integra

LTE communication module

# INT-GSM LTE

Firmware version 2.05

EN



QUICK INSTALLATION GUIDE

int-gsm_lte_sii_en 07/26

Satel®

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# IMPORTANT

**Full manual is available on www.satel.pl. Scan the QR code to go to our website and download the manual.**

The module 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.

The name plate of the device is located on the enclosure base.

FreeRTOS is used in this device (www.freertos.org).

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

**Hereby, SATEL sp. z o.o. declares that the radio equipment type INT-GSM LTE is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: www.satel.pl/ce**

**Signs in this manual**

Caution – information on the safety of users, devices, etc.

Note – suggestion or additional information.

This manual describes how the INT-GSM LTE module should be installed. The module is supported by the INTEGRA / INTEGRA Plus alarm control panels with firmware version 1.19 or newer. The module can be connected directly to the control panel or to the ETHM-1 Plus module (firmware version 2.07 or newer required) which is connected to the INTEGRA / INTEGRA Plus control panel. This manual applies to the module with electronics version 1.7.

# 1. INT-GSM LTE module installation

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

**It is not advisable to power up the module if the antenna is not connected.**

**The installation to which the module is to be connected should be provided with:**

- **2-pole disconnector,**
- **short-circuit protection with a 16 A time delay circuit breaker.**

The INT-GSM LTE module should be installed indoors, in spaces with normal air humidity. When selecting the location of installation, remember that thick walls, metal partitions, etc. reduce the range of the radio signal. It is not advisable to install the module in close vicinity to electrical installations, because this can result in malfunctioning of the device.

## 1.1 Electronics board

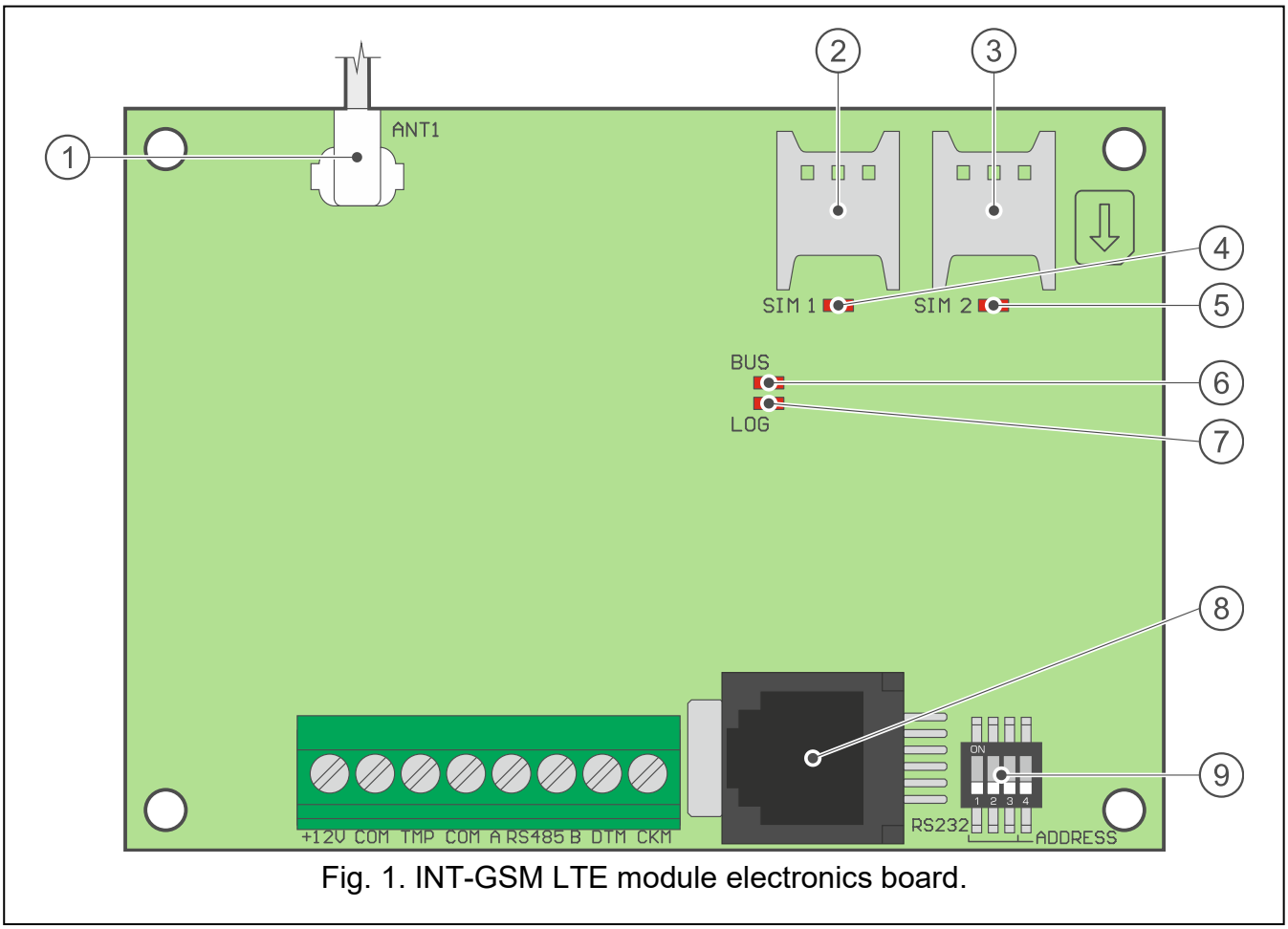



Fig. 1. INT-GSM LTE module electronics board.

(1) antenna cable (the antenna is delivered with the module).

(2) slot in which the first SIM card is to be installed.

(3) slot in which the second SIM card is to be installed.

*Inserting the SIM card into its slot before programming the card PIN code in the module is not recommended (if the card requires entering the PIN code).*

(4) SIM1 LED. The LED is on, when the card installed in the SIM 1 slot is active.

(5) SIM2 LED. The LED is on, when the card installed in the SIM 2 slot is active.

(6) BUS LED. Flashing when data exchange with the control panel is in progress.

(7) LOG LED:
ON – power present,
flashing – communication via module in progress.

(8) RS-232 port (RJ socket type).

(9) DIP-switches for setting the module address.

**Terminals**

**+12V** – power input (12 V DC ±15%).
**COM** – common ground.
**TMP** – tamper input (NC) – if not used, it should be shorted to common ground.
**A RS485 B** – RS communication bus.
**DTM** – data (C/D communication bus).
**CKM** – clock (C/D communication bus).

## 1.2 Installation in enclosure

**The enclosure in which the module is to be installed shall meet the requirements for fireproof enclosures.**

If the module is to be directly connected to the alarm control panel, it should be installed in the same enclosure with the control panel. This will facilitate connecting the RS-232 ports of control panel and module.

1. Secure the module electronics board in the enclosure.
2. If the module is to supervise the enclosure tamper switch, connect the tamper switch wires to the TMP and COM terminals. Otherwise, connect the TMP terminal to the module COM terminal.

## 1.3 Address setting

*Setting the address is required if the module will be connected to the keypad bus of the alarm control panel. If the INT-GSM LTE module will be connected to the ETHM-1 Plus module, you do not have to set the address.*

To set an address, use the ADDRESS DIP-switches – see Fig. 2 and Table 1.

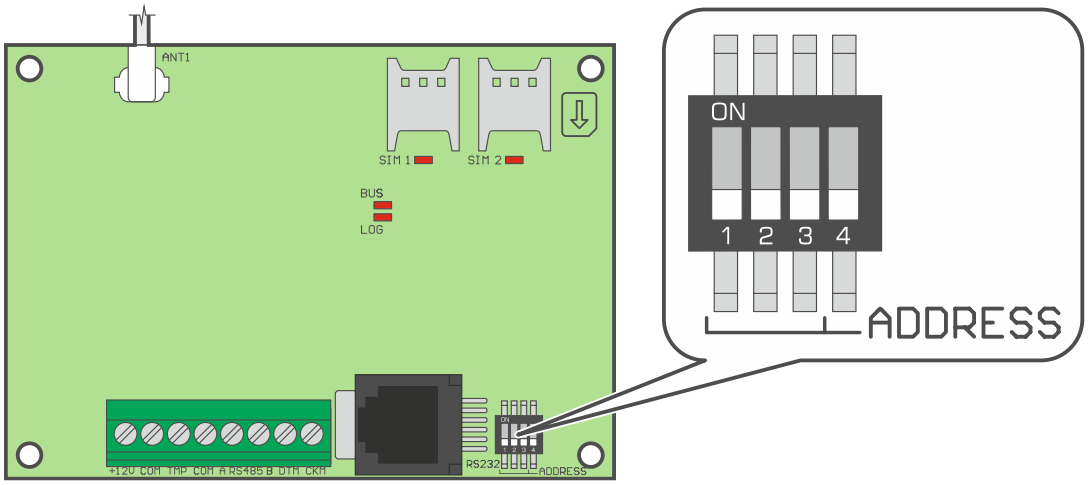



Fig. 2. DIP-switches.

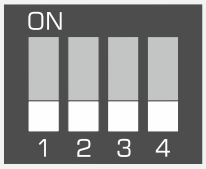
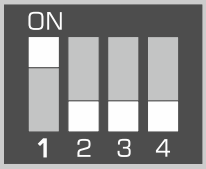
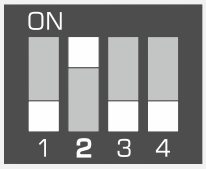
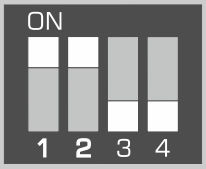
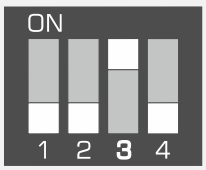
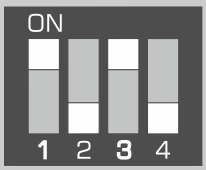
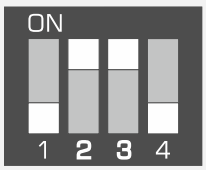
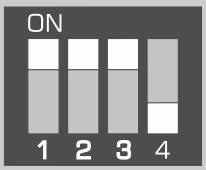
| Address | | | |
|---|---|---|---|
|  |  |  |  |
| **0** | **1** | **2** | **3** |
|  |  |  |  |
| **4** | **5** | **6** | **7** |

Table 1.

Set an address in the module within the range:

- from 0 to 3, if it is connected to INTEGRA 24 or INTEGRA 32 control panel,
- from 0 to 7, if it is connected to another INTEGRA or INTEGRA Plus control panel.

The address set must be different from that in the other devices connected to the keypad bus of the control panel (the control panel does not support devices with the same address).

## 1.4 Installation of antenna

The INT-GSM LTE module is delivered with an antenna. The antenna can be replaced with another antenna mounted on the enclosure or at some distance from it. If this is the case, you will need the IPX-SMA adapter.

Using the antenna mounted at some distance from the enclosure is recommended wherever thick masonry walls, metal partitions etc. may decrease the range of radio signal at the module installation place.

The antenna must not be installed in parallel to low-voltage electrical wires, or it can affect performance of the antenna.

## 1.5 Connecting

### 1.5.1 Connecting to the alarm control panel

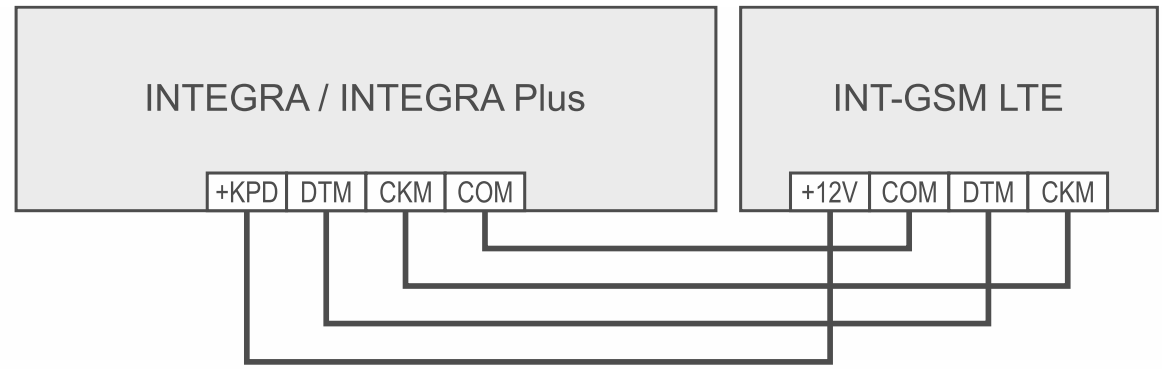



Fig. 3. The way of connecting the module to the alarm control panel.

1. Connect the +12V, COM, DTM and CKM module terminals to the control panel terminals (Fig. 3). To connect the +12V and COM terminals, use flexible conductors with a cross-section of 0.5-0.75 mm$^2$. If you use the “twisted pair” type of cable to connect the DTM and CKM terminals, keep in mind that the CKM (clock) and DTM (data) signals must not be transmitted using one pair of twisted wires. The wires must be run in one cable.
2. If the control panel is to be configured via the module using the DLOADX program, connect the module RS-232 port to the control panel RS-232 port. The cable for connecting the RJ sockets is provided with the module. If the module is to be connected to a control panel with the PIN5 socket, use the RJ/PIN5-LCD cable available in SATEL product range or make your own cable as shown in Fig. **Błąd! Nie można odnaleźć źródła odwołania.**.

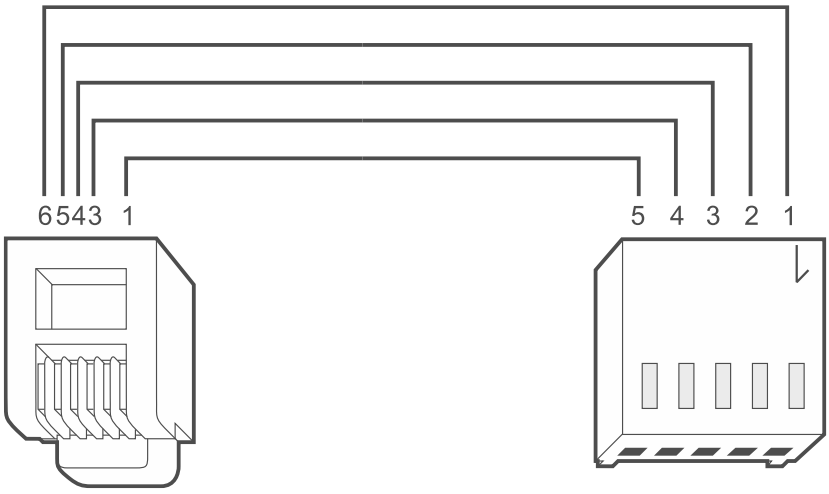



Fig. 4. Wiring diagram of the cable connecting RS-232 ports of INT-GSM LTE module (electronic version 1.7) and control panel with PIN5 type connector socket.

### 1.5.2 Connecting to the ETHM-1 Plus module

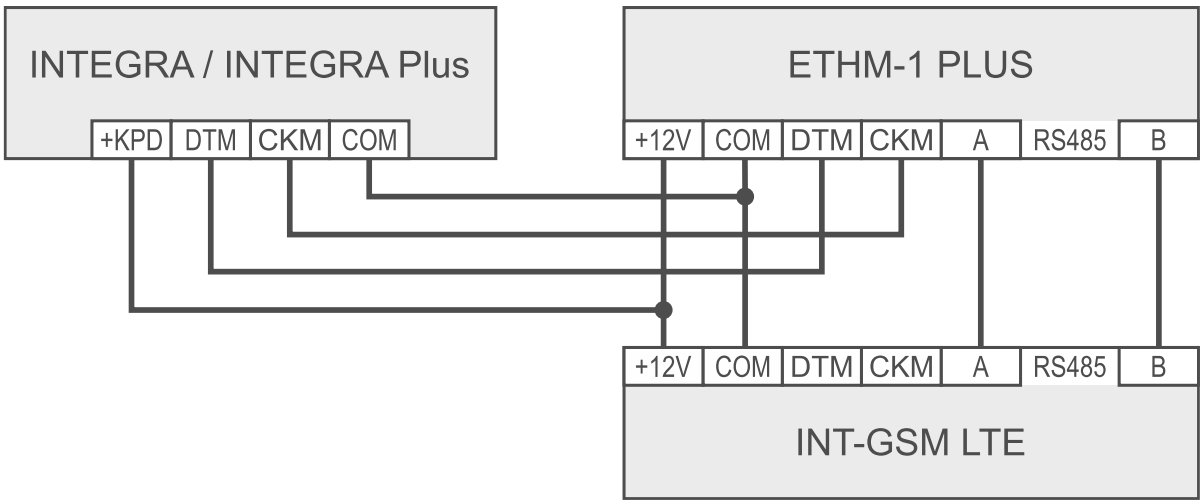



Fig. 5. The way of connecting the INT-GSM LTE module to the ETHM-1 Plus module.

If the module is to be used in conjunction with the ETHM-1 Plus module (firmware version 2.07 or newer required), connections between the modules and the control panel must be made as shown in Fig. 5.

## 1.6 Starting the module

1. Power up the alarm system.
2. Start the identification function in the control panel (see the control panel installer manual). If the module is connected to the alarm control panel, it will be identified as "INT-GSM". If the module is connected to the ETHM-1 Plus module, "ETHM+-GSM" (instead of "ETHM-1") will appear on the list of devices.
3. Configure the module. If PIN code(s) is / are required by the SIM card(s), use the DLOADX program to program the code(s). See full manual for more information.

## 1.7 Installing the SIM cards

You can install up to two nano-SIM cards in the module.

1. Power down the alarm system.
2. Insert the SIM card / cards into the socket / sockets (Fig. 6).
3. Power up the alarm system. Logging the telephone into the cellular network may take a few minutes.

*If the module is to send data via cellular network, it is recommended that you use SIM cards with a dedicated tariff plan for M2M (machine-to-machine) communication.*

*If the programmed PIN code is invalid, the module will report a trouble. Another attempt to use the PIN code will be made after 4 minutes. After the third attempt to use an invalid PIN code, the SIM card will be blocked. To unblock the SIM card, remove it and insert into a mobile phone. Then, enter the PUK code.*

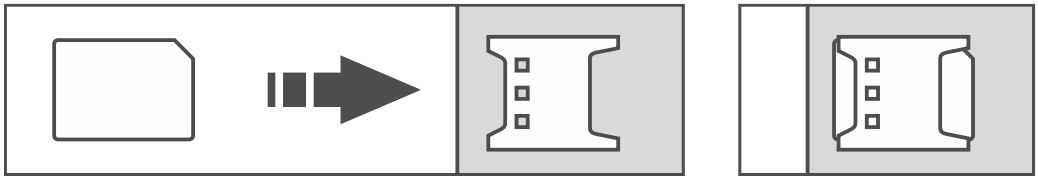


Fig. 6. Installing the nano-SIM card.

# 2. Specifications

Supply voltage ..... 12 VDC ±15%
Standby current consumption ..... 135 mA
Maximum current consumption ..... 430 mA
Environmental class according to EN50130-5 ..... II
Operating temperature range ..... -10...+55°C
Maximum humidity ..... 93±3%
Electronics board dimensions ..... 80 x 57 mm
Weight ..... 53 g