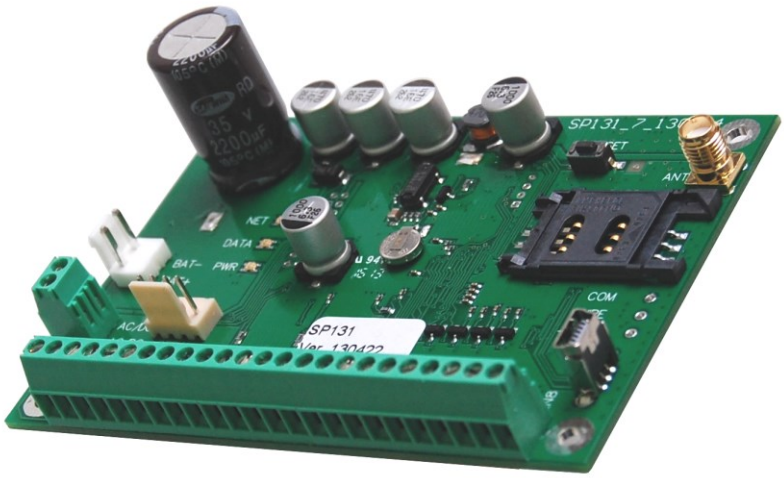


SECURITY MODULE *SP131*

User manual

CONTENTS

Safety requirements

Please read this manual carefully before using the security module SP133.

Security module should be installed and maintained by qualified personnel, having specific knowledge regarding the functioning of GSM devices and safety requirements. The device must be disconnected from external power supply source before starting device installation.

Module should be mounted in places with restricted access and in safe distance from any sensitive electronic equipment. The device is not resistant to mechanical effects, dampness and hazardous chemical environment.

Casings, transformers, batteries and programming devices must conform to LST EN60950 standard safety requirements.

Security module is powered from 16-24V DC source or with 16-18V through a 2^{nd} class power transformer from a 50 Hz frequency alternating current power grid. For backup power batteries with 12 V/7 Ah or higher capacity must be used. Current consumption of the module depends on load of all connected external devices.

An automatic bipolar overload cut-out must be installed in the electricity supply circuit to safeguard from a current overload in the power grid. Release contacts separation must be ≥ 3mm. Cut-out must be installed in a place well known to the personnel maintaining the module.

The device is disconnected from the power source:

- From alternating current source – by switching off the automatic cut-out;
- From direct current source (e. g. battery) – by unplugging the clamps.

Description of the security module *SP131*

The module **SP131** is an intruder and fire alarm control panel with an integrated GSM modem which can transmit event messages through GPRS connection or SMS messages to central monitoring station as well as SMS messages can be sent to user mobile phone. Messages are sent encoded in codes of Contact ID protocol and/or plain text. Features:

- **Arming/disarming of the security system**

The module can be armed/disarmed by:

- *Protegus SK130LED W/B, Paradox* MG32LED, K636 and MG10LED keypads;
- *OS Android* smartphone or tablet with GSM modem app "Protegus";
- Telephone call;
- Telephone SMS message;
- *iButton* switch;
- Code or other electrical switch.

- **Setting of the operating parameters via USB**

All operating parameters of the SP module can be set with an OS Windows computer via USB cable by using program SPconfig. 5V power supply from USB is sufficient for module programming. Set parameters are stored in the memory of the module for storage period.

- **Management of operating parameters and the module from central monitoring station**

It is possible to change the operating parameters, turn off zone control (bypass), change state of PGM output, ARM and DISARM or update firmware of the already installed module from central monitoring station. This feature is useful for organizing e.g. cash machine protection.

- **Multifunctional data bus MCI**

The module has a single wire Multifunctional data bus MCI, which automatically recognizes and registers wired compatible devices (maximum 4):

- Additional transmitting module, which by VFH radio (T10C), Ethernet (E10C) or GSM/GPRS (G10) will transmit in parallel all event messages of the security system to central monitoring station.
- *iButton* key scanning device ***W131.***

- **Two-wire data bus YG (YEL/GRN)**

The module has data bus ***YG***, which automatically recognizes and registers wired compatible devices (maximum 12):

- Keypads *Protegus* SK130LED W/B or *Paradox* MG32LED, K636, MG10LED.
- ZN inputs expander ***CZ8***.

- **8 zones (expandable up to 32)**

The module has eight terminals ***ZN1–ZN8*** for connecting to the sensor controlled external circuits.

- Zones number can be expanded up to 32 by using ***CZ8*** expanders. Up to 12 various expansion modules can be connected to ***YEL/GRN*** data bus. For example: 4 keypads and 8 zone inputs expanders.
- An external circuit of any type (*NC*, *NO* or *EOL*=2,2 kΩ) can be connected to the terminals.
- Type of *ZN* circuit can be set as ***ON/OFF***, ***Delay***, ***Interior***, ***Interior STAY***, ***Instant***, ***Instant STAY***, ***24 hours***, ***Fire*** or ***Silent*** zone. Zone type defines how control panel should react to the event and restore of the zone.

- ***Fire* zone**

- Every ***ZNx*** input of the module can be set to Fire zone and four-wire fire detector can be wired to it.
- ***ZN8*** terminal can be used for wiring of a two-wire fire detector. There is a ***Reset*** function for resetting two-wire fire detectors by keypad command code or SMS.

- **4 PGM output**

The module has four programmable outputs ***PGM1–PGM4*** for connecting of external circuits. Every output can be set to operate in any of 14 operating modes.

- **Remote control of PGM outputs**

Output state can be controlled remotely by SMS or telephone call if the output mode is set to ***Remote Control by SMS*** or ***Remote Control by DIAL***. This function helps remotely to control various devices (gates, healer, cooler, etc.) without changing security mode of the premises.

- **Event messaging to any central monitoring station**

The module transmits messages to central monitoring station via GPRS or SMS communication channel. Information is sent in Contact ID protocol codes. For connection control with central monitoring station receiver PING signals are used.

Several reporting IP addresses can be programmed. In case of a failed reporting to the main address, the messages will be reported to a backup address. If reporting fails to the main and backup addresses, the module will send SMS in Contact ID format to set number of central monitoring station SMS receiver.

- **Event messaging to mobile phone**

Event messages can be sent as SMS messages to 5 mobile phones. SMS text of the event can be described in Lithuanian or Latin alphabet. It is possible to select sending SMS of specified events or all events.

- **Event messaging to OS Android phone or tablet with GSM/3G modem**

Module can be set to send a special format SMS messages to OS Android device with installed app PROTEGUS. The app PROTEGUS will convert your OS Android device into user-friendly, informative and cost effective (depends on cost of SMS) console for security system control and management.

PROTEGUS has easy to use widget for Arming/Disarming the system and checking the status of it. The widget enables to ARM/DISARM the system just in couple seconds and additional information will be readily available.

Note. When choosing payment plans for Smart Phone and GSM module pay close attention to the cost of SMS messages.

- **Module Calls**

Module can call to two phones if a specified event occurs, for example: robbery. Events for calling can be specified while setting parameters of the module. Calling function is useful then SMS sound is disabled and meaningful event occurs.

Note: The alarm call has higher priority than security system control call or PGM output control call. When the module is calling to a user phone, all the incoming calls are rejected and commands controlled by call are not executed. It is highly **recommended** to configure the security system either to make alarm calling or be able to be controlled by call, but not the both at the same time.

- **System status messages**

Module sends to programmed addresses the messages about robbery, fire, other hazard, system troubles such like power supply failure etc.; sends the *Test* messages in set time ***Test Time*** or in set period ***Test Period*** and also information who, when and how armed or disarmed the control panel.

- **Bell Squawk function**

The function applied for sound indication of the security system arming/disarming.

- **Door Chime function**

The module can inform with short *buzzer* signal about door opening and closing when system is in *DISARM* mode.

- ***BYPASS* function**

The zones can be temporary bypassed for one security system arming period. It will allow to arm the system even if bypassed zone is violated.

- ***Auto ARM* function**

The function applied for protecting against accidental system disarming. If the security system is disarmed with a phone call and during the time for entry into the premises none of the secured zones are violated, the module will automatically rearm to previous *ARM* / *STAY* / *SLEEP* mode by itself.

- **Event Log function**

Module registers and stores all the occurred events. Event log can be read by the program *SPconfig*. The occurred events are registered by their occurrence time, which is calculated by internal clock of the module.

- **The main power supply from the AC or DC power source**

The module and the entire alarm system can be powered by standard 16-18V AC or 16-24V DC power supply. The latter feature is useful then premises are not connected to electricity network and the security system must be powered from an independent source of energy (e.g., solar power). Power supply voltage is monitored. If there is a problem with power supply it will be reported to central monitoring station and user (depends on settings of module).

Compatible modules

These modules can be wired to YG (YEL/GRN) or MCI bus.

Product code	*Bus*	*Description*	*Current consumption*
CZ8	YG	Input expander up to 8 zones	50 mA
W131	MCI	Interface with scanning device of *iButton* key codes	30 mA
T10R	MCI	Radio transmitter sending messages in VHF radio frequencies	50 mA idle 1000 mA transmitting
E10C	MCI	Ethernet communicator sending messages through internet networks	60 mA idle 100 mA transmitting
GM10	MCI	GSM communicator sending messages over GPRS	60 mA idle 120 mA transmitting
PROTEGUS SK130LED W/B	YG	16 zones touchscreen LED keypad with white or black glass	60-150 mA
Paradox K636	YG	10 zones LED keypad	50-100 mA
Paradox MG10LEDV and MG10LEDH	YG	10 zones LED keypad	50-100 mA
Paradox MG32LED	YG	32 zones LED keypad	50-150 mA

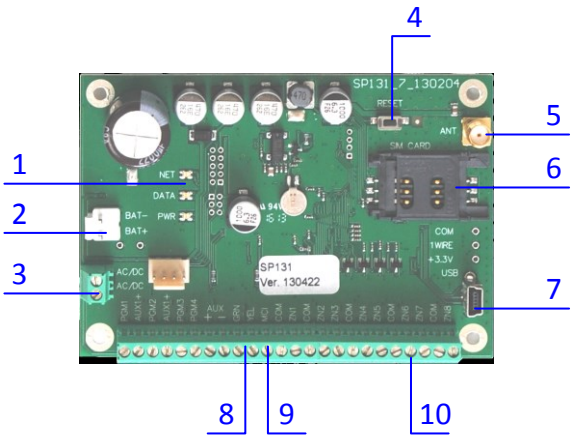
Technical parameters

Power supply	AC 16–18 V or DC 16 – 24 V
Power consumption (only module)	80 mA idle running Up to 150 mA within transmitting
Backup power supply	12 V / 7 Ah battery
Battery charging current	0,1-2,0 A
Power supply for connected security devices	Direct 13.6 V voltage between [AUX+] and [COM] contacts, current up to 1.1 A
GSM modem SIM900 specification	GSM EGSM 900 MHz and DCS 1800 MHz
Power failure thresholds	Alternating power supply is lost/restored Voltage of the battery has dropped to 11,5 V Voltage of the battery has restored to 12,6 V
ZN terminals (inputs)	8 programmable; selectable *NC*, *NO* or *EOL*=2,2 kΩ type;
	Expandable to up to 32 inputs with input expansion modules ***CZ8***
Various expansion modules	Up to 14, including keypads
PGM terminals (outputs)	4, NO type terminals of the field-effect transistor, able to commutate up to 30 V / 1.5 A between COM terminal
Control codes	Up to 40
Entry Delay and *Exit Delay* times	0-255 seconds
Siren duration	0–9999 seconds
Communication protocols	TCP/IP or UDP/IP over GPRS; SMS
Encoding of messages	*Contact ID* protocol codes
SMS messages to users	Customized text to 5 mobile phones, according to selected event types
Calls to the user	To 2 mobile phones, according to selected event types
Operating environment	From -10 °C to 50 °C when relative air humidity is 80 % at +20 °C
Dimensions	130 x 65 x 25 mm

Package content

Security module ***SP131***	1 pc.
Battery connection cable	1 pc.
Resistors 2,2 kΩ	8 pcs.
Plastic holder	4 pcs.
Manual	1 pc.

Module components



1. Light indication of network and operation
2. Terminal for backup power
3. Terminal block for power wires
4. RESET button
5. GSM antenna connector
6. SIM card holder
7. USB socket for configuring the module
8. Two wire data bus terminals
9. Single wire MCI bus terminal
10. Terminal block

Terminal block description

Terminal	*Description*
AC/DC+ AC/DC-	Terminals for connecting the main power supply source either AC 16-18 V or DC 16-24 V
AUX+	Terminals for powering the keypad(s), signalling-devices and various sensors with +13,6 V voltage
BAT+/ BAT-	Terminals for connecting the backup power supply source (battery 12 V, 7 Ah)
COM	Common terminal for the keypad(s), signalling-devices and sensors
YEL	Terminal for connecting the keypad circuit YEL
GRN	Terminal for connecting the keypad circuit GRN
MCI	Terminal for connecting of *iButton* reader ***W131*** and/or transmitting module
ZN1-ZN8	Terminals for connecting external circuits of the sensors. Input ZN8 can be used for two-wire fire detectors.
PGM1-PGM4	Programmable outputs for various signalling-devices and controlled devices

Light indication

LED	*Operation*	*Description*
"***Network***" displays message transmitting	OFF	SIM card read error
	Green frequently flashing	SIM card PIN code error
	Green flashing	Connecting to GSM network
	Green ON	Module is connected to GSM network
	Yellow ON	Message is being sent
	Yellow flashing	Number of flashes represent GSM signal strength (up to 10)
"***Data***" displays data transfer	Green ON	Unsent messages present in module memory
	Green flashing	Messages are being received and send
"***Power***" displays power supply status and programming mode	Green flashing	Power supply is sufficient
	Yellow flashing	Power supply is not sufficient (< 11,5 V)
	Green and yellow flashing in turn	Programming mode
	All OFF	Power supply is off or the voltage of the battery is lower than 9,5 V

Instillation

Instillation guidelines

1. Make a rough sketch of the premises to get an idea of where mounting frame for module, keypads, signalling devices and other modules are to be located. According to evaluation of the premises and protection requirement for them select the type of sensors and the number of places where they should be placed.
2. It is recommended to use the default parameters set in the module when developing your alarm system. In order to check the default parameters of the module use the program ***SPconfig***. The default parameters can be seen in the windows of the program ***SPconfig*** without necessity to wire module to the PC.

   However, if there is a need to change the default parameters follow the **Setting up operating parameters of the module**.

   Note. The default parameters remains in the memory of the module even if it is stored unpowered for long period of time.

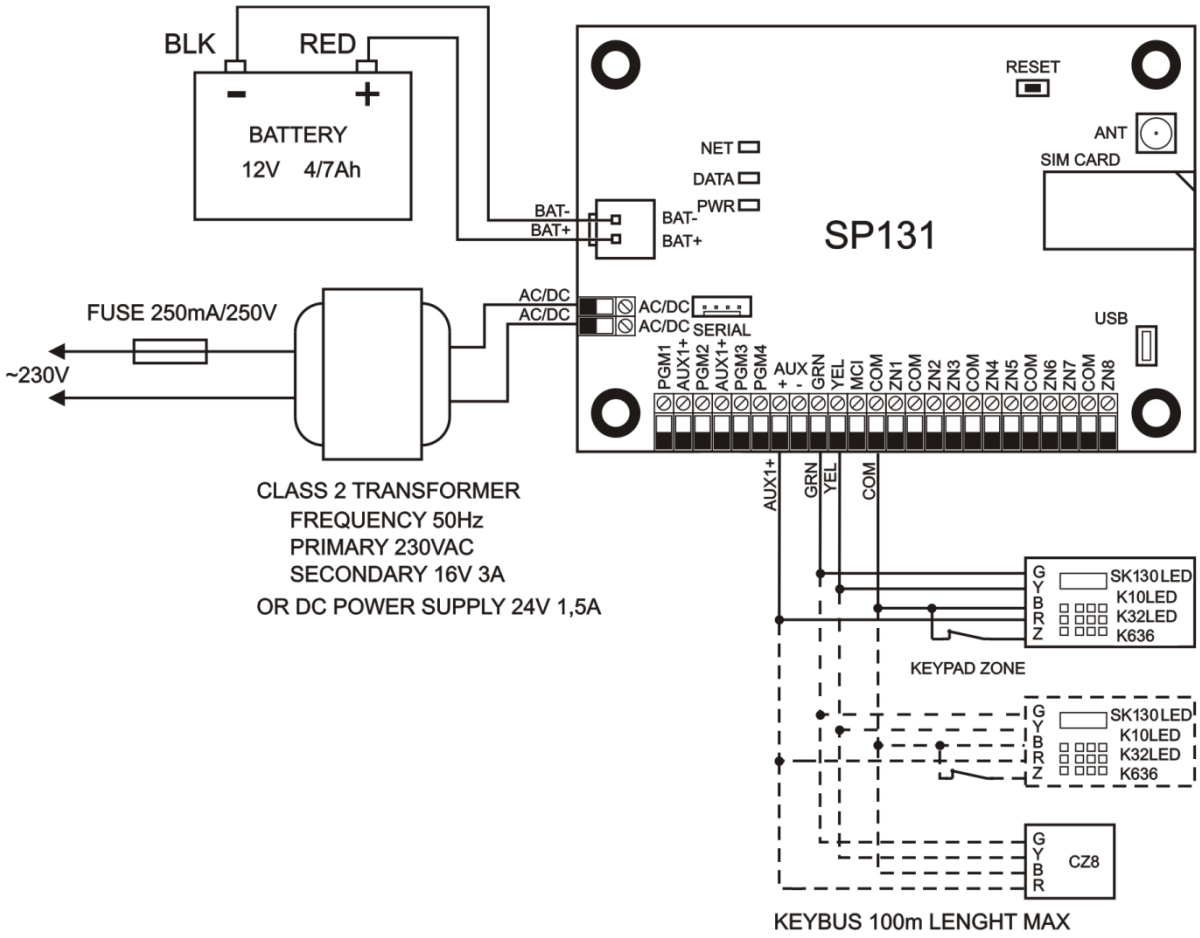
3. Secure the module plate with the plastic distance holders in a plastic or metal mounting case with integrated power supply.

   Note. If metal case is selected, do not forget to ground it.

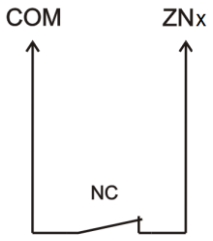
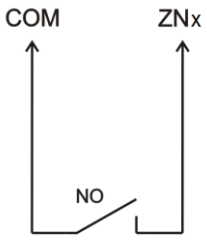
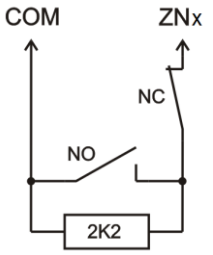
4. Screw the connector of 2.5 m long GSM antenna to the antenna connector on the module plate. Insert the SIM card to SIM card holder. The SIM card has to be already registered to provider GSM network.
5. In order to connect the external devices, for example door and wall mounting tamper, magnetic door contact, fire sensors, siren etc. follow the schemes of this manual and wiring schemes of devices you want to connect to the module plate. Correctly wired devices will be recognised and registered automatically by SP131.
6. Put the battery in the casing and connect it to the backup power terminals of plate *BAT+* / *BAT–*.
7. Connect the main power supply cables to *AC/DC+* and *AC/DC–* terminals.
8. Turn on the main power supply. Security system will send E305 (system reset) event message. If there are additional modules wired to YEL/GRN and MCI of the module SP131, security system will send R333 (*Expansion Module Restore*) event message in addition to E305. In set time interval E760 (PING) event message will be sent to central monitoring station IP receiver. PING event messages enable communication control with the module.
9. Check operation of the security system and reporting of messages by set addresses as well. In order to check forming and transmission of event messages zone input should be shorted, security system armed and disarmed several times. Check if IP receiver received all event messages about zone alarm and security system ARM/DISARM.
10. If there is a need to change or edit parameters of the module it can be done even when security system is installed and turned on.

    Note. In case of parameters change when module is on, press the *RESET* button or turn off and turn on power supply.

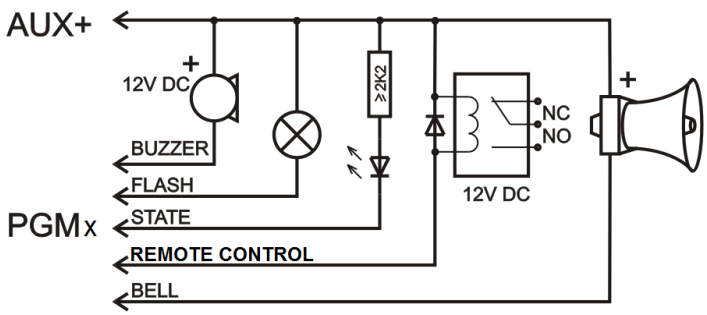
Wiring diagram



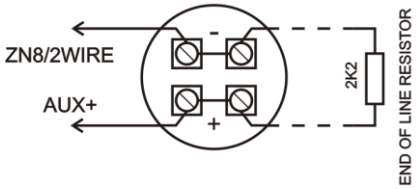
Typical zone circuits

Normally closed circuit (NC)	Normally open circuit (NO)	Normally open (NO) or normally closed circuit (NC) with end of line resistor (EOL = 2K2)
		

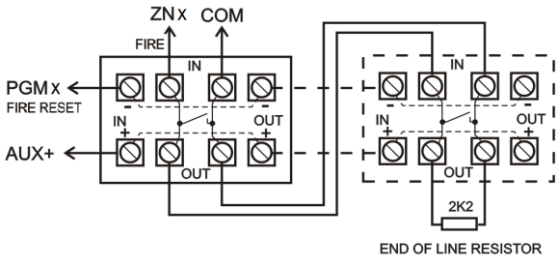
PGM connections



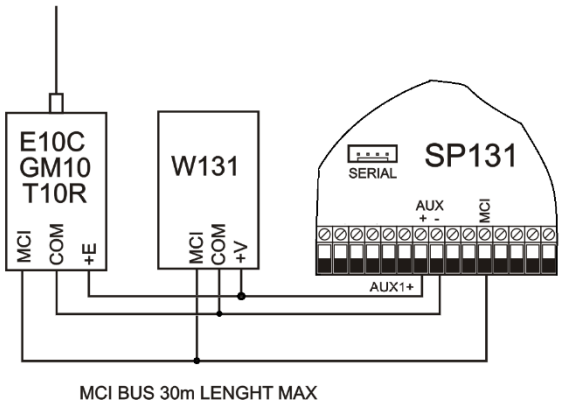
2-wire smoke detectors



4-wire smoke detectors



Transmitter and interface W131 connections



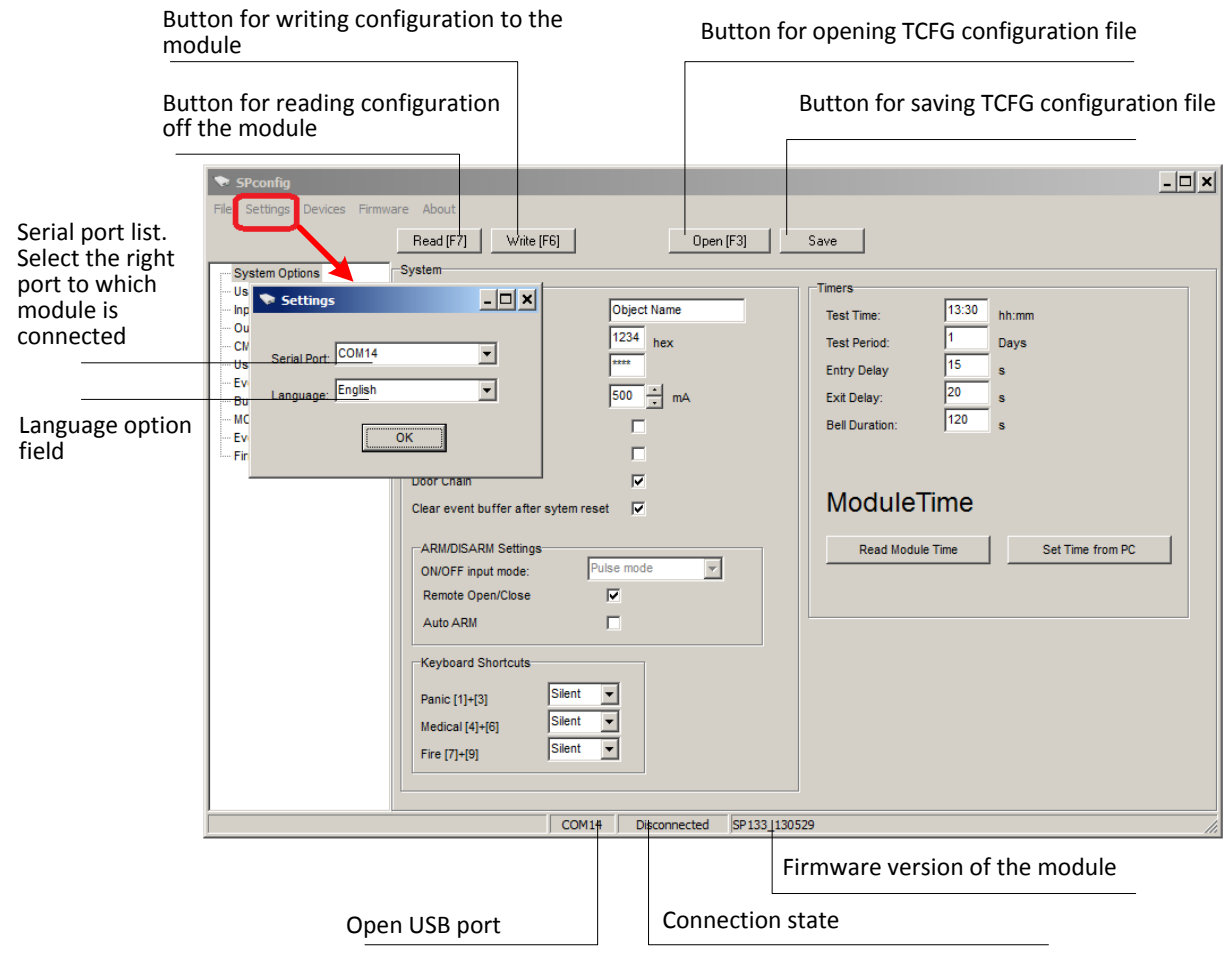
Setting up operating parameters of the module

Module SP131 operating parameters are set with ***SPconfig*** program operating on *MS Windows OS*. The program can be found on website www.trikdis.lt.

Connecting to a computer via USB

1. Connect the module to a computer by USB cable. Module doesn`t need external powering while programming. USB driver has to be installed on the computer. If the module is connected to a computer for the first time, MS Windows OS should open the window ***Found New Hardware Wizard*** for installing USB drivers. Download the USB driver file USB_driver*.zip from www.trikdis.lt and extract it. In the wizard window select the function ***Yes, this time only*** and press the button ***Next***. When the window ***Please choose your search and installation options*** opens, press the button ***Browse*** and select the place where the file *USB_COM.inf* was extracted. Follow the remaining wizard instructions to finish the USB driver installation.

   Note. Computer has to have internet connection for proper USB driver installation!
2. Start the program ***SPconfig***.
3. Choose the command ***Settings*** in the menu bar and select the port to which the module is connected in the ***Serial port*** list. Press the button ***OK***.
   Note: specific port appears only when the module is connected to a computer and USB driver is installed properly.
4. Set the preferred language in the ***Language*** option field. Press the button ***OK***.
5. Choose the command ***Devices*** in the menu bar and make sure it is set to ***SP131/SP133***. Default parameters will be shown in ***SPconfig*** windows and the lower bar will show info about module.
6. System is ready for configuration even if in the lower bar of program window is showed *Disconnected*. For more, see *Setting up operating parameters with* ***SPconfig***.
7. When desired parameters and functions are set press the button ***Write [F6]*** and new configuration will be sent to module ***SP131***.
8. When configuration is finished, turn off the program ***SPconfig*** and unplug USB cable from the USB socket.



Connecting to a computer via GPRS

In order to be able to program the module ***SP131*** remotely via GPRS, several conditions has to be met:

1. Inserted SIM card in to the module has to be with enabled GPRS service. For activating GPRS service you have to contact your network provider.
2. The module has to be connected to ***IPcom*** program (must be v.1.10 or newer version) installed on OS Windows computer with Internet connection. ***IPcom*** installation file can be found on www.trikdis.lt.

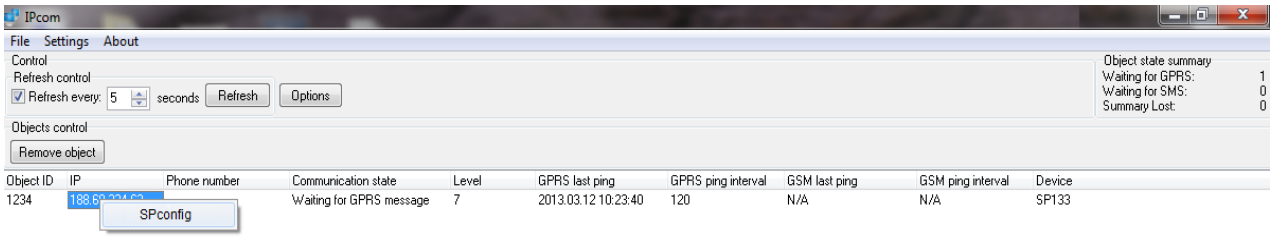
Connection to *IPcom*

1. Install the program ***IPcom*** (v1.10 or newer version) on the OS Windows computer and start it. How to configure ***IPcom*** for receiving module signals correctly, please read the user manual of the ***IPcom***.
2. Set the port forward to a computer with installed ***IPcom***, refer to your router operating manual.
3. For the module to open up a GPRS session with an ***IPcom*** a SMS message with the particular syntax must be sent by GSM number of SIM card put in the module:

   PSWxxxxxx ␣ 10 ␣ xxx.xxx.xxx.xxx#yyyy#

   Description:
   PSWxxxxxx – initial command and the six-digit remote access code;
   10 – command code for setting an IP address;
   xxx.xxx.xxx.xxx – external IP address of computer LAN;
   yyyy – forwarded port of ***IPcom*** program;
   ␣ - space. Spaces are necessary in marked places;
   # - the end mark of values. Do not forget to end an IP address and port number with this mark.

4. If configurations of LAN and ***IPcom*** are correct the module should appear in ***IPcom*** window not for long after it receives a SMS message.
5. Open the window of ***IPcom*** program and select the object, which operating parameters have to be changed. To select it, right click of the mouse on the object data. The ***SPconfig*** icon will appear. To launch ***SPconfig*** program press the left click of the mouse on the icon.



6. After the launch of ***SPconfig*** click the button ***Read [F7]*** to read the present configuration of the module. The reading process will displayed in progress bar. Data exchange may take up to a minute.
7. Set the desirable values of module operating parameters. Refer to ***SPconfig software***.
8. After entering the desirable values click the button ***Write [F8]*** of ***SPconfig*** program.
9. Then setting of operating parameters is finished close ***SPconfig*** program.
10. To close out the GPRS session between module and ***IPcom,*** the SMS with zero values of IP and port has to be sent by GSM number of SIM card put in the module:

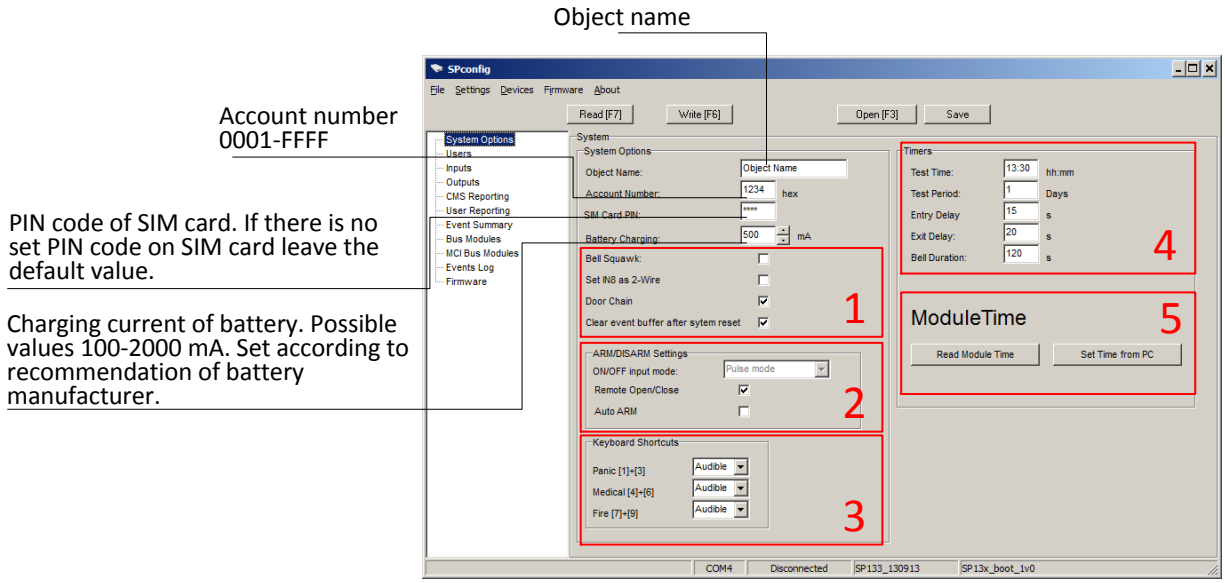
    PSWxxxxxx ␣ 10 ␣ 000.000.000.000#0000#

SPconfig software

It is recommended to use the default parameters set in the module when developing your alarm system and change them only then there is a need and knowledge that they mean.

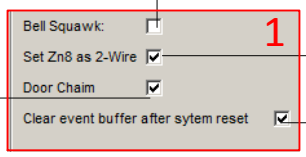
Setting the main characteristics of security module

In the ***System Options*** directory of ***SPconfig*** the common parameters of the module can be set.



Bell Squawk activation. If activated short bell signals will be formed then Arming (one short signal) and Disarming (two short signals) the security system.

Checkbox to activate the **Buzzer** signal formation everytime the door is opened in **DISARM** mode.

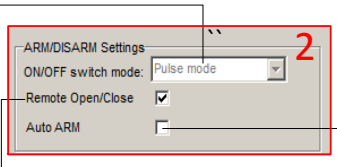


Zone 8 set as 2-wire zone. If box is checked it will be possible to reset 2-wire fire sensor with keypad or SMS.

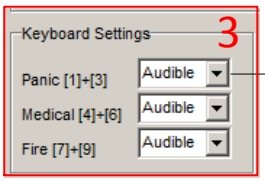
Checkbox to activate the event buffer clearing after every reset.

Switch mode ***Pulse*** or ***Level*** selection for ***ON/OFF*** zone depending on switch type. If ***Remote Open/Close*** is marked the ***Pulse*** mode will be set automatically

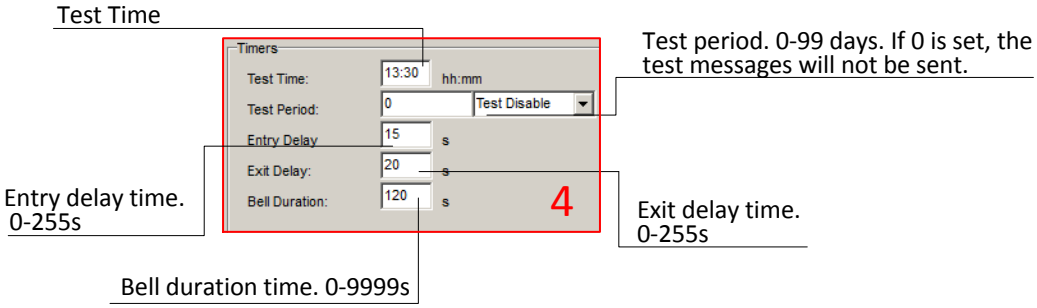
Enable Arm/Disarm by phone call. If enabled PGM control by call and calling to user functions will be disabled

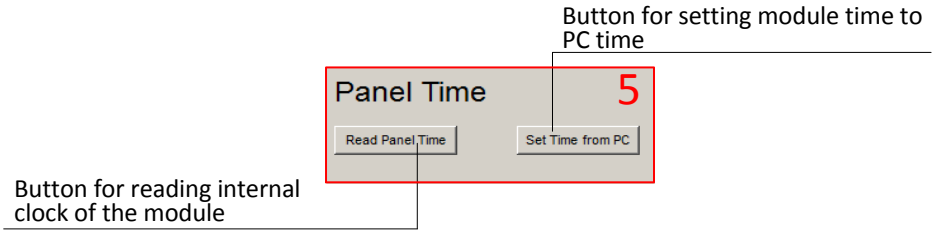


Checkbox to activate the automatic arming function of the security system. If ***Delay*** zone is not activated in set ***Entry Delay*** time after phone call to disarm the control panel, the module will automatically switch back to previous mode, for example ARM mode



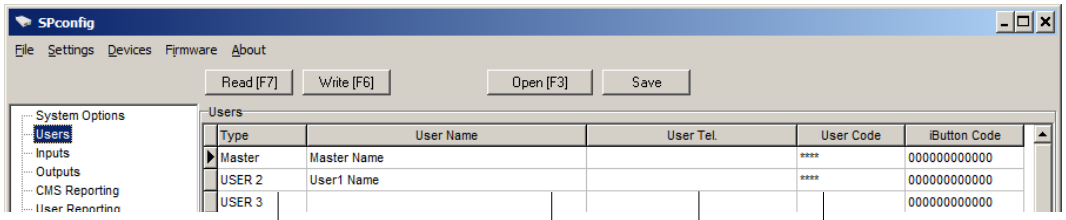
Emergency mode selection. If Audible mode is selected the message will be sent and keypad sound will be formed. If Silent mode is selected the message will be sent, but keypad sound will not be formed.





User code management

The directory ***Users*** is for entering telephone numbers, names and user codes of the users who will be able to control the security system.

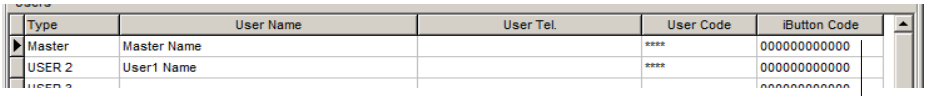


User number

Section for entering name of the user. The name of the user will be included in SMS message

Section for entering a user code

Section for entering user telephone number which will be allowed to ARM/DISARM the security system remotely. Telephone number must be entered with international country code but without "+" (plus) sign, for example 37061111111



Section for iButton key codes.
If there is an iButton code in the section and interface W131 with iButton scanner connected to the module, security system can be armed and disarmed with iButton key.

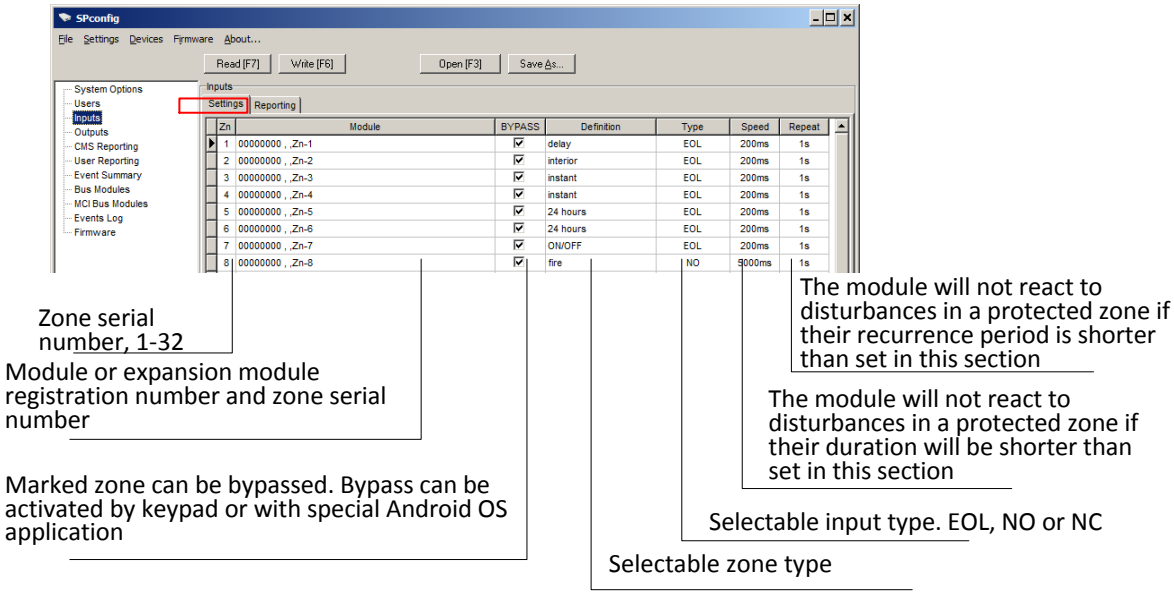
iButton key code register

1. The module will automatically record *iButton* code to the Master user when the old code is 000000000000. If there is another code, enter all zeros to iButton Code section of the master user.
2. Touch the *iButton* key reader with *iButton*.
3. Automatically recorded *iButton* code can be transferred to other User box by using CTRL+C (copy) commands CTRL+V (paste).
4. For security reasons *iButton* Code of Master user has to be changed to 100000000000 or other code to prevent another key scan.
5. Press **Write (F6)** in *SPconfig* and *iButton* key will be saved in the memory of module.

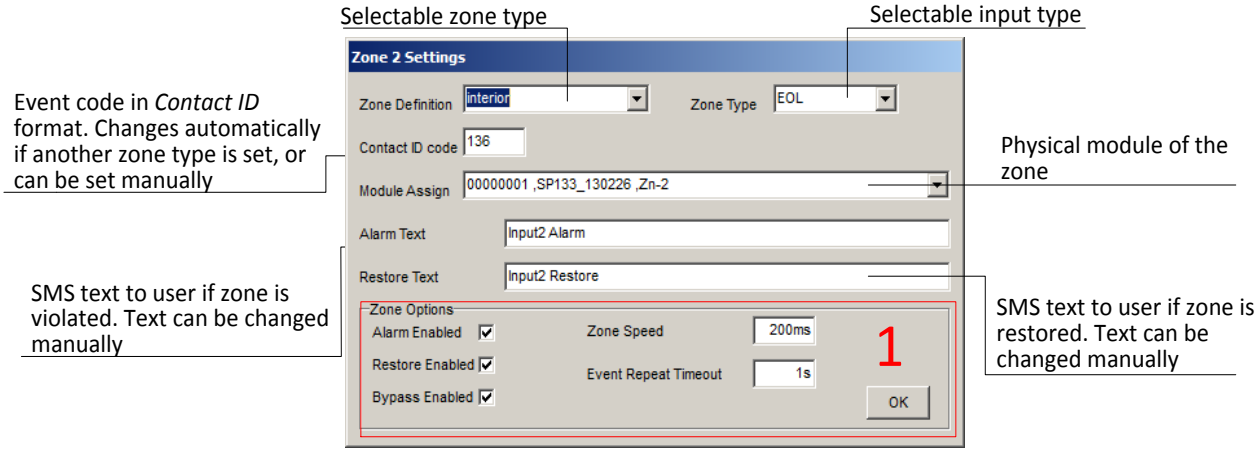
Note. If there is a need to remove *iButton* code from the system, enter the 000000000000 instead of it.

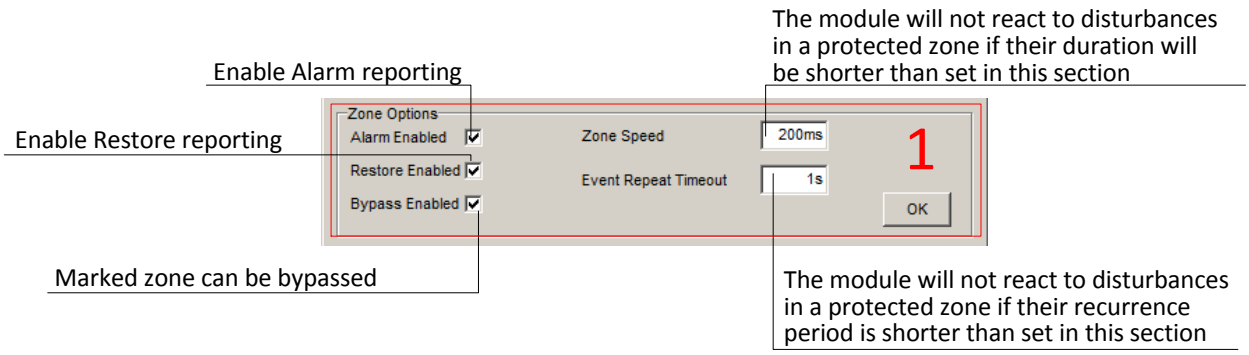
Inputs

Zone properties can be set in ***Settings*** tab of ***Inputs*** directory.



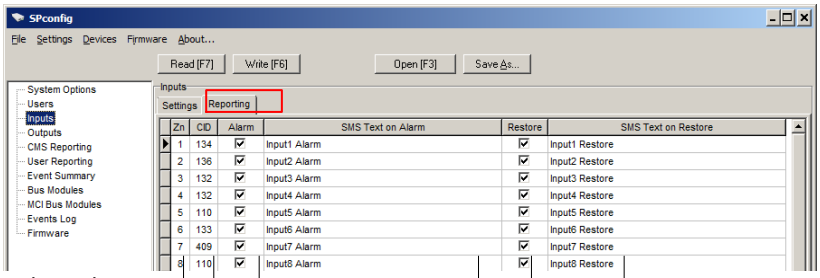
By double-clicking left mouse button on an input row a table will appear, intended for setting parameters of the necessary input.





SMS text

SMS text can be set in ***Reporting*** tab of ***Inputs*** directory.



Zone serial number, 1-32

Event code in *Contact ID* format

Enable Alarm reporting

Alarm SMS text. If there is a need, text can be changed manually

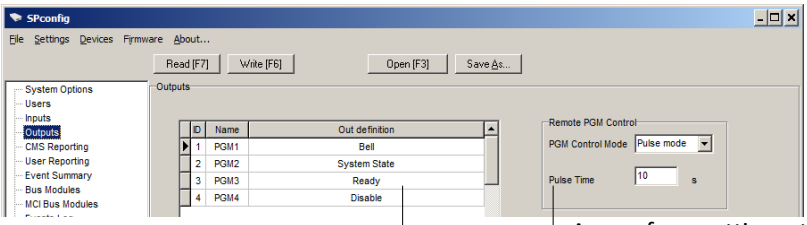
Restore SMS text. If there is a need, text can be changed manually

Enable Restore reporting

PGM outputs

PGM outputs parameters are configured in ***Outputs*** directory. Every output mode is described in annex.

Note: If there is PGM output set to ***Remote Control by DIAL*** mode, Remote Arm/Disarm by call and warning call functions will be disabled.



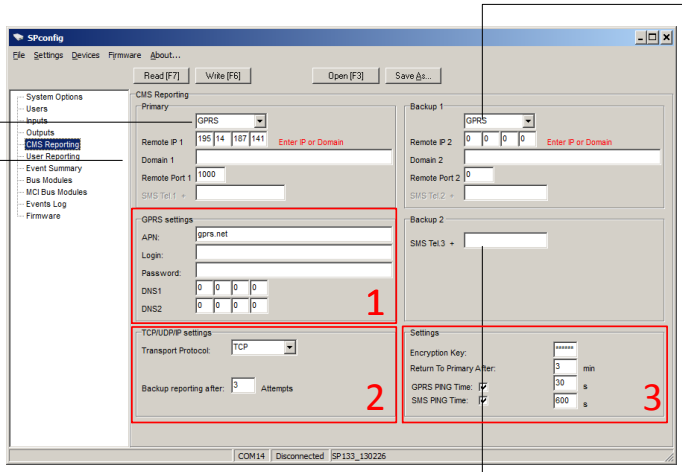
Drop-down list invoked by double press of left mouse button presents PGM output operation options. PGM1-4 output signal ON (active state) is a closed type circuit in respect of common terminal *COM*

Area for setting the parameters of remotely controlled output.
After receiving a control message or call, the output state of the Remote Control outputs will change to opposite. When level mode is selected the output state will not change to opposite until it receives another remote control command. If pulse mode is selected the output state change to opposite will last only for the set time in Pulse Time (0-9999s) box

CMS Reporting

GPRS and/or SMS reporting to central monitoring station parameters of the module can be set in ***CMS Reporting*** directory. The exact values of parameters should be provided by a person in charge of the central monitoring station and by GSM/GPRS provider.

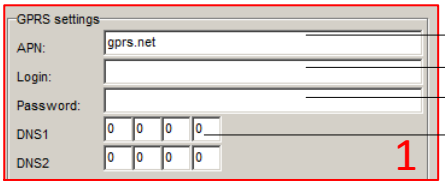
Program table to set the communication parameters for the **Backup** channel. The parameters are set the same way as in **Primary** channel table



Communication type

For **GPRS** communication:
Remote IP 1 – IP address of the monitoring station server.
Domain 1 – if monitoring station doesn't have a static ip, the domain name can be used.
Port 1 – port number of IP receiver at the monitoring station
For **SMS** communication:
SMS Tel 1 – the phone number of the SMS receiver at the monitoring station

SMS Tel 3 - the phone number of the second backup SMS receiver at the monitoring station



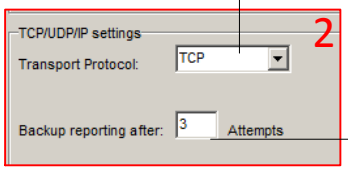
Access point name for connecting to the GSM network of operator

User name for connecting to the GSM network

Password for connecting to the GSM network

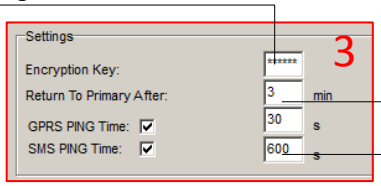
Address of internet name server

Section for selecting transmission protocol TCP/IP or UDP/IP



The number of attempts before module switches to backup channel, 0-999

6-digit encryption key for messages. This key has to be identical to a decryption password entered in a server program ***IPcom***



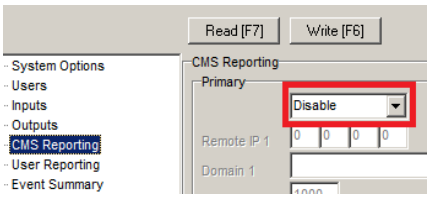
The set time for the module return from ***Backup*** to ***Primary*** reporting channel, 0-999 min

Time interval according to which the module sends signals *PING* for checking connection 30-9999 s. In order to activate *PING* sending mark the near placed markbox

User Reporting

Reporting to the user GSM phone parameters can be set in ***User Reporting*** directory.

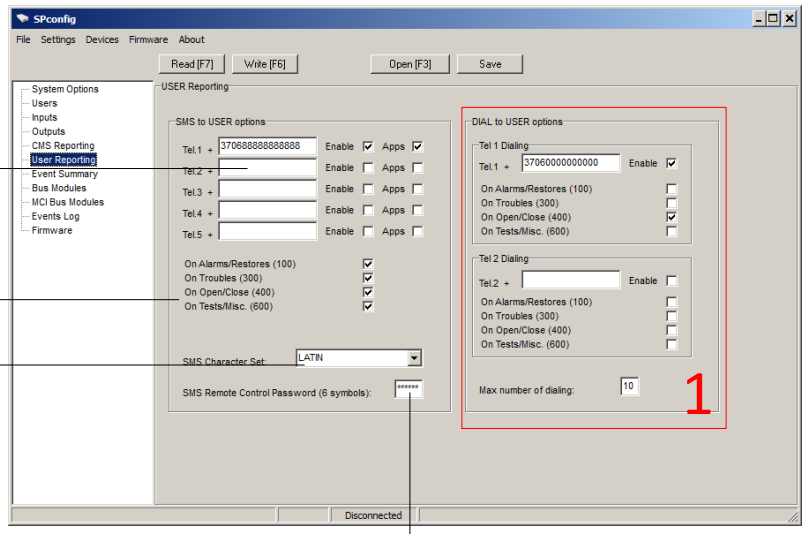
Note: CMS reporting has priority over User reporting. Messages are sent to monitoring station first and only then to the user. If there is a need for messages to be sent only to the user, ***CMS Reporting*** has to be disabled in Communication type section.



If there is a need for notifications to be sent to GSM phone, phone number has to be entered in international format without "+" sign.
Enable checkbox has to be ticked.
For OS Android application ***Apps*** checkbox has to be ticked too.

Tick the specific events for getting notifications of them

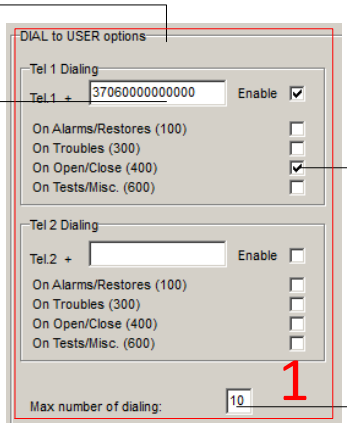
Desired SMS encoding



6-digit password for remote control and configuration of the module by SMS messages. Default value 123456.
It is highly recommended to change it

The alarm call has higher priority than security system control call or PGM output control call. It is highly **recommended** to configure the security system either to make alarm calling or be able to be controlled by call, but not the both at the same time

For notification calls enter GSM phone number in international format without „+" sign.
To enable notification calls to entered GSM phone number tick ***Enable***

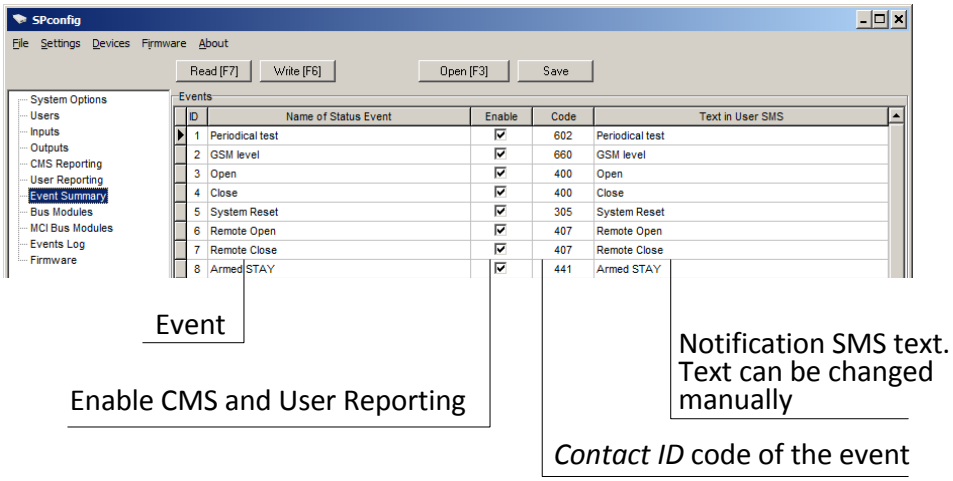


Tick the specific events for getting notification call

A number of attempts to make a call to the User. If set to dial two times or more and a call is rejected after 15 seconds from the start of it, the module will not call anymore. Call time 60 seconds

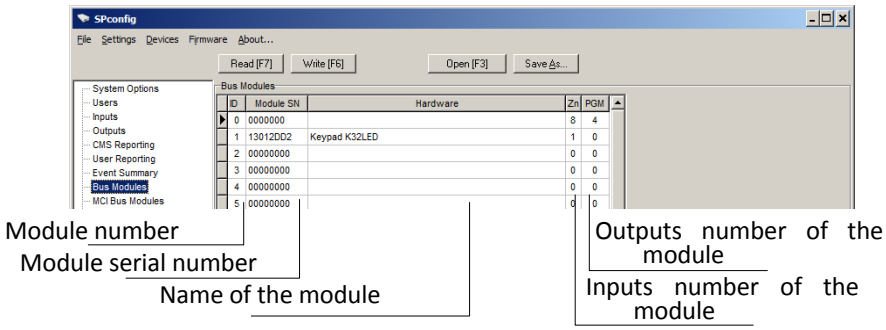
Event summary

The **Event summary** directory presents the list of events with their codes in *Contact ID* format and SMS text.



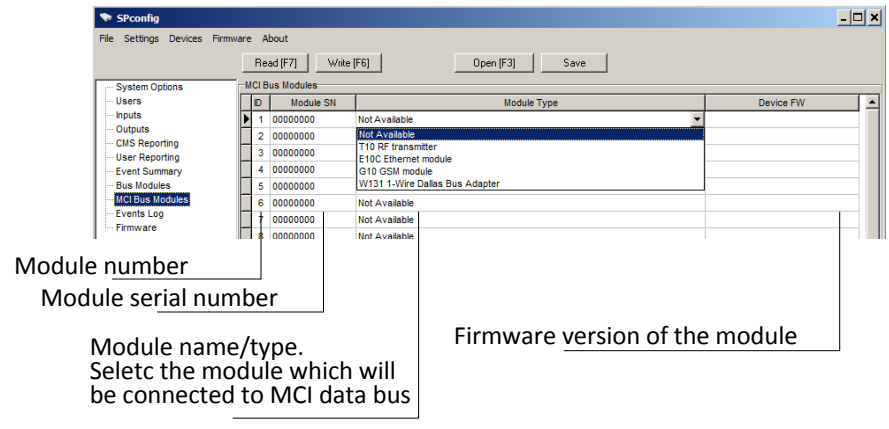
Bus modules

The ***Bus modules*** directory presents the list of expansion modules connected to YEL/GRN data bus and registered on ***SP131*** module, for example, keypad or input expanders.



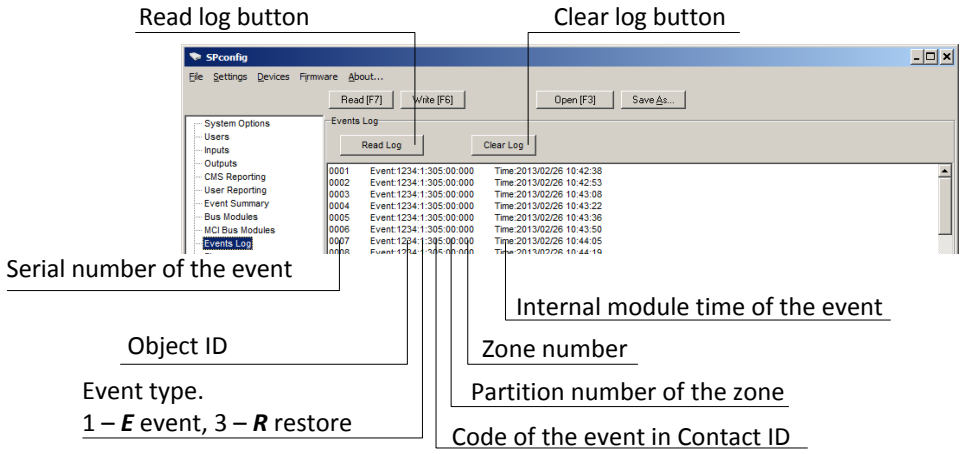
MCI Bus Modules

The ***MCI Bus Modules*** directory presents the list of expansion modules which can be connected to MCI data bus and registered ones on ***SP131*** module.



Events log

The ***Events Log*** directory presents events log list.



Restore to default parameters

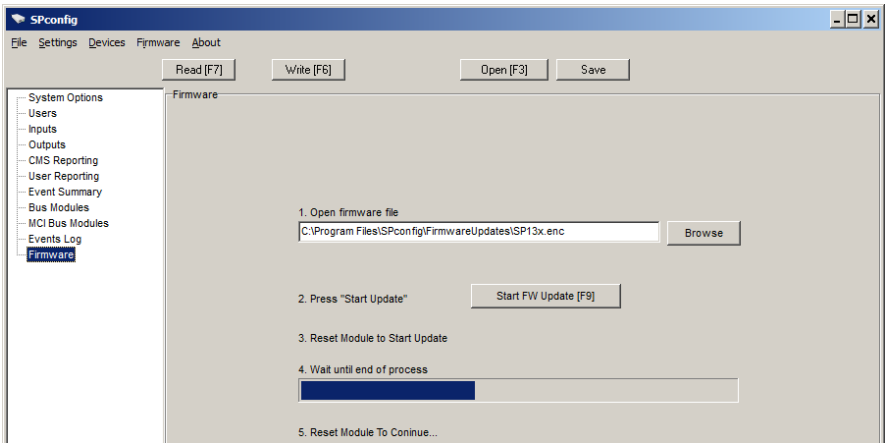
Parameters are restored to default values after firmware update of the module. Default parameters also can be restored manually:

1. Restart ***SPconfig*** program. When ***SPconfig*** is launched it shows the default parameters of the module.
2. Connect the module as described in **Connecting to a computer via USB**.
3. Click the ***Write [F6]*** button to write the default parameters into memory of ***SP131*** module.
4. If there is a need to change the parameters (see. ***SPconfig* software**), enter the new values and click ***Write [F6]*** button to write parameters into memory of module.

Firmware upgrade

If there is a new update, firmware of ***SP131*** module can be updated:

1. Download the latest version of the configuration program ***SPconfig*** from http://www.trikdis.lt/en .
2. Connect ***SP131*** module to the PC by using USB cable. Press the **Browse** button in ***SPconfig* Firmware** directory window, the window for selecting firmware file will appear. Select *SP13x.enc* file and **Open** it. Firmware file will be loaded in ***SPconfig***.
3. Press ***Start FW Update [F9]*** button to initiate firmware update of the module**.** To start firmware update press reset at the back of the ***SP131*** module and wait until **Wait until end of process** bar will be filled. Reset the module. Firmware update is done.
4. After firmware update all parameters of the module are default.



Security system control

Control by SMS

Security system can be controlled by SMS, but only some parameters of the module can be changed by SMS. To change all parameters of the module, use the program ***SPconfig***. In order to change the desired parameter of the module, it is necessary to send an SMS message with the following syntax:

PSW[Password] space **[Command code]** space **[Command content]**

> ***Note:*** Change the default password (123456) to new one known only by you, for example 111111, send a SMS message with the following syntax:
>
> **PSW123456 98 111111**

Every SMS message has to be started with capital letters PSW and 6-digit code.

The symbol „ ␣ „ indicates a space in SMS message text.

The module will send the SMS message – a response to request – to the phone, from which the request was received.

SMS text	Description
PSW000000 ␣ 97 ␣ 3	Module will send an SMS message about the status of PGM outputs
PSW000000 ␣ 97 ␣ 4	Module will send an SMS message about the state of inputs and power supply
PSW000000 ␣ 97 ␣ 5	Module will send an SMS message about GSM network level and module IMEI number
PSW000000 ␣ 97 ␣ 6	Module will send an SMS message about module firmware version and IMEI number
PSW000000 ␣ 50 ␣ N	N^{th} output state will be changed to opposite, if N output is set to „Remote Control by SMS“. N values: 1, 2, 3, 4
PSW000000 ␣ 5N ␣ 0	N^{th} output state will be changed to OFF, if N output is set to „Remote Control by SMS“. N values: 1, 2, 3, 4
PSW000000 ␣ 5N ␣ 1	N^{th} output state will be changed to ON, if N output is set to „Remote Control by SMS“. N values: 1, 2, 3, 4
PSW000000 ␣ 59	Reset of two wire detectors connected to IN8/2Wire input
PSW000000 ␣ 10 ␣ xxx.xxx.xxx.xxx#yyyy#	To set the first IP address and port number. xxx.xxx.xxx.xxx IP address yyyy Port number
PSW000000 ␣ 11 ␣ xxx.xxx.xxx.xxx#yyyy#	To set the second IP address and port number. xxx.xxx.xxx.xxx IP address yyyy Port number
PSW000000 ␣ 12 ␣ APN#LOGIN#PSW#ENC#PING#	To set APN, six-digit encryption key and interval of PIN messages. In the example SMS enter corresponding values instead of acronyms and use # as the end mark, for example, *PSW000000 12 banga#...* . If network provider does not require APN, user LOGIN or Password PSW, the SMS message should look like this: *PSW000000 12 banga###123456#180#*
PSW000000 ␣ 96 ␣ yyyy/mm/dd#hh:mm#	Set the date and time of the module. yyyy – year, mm – month, dd – day, hh – hour, mm – minutes.
PSW000000 ␣ 98 ␣ 999999	Set a new code. 999999 new code (six 0-9 digits)
PSW000000 ␣ 99	Module restart
PSW000000 ␣ 80␣NN␣S	BYPASS mode for input NN. NN values: 01 – 32; S values: 1 – BYPASS on, 0 – BYPASS off.
PSW000000 ␣ 60 ␣S	Change the state of the system: S values: 0 –Disarm, 1 – ARM, 2 – STAY.

Control by the keypad *Protegus*

1. ***ARM***.

> **Note**. If there is zone alarm, security system cannot be armed.

[1 2 3 4]
Enter a User code with a keypad.
After entering a User code the time countdown ***Exit Delay*** for leaving the premises and closing the door will start. The keypad indicator [ARM] will start flashing until ARM mode turns on, after that indicator [ARM] will be constantly on until DISARM. If there is a ***Bell Squawk*** function enabled, the short bell signal will be formed then security system arms.

2. ***ARM* in *STAY* mode**.

> **Note.** If there is zone alarm, other than *Interior STAY* or *Instant STAY* zone, security system cannot be armed in *STAY* mode.

> **Note.** At least one zone has to be set to ***Interior STAY*** or ***Instant STAY*** mode.

[ ] + [1 2 3 4]
Touch the key [] and enter the user code. After entering a User code the time countdown ***Exit Delay*** for leaving the premises and closing the door will start. When security system will arm the keypad indicators [ARM] and [STAY] will light up.
In ***STAY*** mode, violations of ***Interior STAY*** and ***Instant STAY*** zones will be allowed. If there is a violation of ***Delay*** zone a time (***Entry Delay***) count will start for entering premises and User code.

3. ***ARM* in *SLEEP* mode.**

> **Note.** If there is zone alarm, other than *Interior STAY* or *Instant STAY* zone, security system cannot be armed in *SLEEP* mode.

> **Note.** At least one zone has to be set to ***Interior STAY*** or ***Instant STAY*** mode.

[ ] + [1 2 3 4]
Touch the key []. Enter the user code and do not violate ***Delay*** zone during ***Exit Delay*** time, for example, do not open the door.
The security system will arm in ***SLEEP*** mode. When security system will arm the keypad indicator [ARM] will light up and [STAY] will start to blink.
In ***SLEEP*** mode, violations of ***Interior STAY*** and ***Instant STAY*** zones will be allowed. In this mode ***Delay*** zone becomes ***Instant*** type zone, there is no time delay (***Entry Delay***) if zone is violated. The security system will be alarmed immediately and event messages will be sent.

4. ***DISARM*.**

[1 2 3 4]
In any *ARM* or *STAY* mode you must enter your User code during set time ***Entry Delay*** to *DISARM* the security system.
If security system is armed in *STAY* or *SLEEP* mode and you are inside of premises, in order to disarm it you must enter your User code.
If there is a ***Bell Squawk*** function enabled, the two short bell signals will be formed then security system disarms

5. *Bypass* function.

It will be possible to ARM the security system, though the bypassed zone will be violated. Zone bypass can be done only for one arm/disarm period.

[⌂] + [1 2 3 4] + [1 2] + [#]

Before arming the security system touch the key [⌂] on the keypad and enter the User code. The indicator [BYP] will start flashing. Enter the 2-digit zone number and touch [#]. The indicator [BYP] will light up. If there is a need to bypass another zone, repeat the previously described actions. Then finished, ARM the security system in usual way by entering user code. The security system will ARM, though there will be a violated zone.

6. *Bypass* turn off.

If there is needed to turn off the bypass for selected zone, please repeat the same actions as noted in "***BYPASS*** function".

7. Master code.

Master code can be edited, but cannot be deleted.

[ϟ] + [1 2 3 4] + [0 1] + [X X X X] + [X X X X] + [#] + [✱] + [✱]

Touch the key [ϟ] and enter the *Master code* (default - 1234). The zone indicators will be illuminated on a keypad according to serial numbers of already entered user codes. Enter a 2-digit serial number of *User code* [01] and then enter the new 4-digit *User code* twice. Touch the key [#] and then the key [✱] twice.

8. New User codes.

[ϟ] + [1 2 3 4] + [0 2] + [X X X X] + [X X X X] + [#] + [✱] + [✱]

Touch the key [ϟ] and enter the *Master code* (default - 1234). The zone indicators will be illuminated on a keypad according to serial numbers of already entered user codes. Enter a 2-digit serial number of *User code*, for example [02], and then enter the new 4-digit *User code* twice. Touch the key [#] and then the key [✱] twice.

9. Delete of User code.

[ϟ] + [1 2 3 4] + [0 2] + [⌂] + [✱] + [✱]

Touch the key [ϟ] and enter the *Master code* (default - 1234). The zone indicators will be illuminated on a keypad according to serial numbers of already entered user codes. Enter a 2-digit serial number of *User code* you want to delete, for example [02]. Touch the key [⌂]. A sound signal will be heard and zone key lighting, indicating the serial number of the code being deleted, will turn off. Touch the key [✱] twice.

10. Security system alarm memory clear.

[✱] – 3 seconds, [✱]

After the security system has been disturbed, the indicator [MEM] will be illuminated on the keypad and keys describing serial numbers of violated zones will start flashing rapidly. The indication of violated zones on the keypad will be the same even after disarm.
In order to clear the memory, hold down the key [✱] for 3 seconds and then touch key [✱]] one more time.

11. Reset of 2-wire detectors.

[ϟ] – 3 seconds

2-wire detectors connected to the IN8/2Wire terminal can be reset by holding down the key [ϟ] for 3 seconds.

12. To exit programming mode, erase or edit incorrectly entered values, always use touching the key [✱].

13. Emergency Keys.

Panic – hold down the [**1**] key for 3 seconds.
Auxiliary – hold down the [**4**] key for 3 seconds
Fire – hold down the [**7**] key for 3 seconds.

Control by the keypads of *Paradox*

1. ***ARM***.

Note. If there is zone alarm, security system cannot be armed.

[1234]
Enter a User code with a keypad.
After entering a User code the time countdown ***Exit Delay*** for leaving the premises and closing the door will start. The keypad key [ARM] will start flashing until ARM mode turns on, after that [ARM] key will be constantly on until DISARM. If there is a ***Bell Squawk*** function enabled, the short bell signal will be formed then security system arms.

2. ***ARM* in *STAY* mode**.

Note. If there is zone alarm, other than *Interior STAY* or *Instant STAY* zone, security system cannot be armed. **Note.** At least one zone has to be set to ***Interior STAY*** or ***Instant STAY*** mode.

[STAY] + [1234] + [ENTER]
Press the key [STAY] and then enter the *User code*, confirm command by pressing the [ENTER] key.
After entering a User code the time countdown ***Exit Delay*** for leaving the premises and closing the door will start. When security system arms, the key [ARM] will turn on and [STAY] will start flashing.
In ARM mode, violations of ***Interior STAY*** and ***Instant STAY*** zones will be allowed. If there is a violation of ***Delay*** zone a time (***Entry Delay***) count will start for entering premises and User code.

3. ***ARM* in *SLEEP* mode.**

Note. If there is zone alarm, other than *Interior STAY* or *Instant STAY* zone, security system cannot be armed. **Note.** At least one zone has to be set to ***Interior STAY*** or ***Instant STAY*** mode.

[STAY] + [1234] + [ENTER]
Enter the user code and do not violate ***Delay*** zone, for example, do not open the door.
If there is no ***Delay*** zone violation during ***Exit Delay*** time, the security panel will arm in **STAY** mode. Keypad keys [STAY] and [ARM] will light up after security system arms.
In STAY mode ***Delay*** zone becomes ***Instant*** type zone, there is no time delay (***Entry Delay***) if zone is violated. The security system will be alarmed immediately and event messages will be sent.

4. ***DISARM*.**

[1234]
In *ARM* or *STAY* mode you must enter your User code during set time ***Entry Delay*** to *DISARM* the security system.
If security system is armed in *STAY* or *SLEEP* mode and you are inside of premises, in order to disarm it you must enter your User code.
In *DISARM* mode the key [OFF] will light up. If there is a ***Bell Squawk*** function enabled, the two short bell signals will be formed then security system disarms.

5. ***Bypass*** function.

Note. It will be possible to ARM the security system, though the bypassed zone will be violated. Zone bypass can be done only for one arm/disarm period.

[BYP] + [1234] + [12] + [ENTER]
Before arming the security system press [BYP] key on the keypad and enter the User code. The [BYP] key will start flashing. Enter the 2-digit zone number and press [ENTER]. The [BYP] key will light up. If there is a need to bypass another zone, repeat the previously described actions. Then finished, ARM the security system in usual way by entering user code. The security system will ARM, though there will be violated zones.

6. ***Bypass* turn off.**
If there is a need to turn off bypass for selected zone, please repeat the same actions as noted in „ ***BYPASS*** function".

7. Master code.

Master code can be changed, but cannot be deleted.

[⏻] + [1234] + [01] + [XXXX] + [XXXX] + [ENTER] + [CLEAR] + [CLEAR]

Press the key [⏻] and enter the *Master code* (default - 1234). The key [⏻] will start to flash and the key [1] will light up. Enter a 2-digit serial number of *Master code* [01] and then enter the new 4-digit *Master code* twice. Press the key [ENTER] and then the key [CLEAR] twice.

8. New User codes.

[⏻] + [1234] + [02] + [XXXX] + [XXXX] + [ENTER] + [CLEAR] + [CLEAR]

Press the key [⏻] and enter the *Master code* (default - 1234). The key [⏻] will start to flash and illuminated keypad numbers will display serial numbers of already entered user codes. Enter a 2-digit serial number of *User code*, for example [02], and then enter the new 4-digit *User code* twice. Press the key [ENTER] and then the key [CLEAR] twice.

9. Delete of User code.

[⏻] + [1234] + [02] + [SLEEP] + [CLEAR] + [CLEAR]

Press the key [⏻] and enter the *Master code* (default - 1234). The key [⏻] will start to flash and illuminated keypad numbers will display serial numbers of already entered user codes. Enter a 2-digit serial number of *User code* you want to delete, for example [02]. Press the key [SLEEP]. A sound signal will be heard and key lighting, indicating the serial number of the code being deleted, will turn off. Press the [CLEAR] key twice.

10. View of security system alarm memory.

[MEM] + [CLEAR]

After the security system has been disturbed, the key [MEM] will be illuminated on the keypad and keys describing serial numbers of violated zones will start flashing rapidly. The indication of violated zones on the keypad will be the same even after disarm.

In order to clear the memory, please press the key [MEM] and then the key [CLEAR].

11. Reset of 2-wire detectors.

[CLEAR] and [ENTER]

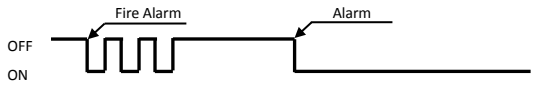
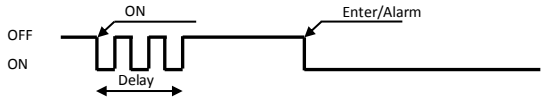
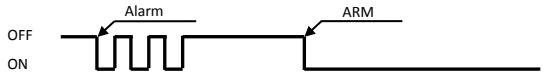
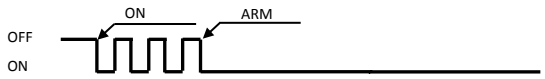
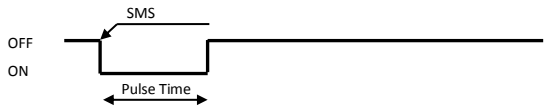
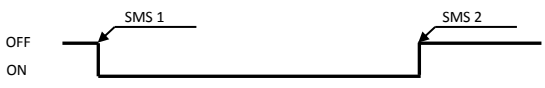
2-wire detectors connected to the IN8/2Wire terminal can be reset by pressing together the [CLEAR] and [ENTER] keys at the same time.

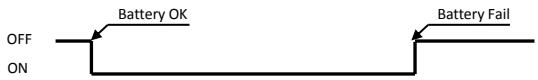
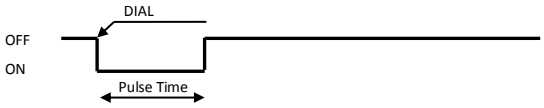
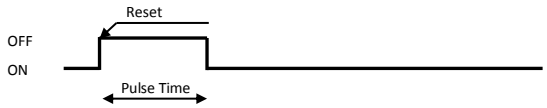
12. To cancel the programming mode, erase or edit incorrectly entered command, always use press the key [CLEAR].

ANNEX 1. Zone types

Zone type	*Description of reaction*
ON/OFF	Security system can be armed and disarmed by breaking the input circuit. The security system will arm after the specified duration of time (***Exit Delay***), during which one the secured premises can be leaved. Set by default on ZN7, EOL;
Delay	When the security system is armed, during the time period for leaving the premises ***Exit Delay***, break of input circuits is allowed. If after this duration of time the circuits remain disturbed, ***Bell*** and ***Flash*** outputs signals will be created and messages will be sent. If an input circuit is broken while the security system is armed, this will start the counting of time for entering into the premises ***Entry Delay***. The security system must be disarmed during this time period, otherwise ***Bell*** and ***Flash*** outputs signals will be created and messages will be sent. Set by default on ZN1, EOL;
Interior	If an input circuit is broken while the security system is armed, ***Bell*** and ***Flash*** outputs signals will be immediately created and messages will be sent. Break of input circuits is allowed during the time periods for entering or leaving the premises (***Entry Delay*** and ***Exit Delay***). Set by default on ZN2, EOL;
Interior STAY	Operates similarly to ***Interior***, however when the arming mode ***STAY*** is turned on, the module will not react to the break in input circuits.
Instant	If input circuit is broken while the security system is armed, ***Bell*** and ***Flash*** outputs signals will be immediately created and messages will be sent. Set by default on ZN3 and ZN4 (EOL);
Instant STAY	Operates similarly to ***Instant***, however when the arming mode ***STAY*** is turned on, the control panel will not react to the break in input circuits.
24 hours	Constant control of input circuit. If an input circuit is broken in arm or disarm mode, ***Bell*** and ***Flash*** outputs signals are immediately created and messages are sent. Set by default on ZN5 and ZN6 (EOL);
Fire	For connecting 4-wire fire detectors. If an input circuit is broken in arm or disarm mode, ***Bell*** and ***Flash*** outputs fire signals are immediately created and messages are sent. Set by default on ZN8, NO;
Silent	Constant control of input circuit. If an input circuit is broken, messages are immediately sent, however ***Bell*** and ***Flash*** outputs signals are not created.

ANNEX 2. PGM output types

PGM output	Output signal
Bell	Output for connecting a sound-emitting (siren) device. The continuous or pulsed signal is formed if security system is alarmed. Set by default on PGM1. 
Buzzer	Output for connecting a sound emitting device. The pulsed signal is formed during the time for leaving the premises (***Exit Delay***). During entering the premises time (***Entry Delay***) or system alarm the continuous signal will be formed. 
Flash	Output for connecting light emitting device. During ARM mode the continuous signal is formed and during alarm – pulse signal. 
System State	Output for connecting a light emitting indicator. During ARM mode the continuous signal is formed and during the time for leaving/entering the premises (***Entry Delay, Exit Delay***) – pulse signal. Set by default on PGM2. 
Ready	Output for connecting a light emitting indicator to display the input state. The continuous signal is formed then all secured zones are in order. Set by default on PGM3. 
Remote Control by SMS	Output which can be controlled by SMS message.  ***Pulse mode:***  ***Level mode:***
AC OK	Output for connecting an indicator which informs about powering of the module from the mains. 

Battery OK	Output for connecting an indicator which informs about powering of the module from the battery. 
Remote Control by DIAL	Output which can be controlled by phone call. ***Pulse mode:***  ***Level mode:*** 
ARM/DISARM	Output for connecting an indicator which informs about system state. During the arm mode the continuous signal is formed. 
Alarm Indication	Output for connecting a state indicator. During alarm the continuous signal is formed. 
Lost Primary Channel	A continuous signal is formed if the primary communication channel is lost. 
Lost Secondary Channel	A continuous signal is formed if the secondary communication channel is lost. 
Fire Sensor Reset	A sensor reset signal is formed in the output when command is received by SMS or keypad. 

ANNEX 3. Warranty and Liability restrictions

The manufacturer provides a 24 month warranty. Warranty coverage begins on product purchase date.

- Manufacturer is not responsible for burglary, fire or any other breach of Buyer's and/or User's premises and is not liable for any direct or indirect damages incurred thereof.
- Manufacturer provides no guarantees that the Device shall function as declared if the Device is installed and used not according to its original purpose, user manual and relevant electronic and technical conditions.
- Manufacturer is in no way associated with GSM/GPRS/Internet service providers (operators), thus UAB "TRIKDIS" is in no way responsible for any defects in Device operation if they have occurred because of the loss of GSM/GPRS/Internet connection, or because of other defects in the service provider network.
- Manufacturer is not responsible if GSM/GPRS/Internet services are not provided to the Buyer and/or User of the Device or were cancelled and any direct or indirect damages were incurred thereof.
- Manufacturer is not responsible for any direct or indirect damages incurred by the Buyer and/or User of the Device due to loss of electricity.