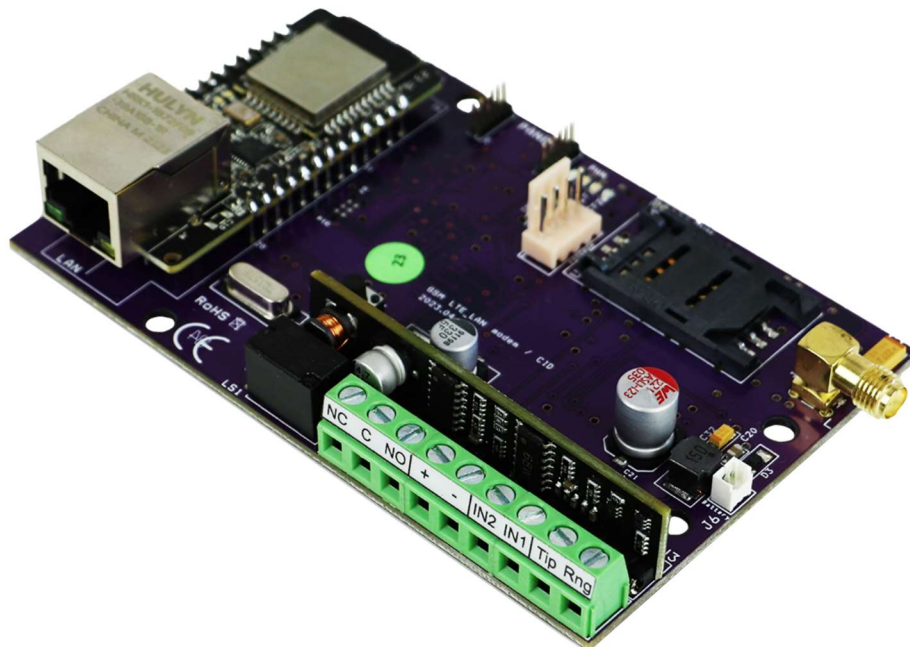




ProLine 4G LAN

PROFESSIONAL 2G/4G GSM/GPRS/WIFI/IP TRANSMITTER



Content

Device description and operation.....	3
The module buildup	4
Installation guide	5
Technical parameters.....	5
LED signals	6
Tamper – Factory reset.....	6
Connecting the module (PC)	6
Connection with Bluetooth adapter.....	7
Programming using PC software.....	8
Connect to the module	8
Module status check.....	9
GSM field strenght indication	10
Event log	10
Read IMEI number	11
GSM Chip monitor	11
PC securitiy password.....	11
Firmware update.....	11
Monitor + AT	11
BUS Module.....	11
VoLTE.....	11
LTE Disable.....	11
LTE Enable.....	11
Module settings menu bar	11
Basic data.....	11
Phone numbers.....	12
Enter control phone numbers.....	12
Adjusting outputs.....	14
Voice Message Settings.....	15
Other setting options.....	15
Power supply monitoring setup	16
Life signal sending setup	16
Own signal codes (Contact ID).....	16
Programming with SMS commands.....	17
The module LAN Settings.....	20

Device description and operation

The GSM/GPRS/LTE/WIFI/LAN device can be used as a supplement to alarm panels as a transmitter with 2 inputs or as a GSM/GPRS/LTE based line simulator. The module has two contact inputs and one contact-controlled output. It can send notifications up to 8 phone numbers via SMS and/or voice messages.

The notification can be triggered by a signal from one of the 2 inputs, a power failure, or a sabotage attempt. The notifications can be sent out together with a pre-recorded voice message (up to max 6 seconds), by phone call. An identification message can also be recorded by voice message: maximum length,15 seconds. The output can be controlled with a free call from unlimited phone number. In case of number identification function, the numbers must be stored in the module's internal memory up to 1000 numbers) or on the SIM card inserted in the module. The call number identification function prevents the unauthorized control of the device.

The output can also be controlled using an SMS command (e.g.: bistable, the output is controlled for 10 seconds despite the off state).

You can read more about this command on page 17.

The module is capable of storing up to 16,000 events(state of inputs and outputs, power restart, information about the GSM network and the state of the module, incoming and outgoing calls and SMS).

The tamper microswitch on the module can be used as a tamper indicator with the same setting options as the inputs. Pressed and held before switching on and then released after 3 seconds after switching on, it functions as a "reset". The reset function can be used to restore the module to the factory default state if necessary.

The device is able to convert the Contact ID code, received from an alarm center, in SMS format up to 8 specified phone numbers. The text of the SMS can be changed freely per code.

The module also checks the status of the GSM field strength. It can be read on a graph that can be displayed with a resolution of up to 1 hour using the programming software.

With the help of expansion modules, the device can be equipped with another output (EXP Relay, EXP Relay3). These outputs can also be freely configured independently. The module can be programmed by SMS command, PC or by connecting a Wifi/BT Programmer, remote "Cloud" programming with a suitable WIFI connection.

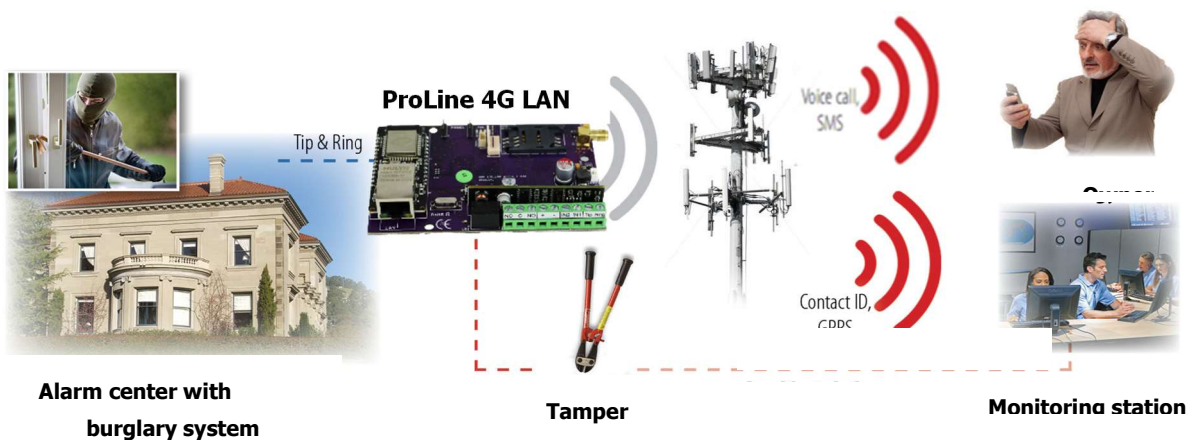


Figure 1. Device operation

The module buildup

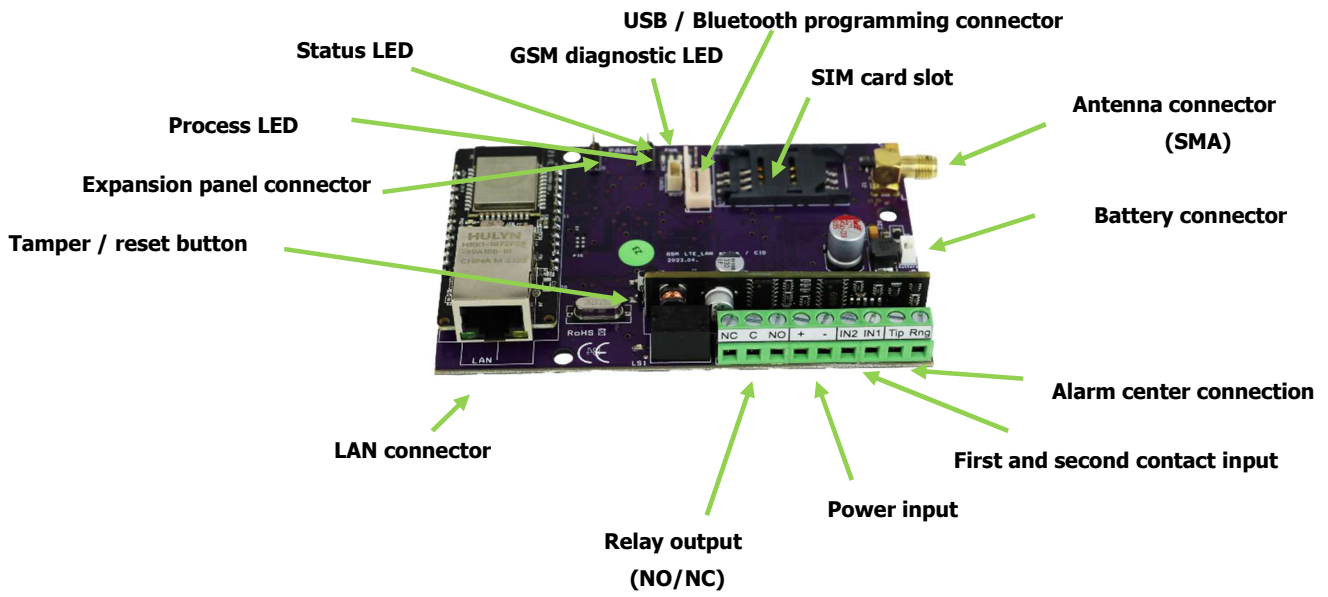


Figure 2. The module buildup

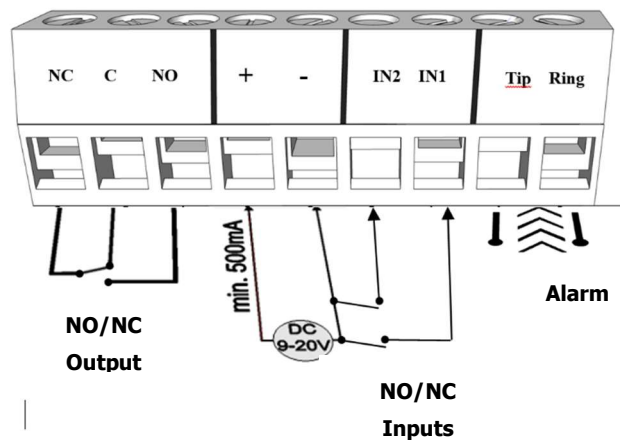


Figure 3. Connecting the terminal block

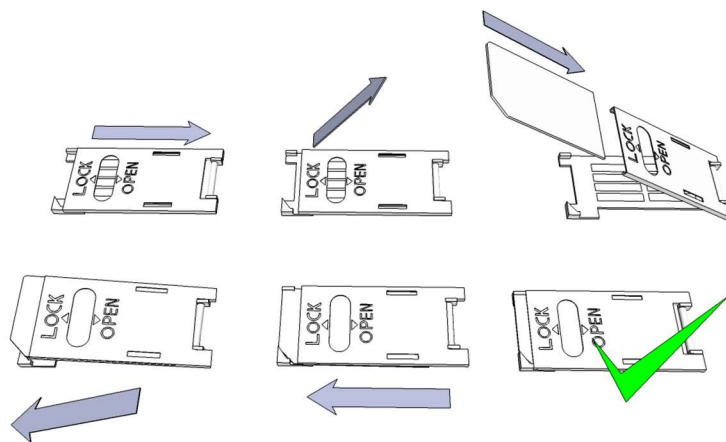


Figure 4. Inserting a SIM card

Installation guide

Technical parameters

- Power Voltage: 9-20 VDC
- Standby power drain: 80 mA
- Maximum power drain: 1000 mA
- Relay output load: max. 30V / 1A
- GSM module type: SIMCOM A7672E
- GSM frequencies: TDD-LTE B38/B40/B41, FDD-LTE B1/B3/B5/B7/B8/B20, WCDMA/HSDPA/HSPA+ B1/B5/B8, GSM/GPRS/EDGE 900/1800 MHz
- SIM card usage: brand free GSM module
- GSM antenna type: SMA connector (comes with package)
- Size: 110 x 68 x 25 mm, packed: 132 x 128 x 32 mm
- Operation temperature: -20°C - +50°C

Installation steps:

1. Perform a field strength measurement with your mobile phone. The field strength may need to be increased in the desired location. In this case, changing the module's location is recommended before installation.
2. Do not install the device in case of any electromagnetic interference may occur, e.g. near electric motors, right next to the alarm transformer. Do not install in a wet or high-humidity location.
3. Connect the antenna, which can be fixed with an SMA connector. Use an antenna with a higher gain in case of poor field strength. You can also improve the field strength by changing the location of the antenna. **Do not place the antenna under any metal casing: can significantly reduce the field strength.**
4. **Disable the PIN code request, voicemail and call notification on the SIM card.** Vodafone: To disable call notification and voicemail, send XHP or XHE as an SMS to 1270. Telekom: To disable the call notification and voicemail, send the texts -HANGPOSTA and -HIVASERTESITES as an SMS to 1430. YETTEL: Cancellation of services is possible by calling 1220 or the Yettel internet customer service. The newly purchased SIM card sometimes needs to be activated (usually, an outgoing call must be made). Check the card's validity, in the case of a top-up card rate package, the balance and its usage options (e.g.: it can only be used for calls).
5. Before inserting it into the module, it is advisable to check the correct operation of the SIM card by inserting it into a telephone device. The display of the calling number must be checked on the card from the calling side and the receiving call side. This function must be enabled separately for some service providers.
6. Insert the SIM card into the module card slot.
7. The connectors should be connected according to the circuit diagram: take care to design the appropriate contact protection.
8. If you need some help, ask for an expert electrician.
9. Check that the power supply is sufficient for the module. Pay attention to the polarity. If the polarity is reversed, the module will not start and may damage it.
10. After that, the device can be connected to the power supply.
11. If you bought a battery, connect it to the device. **Only use the external battery available from us for the backup power supply of the module!**
12. After applying power, the red LED will light up, which indicates that the device will start contacting the **GSM network (it can take up to 1 minute).**
13. If the red LED goes out and the green LED flashes, the module is operational and has logged on to the network. **The number of flashes indicates the value of the GSM field strength.**

The power supply must be connected for programming!

LED signals

Signals give essential information of the module, of GSM signal strength and the actual error codes. By blinking we mean flashes between two longer pauses.

- A STATUS LED (green) gives feedback of signal strength value based on the chart below:

Flashes	Signal quality
1	Bad
2	
3	Decent
4	Good
5	Excellent
LED lighted	GSM connection rejected

- An ACT LED (red) lit means the initiation process at startup. At this phase module performs the initial checks. During operation this reflects an event (SMS or voice call).
- If the red and green LED are lighted simultaneously it tries to communicate an error that can be identified with the chart below:

Flashes	Error code
1	Initializing
2	Bad GSM module
3	SIM card not inserted
4	SIM card locked with PIN code
10	Modem mode

- Alternating flashes of red and green LEDs means the "reset" function of the tamper input. This way the GSM module can be reverted back to its original factory settings.
- To switch-off the **modem mode**, open the **module status** window in the **Services menu**.

Tamper – Factory reset

The tamper button is a microswitch located on the device. In the case of our Pro series products, it protects the module and its cover against sabotage. Its setting options are the same as any input setting. The tamper button should be interpreted as closed by default when using a cover. So, removing it will trigger an alarm.

- Pressing and holding the button before switching on, then releasing it after 3 seconds switching on, resets the settings of the GSM device to factory values.

Connecting the module (PC)

Connection procedure - USB adapter

1. USB adapters cannot provide enough power to the GSM module for programming, so connect the power supply.
2. Connect the USB adapter to the corresponding connector of the module.
3. Using a USB extension cable, insert the USB connector of the adapter into any USB port on the computer.

4. ATTENTION! For Windows OS, the system will offer to install the driver automatically. It is IMPORTANT that you do the installation using the USB driver, **not** the system.

Manually install USB driver in 10 steps

- ✓ Get the required driver from our website
 - ✓ Use the 32-bit or 64-bit driver compatible with your system for the rest of the installation
 - ✓ This can be determined in the menu item Control Panel → System
 - ✓ Connect the USB programmer to your computer
 - ✓ Turn off the automatic installation option offered by the system.
 - ✓ Open the Device Manager window under the Control Panel → System → Hardware tab.
 - ✓ In the window that appears here, look for the unknown device that appeared among the other devices (which in this case is the programmer itself,; it will appear as a USB Serial port). If you do not see such a device, start the "Search for hardware changes" process from the top menu bar of the window.
 - ✓ By double-clicking on the unknown device, the properties of the device will be displayed
 - ✓ Start the driver update function
 - ✓ In the resulting installation window, choose to manually determine the location of the driver, and then select the directory for the 32-bit or 64-bit version of the driver.
 - ✓ Click on the next button and start the installation
5. Open the device manager (by clicking System → Properties → Hardware tab → Device Manager)
6. Find the device labeled USB Serial port (COM...) under Ports
- 7.If it is necessary to reinstall the driver, then by clicking on the device here, first click to remove the driver, then proceed as described in the previous step.
7. Open the programming software
8. You must set the value in the bracket [USB Serial port (COM...)] in the programming software.
9. If this was successful, the module's name will appear next to the Start button after the connected GSM module.

Connection with Bluetooth adapter

1. Connect the Bluetooth adapter to the GSM module and then power it on.
2. Activate the Bluetooth connection option on your programming device (PC and Android/iPhone mobile phone).
3. Search for the programmer using your Bluetooth-enabled device.
4. After finding the adapter, use the default code 1234 to pair your computer, smartphone, or tablet with the adapter. After pairing, the programmer can be found under the name WiFi/BT Programmer.
5. Find the COM port identification number of the connection (Usually found under Properties ->Hardware tab)
6. Also set the Port number on the programming software (PC) or select the automatic port search option.
7. Connect to the GSM module.

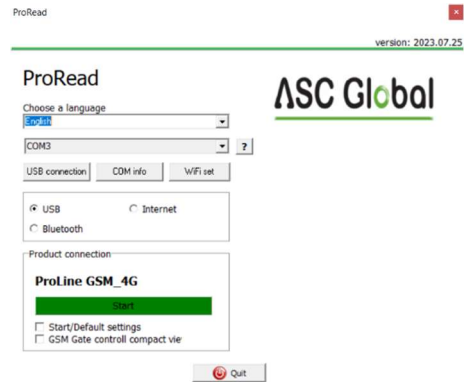
In any case, you can confirm that a successful connection has been established by the name of the connected GSM module appearing next to the Start button of the programming software, and the green LED on the programmer starting to flash.

If the connection is established between the adapter and the computer or mobile phone, you can start configuring the module.

- By clicking the **Start** button, the module settings will be read after connection
- Clicking on the **Start/Default** config button resets the module to the factory default value (after confirmation)
- In the case of an Android application, the settings are always read after connection

Programming using PC software

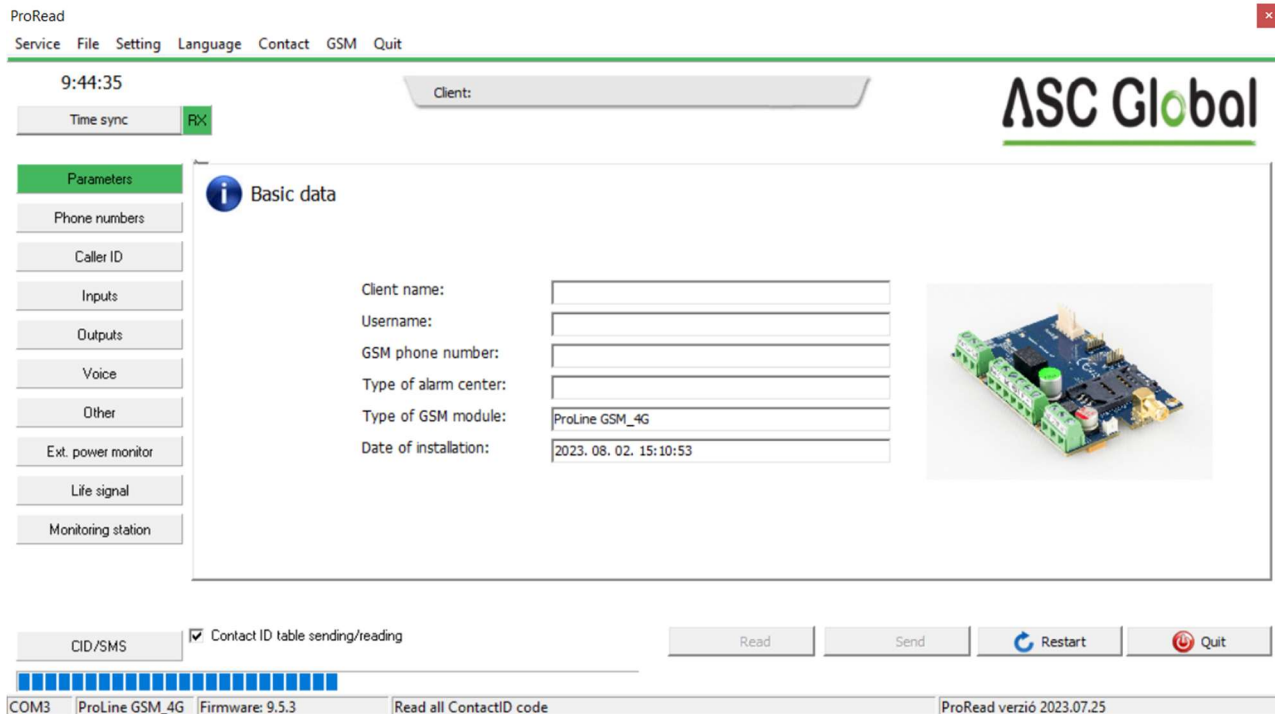
- For PC settings and programming, use our ProRead software: you can download it for free from our website.
- The program can be run independently and does not require installation. • Compatible with Windows 7, 8, 10 and 11 operating systems
- Make sure you are always using the latest software!
- If newer software is used, updating the module before the first configuration is recommended.



Connect to the module

- Choose whether you want to program the module using a USB or Bluetooth connection.
- In the drop-down list below the selection of the program language (COM9 in the picture), you can choose which port you want to communicate with the module's programmer. You can find this value (in case of Windows operating system) under the device manager -> COM port by selecting the connected programmer. If you can't find it, press the COM info button to jump to the Device Manager, where you can find the required COM port.
- In case of successful connection, you will see the name of the module on the product connection panel.
- By clicking the start button, the software connects to the module and reads its contents.
- By pressing the Start/Default config button after connecting to the module, it will be reset to the factory default values (The software will ask for this before the operation, if this function was not previously disabled).
- If you do not want to connect a module yet and are only interested in the setting options, you can freely choose which module's setting options you want to learn about in the Products - trial window. At the same time, it gives the possibility to program the module in advance.

A program szerkezete



Elements of the top menu bar:

- *Maintenance:* Basic menu items with the menu items required for module maintenance (e.g.: to view the status of the module, read the event log, deactivate the SIM PIN code, update the firmware)
- *File operations:* Save and load settings
- *Descriptions:* View wiring diagram
- *Settings:* Set window size, Disable confirmation questions

- *Language:* Select language (available languages: English, Hungarian, Italian, German, Slovak, Slovenian, Dutch, Czech, Finnish, Romanian)
 - *Contact:* Our contact details, e-mail addresses, phone
 - you can use tabs to switch between windows with different setting options
 - By clicking the **Clock Synchronization** button on the main page, the module synchronizes its internal clock with the computer clock.
 - After the device is connected to the GSM network, this synchronization will be performed automatically through the service provider (if the network supports this service).
 - The Read and **Send** button at the bottom is used to read and change the configuration on the module. These buttons are available everywhere except the Control phone numbers tab.
- It is advisable to use the **Send** button after all important and larger settings.
Before submitting your settings, please ensure that it does not cause unexpected alarms. Before doing so, it is recommended to view the current status of the module (Maintenance tab)

ATTENTION! After connecting, **always read the settings first** if you want to change them. You can restart the module with the Restart button. **After monitoring, it is recommended to restart the device.**

The bottom menu bar:

- Number of communication port
- Name of GSM module
- Firmware version number
- Note about the current software operation
- ProRead software version number

Module status check

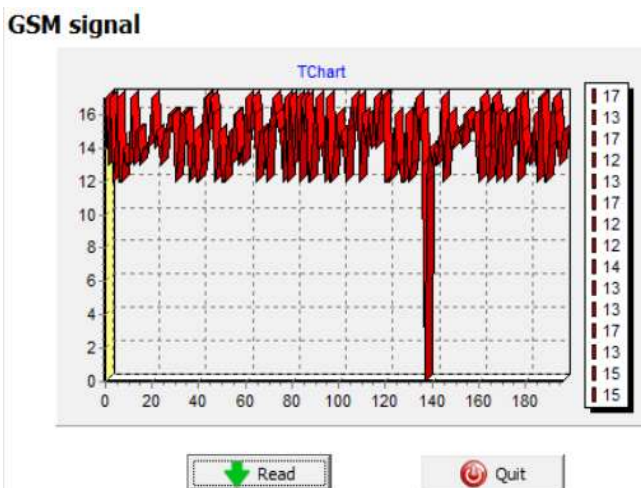
You can access the current status with the button **Maintenance** → **Display** module status.

When querying the status of the module, you can find out the following information:

- Status of inputs
- Status of outputs
- Tamper signal
- Indication of power failure
- Display of failure/event (e.g.: SIM card not inserted, SIM card locked with PIN code)
- Monitoring the process of sending Contact ID messages (for remote monitoring) (e.g. handshake status)
- GSM connection status (e.g.: Registered to network, Roaming, No connection, Connection refused)
- Current GSM field strength (updated in a few seconds)

GSM field strength indication

- You can display the graph shown in the picture about the state of the GSM field strength.
- You can display the GSM field strength with the button Maintenance → Display GSM field strength.
- Press the read button to read the values.
- The change in field strength is displayed in hourly resolution. The elapsed time must be read backwards accordingly
- The diagram is divided from 0 to 31 on the vertical scale, the value 31 means the best field strength.
- The figure can be enlarged as desired with the left mouse button.



Event log

Event log

Event Log [Read event log] [Read stop] [Export Excel] [Open CSV] [Quit]

	EVENT	DATE	GSM 0-31	GSM Network	Note / parameters
152	SMS Send OK.	2022.11.15. 12:51:22	28	Connected	+36704204008/ EasyLine 4G Rendben
153	GSM logged	2022.11.15. 12:51:21	28	Connected	IMEI:866011050725191 SW:09.4.7
154	SMS Send OK.	2011.01.01. 00:00:47	28	Connected	+36704204008/Stored: 1 Error: 0 GSM: 5 D: 0
155	Incoming SMS	2011.01.01. 00:00:43	28	Connected	+36704204008/ OK4SMSTEXT16=Back result*
156	Microcontroller START/RE	2011.01.01. 00:00:03	0	Not connected	
157	RESET No Signal	2022.11.15. 12:47:01	0	Not connected	
158	GSM sinal lost	2022.11.15. 12:06:28	29	Connected	
159	SMS Send OK.	2022.11.15. 12:05:08	29	Connected	+36704204008/ Bemeneti jelzes
160	Input 1.	2022.11.15. 12:05:00	29	Connected	
161	SMS Send OK.	2022.11.15. 12:04:54	29	Connected	+36704204008/Stored: 1 Error: 0 GSM: 5 D: 1
162	Incoming SMS	2022.11.15. 12:04:51	29	Connected	+36704204008/ OK4SMSTEXT10=Power OFF*
163	SMS Send OK.	2022.11.15. 12:04:02	31	Connected	+36704204008/Stored: 1 Error: 0 GSM: 5 D: 1
164	Incoming SMS	2022.11.15. 12:03:59	31	Connected	+36704204008/ OK4SMSTEXT10=Power OFF
165	OUT call (successful)	2022.11.15. 12:01:53	29	Connected	+36704204008
166	Phone RING	2022.11.15. 12:01:51	29	Connected	+36704204008
167	CALL	2022.11.15. 12:01:50	29	Connected	+36704204008
168	SMS Send OK.	2022.11.15. 12:01:49	29	Connected	+36704204008/ Bemeneti jelzes
169	Input 1.	2022.11.15. 12:01:45	29	Connected	
170	SMS Send OK.	2022.11.15. 12:00:04	29	Connected	+36704204008/ EasyLine 4G Rendben
171	OUT1	2022.11.15. 11:53:24	31	Connected	On
172	Incoming calls identified	2022.11.15. 11:53:23	31	Connected	+36704204008
173	SMS Send OK.	2022.11.15. 11:52:51	31	Connected	+36704204008/Stored: 1 Error: 0 GSM: 5 D: 1
174	OUT1	2022.11.15. 11:52:51	31	Connected	Off
175	OUT1	2022.11.15. 11:52:48	31	Connected	On
176	Incoming SMS	2022.11.15. 11:52:48	31	Connected	+36704204008/ OK4OUT1=00003
177	SMS Send OK.	2022.11.15. 11:51:57	28	Connected	+36704204008/Stored: 0 Error: 1 GSM: 5 D: 1
178	Incoming SMS	2022.11.15. 11:51:54	28	Connected	+36704204008/ OK4OUT=00003
179	SMS Send OK.	2022.11.15. 11:51:20	28	Connected	+36704204008/Stored: 1 Error: 0 GSM: 5 D: 1
180	OUT1	2022.11.15. 11:51:16	28	Connected	Off
181	Incoming SMS	2022.11.15. 11:51:16	28	Connected	+36704204008/ OK4OUT1=RUN
182	SMS Send OK.	2022.11.15. 11:50:05	31	Connected	+36704204008/Stored: 1 Error: 0 GSM: 5 D: 1
183	Incoming SMS	2022.11.15. 11:50:01	31	Connected	+36704204008/ OK4OUT1=ON
184	OUT1	2022.11.15. 11:50:00	31	Connected	On
185	SMS Send OK.	2022.11.15. 11:49:33	23	Connected	+36704204008/Stored: 0 Error: 1 GSM: 4 D: 1

You can open the event log with the Maintenance → Read log button:

- The GSM module can store the last 16,000 events in FILO (First in - last out) mode
- You will receive brief information about the event in the **Signal** column.
- In the **Date** column, you can see the time of the event (year, month, day, hour, minute, second resolution). **IMPORTANT!** The date will be accurate if the module's internal clock is synchronized with a computer clock or the GSM network. The latter is done automatically by the module as soon as it is connected to the provider's network.
- GSM 0-31** shows the value of the field strength when registering the signal. 31 is the highest value and 0 indicates no connection.
- Other extra information about the signal is entered in the **comment/parameter** column.
- When opened, the table is empty, to start reading, click the Read Event Log button.

- In terms of order, the most recent data will appear at the top of the list and the older entries will appear downwards.
- If it is not necessary to read the entire list, you can stop the reading by clicking the **Stop Reading** button.
- The read list can be exported from the software as a "csv" table (e.g. Excel), so it can be easily sent and stored for later analysis.

Read IMEI number

We can find out the IMEI number of our module by clicking on this menu item.

GSM Chip monitor

We can save the service technical details of the module's operation if the manufacturer's help is needed for troubleshooting.

PC security password

You can set a PC protection password to open ProRead, so unauthorized people cannot see the set data.

If the PC password is not known, the reset is only possible with the **"Hard reset"** function!

In the case of a hard reset function, all information set in the module is reset except for the control phone numbers. It is stored in another internal memory..

Firmware update

Due to our continuous developments, to access newer functions or even due to changes made by GSM network providers, it may be necessary to update the internal FW of the module.

IMPORTANT! Always ask a technical staff member for help regarding the need for an update.

The update is not necessary in all cases, in unjustified cases it can also damage the module!

Monitor + AT

Service function.

BUS Module

It allows you to set up a BUS expansion panel that can be connected to the module. (Under construction)

VoLTE

It enables a special VoLTE network connection

LTE Disable

We can turn off 4G network access, so the module will work on a 2G network.

LTE Enable

We can switch back on 4G network access. (On by default)

Module settings menu bar

Basic data

You can enter more important information about the installed module. In addition to the customer's name and installation address, you can also specify the phone number of the SIM card inserted in the module and the type of the connected alarm center.

- The entered data is stored on the module
- Completing it can be useful in case of maintenance performed later.

Phone numbers

In the phone numbers menu, you can enter the numbers to which you want to send SMS and/or voice messages. The numbers entered here must be in international format for reliable operation. (Ex.: +36301234567 or 0036301234567)

- You can enter up to 8 phone numbers to be notified.
- You can select that numbers in other sections of the programming software.
- You can also edit the list here via SMS thanks to the command "TELx=Telephone number", where "x" denotes the serial number of the phone number you want to edit.
- (Example: 1234TEL1=+36301234567, 1234TEL2=+36304564323)

You can read more about SMS commands on page 17. After the modifications, select Submit to save it.

Enter control phone numbers

- In the Control phone numbers window, you can specify which numbers can control your outputs.
- Phone numbers can be stored in the module's internal memory (up to 1000), and you can save additional numbers on the SIM card inserted in the module. The phone numbers on the SIM card can only be read with ProRead, we do not recommend using it for output control.
- If internal memory is used, the module will be independent of the memory content of the inserted SIM card.
- Before editing the list, always read the contents of the memory using the Read numbers from memory button. To save, use the Write numbers to memory button.
- Entered phone numbers must be in international format. Here, due to the length of the number, +36 is recommended (e.g.: +36301234567).
- It is also possible to save, edit and open stored numbers (from a .csv file).
- You can also assign phone numbers to specific outputs.
- You can also change the list using an SMS command using the commands ADD=Phone number (add) and DEL=Phone number (delete).

(Example: 1234ADD=+36301234567, 1234DEL=+36301234567)

You can read more about SMS commands on page 17.

Input configurations

The GSM module has "dry" contact inputs. Before reviewing settings examine input wiring possibilities in the picture below. The four outputs can have individual settings

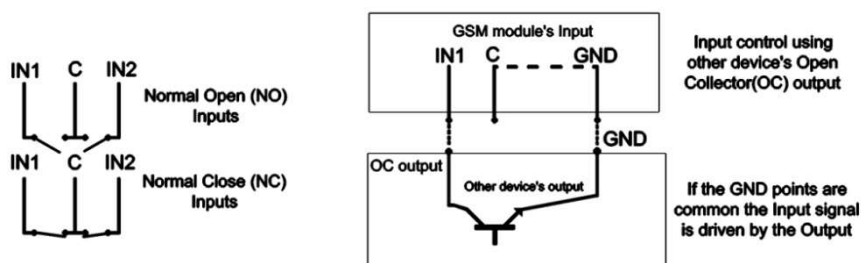


Figure 5. Normally Open (NO) and Normally Close (NC) wiring

You can set on this tab if there is an alarm event caused by short or open circuit on an input to which phone number you would like to send SMS or voice message notification. It is possible to send both notifications to the same phone number

On this page, you can choose which phone numbers you want to be notified in the form of an SMS or voice message if there is a short circuit or disconnection that triggers an alarm at the given input. It is even possible to send both notifications to the same phone number.

You can choose how the input should work in input type panel:

- 00/Not used: the unused input can be switched off, so that no disturbing signal can be accidentally applied to it.
- 01/24h normal input: 24-hour, permanent input, independent of arming status.
- 02/Reserve: Option reserved for later development purposes
- 03/Central input: input that sends an alarm only when the module is armed.
- 04/Central delayed input: when armed, this input starts a countdown (can be set on the "Other" tab), during which time we have the option of disarming.
- 05/Arming/Disarming: input for arming and disarming the module. This can only be controlled with continuous contact (e.g.: key switch). By default, a closed setting is recommended, in which case any break in the formed loop results in immediate arming. *Bemenetnél megadhatjuk, hogy alapértelmezetten normális állapotban nyitott (NO – Normal Open) vagy pedig zárt (NC – Normal Close) legyen.*
- We can also request an SMS notification about the status of the input. The reset SMS text can be entered on the other tab for the SMS text when the input is reset.
- In the case of signaling with a siren sound, the voice call message will be a 25-second siren sound, while if you also select the voice message, then only 5 seconds.
- When sending a voice message, you can send a pre-recorded voice or one specified by us via voice call (Sounds tab)
- It is possible to set the call not to be answered. In You can set the call to go unanswered. In this case the module will not initiate a new call regardless of whether the call was actually received or not.
- ProLine GSM does not have a DTMF acknowledgment function.
- For the first input, it can be set to send an alarm immediately when the module is switched on. In this case, the module will trigger an alarm immediately regardless of the arming state. This function is recommended if you want the module to trigger an alarm immediately.
- In the SMS text field, you can type the chosen message up to 32 characters.

It is possible to modify the inputs via SMS command with the following parameter:

t: 0 → switched off 1 → 24h normal 2 → backup 3 → alarm normal 4 → alarm delayed nn → NO or NC
 eeeeeee: Other parameters: 1.e=1 → Message of reverting back 2.3=0 → Compulsory 0 3.e =1 → siren sound 4.e=1 → Voice message 5.e=1 → Monitoring station 6.e=1 → no need to pickup at call 7.e=1 → DTMF acknowledge (#) 8.e=0 → Compulsory 0

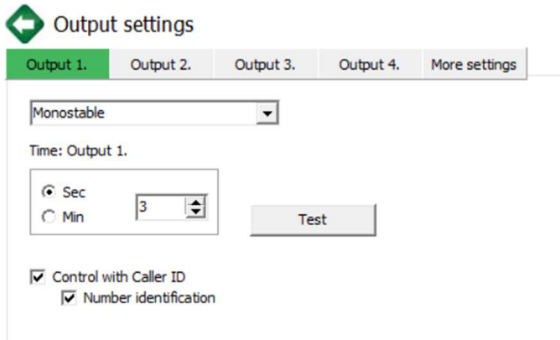
You can read more about SMS commands on page 17.

The **More settings tab has the following:**

Voice call parameters: specifying the **ringing and conversation time**, as well as the **number of call repetitions**. (SMS command: 1234RINGTIME=030 → ring for 30 seconds)

- By selecting the **circular call mode**, the module calls all phone numbers included in the given alarm list. The alarm call must be acknowledge according to the functions selected for the inputs.
- If it is not checked, the module will not call the other set numbers in case of the first successful call.
- We can specify the text of the SMS when the input is reset.

Adjusting outputs



On the **Output** window the output settings can be modified. The output can be monostable, (switches for the given period than reverts back to the original status), or bistable (it only will revert back to original state after a new controlling)

- Regarding the monostable operation switch, time can be set in seconds or minutes. This can be max 65,000 seconds.
- The unsuccessful SMS means output will be controlled

- Choosing GSM fault output will be controlled as long as GSM network reverts to its normal state
- Regarding the output controlling it can be set in case of controlling over an incoming call or it should be activated by an alarm event (ex. in case of 24/7 active input).
- When controlling with caller identification, you can choose between unidentified or identified phone numbers controlling option. By assigning the SMS notification when the output changes field, we can send SMS message about the first input change.
- Anybody can control the output with unidentified phone number controlling if he/she knows the phone number of the SIM card.
- In case the phone number identification is given, the controlling attempt from an unknown phone number - not in the list - is rejected. This greatly improves module safety regarding unauthorized controlling.p. 21



EXP RELAY

- EXP Relay provides additional 1, EXP Relay3 provides 3 additional outputs for the GSM module. Thus by using EXP Relay 3 the module can have 4 outputs.
- Only one expansion panel can be connected simultaneously. Expansion panels connect to the Panel labeled slot of the modules.



EXP RELAY3

- Both expansions contain low-voltage relayed output switcher.
- EXP Relay has NO/NC relay, EXP Relay3 has jumper adjustable output for NO or NC version
- Output settings can be modified by sending the following message:
- 1234OUTx → Selectable parameters: ON, OFF, RUN or switch to a certain time (given in 5 characters)
- example: 1234OUT1=00003 → controlling output 1 for 3 seconds
- You can find more information on SMS commands on page 17.

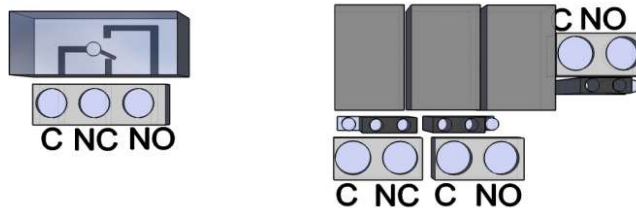


Figure 6: Exp Relay and Exp Relay 3

Setting the output is possible by sending the following message:

- 1234OUTx → Selectable parameters: ON, OFF, RUN or switching for a specified time (specified in 5 characters) example: 1234OUT1=00003 → Output 1 control for 3 seconds.

Voice Message Settings

In the Voice menu, you can choose which recorded voice message to play for different alarms.

- The purpose is to identify the module (e.g.: address, object name), if we expect notifications from several modules.
- It is also possible to record your own voice – red recondind button - using the microphone connected to the pc. The length can be a maximum of 8 seconds, or 15 seconds in case of an identification message.
- When recording, the sound is taken from the default microphone, so it may need to be adjusted before recording (signal level, amplification) to achieve the appropriate volume and quality.
- You can listen back to the recording with the play button.
- If you want to upload a pre-saved audio file, clicking on the text box next to the text defining the event will open a file operation window.

The format of the Sound file must match the format of the sound used on the GSM network. It must be an 8kHz sampled, 8-bit, one-channel PCM modulated file with a ".wav" extension.

If you have the desired sound, you can upload it to the module by clicking the Upload button.

With the "Write ALL" and "Read ALL" buttons, we can save these recordings and copy them back, or we can just save them to our computer, in case they are lost.

Other setting options

Other settings

General SMS

PC security code

Disable all number saved in SIM card

LTE Disable (compatible with DTMF)

Other settings related to the module are available here. The **General** tab has the following:

- To change the PC security code (an empty field disables the request for the code).
- Phone numbers stored on the SIM card can be blocked.
- Select expansion panel (output expander is currently available)
- Entry delay when using delayed input.
- Specify SMS text when the alarm is reset (SMS command: 1234SMSTEXT16=sms text*).

- To change the PC security code (an empty field disables the request for the code).
- Saving the output status, in the internal memory so that the output status can be read from there when the device is switched on.
- Input sensitivity (off: 10 ms, low: 100 ms, normal: 400 ms, medium: 1 sec, strong: 5 sec)

The **SMS** tab contains the following:

Other settings

General SMS

SMS redirection:

SMS security code:

Daily SMS limit: If = 255, then disabled

Max. retry on error:

SMS header: 120 character

Input sensitivity:

SMS forwarding to one of the 8 phone numbers to be notified. Attention! Never select the module's own phone number here!

- It is possible to enter the SMS programming security code here.
- Daily SMS limit: You can define how many SMSes the module can send in a day. This function can be turned off by setting the value to 255. If you set this limit to 0, the module will not send SMS!

- The maximum number of attempts in the event of an SMS sending error can also be set.
- Redirection of SMS received on the module to a given number to be notified. (SMS command: 1234REDIR=1...8)
- SMS header, the text of which will appear before the text of each SMS.
- Input sensitivity (off: 10 ms, low: 100 ms, normal: 400 ms, medium: 1 sec, strong: 5 sec)

Power supply monitoring setup

The GSM device is able to monitor its power source and send a notification in case of problems

- On the Power monitor tab the trigger voltage level can be set. Below the chosen level the module sends an alert.
- Our Pro series modules have battery connectors that can be used to connect the Pro Battery.

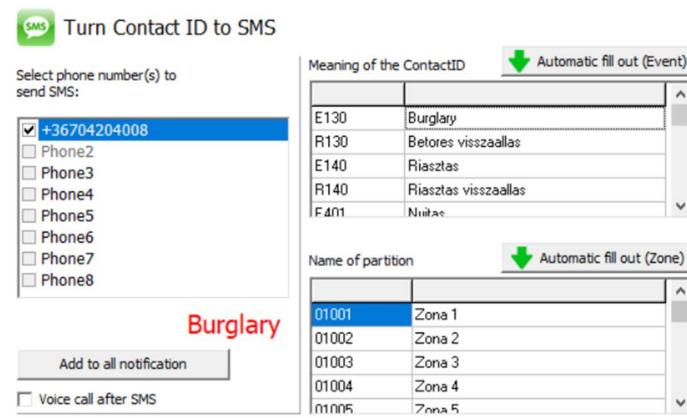
IMPORTANT! Modules without auxiliary power supply will switch off if there is no main power supply. The remaining function settings equals with the input settings.

Life signal sending setup

- By life sign sending the user can be sure about the flawless operation of the system.
- The life sign sending periods and also exact hour can be set for notifications.
- To use this feature the Send life sign check has to be selected!
- It is also important: the day of the first signal can be scheduled not to start on the setup day. The life sign activation day can be set.
- You can modify life sign sending with the following SMS command: 1234LIFETEST=cccssttttttt
- ccc → sending cycles/days (ex.: 007 days)
- ss → hour of sending on a day
- ttttttt → which telephone number will be notified (ex.: 00100000 → it will send the message to the 3rd phone number)
- You can find more information on SMS commands on page 17.

Own signal codes (Contact ID)

- The module can also transmit the signals generated by itself (e.g. signals coming to inputs, power failure) to remote monitoring.
- It is possible to change the codes of Contact ID and Zones.
- You can monitor the notification in the menu Maintenance → Display module status. Here, the sending of the current Contact ID message is also displayed in the codes window.



- If the transmitted messages are confused, then the state of the field strength and the position of the module's antenna must be checked in every way.
- Always keep the connected antenna away from the module and any other electrical equipment or wires!

On this page, you can set the protocol by which the information is transmitted. We recommend using TCP only in justified cases, much faster communication is achieved using UDP. In the latter case, you do not need to fill in the username and password fields.

- currently supported communication protocols: ENIGMA and SIA IP
- When entering the server address, you can also enter an IP address, or you can also enter a domain name (in this case, you need to set up a DNS server).
- We can also set up backup servers for more secure communication.

- You can set the time sending of the test report. If you wish, you can provide it with a unique Contact ID code.
- For the GPRS client code, it is possible to enter a preset code (specified on the remote monitoring page) or to enable the use of the code taken from the line using Tip/Ring.
- You can also enable the sending of your own signals (inputs, power monitor, tamper, life signal). You can enter the corresponding code on the remote monitoring tab.
- To use a GPRS connection, in the case of an alarm center, the center must dial the number 4444
- CID/SMS conversion setting
- The module can convert incoming Contact ID codes into SMS text and send them to designated phone numbers.
- The incoming event is only forwarded to designated phone numbers in the form of an SMS.
- The text of the event and the name of the zone can be changed freely for easier interpretation.
- We can also request a call notification after the sent SMS.
- It is recommended to fill in both code tables at the very first programming.
- Before selecting phone numbers, always select the cell of the selected event.
- To use this function, in the case of an alarm center, the center must dial the telephone number 5555. If we want to send all the messages to the same phone number, the center must dial 5555 + phone number (e.g.: 5555+36204441234)

Programming with SMS commands

The module can also be programmed using an SMS command. The text of the SMS must always start with entering the security code (you can change it at any time). The commands can be concatenated, but the maximum length of the message cannot exceed 160 characters.

The module (if possible) will send a reply SMS after each message. If you do not like this, use the NOSMS command or the RECALL command, after which the module will call to indicate successful programming.

Criteria for commands:

- cannot contain accented characters
- all characters of the command are uppercase
- commands must be separated by a space
- you can also use # instead of the equals sign.
- messages must always start with the security code, after which the first command comes immediately without a space (the second command must be preceded by a space).
- the SMS text command must always be closed with a * character

Command List:

Description	SMS command	x value	value after = sign	Example
editing SMS security code	CODE		new security code	1234CODE=4321
adjust clock	CLOCK		yymmddhhmm yy: year, mm: month dd: day, hh: hour mm: minute	1234CLOCK=2401200922 Date will be: 2024.01.20 09:22
save telephone number for caller identification	ADD		telephone number (with +36)	1234ADD=+36305551234
removing telephone number from caller number identification list	DEL		telephone number (with +36)	1234DEL=+36305551234
saving/editing telephone number for notification	TEL	telephone ordinal number from 1 to 8	telephone number (with +36)	1234TEL1=+36305551234

input setup	INPUT	input ordinal number	<p>tnneeeeeeee t:0 → switched off, 1→ 24 h normal, 2→ backup; 3→ normal alarm 4→ delay alarm nn→ NO or NC eeeee..: Other parameters: 1.e=1→ send SMS of status reversion 2.e=0→ compulsory 0 3.e=1→siren sound 4.e=1→voice message 5.e=1→remote surveillance 6.e=1→ no need to pickup when calling 7.e=1→DTMF confirmation (#) 8.e=0→ compulsory 0</p>	<p>1234INPUT1=INC00100000 First input is: -24 h normal -Normal Close - not sending SMS when reverts back to initial state - plays siren sound when calling - no voice message - no remote surveillance notification - when calling must be picked up -no need for DTMF confirmation</p>
Output setting	OUTCONF	output serial	<p>iiiiirhn iii→ if 00000 then it will be bistable, otherwise it is the duration of control in seconds r→ controlled when alarm h→ controlled when call n→=1→ without caller identification</p>	<p>1234OUTCONF=00003110 output is in 3 seconds monostable mode, it can be controlled by call and alarm and number identification is a must during a call</p>
Life sign sending	LIFETEST		<p>cccssttttttt ccc→ cycle time, how often to send message (ex.:030days) ss→ on the given day at what time (ex.: at 12 o'clock) ttttttt→ which telephone number to choose from 8. ex.: 00100000→ 3rd phone number, 01010000→ 2nd and 4th etc.)</p>	<p>1234LIFETEST=0071100100100 -in 7 days -at 11 a.m. -sending to 3rd and 6th telephone number</p>
Setting up notification sending	SEND	<p>1:1st input 2.: 2nd input 3.: 3rd input 4.: 4th input</p>	<p>sssssssvvvvvvv ssssssss→ selecting phone numbers for SMS notification (0 or 1)</p>	<p>1234SEND2=0010000011110000</p>
		<p>9.: tamper 10.: power source monitor 12.: life sign</p>	<p>vvvvvvv→ selecting phone numbers for call (0 or 1)</p>	

SMSTEXT	x	1.: 1st input 2.: 2nd input 3.: 3rd input 4.: 4th input 9.: tamper 10.: power source monitor 12.: life sign 16.: reverting text	SMS text ending with *. Text must not contain accented character!	1234SMSTEXT1= alarm text*
Forwarding inbound SMSs	REDIR		phone number serial from 1 to 8	1234REDIR=2
Setting ringing time	RINGTIME		from 001 to 255 (in seconds)	1234RINGTIME=030 rings for 30 seconds
Requesting module status information	INFO	Command		1234INFO
no SMS after SMS programming	NOSMS	Command		1234command1 command 2 ... NO SMS
output control	OUT	output numbers	ON→ switch on OFF→ switch off RUN→ controlling according to settings sssss→ controls the output for a limited time (in seconds)	1234OUT1=ON Output 1 switches on 1234OUT2=OFF Output2 switches off 1234OUT3=RUN Controlling output 3 1234OUT4=00003 Output 3 switches on for 3 seconds
Restarting module	RESTART	Command		1234RESTART

SMS command examples:

1st message: input setup and selecting 3rd telephone number for notification. Sending SMS and voice message to the 3rd number.

```
5384TEL3=+36201255335 CLOCK=1401200922 INPUT2=4NO00100000  
SEND2=0010000000100000
```

SMS text is the following:

5348 → SMS security code, every new SMS can be started with this code (to change it use the CODE command. Default code: 1234)

TEL3→changing 3rd telephone number for notification. Give the number in international format.

CLOCK= change the date to the following: 2014.01.20 09:22

INPUT2→→ setting 2nd input to the following: delayed normal open input that sends siren alarm when there is an event.

SEND2→→second input sends SMS and voice message to the 3rd telephone number

2nd message:

- to modify the SMS text of the second input
- output and life sign message setup and
- saving an output controlling number for controlling
- finally modify the SMS security code

**5384=SMSTEXT2=second input alarm" OUTCONF1=00003010 ADD=+36705553456
LIFETEST=007123000100000 CODE=2345**

SMSTEXT2=→modify SMS text of second input. No accented characters!

OUTCONF1=→ output setup: monostable for 3 seconds with caller identification

ADD=→Adding telephone number to caller identification

LIFETEST=→sending life sign weekly at 12:30 to the 3rd telephone number

The module LAN Settings

In the alarm panel to the monitoring station phone number please write 4444 and the communication should be Contact ID.

Settings in the alarm panel/monitoring station setup:

- Contact ID communication
- Dialing number (main phone number of the monitoring station): 4444 (LAN and GPRS)
- The number of Contact ID transmissions should be increased to 16

The ProLine 4G communication channels are:

1: LAN (network setting true the LAN connector, monitoring station settings in the ProRead software)

2: GPRS (all settings in the ProRead software)

If you make the LAN connection you can setup the LAN functions. In any case, it is worth entering the LAN module to change the default passwords (WEB password, WIFI password)

Default passwords:

WEB connection: admin: **user** / pw: **pass**

Wifi connection: network: **Proline_4G_(ProLine 4G_mac_address)** / pw: **12345678**

1. LAN module configuration: (login using DHCP)

- Connect the ProLine 4G LAN to the LAN network
- Start proline.local in any WEB browser on the same network
- Log in with a password and then make the settings

2. LAN module configuration with DHCP, but on FIX ip address: (login using DHCP)

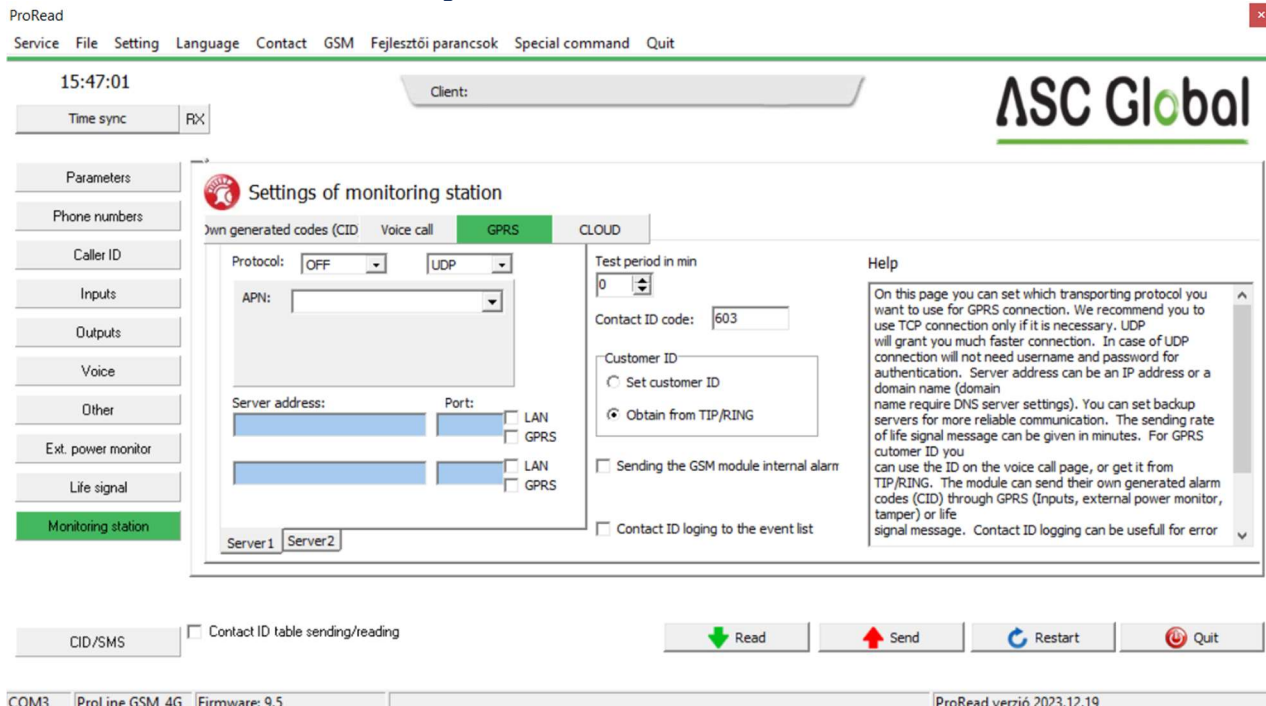
- Connect the ProLine 4G LAN to the LAN network
 - Start proline.local in any WEB browser on the same network
- Log in with a password, then set the IP address

3. LAN module configuration Without DHCP

- It must not be connected to a LAN network, the LAN connector **must be unplugged**
- Search for the Proline_4_MACAdr network with WiFi and then connect to it
- Start proline.local in any WEB browser on the same network
- Log in with a password and then make the settings (you can enter the IP address here)

Monitoring station setup

Choose on the left side the Monitoring station menu



If you send the CID via LAN you need to choose the:

Protocol: Off/Enigma/SIA IP; UDP/TCP; (if OFF, the given server will be switched off.)

If you use **only the LAN** do not fill out the APN it is for the GPRS communication. The LAN settings were made on the LAN connection.



Server address and port is the monitoring station receiver data. Backup server to the same monitoring station is the 2nd server address and port.

Server address / server port, if the 2nd line is not entered, there will be no backup IP address.

Server address: Port: LAN GPRS

If you want to send the CID parallel to two different monitoring station, then you set it in the Server1 and Server 2.

LAN GPRS

Server1=monitoring station1; Server2=monitoring station2

Server1 Server2

LAN settings are made. You can connect the LAN to the ProLine 4G, turn off the ProRead software and disconnect the USB from the ProLine 4G. ☺

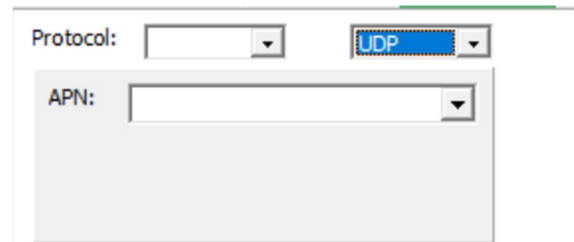
GPRS setup:

Please make the same steps until to the monitoring station settings functions.

Give the APN of the GSM network to the APN field:

APN: Enter the GSM GPRS APN.

If you do not enter anything, the GPRS transmission will be switched off, i.e. only LAN transmission will be available on the given server.

A screenshot of a software configuration window. At the top, there is a 'Protocol:' label followed by a dropdown menu that is currently set to 'UDP'. Below this is an 'APN:' label followed by a larger, empty text input field. The window has a light gray background and a thin border.

When the setup is ready for the GPRS communication, exit from the programming software, disconnect the USB programmer: Then, restart the ProLine 4G and use it. If you would like to test the GPRS communication please disconnect the LAN from the ProLine 4G. (otherwise the ProLine 4G will try to send the CID via LAN).

CID by phone call:

If you would like to send the CID via phone call than you have to set in the alarm panel the monitoring station phone number. When the given telephone number is called, a voice connection is established. The ProLine 4G will be a gateway and establishe the line for the communication.