SAFETY WARNINGS

The device must be installed in a place with limited access.

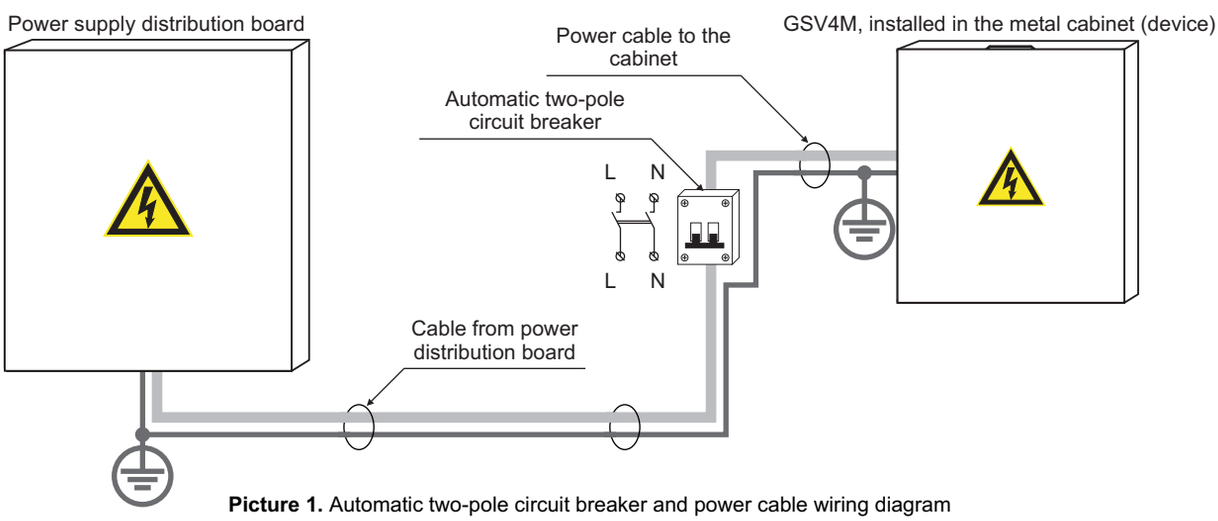
The device must be connected to an AC power supply with Protective Earthing. Cable colours mean: Phase or Live line (L) - black or brown cable, Neutral line (N) - blue cable, Protective Earth line (PE) - green cable with a vertical yellow dash. Double isolated cables with minimum cross-sectional area of 0,75 mm^2 for 230V power supply must be used.

The device uses two power supplies: main and back-up.
Main power supply: a power transformer with:
- primary winding: ~230V, 50 Hz;
- secondary winding: ~20V, 1.5A, 50Hz.

Back-up power supply: 12V, 7Ah/20HR capacity, rechargeable hermetically sealed Lead-Acid battery.

GSV4M is compliant with EN 60950-1 safety requirements.
Power supplies described above must comply with the EN 60950-1 safety requirements.
All devices being connected with the alarm system (sirens, detectors, computer for programming and etc.) must comply with EN 60950-1 safety requirements.
The communicator contains a radio transceiver operating within GSM900/1800 frequency ranges.
DO NOT USE the communicator where interferences can arise because of the influence with other devices and this may cause the potential danger.
DO NOT USE the communicator close to medical devices.
DO NOT USE the alarm system device in a dangerous environment with the risk of fire and explosion.

Additional **automatic Two-Pole Circuit Breaker** should be installed in an AC electric power circuit in order to protect against over-current, short circuits and earthing faults.
The circuit breaker contact gap should be no less than 3mm, protective circuit breaker current must be in 0,5A - 2A range .
The circuit breaker should be placed close to the system's housing and should be easily accessed.



Picture 1. Automatic two-pole circuit breaker and power cable wiring diagram

The device installation and service should be performed by trained personnel with sufficient knowledge about the device and general safety requirements for work with low voltage (up to 1000V) AC power lines. In the case of a device malfunction repair works can be performed by qualified personnel only. If the system is malfunctioning, the end user should inform the qualified personnel as soon as possible. User doesn't have right to repair the system.

Before performing any work of installation or service **always** disconnect the device from power supplies in sequence as described below:
- cut off 230 V AC power line with the automatic Two-pole Circuit Breaker;
- disconnect 12V back-up battery by removing battery female plug from Control Panel male socket BAT.

Two-pole Circuit-Beaker installation on flexible cables is forbidden.

Universal GSM / GPRS communicator comes with in-built LED indicator. LED blinks when communicator is powered up.

General safety requirements:
- do not touch any part of the main power supply under voltage: transformer, a fuse block, connection wires;
- it is forbidden to perform any device installation or service work during lightning;
- use batteries according to manufacturer recommendations. The use of improper battery type may cause an explosion;
- battery replacement : be sure battery terminals are isolated, battery terminals short-wiring may cause an explosion.

It is not recommended to connect the device to a fully discharged battery. To avoid system malfunction use an adequate charger to charge a new or discharged battery before connecting battery to the device.
Inoperative or expired batteries should be recycled according to the local rules or EU directives 2006/66/EC and 93/86/EEC.
Collection and separate utilization of waste battery is mandatory!

The connection to the mains supply must be made as per the local authorities rules and regulations.
The end of a stranded conductor shall not be consolidated by soft-soldering, insulated pins shall be used. Insulated pins shall be connected in a manner that they are and with remain mechanically efficient.

Please act according to your local rules and do not dispose of your unusable alarm system or its components with other household waste. This product utilization in EU is covered by European Directive 2002/96/EC.

GSV4M communicator

GSV4M – GSM / GPRS communicator is designed to be used with other manufacturers' intruder alarm systems. The communicator expands the functionality of other manufacturers' intruder alarm systems by giving the options to report to the receiver of central monitoring station via GPRS, to send a notification via SMS or phone call. The communicator has two open collector outputs capable of a maximum of 50mA. User can trigger the outputs to turn on an LED or activate an input on the host panel (for example, to trigger a key-switch zone and arm / disarm the system).

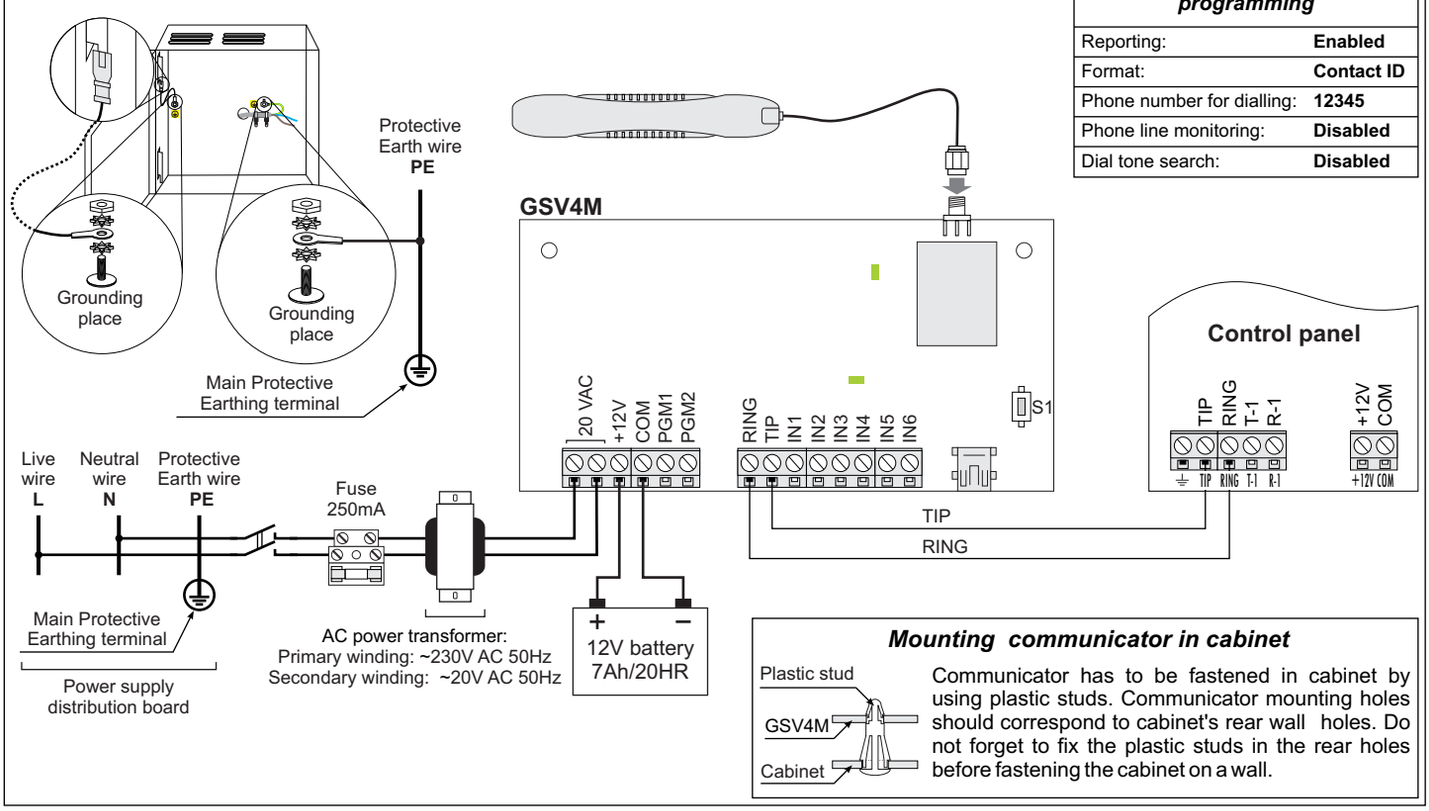
It is possible to connect GSV4M to control the panel in few different ways:

- Connection to the PSTN dialer of control panel. By simulating an analog telephone line GSV4M enables the control panel with PSTN dialer to report to CMS or the user. Compatible with control panels that communicate using the Contact ID format.
- Connection to the control panel keybus. GSV4M analyses the control panel keybus, and when it is necessary, sends a report to CMS or notification to the user.
- Connection to control panel PGM outputs. In case of alarm, the control panel output triggers GSV4M input. The communicator acts as programmed and sends the report to CMS or notification to the user.

Connection to PSTN dialer of control panel. The communicator is powered from independent power supply

GSM/GPRS communicator GSV4M is powered from an independent power supply. The independent power supply that contains a fuse block, power transformer and 12V 7Ah battery together with the communicator have to be placed in a grounded metal housing.

Control panel PSTN dialer programming	
Reporting:	**Enabled**
Format:	**Contact ID**
Phone number for dialling:	**12345**
Phone line monitoring:	**Disabled**
Dial tone search:	**Disabled**

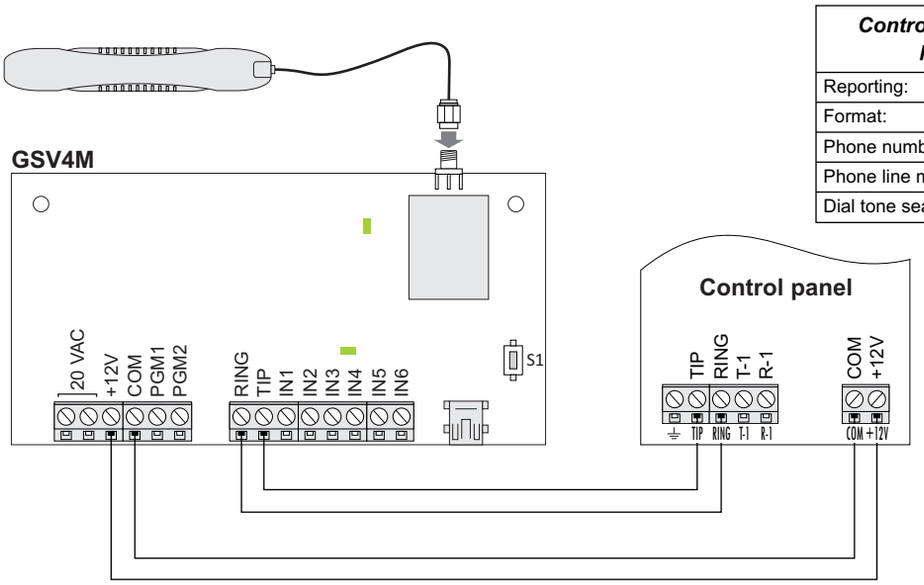


Mounting communicator in cabinet

Communicator has to be fastened in cabinet by using plastic studs. Communicator mounting holes should correspond to cabinet's rear wall holes. Do not forget to fix the plastic studs in the rear holes before fastening the cabinet on a wall.

Connection to PSTN dialer of control panel. The communicator is powered from control panel power supply

Control panel PSTN dialer programming	
Reporting:	**Enabled**
Format:	**Contact ID**
Phone number for dialling:	**12345**
Phone line monitoring:	**Disabled**
Dial tone search:	**Disabled**

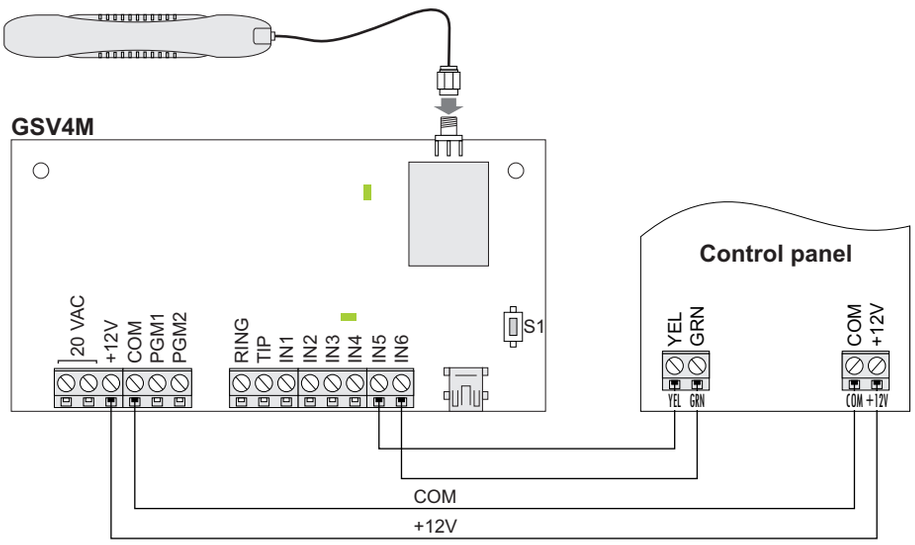


Connection to control panel keybus (reading only)

Important! GSM4M communicator firmware version should be v.4.000 or higher; programming software GSV4M Loader version should be v.3.000 or higher.

Compatible control panels:

- PC580
- PC585
- PC1555MX
- PC1565
- PC1616
- PC1832
- PC1864
- PC5005
- PC5008
- PC5010
- PC5015
- PC5016
- PC5020

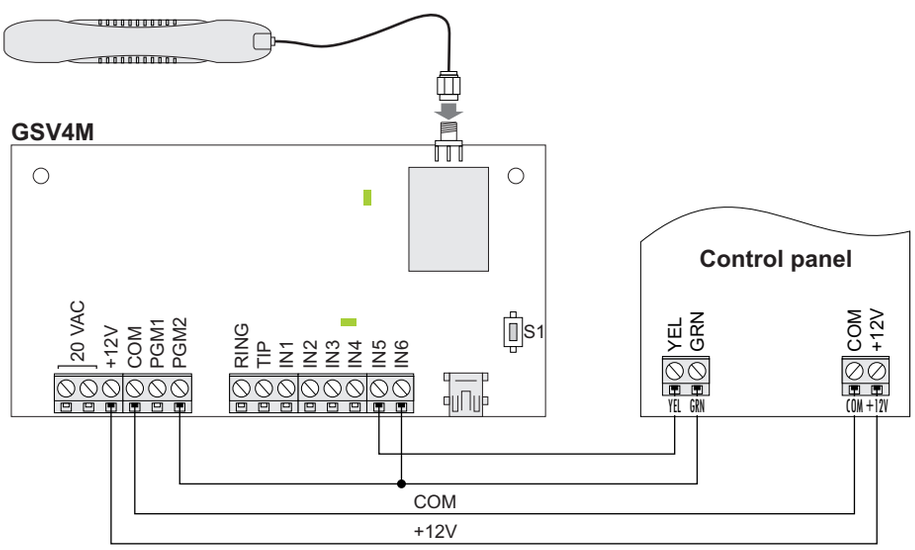


Connection to control panel keybus (reading and writing)

Important! GSM4M communicator firmware version should be v.4.000 or higher; programming software GSV4M Loader version should be v.3.000 or higher.

Compatible control panels:

- PC580
- PC585
- PC1555MX
- PC1565
- PC1616
- PC1832
- PC1864
- PC5005
- PC5008
- PC5010
- PC5015
- PC5016
- PC5020

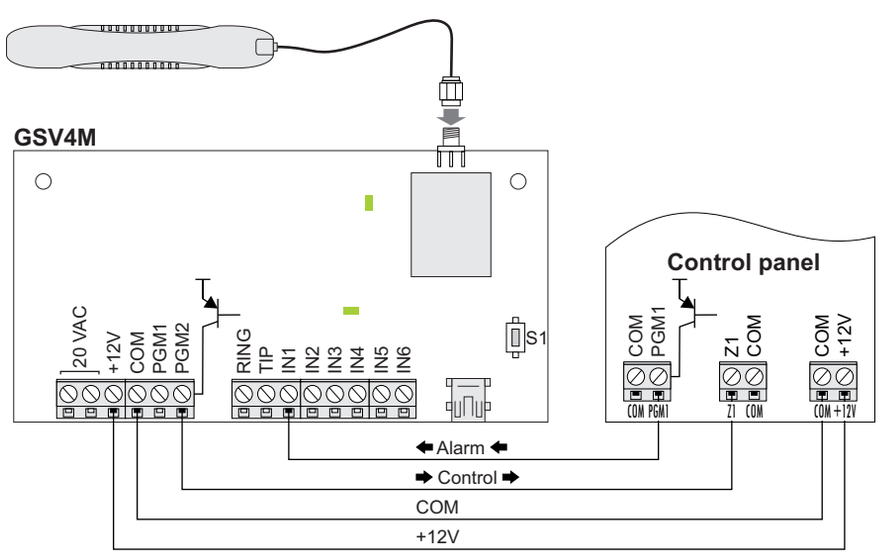


Connection to control panel zone inputs / PGM outputs

The GSV4M has six inputs that can be used to trigger specific communications. If control panel doesn't have a PSTN dialer or dialer is already in use the communication between control panel and communicator can be established by connecting control panel PGM outputs to communicator inputs. Communicator inputs are monitored and on their status change the communicator will start to report to monitoring station via GPRS or will send a notification to user via SMS or phone call.

The GSV4M also has two programmable PGM outputs to activate in response to the user control commands via SMS, phone call. If it is necessary to control the alarm system it can be done by connecting GSV4M output to control panel zone input. Control panel zone inputs are monitored and on their status change the system can armed /disarmed and etc.

Note: in the wiring diagram on right is shown the connection of open collector type PGM output to zone input (NO/NC loop type). If the output type is different please use relays and control the devices through them. It is recommended to use diode to supress voltage surges on relay.



Maximum load ratings and electrical characteristics

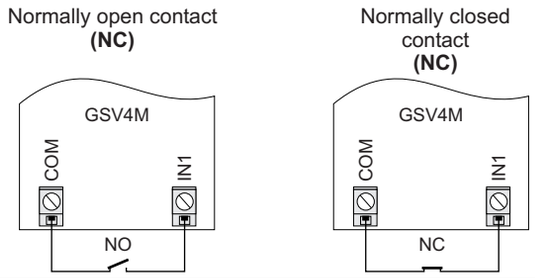
Maximum current into PGM1:	-0,05A
Maximum current into PGM2:	-0,05A
Communicator is powered from independent power supply	
Maximum battery charging current:	+0,035A
Minimum AC voltage on 20 VAC:	~16V
Maximum AC voltage on 20 VAC: **Note:** higher than ~22 V voltage can damage communicator.	~22V
Maximum current of fast blowing fuse used in battery circuit:	3,15A
Maximum current of slow blowing fuse used in primary AC:	250mA
Maximum AC power consumption:	15mA
Communicator is powered from control panel power supply	
DC voltage:	9 - 14V
Current consumption (idle running):	50mA
Current consumption (within data transmission):	365mA

Technical information

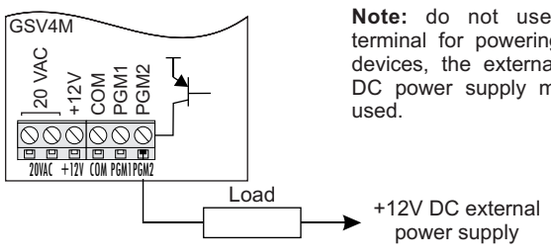
Overall dimensions L x W	120,0 x 63,5 mm
Operating temperature:	-10°C – + 50°C

Calculated life expectancy for communicator at 40°C ambient temperature is 9 years. Ambient temperature over 40°C may reduce life expectancy.

Inputs



PGM output wiring



Note: do not use +12V terminal for powering other devices, the external +12V DC power supply must be used.

GSV4M Loader software

In order to program GSV4M connect device to computer using USB cable. Software GSV4M loader is used to program GSV4M communicator. It can be downloaded from out web page: www.secolink.eu. GSV4M loader automatically downloads the present settings from GSV4M when USB cable is connected. Carefully choose the GSV4M operation mode before starting the programming. Entered phone number, ticked setting checkbox and etc. are automatically saved in software (in temporal memory), but aren't automatically sent to GSV4M. Do not forget to send them to GSV4M when programming is finished. Entered settings also can be saved in file (press button *Export template*).

GSV4M settings are split in different categories for easier programming:

Users – user phone numbers, dialling and messaging settings can be changed in this tab. User phone numbers must be entered starting with a country code, for example +4466454xxxxx. Plus sign „+" is automatically entered by software. If user wants to control GSV4M he should enter PIN during the call. If commonicator is not connected to other manufacturer control panel module keybus, user should enter PIN that is programmed in this tab. By default this PIN is 1111 and is common for all GSV4M users. If GSV4M is connected to other manufacturer control panel module keybus, user should enter the same PIN which is used to operate alarm system via keypad.

GPRS reporting - all settings related to reporting to monitoring station can be changed in this tab. GSV4M can send reporting to two receivers, in 3 diferent protocols.

Inputs - GSV4M has 6 inputs to trigger specific communications. It is possible to assign a specific Contact ID event or a simple text message to be sent when input is triggered.

Outputs – GSV4M has has two programmable outputs to activate in response to user control commands via SMS, phone call.

Outputs control with a short call – if it is necessary to control GSV4M output without sending DTMF tone string or SMS command this can be don by entering users phone number phone number section of this tab and assigning output to number. In order to trigger the output user should call to GSV4M. User should hear the dialling tone and reject the call. This actions will trigger an output. Note: if user phone number is saved in users tab phone number list and user wants to control the GSV4M by sending DTMF tone string he should not reject the call and wait 5 seconds. After 5 seconds communicator will answer the call and will "ask" to enter PIN and hash.

Security settings – the GSV4M contains two diferent level security options: it is possible to limit the access to GSV4M GPRS settings only or limit the access to all GSV4M settings. Keep security password in safe place.

GSM modem settings – in this tab is possible to enter SIM card PIN, review the information about GPRS communication, GSM signal strenght.

Phrases – all phrases that are used in SMS messages are stored in this tab. In order receive readable SMS with a actual zone, partition or user names it is necessary to fill all related fields. When communicator receives the report from PSTN dialer it is checking the phrase list and when received event element id numer matches it uses that phrase in SMS.

Voice messages – this tab allows the voice message to be assigned to a zone. It is possible to choose any from 243 available voice files. GSV4M loader interface language must be the same as written on GSV4M communicator sticker.

Summary – all GSV4M settings can be reviewed and printed in this tab.

Additional information

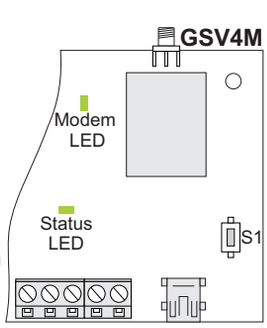
Firmware upgrade

Required softwares:
- Firmware Upgrade Tool v.1.xx
- GSV4M Loader v.3.000

Upgrade steps:
1. Disconnect the communicator from power supply.
2. Press and hold S1 button.
3. Connect USB cable while holding S1 button.
4. In order to upgrade the GSV4M, double-click on the latest firmware upgrade file (for example: GSV4M v.4.000c.dfu).
6. Follow the instructions in software Firmware Upgrade Tool to complete the firmware upgrade procedure.
7. Restore GSV4M settings to default values with a software GSV4M loader.
8. GSV4M firmware is now upgraded. You can disconnect GSV4M from the computer.

Status LED

Status LED:
- Off – GSM network problem (SIM not active, poor signal strength, antenna not connected);
- 1 flash – GSM signal strength: ;
- 2 flashes – GSM signal strength: ;
- 3 flashes – GSM signal strength: ;
- 4 flashes – GSM signal strength: ;
- 5 flashes – GSM signal strength: ;
- On (2 seconds) – event is received (from PSTN dialer or keybus), input is triggered.



Modem LED:
- Off – modem problem;
- Flashing (0,5 seconds on, 0,5 seconds off) – GSM network problem (SIM not active, poor signal strength, antenna not connected);
- Short flash every 2 seconds – registered on GSM network;
- On – dialling or data transmission is in progress.