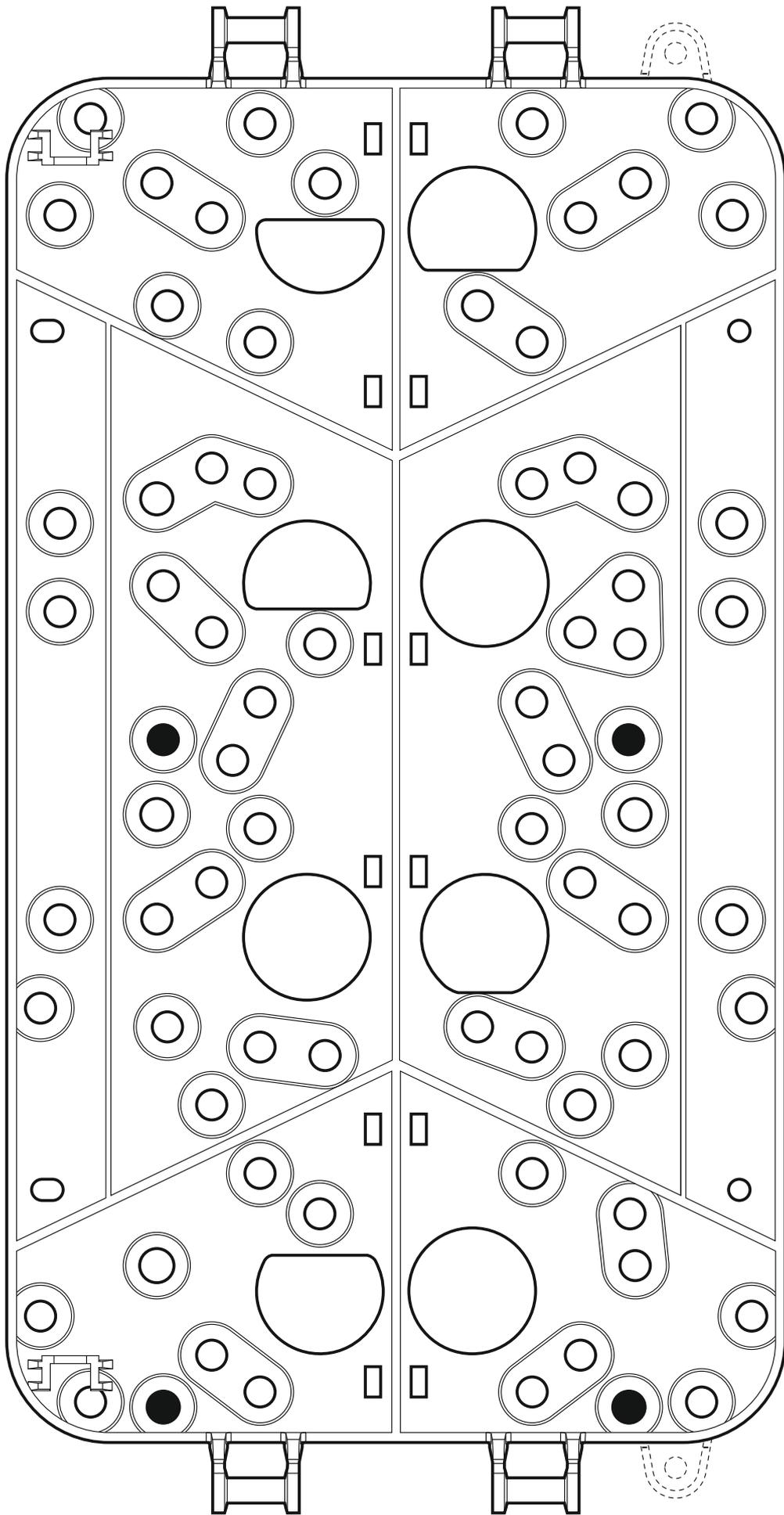
Never connect two devices with a power supply unit to a single-section transformer.

Before connecting transformer to a circuit from which it will be powered, make sure the circuit is de-energized.

Transformer capacity must match the DC power supply output capacity.

13. The tamper switch with PCB is to be screwed from above to the post inside the enclosure so that it is closed after the cover is replaced.
14. Solder the leads to the other tamper switch. Place the contact in the enclosure base holder so that the metal plate is pressed against the tamper element.
15. Break off the separate LED board from the electronics board.
16. Mount the electronics board on the plugs.
17. Using two screws, secure the LED board from above to the post inside the enclosure. Make sure the LEDs enter their corresponding holes according to the designations on the enclosure cover:
 -  – red LED (AC supply),
 -  – green LED (battery status),
 -  – yellow LED (battery charging).
18. Connect the terminals of transformer secondary winding to the power supply AC terminals (use the black leads delivered in the bag).
19. Connect the devices to the terminals +12V and COM.
20. You can connect LEDs, relays etc. to the outputs signaling troubles or connect these outputs to the zones of the alarm control panel or other device which is to supervise the power supply operation.
21. Using jumpers, set the power supply operating parameters.
22. Insert the battery in the enclosure and connect it to the dedicated leads (positive terminal to RED lead, negative terminal to BLACK lead).
23. Place the outer insert in the catches. You can use it for mounting other SATEL devices in the enclosure.
24. Replace the cover and secure it with four screws. Cover the screw holes with special hole plugs included in the delivery set. There are two right-hand and two left-hand hole plugs. When inserted in the holes and pressed, the hole plugs should not protrude above the cover surface.
25. Turn on 230 VAC power supply in the circuit to which the transformer is connected. The power supply unit will start (LEDs will come on).

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4. Battery status control

The battery status is checked every 4 minutes and indicated by lighting up of the yellow LED . 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 AWB 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.

5. Specifications

Power supply type.....	A
Transformer power supply voltage.....	230 VAC
Electronics board power supply voltage (from transformer).....	17...24 VAC
Rated output voltage.....	12 VDC
Output current.....	3 A
Battery charging current (selectable).....	0.5 A / 1 A
Recommended battery.....	12 V/17 Ah
AWS output (OC type).....	50 mA / 12 VDC
AWB output (OC type).....	50 mA / 12 VDC
Environmental class.....	I
Operating temperature range.....	+5...+40°C
Electronics board dimensions.....	140 x 99 mm
Enclosure dimensions.....	324 x 382 x 108 mm
Weight (without battery).....	3.35 kg

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