



ZONE / OUTPUT EXPANDER  
WITH POWER SUPPLY  
**CA-64 PP**



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The CA-64 PP expander (also called a subpanel) allows extension of the alarm system with additional zones and outputs. It can interface with the INTEGRA and CA-64 alarm control panels. This manual applies to the expander with electronics version 1.3 and firmware 1.03 (or newer).

## 1. Features

- 8 programmable zones:
  - support for NO and NC type detectors;
  - support for single EOL and double EOL loops.
- Additional tamper input, NC type.
- 8 programmable outputs:
  - 4 relay outputs;
  - 4 open collector outputs.
- Power supply output (two terminals).
- 2.2 A switching-mode power supply, provided with battery status monitoring and low battery disconnect circuit.

## 2. Specifications

Supply voltage .....	18 V AC $\pm 10\%$ , 50-60 Hz
Recommended transformer type .....	TR40VA (40 VA / 18 V AC)
Output voltage range .....	9.5...13.8 V DC
Power supply output current .....	2.2 A
Battery failure voltage threshold .....	11 V $\pm 10\%$
Battery cut-off voltage .....	9.5 V $\pm 10\%$
Battery charging current (switch-over) .....	400 mA / 800 mA
Current consumption (w/o OC type output load and w/o active relays) .....	34 mA
Current consumption by active relay .....	20 mA
Relay contacts rating (resistive load) .....	2 A / 24 V DC
Open collector output rating .....	50 mA / 12 V DC
Environmental class according to EN50130-5 .....	II
Operating temperature range .....	-10 °C...+55 °C
Maximum humidity .....	93 $\pm 3\%$
Electronics board dimensions .....	142 x 102 mm
Weight .....	190 g

The declaration of conformity may be consulted at [www.satel.eu/ce](http://www.satel.eu/ce)

### 3. Electronics board

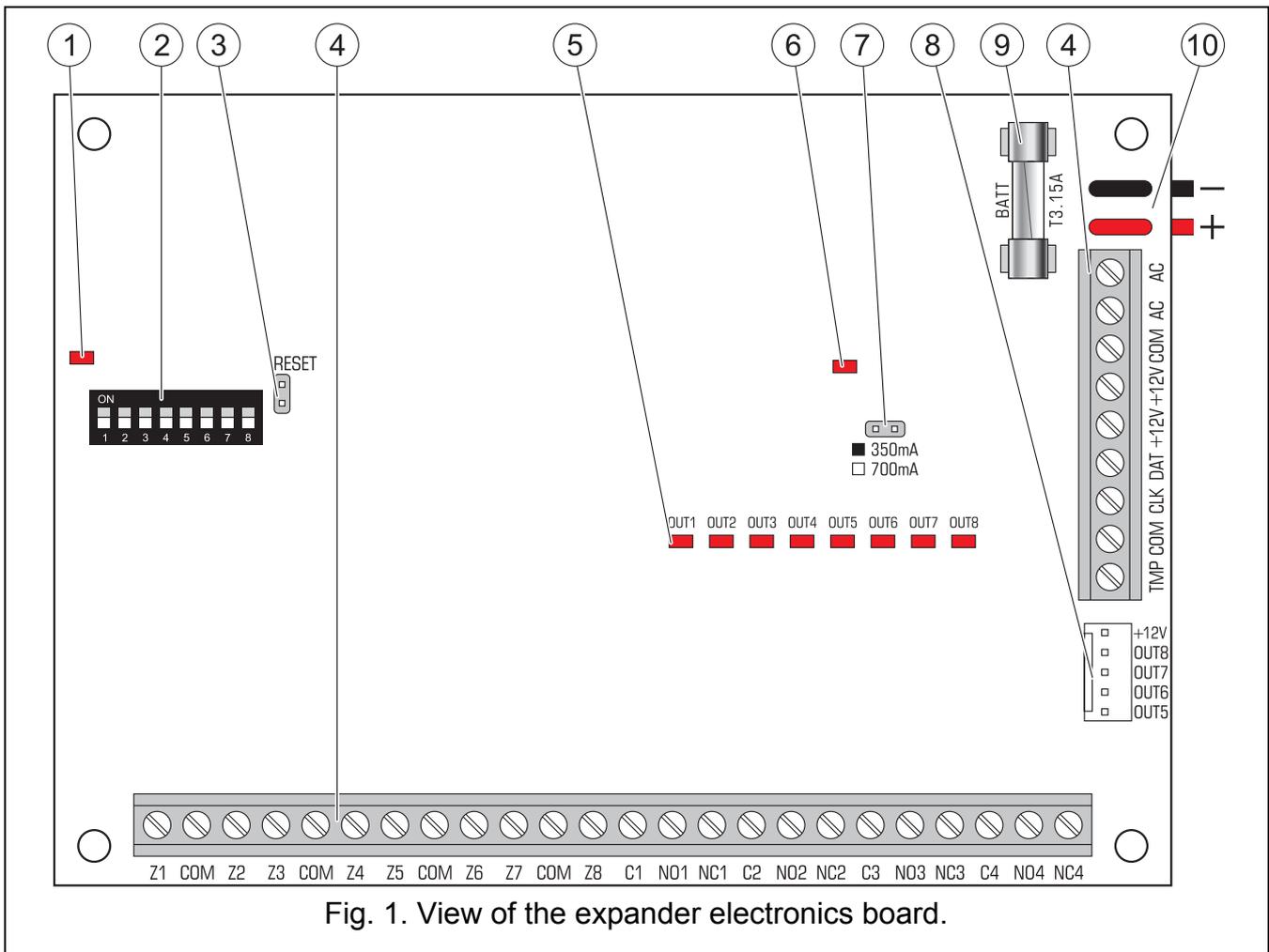


Fig. 1. View of the expander electronics board.

Explanations for Fig. 1:

- 1 - LED indicator of communication with the control panel:
  - blinking – data exchange with the control panel;
  - steady light – no communication with the control panel.
- 2 - DIP-switch package for setting an individual module address.
- 3 - pins used in the manufacturing process. **Do not short the pins!**
- 4 - terminals:
  - Z1...Z8** - zones;
  - COM** - common ground;
  - C1...C4** - common relay terminals;
  - NO1...NO4** - normally open relay terminals;
  - NC1...NC4** - normally closed relay terminals;
  - TMP** - tamper circuit input (NC) – if not used, it should be short-circuited to the common ground;
  - CLK** - clock;
  - DAT** - data;
  - +12V** - power supply output;
  - AC** - power supply input (recommended transformer: 18 V AC, 40 VA).

- 5 - LED indicators of output status:
  - LED ON – output active (relay active / open collector output shorted to ground);
  - LED OFF – output inactive.
- 6 - LED indicator of battery charging status.
- 7 - pins for setting the battery charging current:
  - pins shorted (jumper on) – 400 mA;
  - pins open (no jumper) – 800 mA.
- 8 - connector:
  - +12V** - power supply output;
  - OUT5...OUT8** - low-current open collector outputs.
- 9 - battery charging circuit fuse (3,15 A).
- 10 - battery connection cables (red +, black -).

## 4. Installation and start-up



**Disconnect power before making any electrical connections.**

**Never connect two devices with power supply unit to one transformer.**

**Before connecting the transformer to a 230 V AC circuit, make sure the circuit is de-energized.**

**Never connect a discharged battery to the expander (when the voltage across battery terminals without a load connected is lower than 11 V).**

The expander is designed for indoor installation, in spaces with normal air humidity.

1. Install the expander board in the enclosure.
2. Using the DIP-switches, set the appropriate expander address. Use the switches 1-5 for this purpose. The address must be different from that of the other modules connected to the expander bus. The address is a sum of values set on the switches 1-5 (see: Table 1).

<b>Switch number</b>	1	2	3	4	5
<b>Numerical value</b>	1	2	4	8	16

Table 1. Numerical values corresponding to the switches set to ON position (in the OFF position, the value 0 is assigned to each switch).

3. Connect the CLK, DAT and COM terminals with wires to the appropriate terminals of the control panel expander bus. To make a connection, it is recommended to use an unscreened straight-through cable. When using the twisted-pair type of cable, the CLK (clock) and DAT (data) signals must not be sent through one twisted pair. The wires must be run in one cable. The cable length should not exceed 1000 m. If it exceeds 300 meters, it may be necessary to use several wires connected in parallel for each signal.
4. Connect the wires of module enclosure tamper switch to the TMP and COM terminals. Short the TMP and COM terminals together, if the tamper switch status is not to be monitored by the expander.
5. Wire the detectors to the zone terminals (for wiring description refer to the alarm control panel installer manual).
6. Wire the devices whose operation is to be controlled by the control panel, to the output terminals.

7. Connect devices requiring 12 V DC power to the power supply output. The sum of currents consumed by expander supplied devices and battery charging current must not exceed the power supply output current.
8. Connect the transformer secondary winding to the expander AC terminals.
9. Connect the transformer primary winding to a 230 V AC circuit. Make sure the selected circuit is protected by a suitable safeguard and remains energized at all times (de-energize the circuit before connecting the transformer).
10. Using a jumper, set up the battery charging current (400 mA or 800 mA).
11. Connect the battery to the expander dedicated leads (positive terminal to RED lead, negative terminal to BLACK lead). The expander will not start after connecting the battery alone. The battery provide backup power in the event of an AC power failure.
12. Energize the 230 V AC circuit.
13. Start the identification function in the control panel. When the identification is completed, the zones and outputs will be assigned respective numbers in the alarm system (the zone / output numeration rules are described in the alarm control panel manual).

**Notes:**

- *If it is necessary to disconnect power supply from the expander, first disconnect the AC power and then the battery. To re-connect power supply, follow the procedure described above.*
- *As the transformer has no mains switch, to disconnect the AC power you should de-energize AC circuit to which the transformer is connected.*
- *If the battery voltage drops below 11 V for longer than 12 minutes (3 battery tests), the control panel will indicate battery failure. When the voltage goes down to approx. 9.5 V, the battery will be disconnected.*

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