By default, the notifications regarding the back-up battery status are disabled. To enable/disable a certain notification, please refer to the following configuration methods.

| | |
|---|---|
| **Enable Battery Connected Notification** | **SMS text message content:**<br>BATCON:ON<br>**Example:** *BATCON:ON* |
| **Disable Battery Connected Notification** | **SMS text message content:**<br>BATCON:OFF<br>**Example:** *BATCON:OFF* |
| **Enable Battery Disconnected Notification** | **SMS text message content:**<br>BATDIS:ON<br>**Example:** *BATDIS:ON* |
| **Disable Battery Disconnected Notification** | **SMS text message content:**<br>BATDIS:OFF<br>**Example:** *BATDIS:OFF* |
| **Enable Low Battery Notification** | **SMS text message content:**<br>BLOW:ON<br>**Example:** *BLOW:ON* |
| **Disable Low Battery Notification** | **SMS text message content:**<br>BLOW:OFF<br>**Example:** *BLOW:OFF* |
| **Enable Mains Power Supply Lost Notification** | **SMS text message content:**<br>PWRLOST:ON<br>**Example:** *PWRLOST:ON* |
| **Disable Mains Power Supply Lost Notification** | **SMS text message content:**<br>PWRLOST:OFF<br>**Example:** *PWRLOST:OFF* |
| **Enable Mains Power Supply Restore Notification** | **SMS text message content:**<br>PWRREST:ON<br>**Example:** *PWRREST:ON* |
| **Disable Mains Power Supply Restore Notification** | **SMS text message content:**<br>PWRREST:OFF<br>**Example:** *PWRREST:OFF* |

**8. System Information: Status SMS**

The system supports an informational SMS text message identified as the Status SMS, which can be delivered upon request. Once requested, the system will reply with Status SMS that may provide the following:

- System name
- System date & time
- GSM signal strength
- System's internal temperature
- Name and status (ON/OFF) of the output
- Input Z1 state / value
- Input Z2 state / value

| | |
|---|---|
| **Request System Information** | **SMS text message content:**<br>STATUS<br>**Example:** *STATUS* |
| **Manage Status SMS Content** | **SMS text message content:**<br>TESTM:1;2;4;5;6;7;8<br>**Value:** 1 - system name; 2 - system date and time; 4 - GSM signal strength; 5 - system's internal temperature; 6 - name and status of the output; 7 - input Z1 state/value; 8 - input Z2 state/value.<br>**Example:** *TESTM:3;6;8;1;2* |
| **Enable Periodic Status SMS & Set Frequency** | **SMS text message content:**<br>TEST:frequen<br>**Value:** frequen – frequency, range – [1... 1193046] hours.<br>**Example:** *TEST:15550* |
| **Disable Periodic Status SMS** | **SMS text message content:**<br>TEST:OFF<br>**Example:** *TEST:OFF* |

SmartGuard®

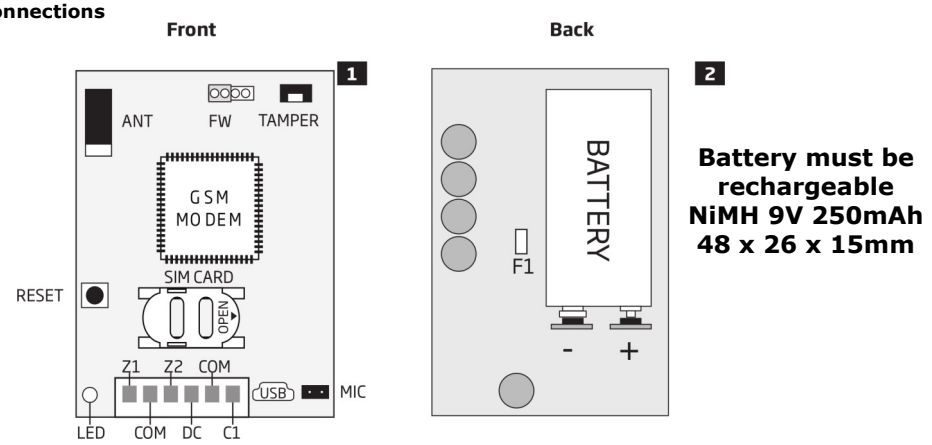
SmartGuard®

**GSM Module (E18SGGSM) Insatallation & User Manual**

**1. Overview**

The SmartGuard GSM Module uses the GSM network to transmit information coming from connected equipment to authorised users e.g. send alarm notification from an intruder alarm panel to a mobile phone. The SmartGuard GSM Module has two normally open digital inputs (zone1 & zone2).The SmartGuard GSM Module can also be used to send commands to electrical equipment e.g. remotely turn central heating on in a house from a mobile phone. The SmartGuard GSM Module has one open collector output.

**2. Connections**




**Battery must be rechargeable NiMH 9V 250mAh 48 x 26 x 15mm**

| | |
|---|---|
| ANT | GSM antenna |
| FW | Pins for firmware update |
| TAMPER | Tamper switch |
| GSM MODEM | GSM network 900/1800 MHz modem |
| RESET | Button for restoring default settings |
| SIM CARD | SIM card slot / holder |
| LED | Light-emitting diode indicating system status |
| USB | Mini USB port |
| MIC | Microphone connector |
| -/+ | Backup battery slots |
| F1 | 0.5A fuse |

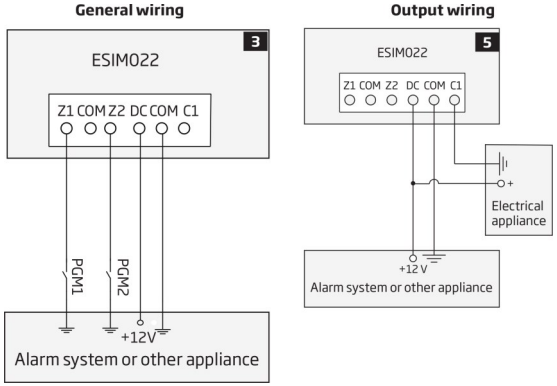
| LED Indication | Description |
|---|---|
| OFF | No power supply |
| Flashing every 30 ms | SIM card is not present / PIN code enabled |
| Flashing every 0,5 sec. | Searching for GSM network |
| Flashing every 1 sec. | Connected to GSM network/system operating successfully |

| Connectors | Description |
|---|---|
| Z1 | Digital input terminal |
| COM | Common terminal |
| Z2 | Digital input terminal/temperature sensor data terminal (DATA) |
| DC | Positive power supply terminal |
| C1 | Open-collector output terminal/temperature sensor power supply terminal (+4V) |

**3. System Notes**

- The GSM module should be fixed to a wall using 4 screws.
- Do not install the GSM unit onto metal as this will reduce signal strength.
- The SIM card's PIN code must be disabled.
- Any SMS messages stored on the SIM card will be deleted during the system start-up.
- Power supply cables should be connected last when wiring (see 2. Connections).
- System start-up should take less than one minute.

## 4. Wiring Diagrams




## 5. Date & Time

The system comes equipped with internal real-time clock (RTC) that keeps track of the current date and time. Once the system is up and running, the user must set the correct date and time, otherwise the system will not operate properly. After shutting down and starting up the system, the date and time must be set again.

| | |
|---|---|
| **Setting the Date & Time** | **SMS text message content:**<br>CLK:yyyy.mm.dd_hr:mn<br>**Value:** yyyy – year; mm – month, range – [01... 12]; dd – day, range – [01... 31]; hr – hours, range – [00... 23]; mn – minutes, range – [00... 59].<br>**Example:** *CLK:2013.03.16_14:33* |

## 6. Operation

### a. Saving a user's phone number to the SIM card using a phone call

Only one user's phone number can be saved to the SIM card in this manner. Insert the SIM card into the SmartGuard GSM Module and make a phone call to it from the phone number you wish to save as 'User1'. NB: Caller ID must not be blocked.

### b. Changing users' phone numbers on the SIM card using an SMS text message

The user phone numbers can be changed by sending the SIM card an SMS text message from a phone number that is already saved in the GSM unit. To save the 'User1' phone number, send the SIM card an SMS text message in the following format: NR1:xxxxxxxxxx (where x = the user's phone number). This process can be repeated for the 'User2' phone number by using the following format: NR2:xxxxxxxxxx.

### c. Reporting of triggered inputs

When a digital input (zone1 or zone2) is triggered, the users are informed by an SMS text message containing the text 'Triggered ZONE1' or 'Triggered ZONE2'. When a digital input is reset, the users are informed by an SMS text message containing the text 'Restored ZONE1' or 'Restored ZONE2'. The text in these messages can be changed as follows:

### d. Inputs

By default, the inputs are set as NO (normally open). To change the state of the inputs:

| | |
|---|---|
| **Set Input Z1 as NC (normally closed)** | **SMS text message content:**<br>ZONE1:NC<br>**Example:** *ZONE1:NC* |
| **Set Input Z1 as NO (normally open)** | **SMS text message content:**<br>ZONE1:NO<br>**Example:** *ZONE1:NO* |
| **Set Input Z2 as NC (normally closed)** | **SMS text message content:**<br>ZONE2:NC<br>**Example:** *ZONE2:NC* |
| **Set Input Z2 as NO (normally open)** | **SMS text message content:**<br>ZONE2:NO<br>**Example:** *ZONE2:NO* |

To manage input and/or tamper alarm and restore notifications by SMS text message, please refer to the following configuration methods:

| | |
|---|---|
| **Disable Input Alarm Notification** | **SMS text message content:**<br>SAZi:OFF<br>**Value:** i - input number, range - [1...2] **Example:** *SAZ1:OFF* |
| **Enable Input Alarm Notification** | **SMS text message content:**<br>SAZi:ON<br>**Value:** i - input number, range - [1...2] **Example:** *SAZ2:ON* |
| **Set Input Alarm Text** | **SMS text message content:**<br>TAZi:in-alarm-text<br>**Value:** i - input number, range - [1...2]; in-alarm-text - up to 23 characters input alarm text **Example:** *TAZ2:Alarm Z2* |
| **Disable Input Restore Notification** | **SMS text message content:**<br>SRZi:OFF<br>**Value:** i – input number, range – [1... 2] **Example:** *SRZ2:OFF* |
| **Enable Input Restore Notification** | **SMS text message content:**<br>SRZi:ON<br>**Value:** i – input number, range – [1... 2] **Example:** *SRZ1:ON* |
| **Set Input Restore Text** | **SMS text message content:**<br>TRZi:in-restore-text<br>**Value:** i – input number, range – [1... 2]; in-restore-text – up to 23 characters input restore text **Example:** *TRZ1:Restore Z1* |

### f. Triggering outputs

The open collector output can be triggered by sending the GSM module an SMS text message from the saved 'User1' or 'User2' phone numbers. To turn the output on, the SMS text message sent should say OUT:ON. To turn the output off, the SMS text message sent should say OUT:OFF.

### g. Outputs

By default, output C1 name is output. To rename the output, send the following SMS:

| | |
|---|---|
| **Rename Output** | **SMS text message content:**<br>TOUT:out-name<br>**Value: out-name - up to 23 characters output name**<br>**Example:** *TOUT:Lamp* |

To turn the output on or off:

| | |
|---|---|
| **Turn ON Output** | **SMS text message content:**<br>OUT:ON **Example:** *OUT:ON* |
| **Turn OFF Output** | **SMS text message content:**<br>OUT:OFF **Example:** *OUT:OFF* |

### h. Tamper

The system comes equipped with on-board tamper switch designed for sabotage detection. In the event of enclosure tampering, the system can notify the user by SMS text message or phone call.

| | |
|---|---|
| **Set Tamper Name** | **SMS text message content:**<br>TTMP:tamp-name<br>**Value:** tamp-name – up to 23 characters tamper name<br>**Example:** TTMP:Tamper |
| **Disable Tamper Alarm / Restore Notification** | **SMS text message content:**<br>TMP:OFF **Example:** *TMP:OFF* |
| **Enable Tamper Alarm / Restore Notification** | **SMS text message content:**<br>TMP:ON **Example:** *TMP:ON* |

## 7. Back-Up Battery and Mains Power Supply Status Monitoring

The system may come equipped with a back-up battery maintaining the power supply of the system for up to 12 hours when the mains power supply is temporally lost. The implemented feature allows to perform a self-test on the backup battery every 6 seconds and notify the user by SMS text message under the following conditions:

- Battery connected – battery is present.
- Battery disconnected – battery is dead or missing.
- Low battery – battery voltage is 8V or lower.