BUFFER POWER SUPPLY
APS-15

program version 2.0

aps15_pl 12/03

Proper selection of the supply sources guarantees a trouble-free operation of alarm, intercom, or CCTV systems. Often, the energy balance indicates that an additional buffer power supply must be used. If this is the case, the proper choice will be a power supply unit with optimum effective current and reserve for battery charging.

The power supply offered by our company has been designed and manufactured exactly for such applications. Precision voltage regulation, microprocessor-based testing, and automatic disconnection of the battery in the event of overdischarge - all these features allow the battery to be used for a longer period, without the risk of being damaged. The power supply has short-circuit and overload protection. It is provided with visual signaling of AC mains and battery status. Detected troubles can be additionally indicated by audible signals. Two extra OC type outputs make it possible to transfer the trouble information to the alarm system. A tamper contact on the printed circuit board allows for connection of the power supply into the alarm system anti-tampering circuit. Owing to the use of the pulse-type power supply circuit of high power efficiency, heat losses have been minimized and reliability enhanced. The power supply is designed to work with a 12V battery of 9Ah or 7Ah capacity.

INSTALLATION

Prior to installation, it is necessary to make the load balance for the power supply. **The total of input currents of the receivers and battery charging current must not exceed the power supply effective current.**

The power supply should only operate when permanently connected to the AC mains. Therefore, you should familiarize yourself with the electrical system of the facility before you start to make the cabling. The circuit to be selected for energizing the equipment should be constantly alive and protected with a suitable safety device.

CAUTION !
Before connecting the equipment to the circuit it will be supplied from, deenergize the circuit first.

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

BOARD TERMINALS:

AC - alternating voltage inputs from transformer (17...20V AC)
COM - ground (0V)
+12V - power outputs for DC receivers
AWS - mains failure indication output
AWA - battery failure indication output
TMP - tamper contact outputs

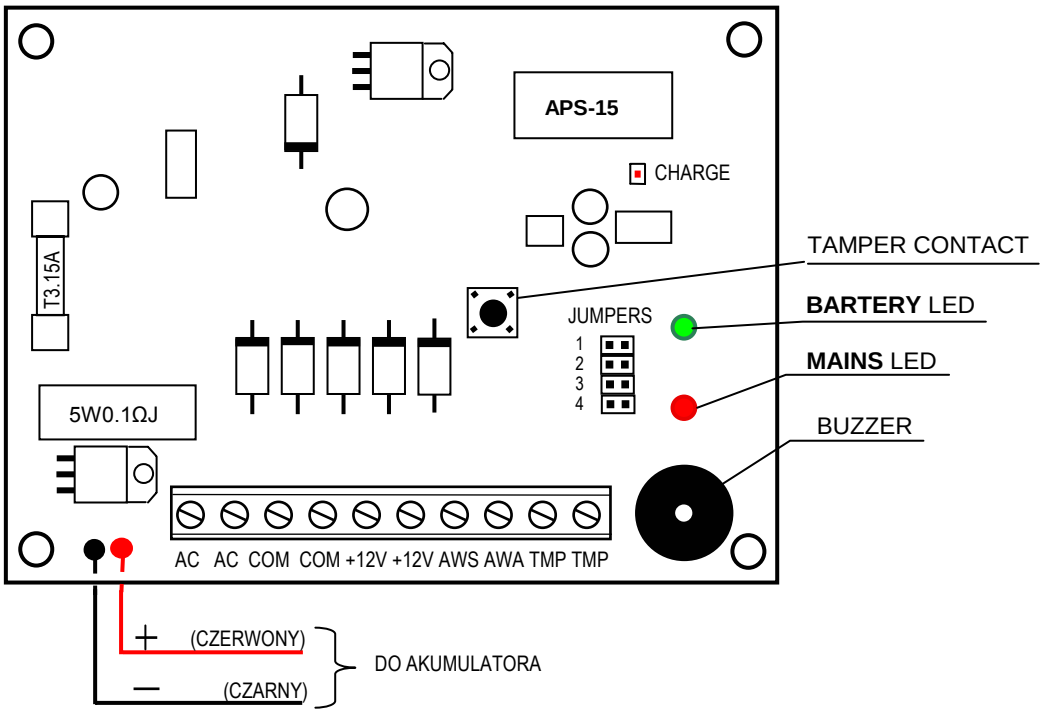

Fig . 1. Power supply board with leads.

The power supply board is fitted with 4 pairs of pins, the shorting or opening of which determines performance parameters of the power supply. By default, all jumpers are placed across the pins. The way of using the jumpers is described later in this manual.

JUMPER FUNCTIONS:

1 - audible signal on/off (BEEP)
2, 3 - delay of AC failure indication on AWS output (AC FAIL DELAY)
4 - battery testing on/off (TEST BAT)

The **CHARGE** LED situated on the power supply board next to the processor is on when the power supply is testing the battery state-of-charge, and when discharged battery is being charged.

HOOKUP DESCRIPTION

1) Mount the power supply in selected location and install the connecting leads.
2) Remove the T 0.16A mains fuse provided in the transformer housing.
3) Connect the 230V power cables to the transformer **230V AC** terminals, and the ground conductor to the terminal marked with the grounding symbol ⏚ .
4) Connect the cables of receivers to the connectors +12V and COM of the terminal block on power supply board.
5) If necessary, connect the trouble signaling outputs (OC type) to the control panel zones.
   AWS- the output signals loss of alternating voltage on the AC inputs or 230V mains failure.
   AWA- the output signals blowout of the T 3.15A fuse on the PCB, low voltage (discharge) or failure of the battery.

During normal operation of the power supply unit, the signaling output is shorted to the ground (0V), but when any of the above mentioned causes occurs, it becomes cut off from the ground.

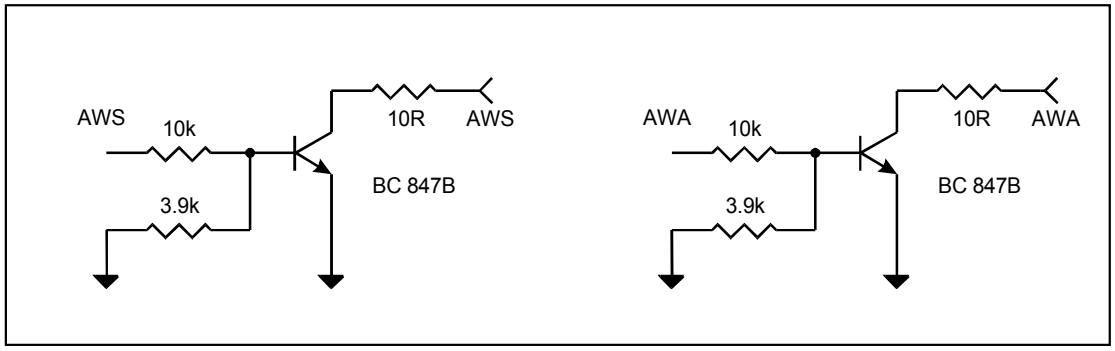

Fig. 2. Diagrams of AWS, AWA outputs

6) Using the jumpers 2 & 3 (AC FAIL DELAY), set the time after which 230V AC mains failure will be signaled on the AWS output. The possible settings are:

	jumper 2	jumper 3
0 seconds –	●	●
60 seconds –	○	●
600 seconds –	●	○
1800 seconds –	○	○

○ Pins open
● Pins shorted

7) Using the jumper 1 (BEEP), set the audible signaling option:
8) signaling on - pins shorted,
9) signaling off - pins open.
10) Switch on the 230V AC mains power and the mains fuse located in the transformer housing (if all connections are made correctly, both LEDs should light up).
11) Having connected the power supply unit, you can measure the voltage across battery cables. The voltage set during production process is 13.6 – 13.8V and should not be changed.
12) Connect the battery according to the color markings:

„battery minus" - black cable
„battery plus" - red cable

If the battery is discharged, the green LED will start blinking approx. 4 minutes after the 230V AC power is switched on. If the battery is connected after this time (green LED is blinking), the battery state-of-charge will be known when the next test is carried out by the power supply unit i.e. after approx. 12 minutes. During the testing, the processor reduces power supply voltage down to about 10.5V, 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. 11V over three consecutive cycles, the power supply unit will signal a failure, and when the voltage drops to 9.5V, 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 4 (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.

13) Next, you can perform a functional check of the failure monitoring circuits (with the TEST BAT jumper 4 set on):

turn off AC mains supply - the red LED will start blinking and the power supply will start audibly signaling a failure. After the time set with the jumpers 2 and 3, the AWS output status will change. When the mains power is restored, the LED will light permanently, the audible signaling will be disabled, and after the time delay set with jumpers, the AWS output will stop signaling.

disconnect the battery – after approx. 12 minutes, the green LED will start blinking and the power supply will start audibly signaling a failure. The failure status will occur on the AWA output. Re-connection of the battery will clear the LED visual alarm and the audible alarm in approx. 12 minutes.

Having completed installation and functional check of the power supply, you may close its housing.

Caution !
The power supply is not equipped with a switch to isolate it from the AC mains, therefore, it is important that the owner / user of the equipment be told how it can be disconnected from the mains (e.g. by showing him the fuse that protects the power supply circuit).

TECHNICAL DATA

Power supply type	A
AC power voltage	230V AC
Rated output voltage	13.6 - 13.8V
Effective current	1.5A
Battery charging current	approx. 500mA
Recommended battery for stage 1	9Ah
Ampacity of AWS output (OC type)	max. 50mA
Ampacity of AWA output (OC type)	max. 50mA
Operating temperature range (class I)	+5...+40 °C
Dimensions	254 x 163 x 70 mm
Weight (without battery)	2.0kg

Latest EC declaration of conformity and product approval certificates can be downloaded from our Web site **www.satel.pl**

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