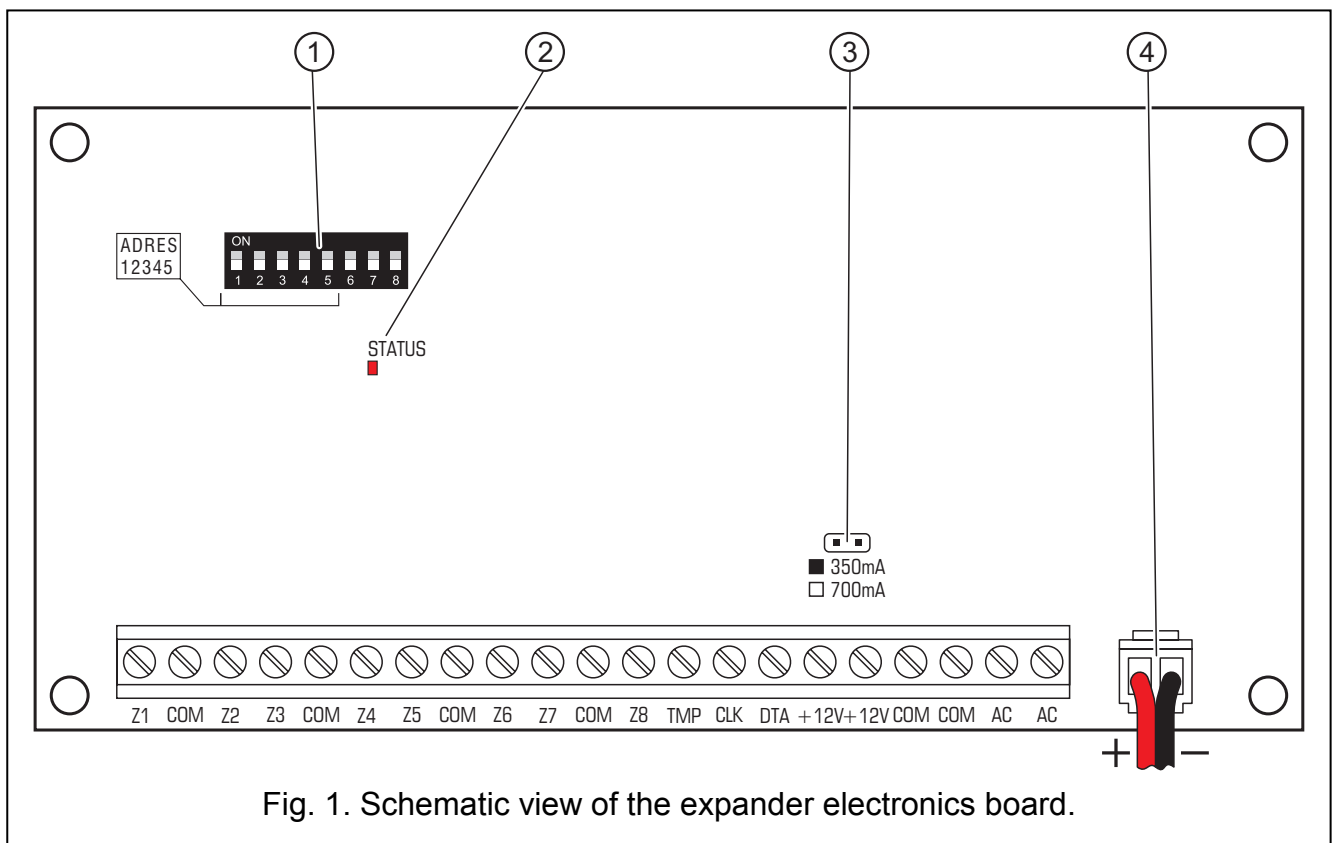


The CA-64 EPS zone expander is designed for operation in the intruder alarm systems. It can work in conjunction with the SATEL made CA-64, INTEGRA and VERSA alarm control panels. It enables the alarm system to be expanded by additional 8 zones. The expander zones can be programmed as NO, NC, EOL, 2EOL/NO or 2EOL/NC. The value of resistors in EOL and 2EOL configurations is programmable. The expander can support vibration and roller shutter motion detectors. The module has a built-in switching-mode power supply of 1.2 A capacity. It also has battery charging circuit and testing circuit with disconnection of discharged battery. This manual applies to the expander with electronics version 2.0 and firmware version 2.0 (or newer).

1. Description of electronics board



Explanations to Figure:

- 1 – **a set of DIP-switches** for setting individual address of the module and defining how the expander will be identified and, consequently, what functions will be available (see DIP-SWITCHES).
- 2 – **LED STATUS** to indicate the process of communication between control panel and expander:
 - LED is blinking – data exchange with the panel;
 - LED is lit – no communication with the control panel.
- 3 – **pins** to set up the battery charging current:
 - pins shorted – 350 mA
 - pins open – 700 mA

4 – leads to connect the battery (red +, black -).

Description of the terminals:

- Z1...Z8** - zones.
- COM** - common ground.
- TMP** - tamper input (if no tamper contact is connected to this terminal, it should be shorted to common ground).
- CLK** - clock.
- DTA** - data.
- +12V** - power supply output. To the expander power supply unit may be connected other electric energy consumers (e.g. detectors, modules with no power supply). However, be careful not to cause an overload. It is advisable to prepare the power supply **load balance**. The total of current inputs for all consumers and battery charging current is not to exceed the capacity of power supply unit.
- AC** - power supply input 18 V AC (from mains transformer secondary winding). The minimum input voltage at the **maximum load** of the transformer by the module must not drop below **16 V AC**.

1.1 DIP-switches

The DIP-switches from 1 to 5 are to be used for address setting. The address must be different from that of the other modules connected to the communication bus of alarm control panel. In case of interaction with the VERSA control panel, an address from the 12 (0Ch) to 14 (0Eh) range must be set. In order to determine the expander address, add up the values set on individual switches as shown in Table 1.

DIP-switch number	1	2	3	4	5
Numerical value (for switch in ON position)	1	2	4	8	16

Table 1.

The switches 6 and 7 must be set to OFF position.

Position of the switch 8 affects the way of expander identification and availability of some functions:

- **OFF** – the expander will be identified as **CA-64 EPS**. Support for the roller shutter motion and vibration detectors, as well as programming the resistor value in EOL and 2EOL configurations are not available.



The switch 8 must be in position OFF for the CA-64 control panel and for the INTEGRA panels with firmware up to and including version 1.04.

- **ON** – the expander will be identified as **CA-64 EPSi** by the INTEGRA control panel with firmware version 1.05 or newer, as well as by the VERSA control panels (identification of the expander in the other panels will be impossible). Available are also support for roller shutter motion and vibration detectors and programming the resistor values in EOL and 2EOL configurations (make sure that a suitable resistor value is programmed).

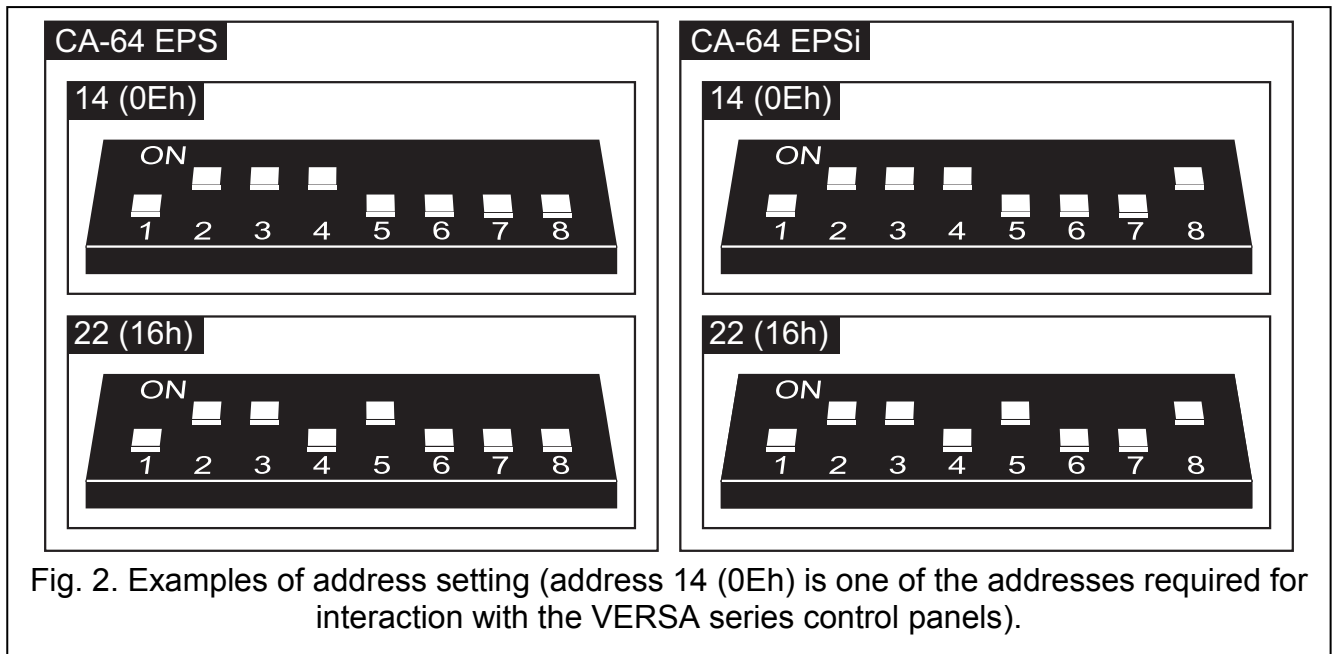


Fig. 2. Examples of address setting (address 14 (0Eh) is one of the addresses required for interaction with the VERSA series control panels).

2. Installation and start-up



Prior to starting the module hookup, switch off power supply of the security system.

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

Before hooking up the transformer to the circuit from which it will be supplied, remember to deenergize the circuit.

The expander must be supplied with 18 V ($\pm 10\%$) alternating voltage from the transformer. The transformer should be permanently connected to the 230 V AC mains. Before you begin the cabling work, make yourself familiar with the electric system in the building. A circuit which is always alive should be selected for power supply. The power supply circuit should be protected with a proper safety device. Let the owner / user of the security system to know how the transformer should be disconnected from the mains supply (e.g. by indicating the fuse which protects the control panel supply circuit).

A 12 V lead-acid sealed battery should be connected to the control panel as an emergency power source.

Note: *If the battery voltage drops below 11 V for longer than 12 minutes (3 battery tests), the module will indicate battery failure. When the voltage goes down to approx. 9.5 V, the battery will be disconnected.*

1. Fasten the expander board in housing.
2. Using the DIP-switches, set the suitable expander address and define how it is to be identified.
3. Using cables, connect the CLK, DTA and COM terminals to the corresponding terminals of the control panel communication bus.
4. Connect the cables of housing tamper contact to the TMP and COM terminals (or short the TMP terminal to the COM terminal).
5. Connect the detector leads (for connection description refer to the alarm control panel installer manual).

6. Connect the 230 V alternating voltage wires to the terminals of transformer primary winding.
7. Connect the terminals of transformer secondary winding to the AC terminals on module electronics board.
8. Using the jumper, set up the battery charging current (350 mA or 700 mA).
9. Switch on the 230 V AC supply in the circuit to which the transformer is connected. Measure the voltage across the battery leads (the correct value is between 13.6 and 13.8 V DC) and check that all devices connected to the module are properly supplied.
10. Switch off supply 230 V AC.
11. Connect the battery. The module will not start after connecting the battery alone.
12. Turn on power supply of the alarm system.
13. Start the identification function in the control panel. When the identification is completed, the zones will be assigned respective numbers in the alarm system (zone numeration rules are described in the alarm control panel manual).

3. Specifications

Supply voltage	18 V AC \pm 10%, 50–60 Hz
Number of programmable zones.....	8
Power supply output voltage	13.6 V...13.8 V DC
Battery failure voltage threshold.....	11 V \pm 10%
Battery cut-off voltage	9.5 V \pm 10%
Power supply output current	1.2 A
Battery charging current (switch-over)	350 mA / 700 mA
Maximum current consumption	91 mA
Dimensions of electronics board	140 x 68 mm
Environmental class according to EN50130-5	II
Operating temperature range.....	-10 °C...+55 °C
Weight.....	131 g

The latest EC declaration of conformity and product approval certificates are available for downloading on website www.satel.pl



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