INT-IORS • INT-ORS

DIN-RAIL EXPANDER

The INT-ORS expander enables the system to be expanded by 8 programmable wired outputs. The modules are designed for mounting on 35 mm DIN rail, which facilitates installation process and integration with other automation systems. The expanders are supported by INTEGRA / INTEGRA Plus / CA-64 alarm control panels and ACCO-NT access control panel. Additionally, the INT-ORS expander is supported by the VERSA / PERFECTA alarm control panels. This manual applies to the expanders with electronics version 2.1 and firmware version 2.04 (or newer).

1. Features

- 8 programmable hardwired zones only INT-IORS:
    - support for NO and NC type detectors, as well as roller shutter and vibration 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 V AC.
- Capable of being integrated with dedicated 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 V DC ±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 rating (resistive load)		16 A / 230 V AC
+12V output rating		2,5 A / 12 V DC
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

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

3. Description
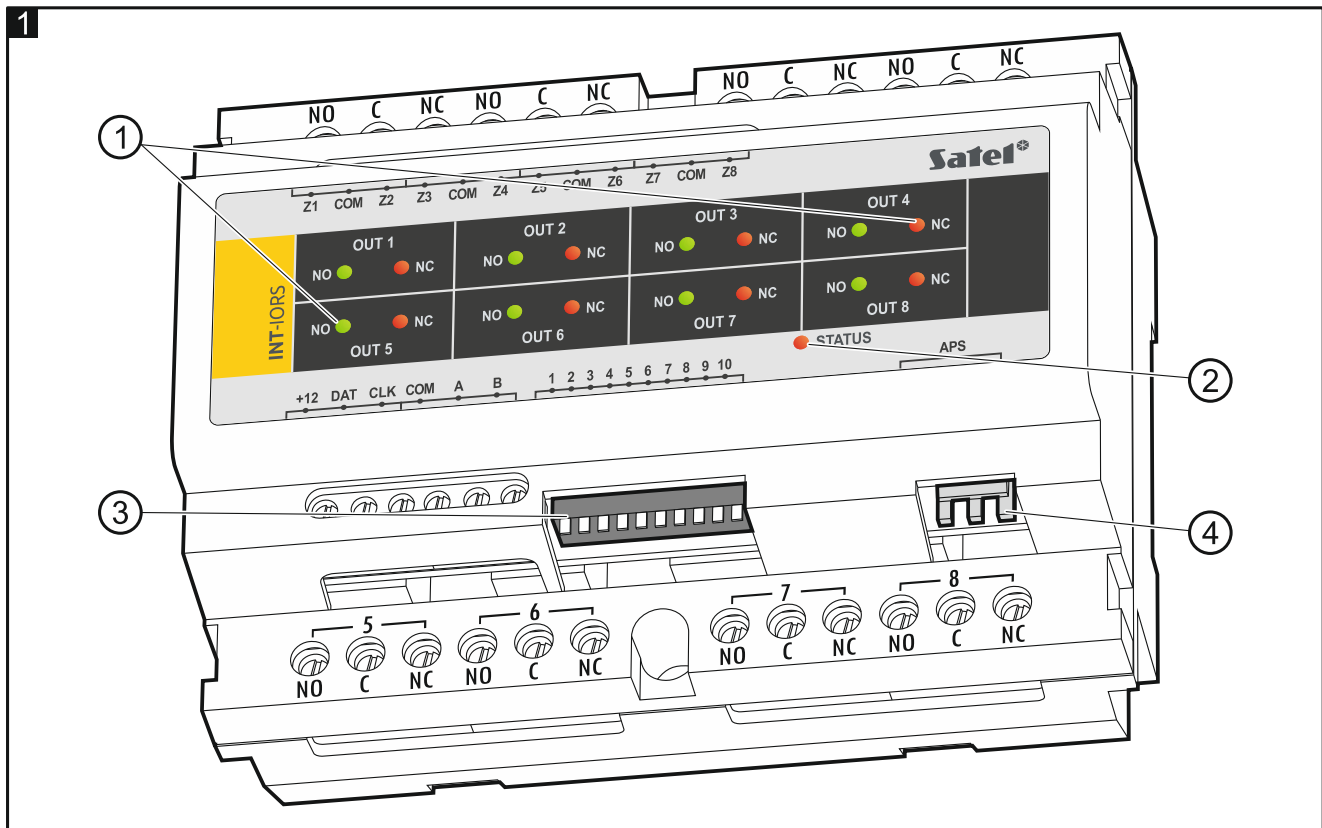
Explanations to Fig. 1:

(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 (see: DIP-SWITCHES).

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

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 V DC 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.

4. DIP-switches

The DIP-switches 1-5 are used for address setting. A numerical value is assigned to each switch. In OFF position, the value is 0. Numerical values assigned to individual switches in ON position are shown in Table 1. The sum of numerical values assigned to switches 1-5 means the address set on the module. The address must be different from that on the other modules connected to the communication bus of the control panel.

DIP-switch number	1	2	3	4	5
Numerical value	**1**	**2**	**4**	**8**	**16**

Table 1.

Fig. 2 shows some examples of DIP-switches settings.
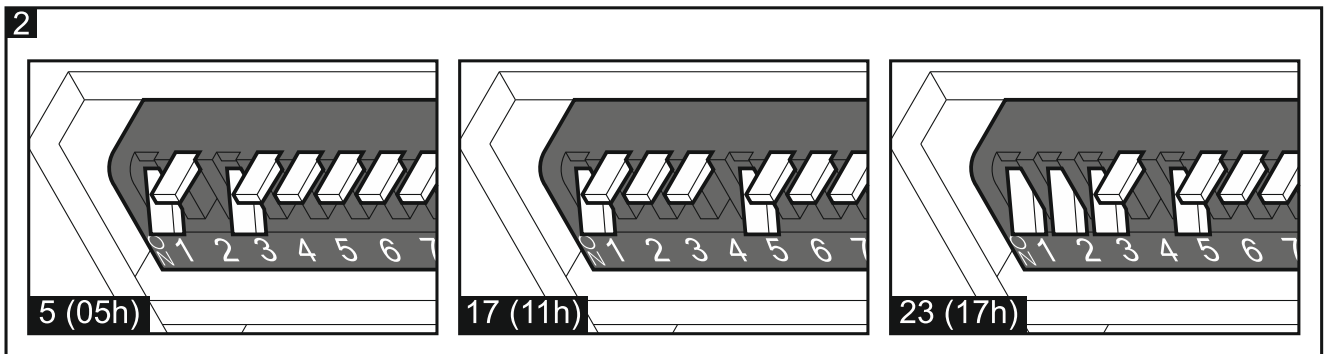
The DIP-switch 10 allows you to define how the expander will be identified by the control panel (see: Table 2 for INT-IORS expander and Table 3 for INT-ORS expander). In the case of the INT-IORS expander, if the switch is set in ON position, the expander will be always identified as an expander with power supply (regardless of whether the dedicated power supply is connected to the PCB connector, or not). Functional differences resulting from identification of the INT-IORS expander are presented in Table 4.

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

Table 2.

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

Table 3.

Notes:

- *The INT-IORS expander will be identified as INT-PPPS / INT-IORSPS by INTEGRA / INTEGRA Plus control panels with firmware version 1.12 or newer.*

- *The INT-ORS expander will be identified as INT-O / INT-OPS / INT-ORSPS by INTEGRA / INTEGRA Plus control panels with firmware version 1.12 or newer.*

- *The switch 10 must be set in ON position, if the expander is connected to the following control panels:*
  - *CA-64;*
  - *INTEGRA with firmware version from 1.00 to 1.04, inclusive,*
  - *PERFECTA.*

  If the switch is set in OFF position, the control panel will not be able to identify the expander.

- *If the dedicated power supply is connected to the onboard connector, you can set the switch 10 to OFF position only for the INTEGRA / INTEGRA Plus control panels with firmware version 1.12 or newer.*

- *If the dedicated power supply is not connected to the INT-IORS expander onboard connector and the expander has been identified as INT-PPPS / CA-64 PP, no power supply related troubles will be reported.*

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

Table 4.

# 5. Installation and start-up

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

The expander is designed for indoor installation.

1. Mount the expander on DIN rail (see Fig. 3) or attach it to the wall using screws (see Fig. 4).
2. Using the DIP-switches, set the suitable expander address and define how it is to be identified.
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 manual of control panel installer).
5. Depending on the selected method of expander powering, connect the dedicated power supply unit to the connector on expander electronics board or connect the power leads to the +12V 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).

⚠️ **The expander must not be powered from both sources at the same time.**
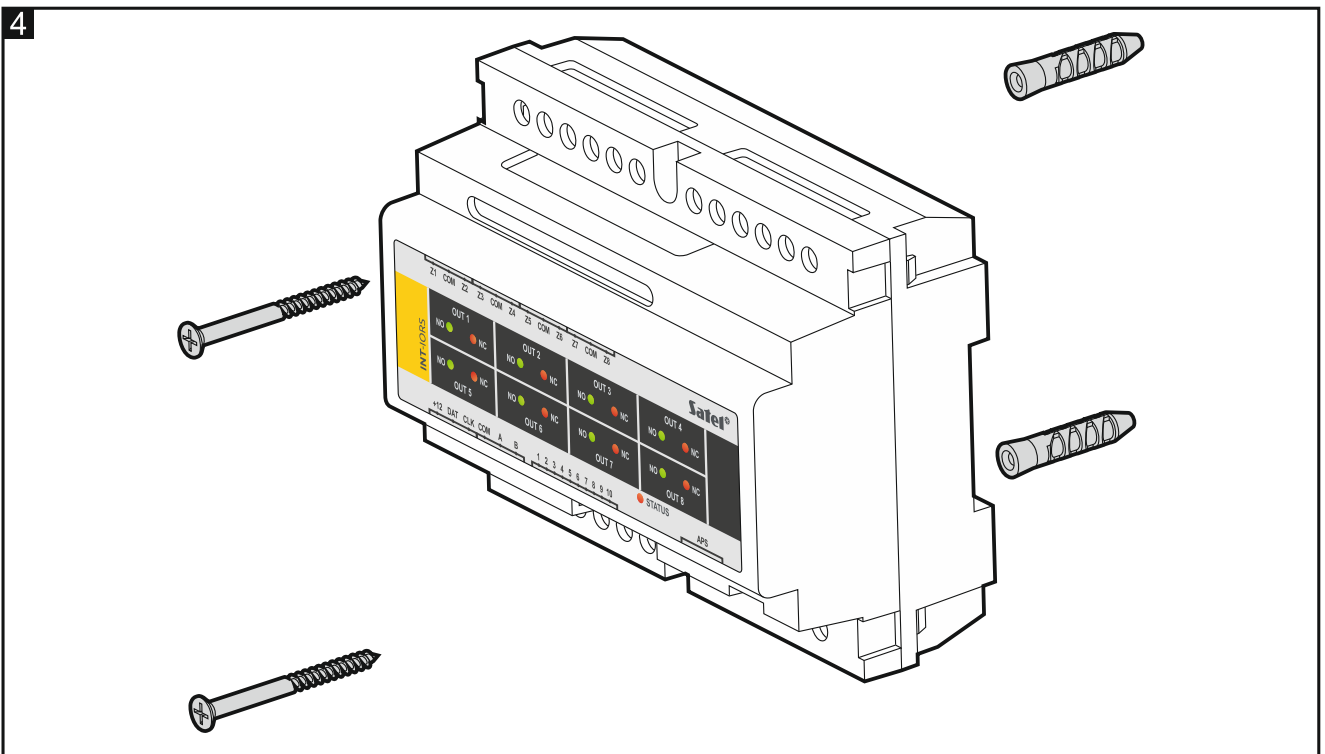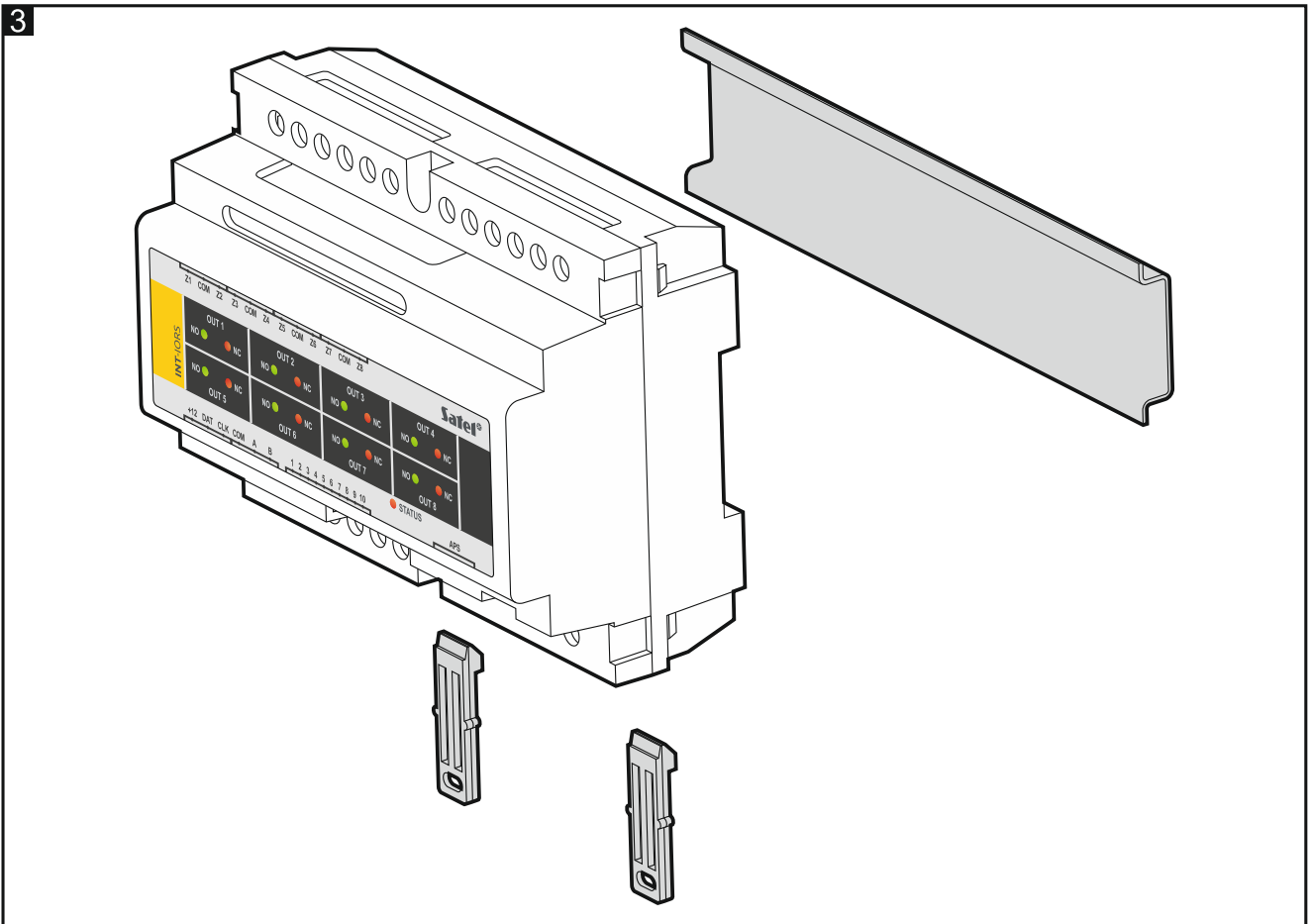
6. Power up the expander.

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

Using the RS-485 bus, connect the expander to the ACCO-USB converter, and then connect the converter to the computer (see: ACCO-USB converter manual). You can find a program for updating the expander firmware and a detailed description of the firmware update procedure on the www.satel.eu website.