DATA CONVERTER
INT-RS

The INT-RS data converter is dedicated to interfacing with alarm control panels of the INTEGRA series. It is supported by the control panels having firmware in version 1.06 or later. The module is designed to convert data being sent through the keypad bus into the RS-232 serial bus standard. It can be used for the following applications:

− connection of computer with GUARDX program installed (in much the same way as to LCD keypad),

− monitoring events by means of specialized external third-party modules,

− operating the alarm control panel by means of software other than that offered by SATEL (capability of integrating with third-party systems). This is a dedicated application for companies dealing with integration of the object-oriented systems and requires development of their own software.

For information on sending monitoring data and integration with other software please see the www.satel.pl website, next to the device description.
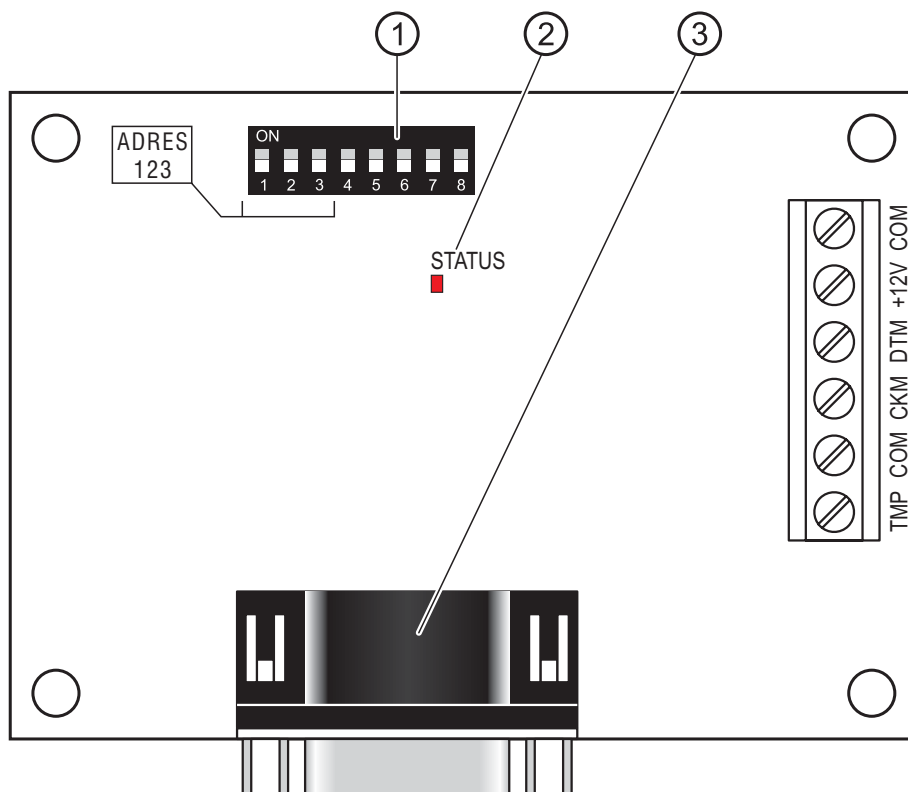
1. Description of electronics board

Fig. 1. View of INT-RS converter electronics board.

Explanations for Figure 1:

1 – **DIP switch package** for setting individual address and operating mode of the module (see: DIP SWITCHES).

2 – **STATUS LED** indicating as follows:
   - blinking light – data exchange with the control panel;
   - steady light – no communication with the control panel.

3 – **DB-9 male socket (port RS-232)**. Enables the module to be connected to computer or other external devices. Crosslinked cable with female connectors on both sides (so called, null modem cable) should be used.

Description of terminals:

TMP - tamper circuit input of the module (NC) – if not used, it should be shorted to common ground.

COM - common ground.

CKM - clock.

DTM - data.

+12V - power input.

2. Installation

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

The INT-RS converter is designed for indoor installation, in spaces with normal humidity of air. The device installation place is to ensure protection against unauthorized access.

Connection to the control panel keypad bus and to the power supply source is to be made with a typical unscreened straight cable, as used in the security alarm systems (using the "twisted pair" type of cable is not recommended). The signal and common ground leads (CKM, DTM and COM) must be run in one cable (running them in separate cables is not allowed). The distance between INT-RS converter and control panel may be up to **300 m**. In order to ensure correct functioning of the device, it is important that resistance of the cables be as low as possible. Where the distances between control panel and converter are larger, it may be necessary, taking into account the cable resistance, to use several conductors connected in parallel for each signal.

1. Secure the converter electronics board in the housing.

2. Using DIP switches, set a suitable address of the converter and select its operating mode.

Note: *The event monitoring mode requires that the MONITORING – ETHM-1 [MONIT.ETHM-1] option be activated in the control panel. If the ETHM-1 module is also connected to the control panel at the same time, events will only be sent by means of the device with a lower address.*

3. Connect the CLK, DAT and COM terminals by means of wires to the keypad bus on the control panel mainboard.

4. Connect the housing tamper contact cables to the TMP and COM terminals. If two modules are installed in the housing, the TMP input of one of them is to be shorted to the common ground, and the tamper contact cables connected to the TMP input of the other module.

5. Connect the power supply cables to the +12V and COM terminals. The converter need not necessarily be supplied from the control panel mainboard. Converters which are installed far from the control panel may be powered locally, from a self-contained power source (buffer power supply unit, expander with power supply).

2.1 DIP switches

The DIP switches 1 to 3 are used for address setting. The values assigned to individual switches are shown in Table 1. Addresses of the devices to be connected to the keypad bus in the INTEGRA 24 and INTEGRA 32 alarm control panels must be from the 0 to 3 range (up to 4 keypads/other devices can be connected). Addresses of the devices to be connected to the keypad bus in the INTEGRA 64, INTEGRA 128 and INTEGRA 128-WRL alarm control panels must be from the 0 to 7 range (up to 8 keypads/other devices can be connected). Each keypad /device to be connected to the keypad bus must have its own individual address (addresses must not be repeated). It is recommended that keypads and other devices to be connected to the bus be assigned consecutive addresses starting from 0.

DIP switch number	1	2	3
Numerical value (for DIP switch in ON position)	1	2	4

Table 1.

The other switches make it possible to define the converter operating mode. The way how the switches 4-8 are to be set for particular operating modes is shown in Table 2.

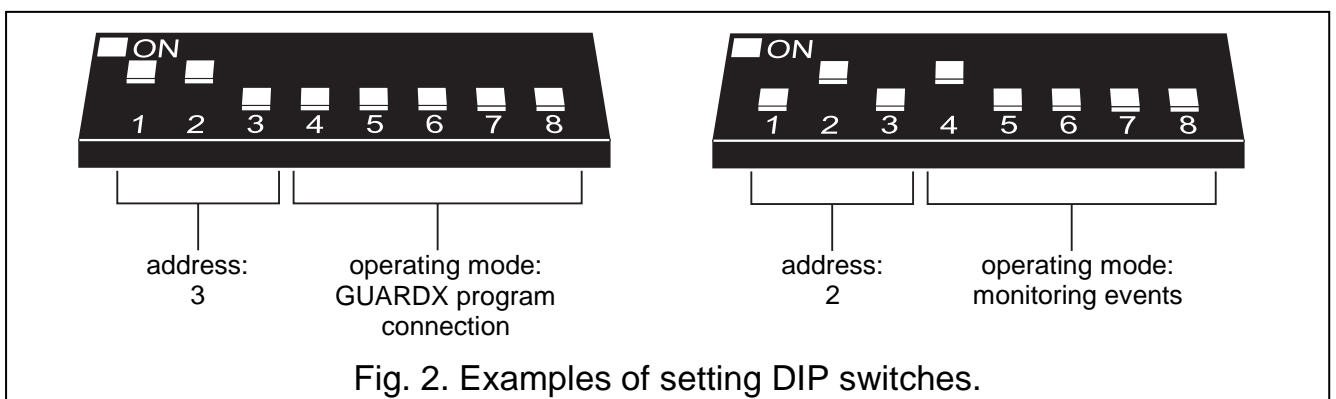|	DIP switch position				
Converter operating mode	4	5	6	7	8
GUARDX program connection	OFF	OFF	OFF	OFF	OFF
monitoring events	**ON**	OFF	OFF	OFF	OFF
integration with third-party software	OFF	**ON**	OFF	OFF	OFF

Table 2.

Fig. 2. Examples of setting DIP switches.

3. Starting converter

1. Turn on power supply of the security alarm system.
2. Start the *"LCD keypads identification"* function in LCD keypad (→SERVICE MODE →STRUCTURE →HARDWARE →IDENTIFICATION →LCD KEYPADS ID.).

Note: *The 16-bit identification number in the converter memory makes it possible to check the converter availability in the system. Substitution of the converter with another one (even having the same address set on the DIP switches) without repeating the identification will trigger alarm signal.*

3. Using the LCD keypad or computer (DLOADX program), program the converter, as required.
4. Save the converter settings to the control panel memory.

4. Technical data

Supply voltage, rated.. 12 V DC ±15%
Current consumption, standby mode ....35 mA
Current consumption, maximum ....35 mA
Electronics board dimensions.. 57x80 mm
Environmental class II
Working temperature range ....-10 °C...+55 °C
Weight .... 39 g

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

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