INT-IORS

DIN rail-mounted zone and output expander

INT-ORS

DIN rail-mounted output expander

$C \in$

IMPORTANT

The device should be installed by qualified personnel.

Prior to installation, please read carefully this manual in order to avoid mistakes that can lead to malfunction or even damage to the equipment.

Disconnect power before making any electrical connections.

Changes, modifications or repairs not authorized by the manufacturer shall void your rights under the warranty.

SATEL aims to continually improve the quality of its products, which may result in changes in their technical specifications and software. Current information about the changes being introduced is available on our website.
Please visit us at:
https://support.satel.pl

The declaration of conformity may be consulted at www.satel.eu/ce

The following symbols may be used in this manual:

i - note,

⚠ - caution.

The INT-IORS expander enables the system to be expanded by 8 programmable wired zones and 8 programmable wired outputs. It is supported by:

- INTEGRA-series alarm control panels,
- ACCO-NT access control panels.

The INT-ORS expander enables the system to be expanded by 8 programmable wired outputs. It is supported by:

- INTEGRA- / VERSA- / PERFECTA-series alarm control panels,
- ACCO-NT access control panels.

The expanders are designed for mounting on 35 mm DIN rail, which facilitates installation process and integration with other automation systems.

1. Features

- 8 programmable hardwired zones only INT-IORS:
  – support for NO and NC type detectors, as well as roller shutter and shock detectors,
  – support for Single EOL, Double EOL and Triple EOL configuration (Triple EOL when working with INTEGRA Plus control panels),
  – programming end-of-line resistor values.
- 8 programmable relay outputs for control of the electrical devices supplied with 230 VAC.
- Capable of being integrated with a SATEL power supply unit (operation in "expander with power supply" mode).
- Connectable to RS-485 bus (firmware update through the bus).
- 35 mm DIN rail mountable.

2. Specifications

|		
Supply voltage		12 VDC ±15%
Standby current consumption	INT-IORS	35 mA
	INT-ORS	35 mA
Maximum current consumption	INT-IORS	350 mA
	INT-ORS	310 mA
Relay output (resistive load)		16 A / 230 VAC
+12 output		2,5 A / 12 VDC
Environmental class according to EN50130-5		II
Operating temperature range		-10°C...+55°C
Maximum humidity		93±3%
Dimensions		122 x 93 x 58 mm
Weight	INT-IORS	300 g
	INT-ORS	285 g

3. Description

Description of terminals:

NO - relay output normally open contact.
C - relay output common contact.
NC - relay output normally closed contact.
Z1...Z8 - zones. only INT-IORS
COM - common ground.
+12 - +12 VDC power input / output.

⚠️ **Do not connect power to the terminals, if the dedicated power supply unit is connected to the connector on electronics board.**

DAT - data (communication bus).
CLK - clock (communication bus).
A, B - RS-485 bus.
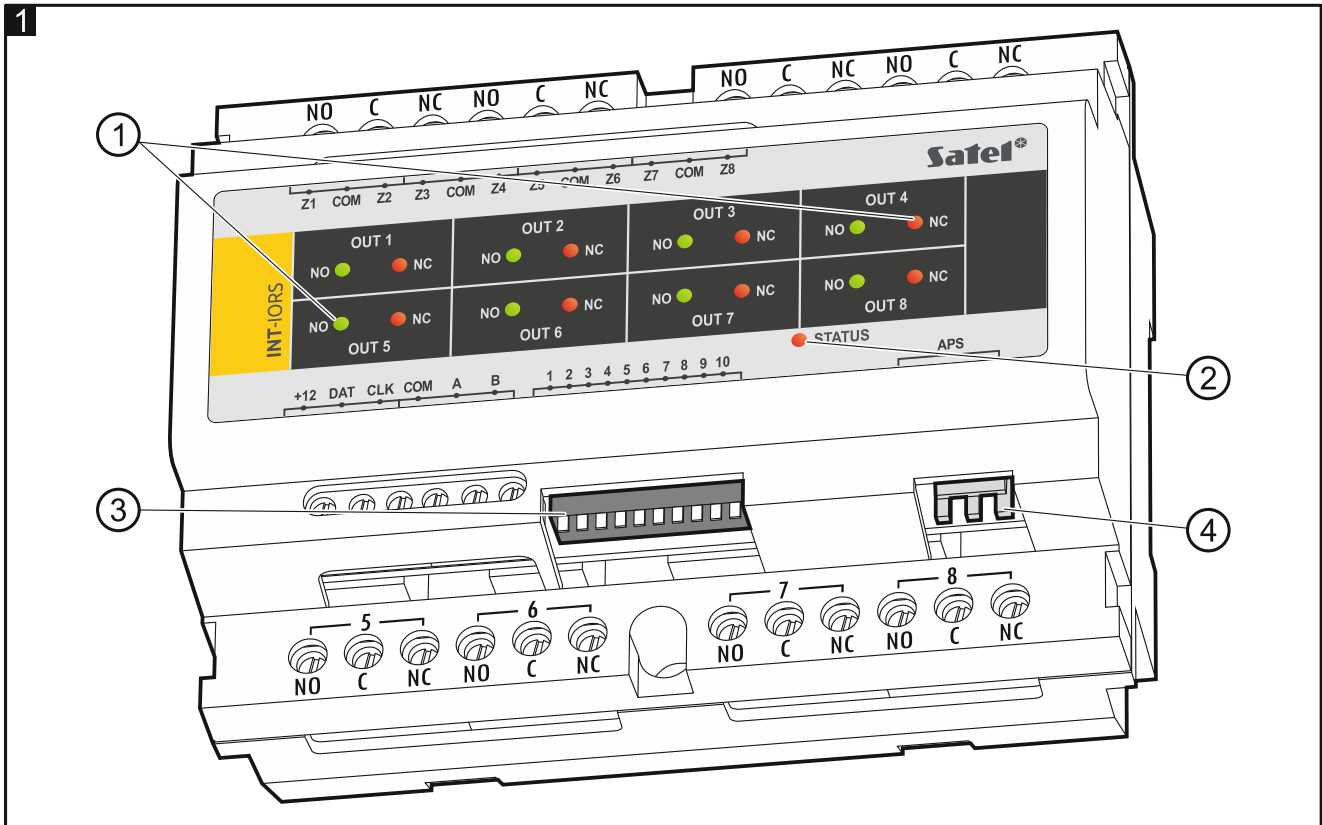
Explanations to Fig. 1:

(1) LED indicators of the status of individual relays:

red LED ON – the relay is inactive,

green LED ON – the relay is active.

(2) LED indicating the status of communication with the control panel:

ON – no communication with the control panel,

blinking – communication with the control panel OK.

(3) DIP-switches used to configure the expander (see "Configuring the expander").

(4) connector for a SATEL power supply unit (e.g. APS-412).

4. Configuring the expander

Address setting

An individual address must be set in the expander. It must be different from that in the other devices connected to the communication bus. To set the address, use the DIP-switches 1-5. The switches have numbers assigned to them. The number for OFF position is 0. The numbers assigned to the switches in ON position are presented in the table 1. The sum of these numbers is the address set.

Switch (ON position)	1	2	3	4	5
Number	1	2	4	8	16

Table 1.

Fig. 2 shows some examples of DIP-switches settings.

5 (05h)   17 (11h)   23 (17h)
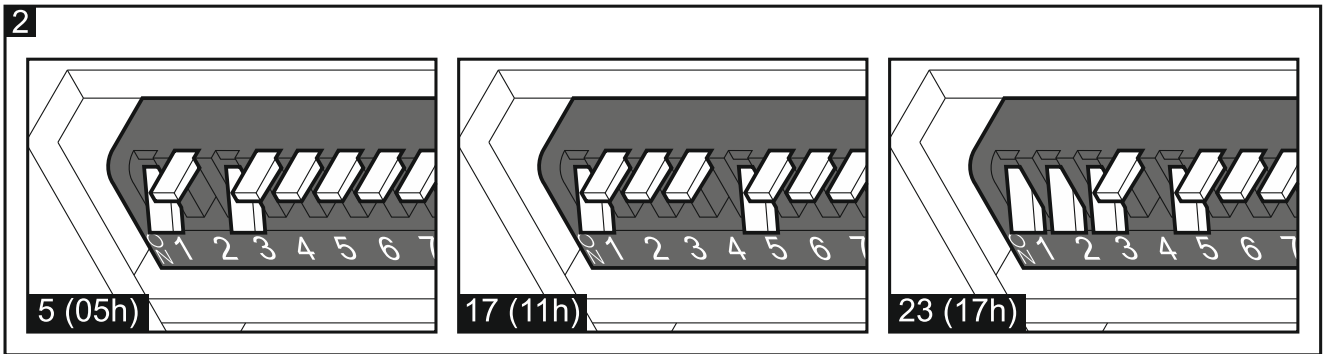
Selecting the type of device

Select the type of device that you want the expander to be identified as by the control panel. Different methods to select the type of device are applied depending on the number of DIP-switches in the expander – some expanders have 10 switches and some have 6.

If the SATEL power supply is connected to the expander connector, the expander will be identified as an expander with power supply. The INT-IORS expander is an exception. It will be identified as an expander with power supply when no power supply is connected to its connector, if:

10-position DIP-switch: switch 10 is set in ON position,

6-position DIP-switch: switch 6 is set in OFF position.

In such case, no power supply related troubles will be reported.

The function of the INT-IORS zones depends on the selected type of device (see table 2).

	INT-IORS INT-IORSPS INT-PPPS	CA-64 PP
support for roller shutter and shock detectors	✓	-
support for Triple EOL configuration (INTEGRA Plus)	✓	-
programming end-of-line resistor values	✓	-

Table 2.

10-position DIP-switch

Set the switch 6 in OFF position. Use the switch 10 to select the type of device – see table 3 for the INT-IORS expander and table 4 for the INT-ORS expander.

i *Set the switch 10 in ON position if the expander is connected to one of the control panels:*
- *PERFECTA,*
- *INTEGRA with firmware versions from 1.00 to 1.04 inclusive,*
- *CA-64.*

If you set the switch in OFF position, the control panel will not identify the expander.

If the SATEL power supply is connected to the expander connector, the switch 10 can be set in OFF position only in the case of the INTEGRA / INTEGRA Plus control panels with firmware version 1.12 or newer.

Switch position	Identification of INT-IORS expander	
	expander w/o power supply	expander with power supply
ON	INT-PPPS / CA-64 PP	
OFF	INT-IORS	INT-IORSPS

Table 3.

Switch position	Identification of INT-ORS expander	
	expander w/o power supply	expander with power supply
ON	INT-O / CA-64 O	INT-OPS / CA-64 OPS
OFF	INT-ORS	INT-ORSPS

Table 4.

6-position DIP-switch

Use the switch 6 to select the type of device – see table 5 for the INT-IORS expander and table 6 for the INT-ORS expander.

i *Set the switch 6 in OFF position if the expander is connected to one of the control panels:*
- *PERFECTA,*
- *INTEGRA with firmware versions from 1.00 to 1.04 inclusive,*
- *CA-64.*

If you set the switch in ON position, the control panel will not identify the expander.

If the SATEL power supply is connected to the expander connector, the switch 6 can be set in ON position only in the case of the INTEGRA / INTEGRA Plus control panels with firmware version 1.12 or newer.

Switch position	Identification of INT-IORS expander	
	expander w/o power supply	expander with power supply
ON	INT-IORS	INT-IORSPS
OFF	INT-PPPS / CA-64 PP	

Table 5.

| Switch position	Identification of INT-ORS expander	
	expander w/o power supply	expander with power supply
ON	INT-ORS	INT-ORSPS
OFF	INT-O / CA-64 O	INT-OPS / CA-64 OPS

Table 6.

5. Installation and start-up

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

The device is designed for installation indoors, in spaces with normal air humidity.

1. Mount the expander on DIN rail (see Fig. 3) or attach it to the wall using screws (see Fig. 4). If the expander is to be screwed to the wall, use appropriate wall plugs (different for concrete or brick wall, different for drywall, etc.).
2. Use the DIP-switches to configure the expander settings (see "Configuring the expander").
3. Connect the CLK, DAT and COM terminals to the corresponding terminals of the control panel communication bus (see: installer manual for control panel). It is recommended that an unshielded non-twisted cable be used to make the connection. If you use the twisted-pair type of cable, remember that CLK (clock) and DAT (data) signals must not be sent through one pair of twisted conductors. The conductors must be run in one cable.
4. In the case of INT-IORS expander, connect the detectors to the zones (for description of detector connection, please refer to the installer manual of alarm control panel).
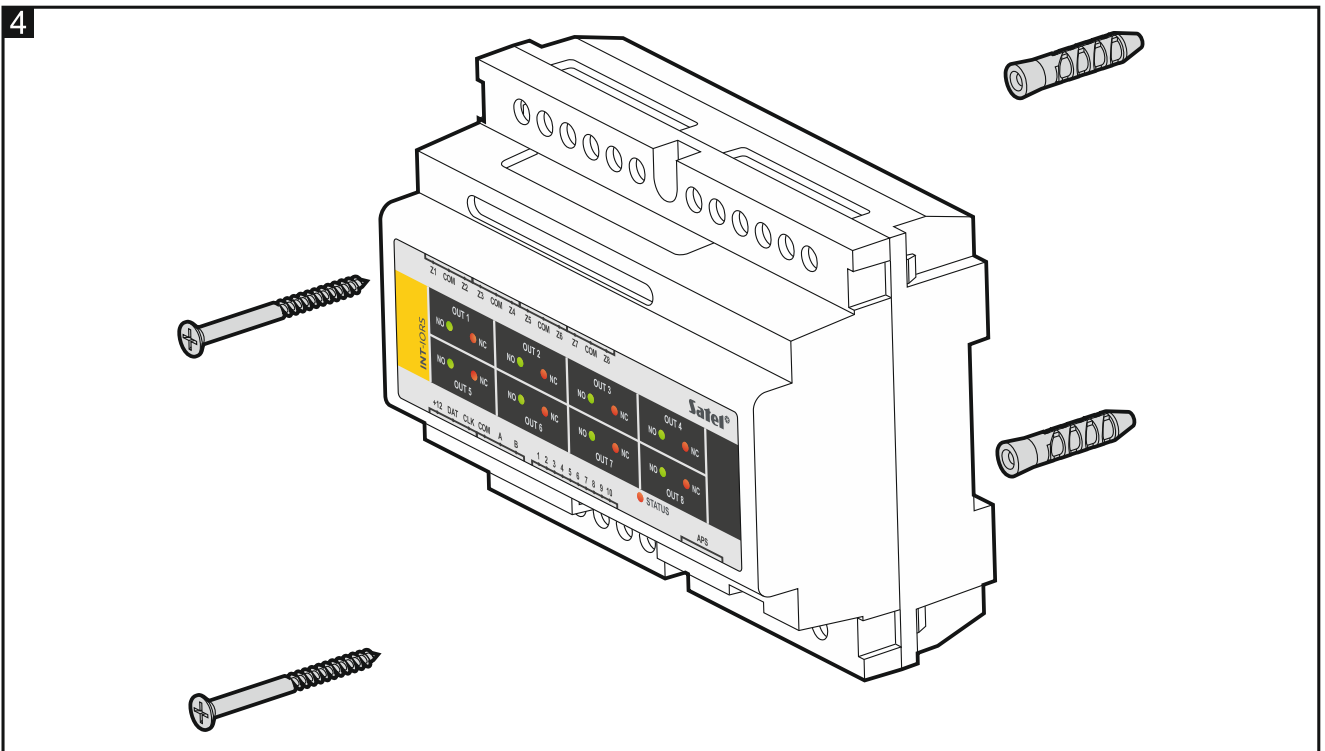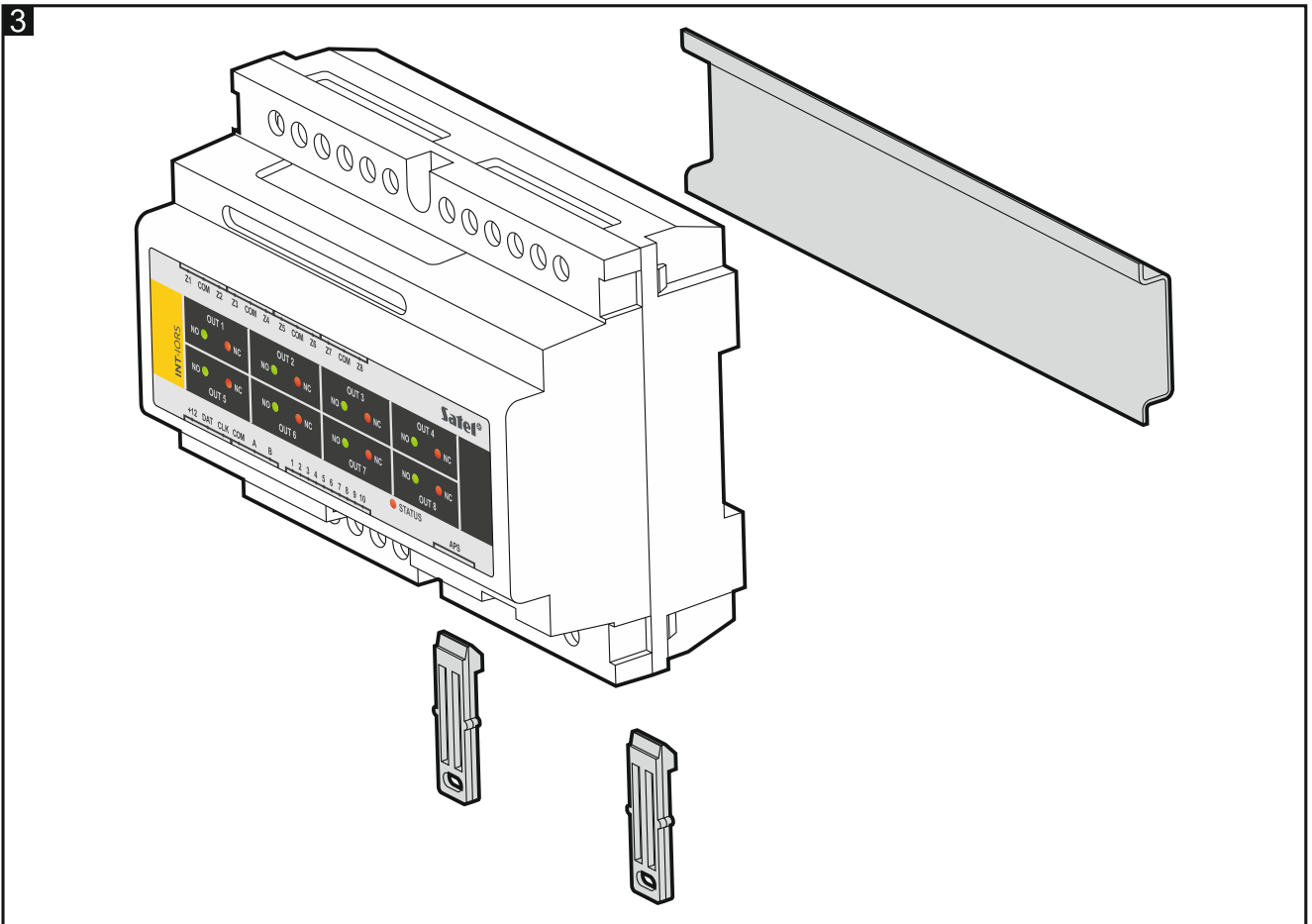
5. Depending on the selected method of expander powering, connect the SATEL power supply unit to the dedicated expander connector or connect the power leads to the +12 and COM terminals (the expander may be powered directly from the control panel, from an expander with power supply or from a power supply unit).

⚠️ **Never connect power supply to the connector and the screw terminals at the same time.**

6. Power up the expander.

7. Depending on the control panel type:
    – alarm control panel: run the device identification function (for more information, refer to the alarm control panel manual),
    – access control panel: add the expander to the system (for more information, refer to the ACCO SOFT program manual).
8. Configure the outputs and check that they operate properly (the output status is indicated by LEDs).
9. Power down the expander.
10. Connect to expander outputs the devices whose operation is to be controlled by the control panel.
11. Power up the expander.

6. Updating the expander firmware

1. Use the RS-485 bus to connect the expander to the ACCO-USB converter (see the ACCO-USB converter manual).
2. Connect the ACCO-USB converter to the computer USB port.
3. Download the program for updating the expander firmware from support.satel.pl.
4. Launch the program.
5. Click on the ⬇ button.
6. In the window that will open, indicate the COM port to which the ACCO-USB converter is connected, and then click "OK".
7. When you are asked to turn the power off and on again, restart the expander.
8. The program will read information on the firmware version from the expander.
9. A window will open and you will be asked if you want to continue the firmware update. Click "Yes".
10. The expander firmware will be updated.