

The ASP-15 power supply is designed for alarm, intercom or CCTV systems. The power supply offered by our company has been designed and manufactured exactly for such applications. Precision voltage regulation, microprocessor-based battery testing, and automatic disconnection of the battery in case of overdischarge – all these features allow the battery to be used for a longer period, without the risk of battery damaged. Moreover the circuit of power supply has a polymer fuse of 2,5 A capacity. The power supply has short-circuit and overload protection. It is provided with visual signaling of mains supply and battery status. The detected troubles can be additionally indicated by audible signals. Two additional OC type outputs make it possible to transfer information about failures to the alarm system. A tamper contact on the electronics board allows for connection of the power supply into the alarm system tamper circuit. Due to the use of the switching mode power supply of high power efficiency, heat losses are minimized and reliability is enhanced. The power supply should work with a 12 V battery of 9 Ah or 7 Ah capacity.

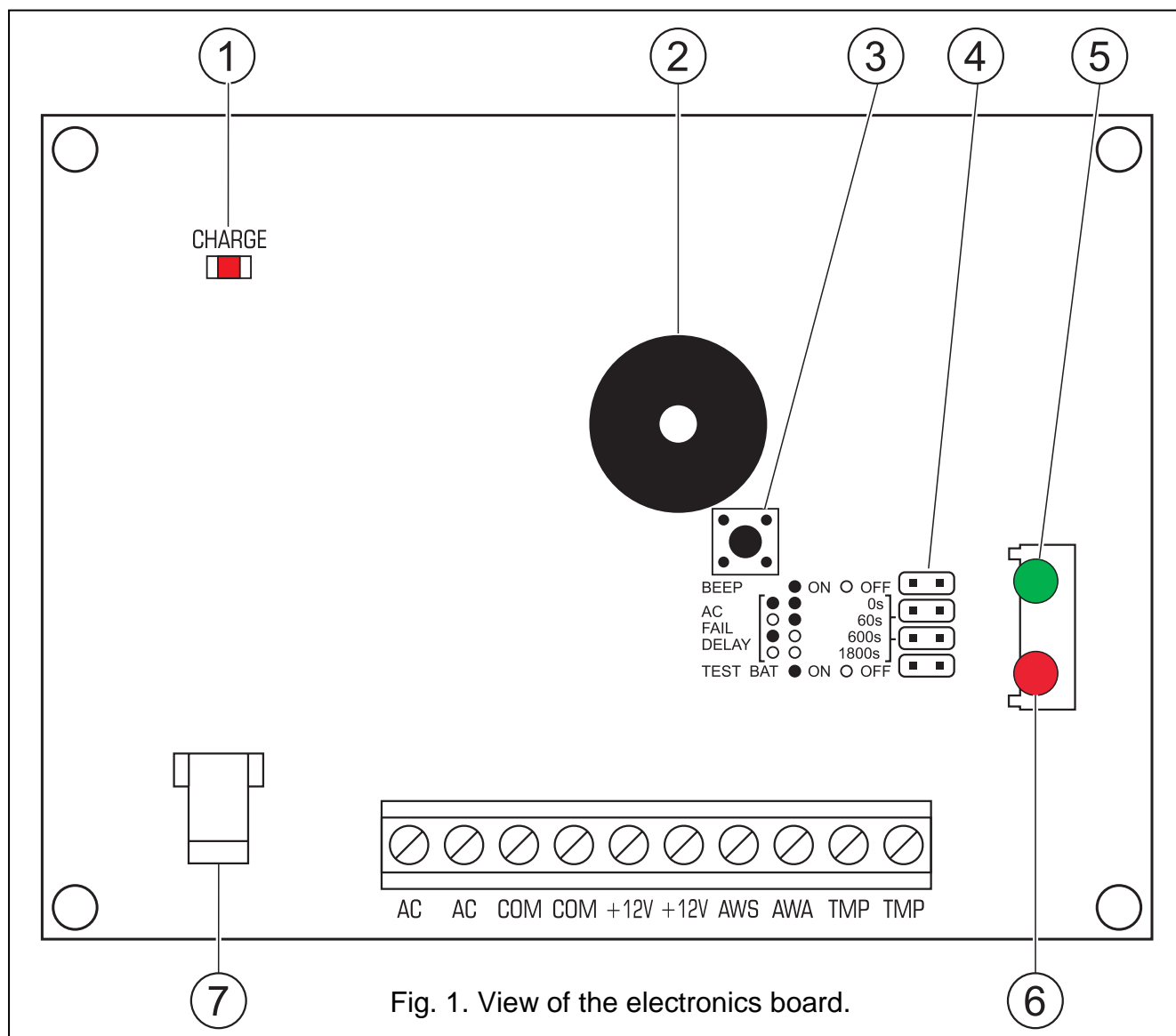


Fig. 1. View of the electronics board.

Legend to Fig. 1:

- 1 – **LED (red)**. The LED is on during battery charging or state-of-charge testing.
- 2 – **buzzer**. Indicates troubles.
- 3 – **tamper contact**.
- 4 – **pins for setting operating parameters of power supply unit**. Symbol ● on the electronics board means that the jumper is on. Symbol ○ means that the jumper is off. By default jumpers are set on all pins.  
**BEEP** – switching the buzzer on/off. By default it is switched on.  
**AC FAIL DELAY** – sets the time that must elapse after AC power supply failure until the failure is indicated on the AWS output (0, 60, 600 or 1800 seconds).  
 By default: 0 sec.  
**TEST BAT** – switches the battery test on/off. By default: ON.
- 5 – **LED BATTERY (green)**. Indicates presence of the battery.
- 6 – **LED POWER (red)**. Indicates presence of alternating voltage on the AC terminals.
- 7 – **battery connecting leads** (red +; black -).

**Description of terminals:**

- |             |   |
|-------------|---|
| <b>AC</b>   | – power supply input (17...20 V AC). The AC terminals are used for connection the secondary winding of mains transformer. |
| <b>COM</b>  | – common ground.  |
| <b>+12V</b> | – outputs of power supply unit (13.6–13.8 V DC).  |
| <b>AWS</b>  | – OC type output indicating loss of alternating voltage on the AC inputs or 230 V mains failure.                          |
| <b>AWA</b>  | – output indicating low voltage (discharge) or failure of the battery.  |
| <b>TMP</b>  | – tamper contact terminals.   |

## 1. Installation

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Prior to installation, it is necessary to make a balance of power supply loads. **The sum of load currents and battery charging current must not exceed the power supply capacity.**

The power supply should only operate while being permanently connected to mains supply. Hence, before making the connections it is necessary to familiarize with the electric system in the facility. For powering the device choose the circuit which is always live. The power supply circuit should be protected with a proper fuse.



**Before connecting the device to its power supply circuit, make sure that the supply circuit is not alive.**

If you use a different housing than that recommended by the manufacturer, the AC/AC power supply, type 30 VA/18 V, must be applied.

1. Mount the power supply enclosure in the selected location and lead all connecting wiring.
2. Connect 230 V AC power wiring to the 230 V AC transformer terminals, and the grounding wire to the terminal situated on the back of the metal housing, marked by the ground symbol .
3. Using the installed cables, connect the transformer output voltage (rated at 18 V AC) to the AC terminals on the electronics board.
4. Connect the cables of receivers to the terminals +12 V and COM of the terminal block on power supply board.

- If necessary, connect the AWS and AWA outputs with the control panel zones. During normal operation of the power supply unit, the signaling output is shorted to the ground (0 V), but when a failure situation occurs, it becomes cut off from the common ground.

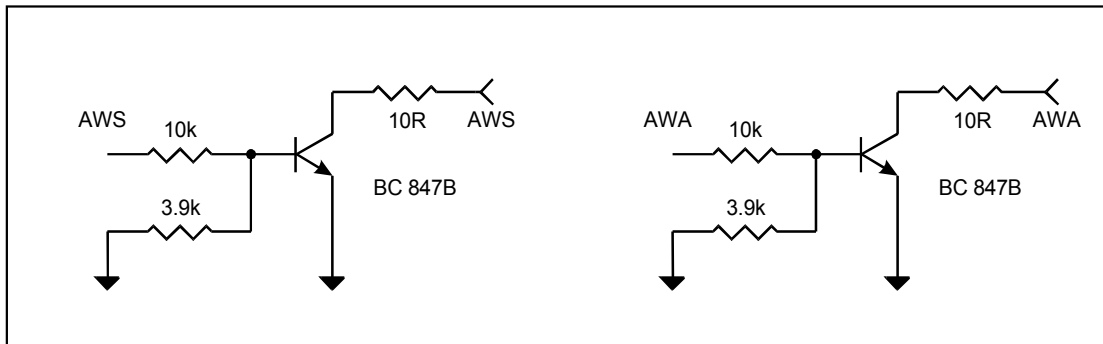


Fig. 2. Diagrams of AWS, AWA outputs.

- Using jumpers, set the time delay on the **AC FAIL DELAY** pins after which 230 V mains supply failure will be signaled on the AWS output. The possible settings are:

0 seconds	●
60 seconds	●
600 seconds	○
1800 seconds	○

○ – Pins open  
 ● – Pins shorted

- Using the **BEEP** pins, determine, whether the beeper is to be switched on (jumper on), or not (jumper off).
- Switch on the 230 V AC mains supply (if all connections are made correctly, LEDs MAINS and BATTERY should light up).
- Having connected the power supply unit, you can measure the voltage across battery cables. The voltage set during production process is 13.6–13.8 V and should not be changed.
- Connect the battery according to the colour marking.

If the battery is discharged, the green LED (BATTERY) will start blinking approx. 4 minutes after the 230 V AC mains supply is switched on. If the battery is connected after this time (green LED is blinking), the battery charging conditions will be known when the next test is carried out by the power supply after approx. 12 minutes. During the testing, the processor reduces power supply voltage down to about 10.5 V, while the receivers are supplied from the battery.

The battery state of charge is tested every 4 minutes for some 10 to 20 seconds. If the battery voltage decreases to approx. 11 V over three consecutive cycles, the power supply unit will signal a failure, and when the voltage drops to 9.5 V, the power supply will disconnect the battery to protect it from complete discharge and damage.

The battery test function can be disabled by removing the jumper **TEST BAT**. Disabling the test will also deactivate the battery failure signaling on the AWA output, without, however, switching off the circuit which protects the battery from complete discharge.

11. Next, the proper operation of failure monitoring circuits can be checked (with the TEST BAT jumper set on):

**turn off AC mains supply** – the red LED (MAINS) shall start blinking and the power supply will start audibly signaling a failure. After the time set on pins, the AWS output status shall change. When the mains power is restored, the LED will light permanently, the audible signaling shall be disabled, and after the time delay set on pins, the AWS output shall stop signaling.

**disconnect the battery** – after approx. 12 minutes, the green LED (BATTERY) will start blinking and the power supply will start audibly signalling a failure. The failure status will occur on the AWA output. The reconnection of the battery will clear the visual (LED) and the audible (buzzer) alarm in approx. 12 minutes.

After installing and checking the proper operation of the power supply, its housing can be closed.



**As the power supply has no isolating switch to disconnect the mains supply, it is important to inform the user or the owner of this device about the way of disconnecting it from the mains (e.g. by indicating the fuse which protects the supply circuit).**

## 2. Technical data

Power supply type.....	A
Transformer power voltage .....	AC 230 V
Electronics board supply voltage (from transformer).....	17...20 V AC
Nominal output voltage .....	12 V DC
Effective current.....	1.5 A
Battery charging current.....	approx. 500 mA
Recommended battery.....	12 V/7 Ah
Current capacity of AWS output (OC type) .....	50 mA
Current capacity of AWA output (OC type) .....	50 mA
Operating temperature range (class I) .....	+5...+40 °C
Electronics board dimensions .....	102 x 76 mm
Housing dimensions.....	170 x 270 x 81 mm
Weight (without battery) .....	2.25 kg

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