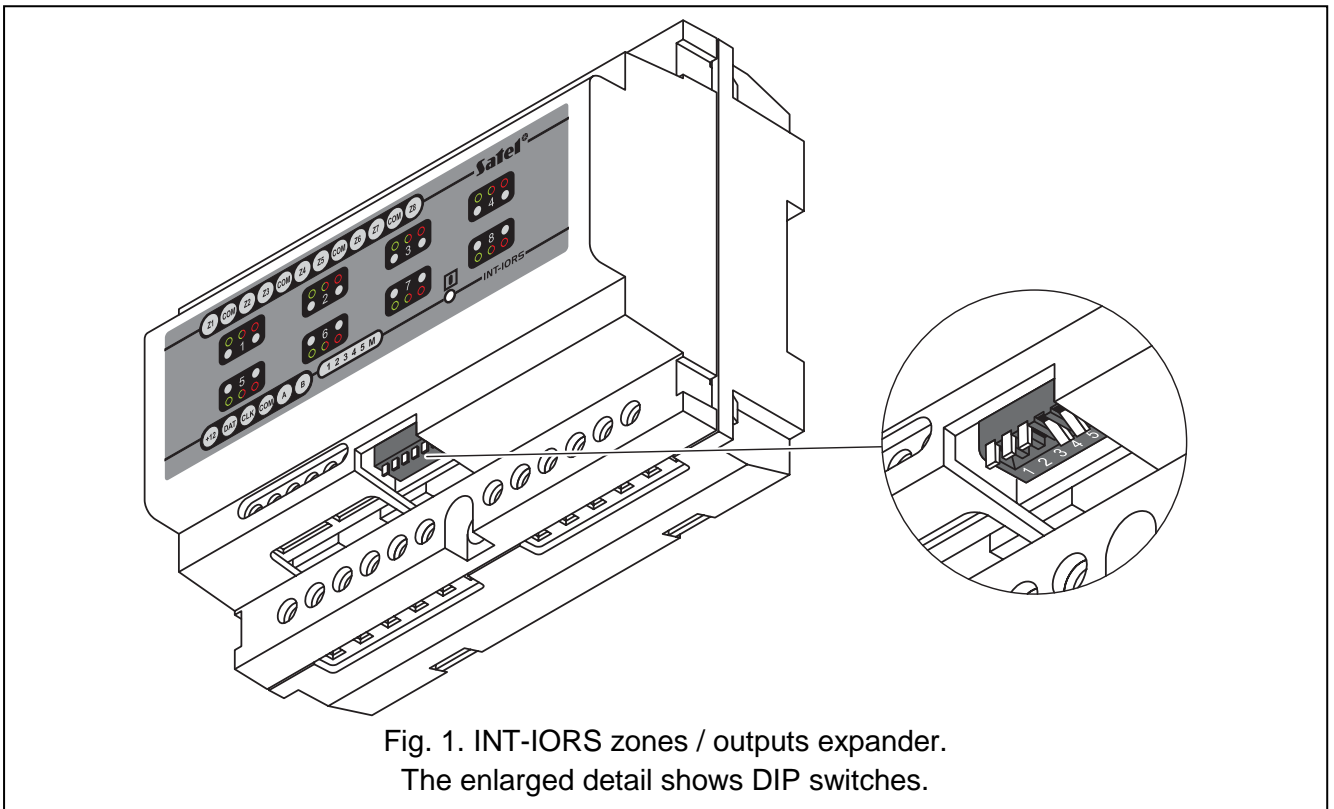


The INT-IORS zones/outputs expander and the INT-ORS outputs expander are dedicated to interfacing with the INTEGRA and CA-64 alarm control panels. They enable the security system to be expanded by 8 outputs, and the INT-IORS expander, additionally, by 8 zones. The modules are designed for mounting on 35 mm DIN rail, which facilitates installation process and integration with other automation systems.

The expander outputs are relay type. They make possible control of electrical devices supplied with 230 V AC. They can be programmed individually, much in the same way as the outputs of the control panel mainboard with which the expanders interface.

The INT-IORS expander zones can accept detectors and/or control devices of NO and NC type. The zones can work in EOL configuration (circuit closed with a 2.2 k $\Omega$  resistor) and 2EOL configuration (circuit closed with two 1.1 k $\Omega$  resistors). They can be programmed individually, much in the same way as the zones of the control panel mainboard with which the expander interfaces.

The devices are supplied with direct voltage 12 V ( $\pm 15\%$ ).




Description of terminals:

- +12V** - supply input
- DAT** - data
- CLK** - clock
- COM** - common ground
- A, B** - RS-485 bus terminals
- Z1...Z8** - zones (INT-IORS only)
- NO** - terminal normally disconnected from the common terminal of relay output. When active, it makes connection with the common terminal.
- C** - common terminal of the relay output
- NC** - terminal normally connected to the common terminal of relay output. When active, it breaks connection.

2 LED indicators are assigned to each output to show the relay status:

- green LED – relay is active
- red LED – relay is inactive

The LED designated by the  symbol indicates the status of communication with the control panel:

- LED is blinking – data exchange with the control panel is in progress;
- LED is lit – no communication between the module and the panel (defective connecting cable, the module has not been identified yet, or the STARTER program has been launched in the panel).

## 1. DIP switches

The DIP switches from 1 to 5 are used for setting the module address. The address must be different from that of the other modules connected to the expander bus in the control panel. In order to determine the expander address, add together the values set at individual DIP-switches, according to Table 1.

Switch number	1	2	3	4	5
<b>Numerical value</b> (for switch set in upper position)	<b>1</b>	<b>2</b>	<b>4</b>	<b>8</b>	<b>16</b>

Table 1.

Five switches make it possible to assign addresses to 32 expanders (values from 0 to 31). The addresses of expanders connected to one bus may not be repeated, while the order of addressing is optional. It is recommended that consecutive addresses, starting from zero, be assigned to expanders and modules connected to one bus. This will help to avoid problems during expansion of the system.

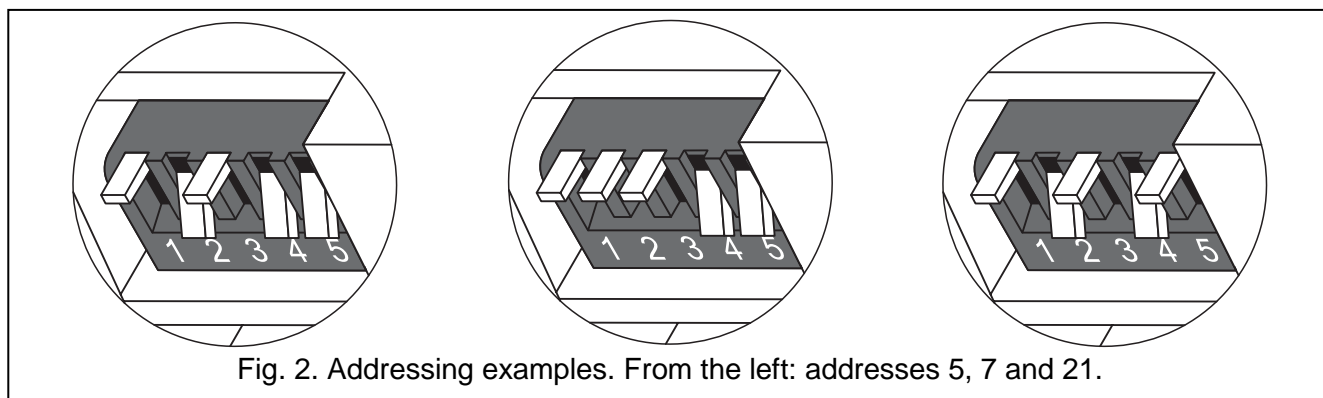


Fig. 2. Addressing examples. From the left: addresses 5, 7 and 21.

**How and by which control panels the expander will be identified depends on the setting of the switch 6.** The setting of the switch, and hence the way of identification of the expander in the system, has no effect on functionality of the device. When the switch 6 is set in the lower position, the device will only be supported by the INTEGRA alarm control panels with firmware in version 1.05 or later. When the switch 6 is set in the upper position, the expander can work together with the CA-64 control panel as well as with the INTEGRA control panels with any software version. In this case, the INT-IORS expander will be identified by the control panel as CA-64 PP, and the INT-ORS as CA-64 O.

## 2. Installation



**Installation and mounting of the expander may only be carried out by personnel with the required qualifications for working with 230 V AC.**

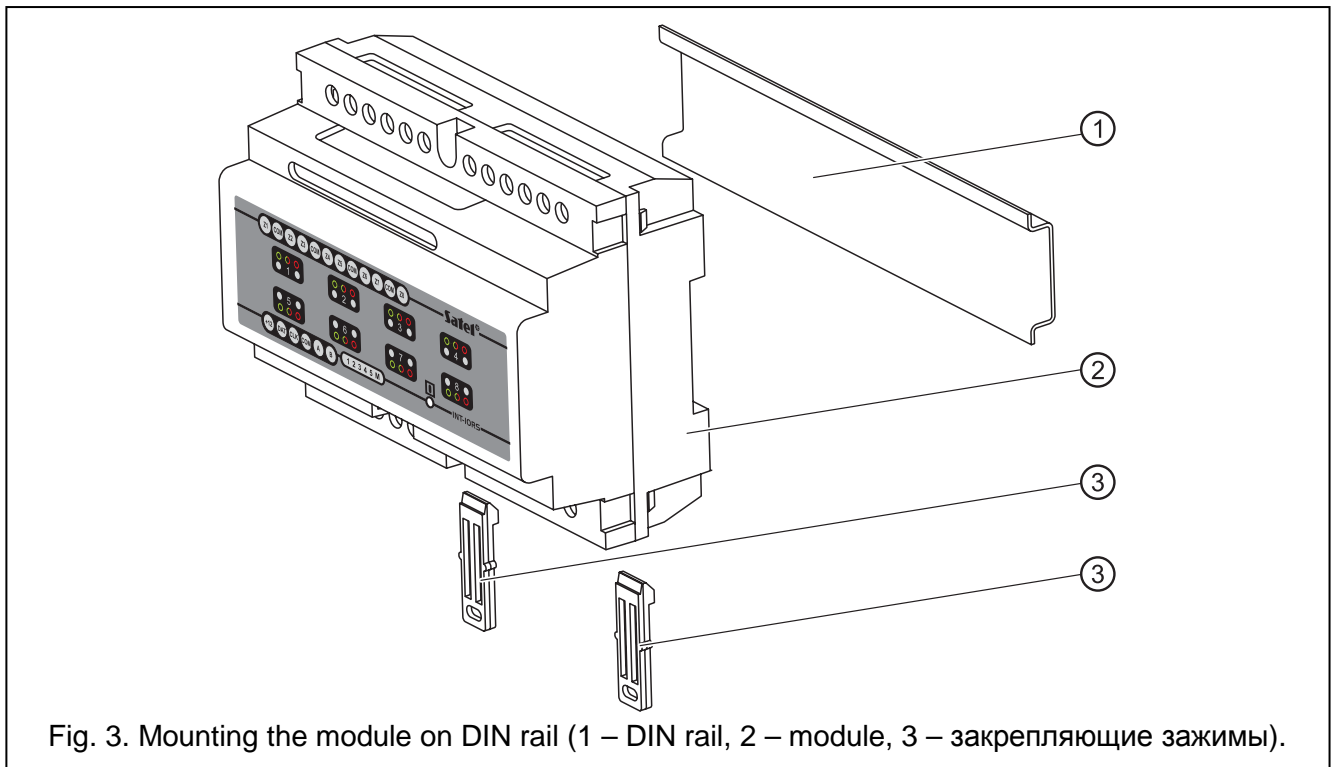
**The module must be supplied with +12 V DC ( $\pm 15\%$ ).**

**Before you start making connections of the module, disconnect power supply of the alarm security system.**

**Before connecting 230 V AC circuits, deenergize the circuits.**

**Avoid laying the signal cables parallel or in close vicinity to the 230 V AC power supply cables.**

1. Mount the expander on the DIN rail (see Fig. 3) or attach it to the wall by means of screws.



2. Connect the CLK, DTA and COM terminals to the expander bus on the control panel mainboard.
3. Using the DIP switches set the suitable expander address and the way of its identification.
4. Connect the detector leads to the zones (for description of the connection, see the control panel installer manual) – refers to the INT-IORS expander.
5. Connect the leads of devices to be operated by the control panel to the selected relay terminals.

**Note!** It is not recommended to operate an inductive load.

6. Connect the module power leads to the terminals +12V and COM. The expander supply voltage need not be derived from the control panel mainboard. A power supply or another expander with power supply can be used for this purpose .

### 3. Starting the expander

1. Turn on power supply of the alarm security system. The LED indicator of communication with the control panel will light up in steady mode.
2. Call in the LCD keypad the function „*Expander identification*” (→Service mode →Structure →Hardware →Identification). When the identification is completed, the LED indicator of communication with the control panel will start blinking.

**Note:** During the identification process, the control panel saves to memory a special (16-bit) number, used for checking the module presence in the system. Replacement of the expander with another one (even having the same address set on the switches) without a new identification will result in triggering alarm (module tamper – verification error).

3. Using the LCD keypad or PC computer (DLOAD64 or DLOADX program, depending on the type of control panel), program suitably the zones (INT-IORS only) and outputs of the expander.
4. Save the module settings to the control panel memory.

### 4. Numeration of zones / outputs in the system

After completion of the identification procedure, consecutive numbers in the system will be assigned to the expander zones and outputs. The numeration depends on the control panel size and is also affected by the address set in the expander and the number of bus to which the expander is connected. The expanders connected to the first expander bus have priority over those connected to

the second expander bus. It should be borne in mind, when new expanders are being installed in the system. If the address of a new zones/outputs expander is lower or the expander is connected to the bus 1, and a zones/outputs expander was connected to the bus 2, the numeration of zones / outputs in the system will be changed (the new expander will receive the numbers of zones / outputs assigned before to the previously installed expander, and a greater number of expanders installed may cause considerable changes in the system). If such a situation occurs, you can restore the previous status by means of the DLOADX program (INTEGRA series) or the DLOAD64 program (CA-64 control panel). Open the „Hardware” tab in the „Structure” window, and click on the expander in which you want to change the zones / outputs numeration, and then click on the „Advanced settings” button in the right-hand lower corner of the window. A window will be displayed where you can move the expander position throughout the list, thus changing the numeration of zones / outputs. The changes in the zones / outputs numeration introduced in this way will be valid until the identification procedure in the system is repeated.

## 5. Technical data

Number of zones (INT-IORS only ).....	8
Number of outputs.....	8
Rated supply voltage.....	12 V DC $\pm$ 15%
Maximum current consumption (with active relays)	INT-IORS ..... 280 mA INT-ORS ..... 230 mA
Maximum voltage switched by the relay .....	250 V AC
Maximum current switched by the relay (for resistive load).....	16 A
Environment class.....	II
Working temperature range.....	-10 °C...+55 °C
Dimensions .....	122 x 93 x 58 mm
Weight	INT-IORS..... 305 g INT-ORS..... 285 g

The latest EC declaration of conformity and product approval certificates are available for downloading on website [www.satel.pl](http://www.satel.pl)



SATEL sp. z o.o.  
ul. Schuberta 79  
80-172 Gdańsk  
POLAND  
tel. + 48 58 320 94 00  
info@satel.pl  
www.satel.pl