

## I-ESEC Security Board

The main purpose of the I-ESEC Security Board is to monitor changes occurring in its surroundings. This is made possible by utilizing an electronic sensors such as an accelerometer and gyroscope to assess the current state of the device's surrounding environment and react to its variations. Using this information, two different outputs can be activated. For remote monitoring, the board can report this state to the cloud, for visual display and notifications. There are two ways to accomplish this, via the SECCOM application installed on your device's computer or by connecting an I-ECGB board to it. The I-ECGB board contains a GSM module as well as provides GNSS capability. The device is therefore an ideal enhancement to existing security and alarm systems.

## Features

- Monitors tilt, vibration, temperature, and inputs
- Monitors up to 4 different profiles simultaneously – wide range of trigger and action options available from the cloud
- Once configured can work autonomously, in accordance with operating profiles configured via the web platform
- Outputs can be used to control LED light strips, buzzers, sirens, alarm lights, locks, etc.
- Can be extended by the I-ECGB board, which enables an independent GSM communication with the cloud and adds GNSS positioning
- Can be set to send email notifications via the web in the case of an alarm event during remote monitoring
- Works with Linux OS

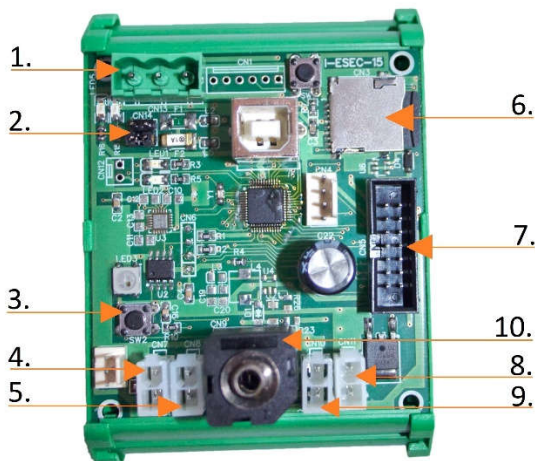
## Linux Integration (PC interface)

- IE API – C++ driver library for communication with I-ESEC board, provides API for integration with existing systems
- SECCOM application – enables communication between I-ESEC board and the cloud

## Technical Specification

<b>Power supply:</b>	+5V DC from USB (CN2) or external power supply (CN13)
<b>Inputs:</b>	2x INPUT connector Molex MiniFit 4.20 (CN7, CN8) 1x Tact switch SW2
<b>Outputs:</b>	2x OUTPUT connector Molex MiniFit 4.20 (CN10, CN11) Max amp. 6.3 A 1x OUTPUT connector Mini Jack (CN9 common with CN10) Max amp. 6.3 A 1x LED connector KK2.54 (CN15) 1x DEBUG connector KK2.54 (CN4)
<b>Interface communication:</b>	1x Serial port standard USB 2.0 (USB B CN2) 1x Serial port standard TTL 3.3V (CN5) Cloud
<b>Max. output current:</b>	6.3A (12V power supply)
<b>Size:</b>	Board without case 2.67 in x 2.51 in x 0.66 in Board with case 3.62 in x 2.64 in x 2.00 in
<b>Kiosk mounting:</b>	Board casing supports standard DIN rails

## I-ESEC Board Design



1. CN13 – External power supply 5V and 12V
2. CN14 – Power selection via jumper
3. SW2 – INPUT's tact switch
4. CN7 – INPUT1 connector
5. CN8 – INPUT2 connector
6. CN3 – microSD card slot
7. CN5 – Port for I-ECGB board connection
8. CN11 – OUTPUT2 connector
9. CN10 – OUTPUT1 connector
10. CN9 – Siren connector (common to CN10)

**Note:** 5V is to power the board, 12V is to power outputs.

## Connection diagram (board view)

The diagram below shows how to properly supply power to I-ESEC.

Note! Make sure that power is applied correctly as failing to do so will damage the board and render it unusable.



## I-ESEC + I-ECGB Security Board

The I-ESEC board's main functionality can be further enhanced by connecting I-ECGB board to it. The latter adds enhancements such as GNSS data collection as well as access to wireless mobile networks, turning the I-ESEC board into a true IoT device.

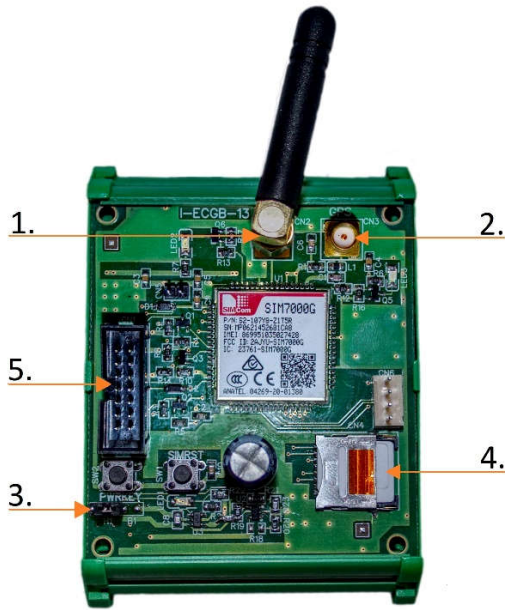
### I-ECGB Board Features

- Works with wireless mobile networks using LTE-M technology
- Ensures both secure and encrypted communication with the cloud
- GNSS location monitoring
- SIM card data handling
- Rechargeable battery, which allows the device to continue transmitting if the main power is disconnected

## Technical Specification

<b>Power supply:</b>	Powered from I-ESEC board (+5V DC and +3.3V DC) 3.7V 1200mAh battery
<b>Inputs:</b>	1 x GSM port for antenna 1 x GPS port for antenna 1 x SIM card port 1 x 4 pin service port 1 x Port for I-ESEC board connection
<b>Size:</b>	Board without case 2.67 in x 2.55 in x 0.66 in Board with case 3.62 in x 2.64 in x 1.66 in
<b>Kiosk mounting:</b>	Board casing supports DIN rail standard

## I-ECGB Board Design



1. CN2 – GSM antenna connector
2. CN3 – GPS antenna connector
3. H1 – Battery power disconnect
4. CN4 – SIM card slot
5. CN1 – Port for I-ESEC board connection
6. CN6 – Service port

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