NeoGSM-IP Control panel with GSM / IP communication.

Installation Guide (DTR).

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WARNINGS

For safety reasons, the device should only be installed by qualified specialists.
Before starting the assembly, read the instructions above, the connection operations should be carried out without the power supply connected.
Do not turn on the power of the device without an external antenna connected (starting the device without the antenna connected may damage the transmitting circuits of the phone and void the warranty!).
Do not interfere with the construction or carry out independent repairs.
Protect the electronics against electrostatic discharge.
In order to meet the requirements of LVD and EMC, the following rules must be observed: power supply, installation, shielding - according to the application. The device is a source of electromagnetic waves, so in specific configurations it can interfere with other radio devices).
The Ropam Elektronik company is not responsible for the malfunctioning of the GSM network and the consequences of possible technical problems.

WEEE LABELING

Waste electrical and electronic equipment must not be disposed of with normal household waste. According to the WEEE directive (Directive 2002/96 / EC) applicable in the EU for the used electrical and electronic equipment, separate disposal methods should be used. In Poland, in accordance with the provisions on waste electrical and electronic equipment, it is forbidden to put waste equipment together with other waste marked with the symbol of a crossed out basket. The user who intends to get rid of this product is obliged to hand over the above-mentioned to the point of collecting used equipment. Collection points are carried out, among others by wholesalers and retailers of this equipment and communal organizational units conducting business in the field of waste collection. Proper implementation of these duties is important especially when there are hazardous components in the used equipment that have a negative impact on the environment and human health.

The control panel power supply cooperates with a 12V DC lead-acid dry battery (SLA, VRL). After the period of use, it should not be disposed of, but disposed of in a manner consistent with applicable regulations.

(Directives of the European Union 91/157 / EEC and 93/86 / EEC).

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1. General description.

Thank you for choosing Ropam Elektronik products and solutions. We hope that our devices will meet your requirements and will serve you reliably for many years. The Ropam Elektronik company is constantly modernizing its products and solutions. Thanks to the update function, products can be enriched with new functions and keep up with the requirements set for modern property protection systems and home automation. We invite you to visit our website www.ropam.com.pl in order to obtain information about current versions. If you have additional questions, please contact us by phone or via email.

Properties.

The NeoGSM-IP alarm panel with peripheral devices is a solution that integrates the electronic burglary signalling system and building automation. The built-in GSM communicator allows remote control and control of the system. Thanks to the modular design, the system can be expanded and adapted to the changing needs of the user.

The control panel has unique functions in comparison to competing products and is the most functional system on the market in its class, among others:
- 2 independent zones with two types of waking: full or night,
- 8-32 programmable inputs, expansion by zone expanders, touch panels, Aero wireless system,
- 8-24 programmable outputs, expansion by output expanders,
- support for up to 4 touch panels (TPR-4x / 4xS series) or touch keyboards (TK-3x),
- built-in GSM modem and WIFI module (ETH EXP-LAN option),
- notifications of type: SMS / CALL / E-MAIL / PUSH,
- mobile application support: RopamNeo Alarm Control, for online surveillance via the Internet,
- IP communication: WIFI / LAN basic channel, GPRS backup channel (automatic switching),
- Internet control for the IP channel: support for permanent IP / domain or RopamBridge server (any Internet),
- Internet control for the GPRS channel: support for the encrypted RopamBridge server ('Internet router by ID'),
- 4 timers with a calendar, for control and automation,
- operation of temperature and humidity sensors (wired, wireless), 'Room thermostat' function,
- cooperation with the -ECO power supplies, energy and cost savings,
- advanced logic functions and software time relays, LogicProcessor,
- local programming via micro USB or WIFI / ETH,
- **remote programming** via the RopamBridge server (GPRS or IP),
- a version in the housing for the DIN rail is also available.

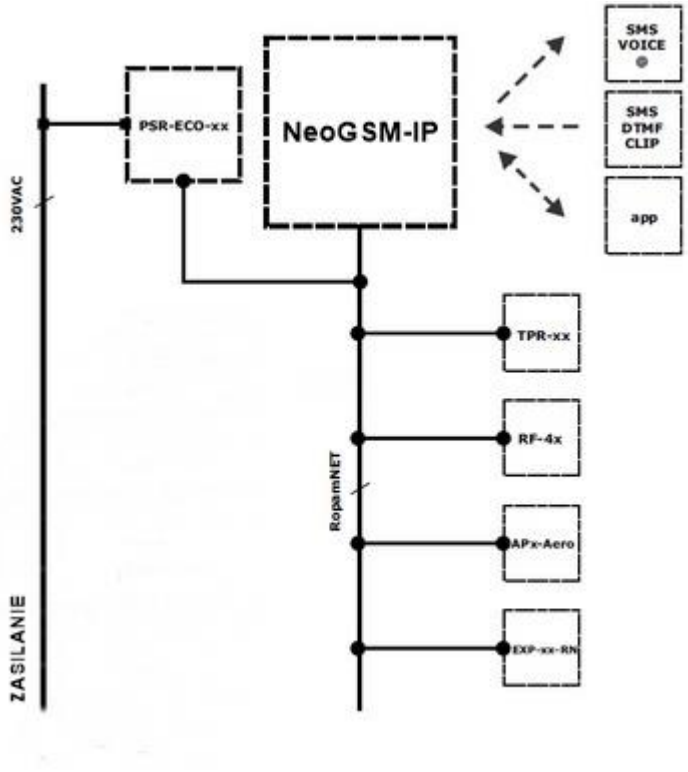
Appliance.

The alarm system built on the basis of NeoGSM-IP series alarm panels, TPR-xx touch panel and other additional devices is an ideal solution for residential buildings and small commercial facilities. Modern design, proven touch panel technology with a spectacular color LCD display is ideal for incorporation in most interiors and rooms. Intuitive and clear interface, I make controlling the alarm system has never been as easy as with TPR-xx. The touch panel in combination with the control panel allows you to build a fully functional alarm system.

General description.

The NeoGSM-IP control panel also allows you to create simple home automation applications with remote control via SMS / CLIP and Wifi / Ethernet.
Flexible functions also allow for use in systems that use binary signal control, temperature, visual verification is required and information transfer is based on SMS, VOICE, e-mail.

- building automation systems integrated with the NeoGSM-IP system,
- smart home, home automation,
- electronic burglary and assault signalling systems,
- signalling systems: fire, gas leaks, flooding, power supply status, UPSs,
- remote control and control of electrical devices,
- intelligent lighting,



Warnings.

Ropam Elektronik devices are part of a full alarm system, whose effectiveness depends on the quality and technical condition of all devices (detectors, signaling devices), cabling, etc. included in the system. The user is obliged to periodically test the operation of the alarm system. It is necessary to check whether the control panel reacts to the violation of individual detectors (PIR, reed switches, etc.) or signaling devices (external and internal) and notifications. The detailed method of system control is determined by the installer that the system has designed. Periodic system maintenance is recommended (with device status check, back-up power supply, system operation, messaging, etc.).

Ropam Elektronik is not responsible for the correct operation of operators and GSM network infrastructure used for notification of alarm states and remote control. It is recommended to use

a GSM operator that guarantees coverage of min. two BTSs of a given system location with GSM communication.
We do not recommend using operators using national roaming!

In addition, it should be noted that services guaranteed by GSM operators are voice transmission services (VOICE) and not SMSs, that is why important information should be transmitted through voice calls and possibly accurate identification of the event takes place in an SMS (eg VOICE + SMS, CLIP + SMS).
In addition, we recommend using such services and subscriptions available on the market that guarantee correct operation (minimizing the human factor, eg blocked outgoing calls due to lack of funds on the account), allow full configuration of GSM bus occupancy (eg, exclusion of advertising services not available in services pre-paid). In addition, it should be noted that services guaranteed by GSM operators are voice transmission services (VOICE) and not SMSs, that is why important information should be transmitted through voice calls and possibly accurate identification of the event takes place in an SMS (eg VOICE + SMS, CLIP + SMS).

For e-mail transmission services, it is recommended to create an independent e-mail account (eg alarm@domena.pl) from a verified provider of e-mail accounts. Sharing data to an SMTP server from private accounts may result in access to these accounts by unauthorized persons.

Requirements for SMS, DTMF control.

To operate via SMS mobile phone, the smartphone must encode SMS: GSM or UNICODE alphabet other formats are not supported!

To control the DTMF phone, the smartphone must be able to generate DTMF tones during a phone call. A single DTMF code (pressing the sign) should last for a minimum of 0.5s.

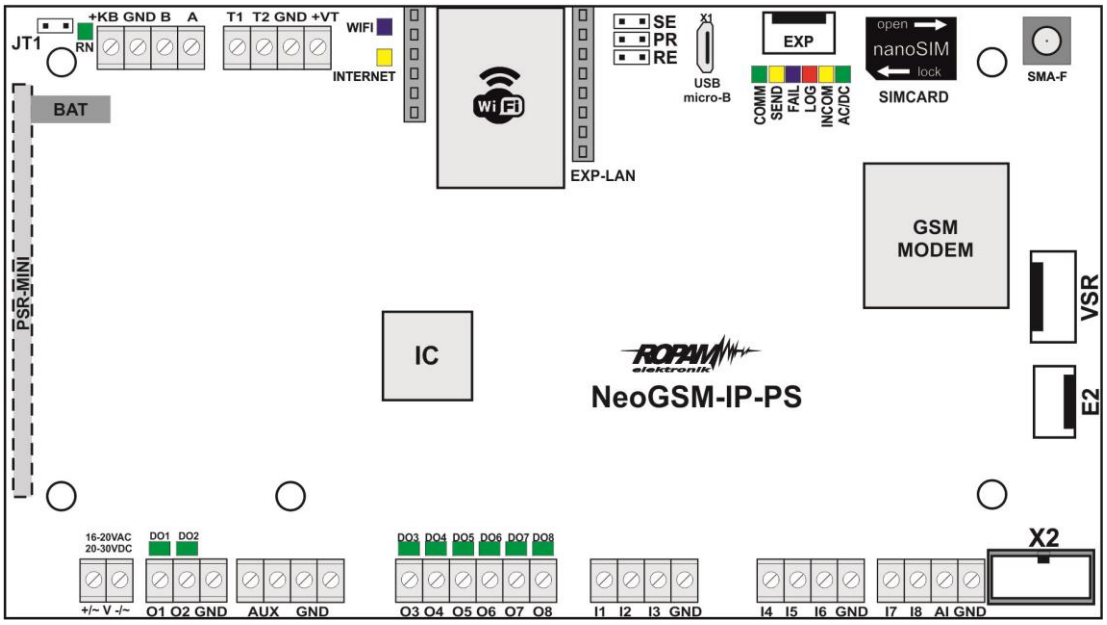
2. System description.

Device description.

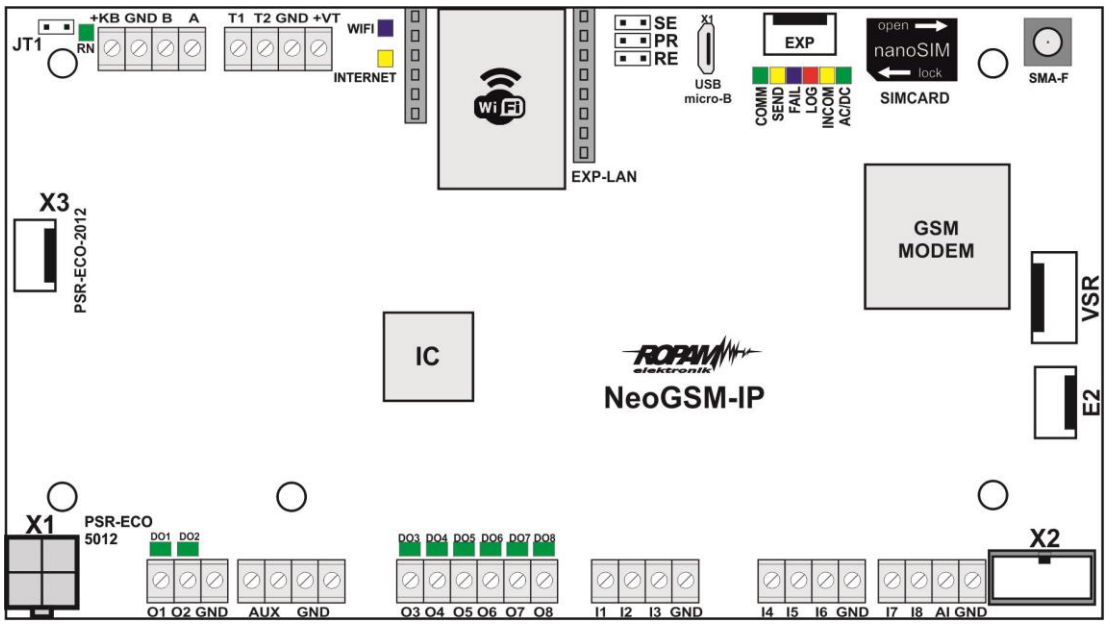
Device version.

Code	Description
NeoGSM-IP	Alarm control panel with GSM communication and building automation functions: SMS / VOICE / CLIP / GPRS / WIFI / E-MAIL, 12VDC *, PSR-ECO x1, TELx8, BIx8-32, BOx8-24, AI, TEMPx2, Aero x16, PCB, GPRS monitoring, ThermostatGSM, KeyGSM, LoggerTemp. LogicProcessor. (* To supply required supervised, intelligent power supply system: PSR-ECO-5012-RS or PSR-ECO-2012)
NeoGSM-IP-D9M	Alarm control panel with GSM communication and building automation functions: SMS / VOICE / CLIP / GPRS / WIFI / E-MAIL, 12VDC *, PSR-ECO x1, TELx8, BIx8-32, BOx8-24, AI, TEMPx2, Aero x16, PCB, housing DIN 9M GPRS monitoring, ThermostatGSM, KeyGSM, LoggerTemp. LogicProcessor. (* To supplyrequired supervised, intelligent power supply system: PSR-ECO-5012-RS or PSR-ECO-2012)
NeoGSM-IP-PS	Alarm control panel with GSM communication and building automation functions: SMS / VOICE / CLIP / GPRS / WIFI / E-MAIL, 12VDC *, PSR-ECO x1, TELx8, BIx8-32, BOx8-24, AI, TEMPx2, Aero x16, PCB, GPRS monitoring, ThermostatGSM, KeyGSM, LoggerTemp. LogicProcessor.
NeoGSM-IP-PS-D9M	Alarm control panel with GSM communication and building automation functions: SMS / VOICE / CLIP / GPRS / WIFI / E-MAIL, 12VDC *, PSR-ECO x1, TELx8, BIx8-32, BOx8-24, AI, TEMPx2, Aero x16, PCB, housing DIN 9M GPRS monitoring, ThermostatGSM, KeyGSM, LoggerTemp. LogicProcessor.

Description of connectors and components.



View: NeoGSM-IP-PS PCB.



View: NeoGSM-IP PCB.

System description.

Connector / element	Description / Function
X1	connector for connecting the PSR-ECO-5012-RS power supply; **power**
+V-	power terminal **NeoGSM-IP-PS = 16 ÷ 20V / AC or 20 ÷ 30V / DC ***
O1÷O2	controlled transistor outputs, high-current 12V / 1A, second load terminal: GND, (control of the continuity of the circuit, connection of the signaling device)
O3÷O8	controlled transistor outputs, OpenCollector (OC, GND / 0.1A) second load terminal: AUX (+ 12V)
I1÷I8	control panel inputs, programmed configuration: NO, NC, EOL, DEOL / NC, DEOL / NO, second GND input terminal
AI	analog control panel input, 0-10V, software scaling to any physical value (eg temp = ° C, RH =%)
GND	the "mass" terminal of the control panel, common for power supply, bus and inputs
AUX	power output for 12V / DC devices (12VDC / 1A), eg motion detectors, second GND power supply terminal
X2	connector for connecting EXP-I8 expander,
VSR	connector for: VSR-2, VSR-1 or VSR-1 audio synthesizer or AMR-1 audio module or VAR-1 gateway
Z1	SMA antenna connector, for connecting the antenna,
SIMCARD	connector (slot) for mounting the SIM card (vertical),
EXP	communication interface for additional (local) modules,
USB Micro (X4)	Micro USB connector, for programming and connection to the control panel,
SE	jumper for starting the service mode via USB Micro,
PR	jumper for running software updates via USB Micro,
RE	jumper for resetting the control panel to factory settings,
T1-T2 **GND** **+VT**	connector for connecting temperature sensors of the TSR-1-xx series (T1-T4 connector addresses the number of the sensor / thermostat in the system), the supply of temperature sensors must be connected to the connectors: + VT-GND
+KB	power output for 12V / DC devices, dedicated to power touch panels (12VDC / 1A),
A **B**	RopamNET system bus connector (EIA-485), the principle of combining A-A, B-B, GND-GND,

DO1÷DO8	LED diodes indicating the status of O1 ÷ O8 outputs,
JT1	jumper for terminating the RopamNET bus (EIA 485) jumper on = terminating resistor on (120 Ohm) jumper removed = terminating terminating resistor (HiZ),
+ BAT -	12V battery connection connector (emergency power supply): + BAT (red) = '+' battery - BAT (black) = '-' battery (only NeoGSM-IP-PS)
MODEM GSM	modem, industrial phone GSM / DCS / EGSM
COMM	GREEN LED indicates communication with the GSM modem
SEND	YELLOW LED signaling the sending of SMSes, e-mails or voice call, (in programming mode, communication with a computer)
LOG	The BLUE LED indicates the GSM network level
FAIL	The RED LED indicates a fault (exchange of firmware in programming mode)
INCOM	YELLOW LED indicates reception of a call or text message
AC/DC	GREEN LED indicates the primary and emergency power supply
WIFI	BLUE LED indicates the status of the Wi-Fi network,
INTERNET	YELLOW LED indicates the status of the connection to the Internet,
RN	GREEN LED indicates the connection to the RopamNet.

Optical signalling of the state.

The control panel is equipped with optical signaling of states. There are LEDs on the PCD board that determine the operating status: messaging, communication with the PC, software version upgrade.

LED	*COLOR*	*SIGNALING OF CONDITION NORMAL*	*SIGNALING THE PROGRAMMING STATE*
COMM	Green	• short flashes every 1s. = correct communication with the GSM modem	• alternating blinking (wave); COMM-SEND-LOG-FAIL = change of firmware in the control panel (active communication)
SEND	Yellow	• sending SMS and voice notification, notification action is carried out in accordance with the scheme: NOTIFICATION by SMS -1 flash = sending SMS to NUMBER 1, ... 8 flashes = sending SMS to NUMBER 8, AUDIT NOTIFICATION	• it blinks every 1s. = connection to a service computer • blinking alternately SEND and INCOM = restoring copies of settings from EEPROM (configuration error checksum)

		- 1 flash = connection to NUMBER 1, ... 8 flashes = connection to NUMBER 8,	• alternating blinking (wave); COMM-SEND-LOG-FAIL = change of firmware in the control panel (active communication)
LOG	Blue	• a series of short flashes from 1 to 5 every approx. 2s = GSM network level status (1-min 5-max) • no flashing = phone not logged in to the GSM network	• alternating blinking (wave); COMM-SEND-LOG-FAIL = change of firmware in the control panel (active communication)
FAIL	Red	• status of the failure, the failure code is synonymous with the number of blinks FAIL diodes on the control panel board (series): 01 - poor network level, below 2 "lines" (RSSI <15) 02 - modem not logged in to the GSM network 03 - unsuccessful sending of SMSes in the series 04 - no connection to the GPRS monitoring station (ARC) 05 - no GPRS 06 - no communication with the GSM modem 07 - PIN code error (PUK lock) 08 - SIM error, no SIM 09 - required PIN card not logged in 10 - GSM jamming (jamming) 11 - no AC 12 - overload / short circuit of O1 output 13 - O2 output overload / short circuit 14 - no load on the O1 output 15 - no load on the O2 output 16 - AUX overload / short circuit 17 - overload / short circuit of the output + KB 18 - low DC power supply voltage (<11V) 19 - failure / lack of battery (<11V) 20 - EEPROM memory error 21 - overload / short circuit of the + VT output 22 - modem power failure 23 - FLASH memory error (serial) 24 - RTC clock chip error 25 - failure of the motherboard inputs 26 - internal error of the MCU microcontroller 27 - blocking of SMS / CALL / E-MAIL, exceeding 24h counter	• alternating blinking (wave); COMM-SEND-LOG-FAIL = change of firmware in the control panel (active communication) • **blinking simultaneously with the INCOM LED every approx. 1s - service mode**

INCOM	Yellow	• no light = no incoming calls to the control panel number • shines = incoming call, CSD or SMS to the control panel number	• shines = CSD modem connection to a remote computer • blinking alternately SEND and INCOM = restoring copies of settings from EEPROM (configuration error checksum) • **blinking simultaneously with the FAIL diode every approx. 1s - service mode**
AC/DC	Green	• lit = main power present 17V / AC or 24V / DC • blinks = lack of basic power supply, battery supply,	
WIFI	Blue	• no light = wi-fi connection off, • shines = AP access mode, • blinks = client mode,	
INTERNET	**Yellow**	• shines = there is internet, • no light = no internet,	
RN	Green	• blinks = sending data on the RopamNET bus,	

3.Installation and commissioning.

Basic requirements.

The system built on the basis of the NeoGSM-IP control panel, touch panels and other required elements are intended for assembly by a qualified installer, holding appropriate (required and necessary for a given country) permits and licenses to connect (interfere) 230V / AC installations and low-voltage installations. The devices should be installed in closed rooms with normal air humidity (RH = 20% - 90% max. Without condensation) and temperature in the range -10 ° C ... + 55 ° C. Before starting the installation, a load balance of the power supply should be prepared. Since the system power supply is designed for continuous operation, it does not have a power switch, therefore proper overload protection should be provided in the power supply circuit. You should also inform the user about the method of disconnecting the power supply from the mains voltage (usually by separating and marking the appropriate fuse in the fuse box). The electrical installation should be made in accordance with applicable standards and regulations.
When choosing the place where the control panel is installed, the communication module should be guided by the following criteria:
- GSM network coverage (the SIM card operator used for the module),
- availability and distance from sources of alarm / trigger signals (eg alarm control panel),
- availability or possibility of mounting in the immediate vicinity of the power source:
- room availability for third parties and sabotage attempts,
- maintaining a safe distance from sources of possible interference (eg 230Vac power buses - buildings, radio transmitters, etc.).
Czas podtrzymania podczas pracy bateryjnej. określa norma PN-EN 50131-6 wzorem:
Qbat = 1.25 * [(Id + Iz) * Td
where:
Qbat - battery capacity [Ah]
1.25 - factor taking into account the decrease of battery capacity due to aging
Id - the current collected by the receivers during the surveillance [A]
Iz - current drawn for the power supply's own needs [A]
Td - required length of supervision [h].

Comments:

- to meet level 2 of PN-EN 50131-6 standard, emergency power supply must ensure operation for a minimum of 12 hours (time Td).

System cabling.

The system wiring should be made with the use of low-current cables. In addition, it should be in accordance with the rules and standards, in particular this applies to the selection of the type and cross-section of cables, the distance from the 230V / AC wiring, etc.
The RopamNET system bus (EIA-485) should be made using:
• UTP, STP, FTP so-called twisted pair cable,
• YTSKY (optional) telecommunications (pairing) cables,
Signals and power supply should be run in one cable. If using shielded cables, the screen should be connected point-by-point to the PE circuit in the control panel housing.
The RopamNET bus must have a loop architecture and the terminal devices must have a 120Ω termination. **In the case of installations made in the star architecture, 2 pair of wire should be**

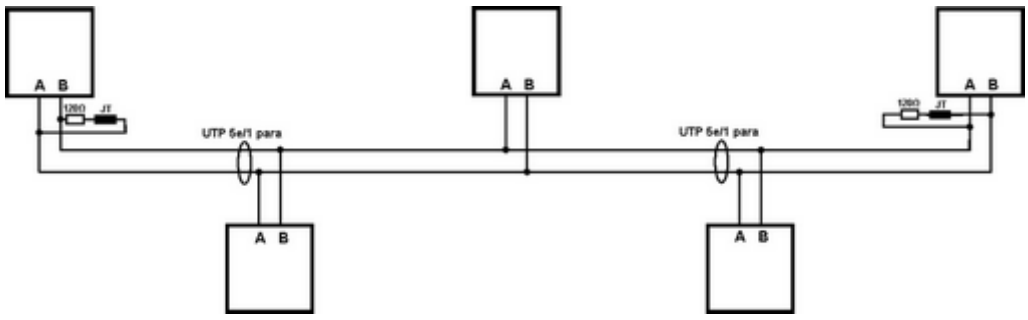
used and loops should be made, ie 1 pair will lead the bus to the device and the other will go out to the next and they should be connected in accordance with the art in the control panel.

The remaining connections should be made in accordance with the device manufacturer's instructions, and if there are no such cables, the following cables can be used:
• YTDY, YTLZ,
• UTP, STP, FTP,
• YTSKY,
• other low-current, compliant with regulations, standards, required cross-sections.

Connection of the RopamNET bus.

The system wiring should be made using low-current cables. In addition, it should be in accordance with the rules and standards, in particular this applies to the selection of the type and cross-section of cables, the distance from the 230V / AC wiring, etc.
The EIA-485 system bus should be made using:
• UTP, STP, FTP so-called twisted pair cable,
• YTSKY (optional), telecommunications (pairing) cables,
Signals and power supply should be carried out in one cable. When using shielded cables, the screen should be connected point-by-point to the PE circuit in the control panel housing.

The RopamNET bus must have a loop architecture and the terminal devices must have a 120Ω termination (JT jumpers installed).
In the case of installations made in the star architecture, 2 pair of wire should be used and loops should be made, ie 1 pair will lead the bus to the device and the other will go out to the next one.

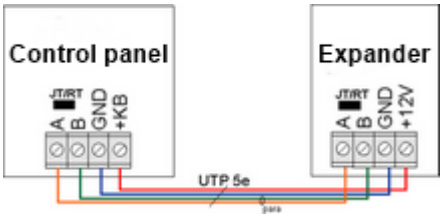


Devices with RopamNET bus:

Control panel	Expander
NeoGSM-IP	TPR-4
	RF-4x
	APx-Aero
	PSR-ECO-5012-xx
	EXP-I8-RN-xx
	EXP-O8R-RN-xx

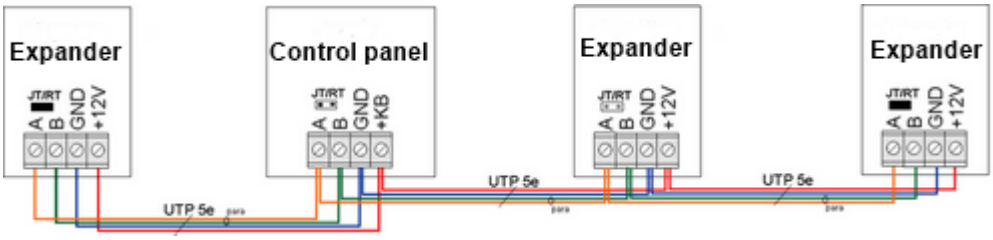
Installation and commissioning.

1. Alarm panel + one device on the bus.



Control panel	Expander
A	A
B	B
GND	GND
+KB	+12V
JT= ON	JT/Rt= ON

2. NeoGSM-IP control panel + three and more devices on the bus.



Expander	Control panel	Expander	Expander
A	A	A	A
B	B	B	B
GND	GND	GND	GND
+12V	+KB	+12V	+12V
JT/Rt= ON	JT= OFF	JT/Rt= OFF	JT/Rt= ON

3. Cross-sections of RopamNET bus cables.

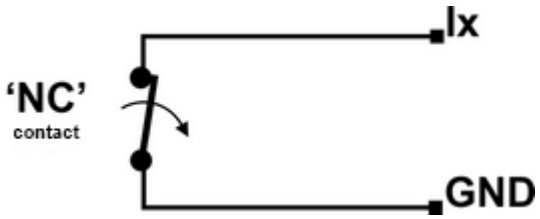
Recommended minimum cross-sections for UTP 4x2x0.5mm cable (0.5mm - ø conductor), with one device connected. The minimum supply voltage at the terminals of a given device can not be lower than 8V / DC (ie with a minimum battery voltage of 9.5V-10.0V, the drop on the power supply wires can not be higher than 1.5V).

Signal	do 150m.	do 300m.
A	2x0,5 (1 pair)	2x0,5 (1 pair)
B		
GND	1x0,5	2x0,5 (1 pair)
+KB	1x0,5	2x0,5 (1 pair)

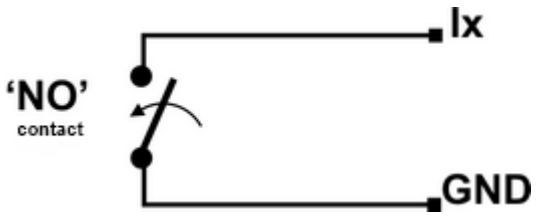
Connecting devices to inputs.

The system can operate up to 32 wired detectors.
The system input can work with any triggering devices available on the market, for example:
- motion detectors, magnetic with outputs: NC (normally closed), NO (normally open),
- alarm outputs: relay outputs (RELAY - potential-free contacts),
- open collector (OC, - BELL): power control "minus", potential outputs,
- anti-tamper contacts: signaling devices, casings, etc.

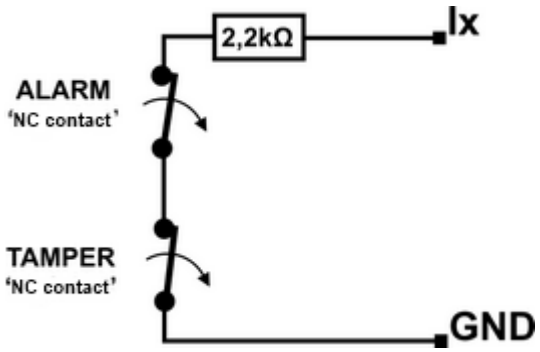
Device	Number of inputs	Max. quantity in the system
NeoGSM-IP-xx	8	1
EXP-I8	8	1
EXP-I8-RN-xx	8	2
TPR-xx	2	4



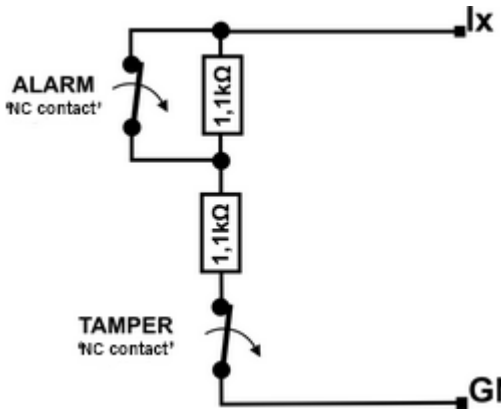
Input in configuration: NC.



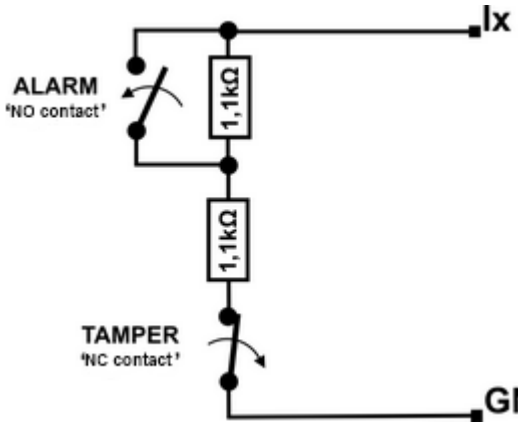
Input in configuration: NO.



Input in configuration: EOL (diagram with a tamper contact).



Input in configuration: 2EOL / NC (eg typical PIR motion detectors, magnetic detectors).



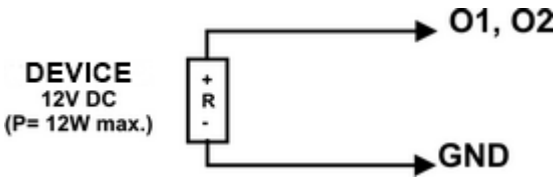
Input in configuration: 2EOL / NO (non-standard detectors with NO output).

Connection of devices to outputs.

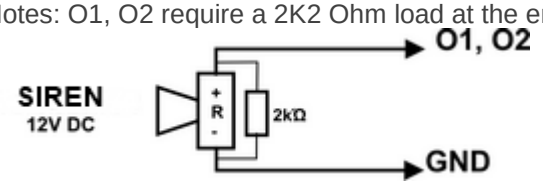
The control panel module has binary outputs (0/1) enabling connection of 12VDC signaling devices, 12VDC relays, and LEDs of other devices controlled by a voltage signal. Expanders and modules, depending on the version, have potential or potential-free outputs. The maximum operating parameters are determined independently for individual types of outputs and it is unacceptable to exceed them.

Device	Outputs type	Comments
NeoGSM-IP-xx	potential, transistor O1-O2: 12V / 1A O3-O8: type OC GND / 0.7A	O1- O2, outputs with full electronic protection and continuity control (connection of the siren).
EXP-O8R-RN-D9M	potential-free, relay O1-O8: 230VAC / 8A	Dedicated to control 230V electrical devices.
EXP-O8T-RN-xx	potential, transistor O1-O8: OpenDrain GND type / 0.7A	O1- O2, outputs with full OCP short-circuit protection, OLP overload protection and overvoltage OVP.
TPR-xx	potential-free, relay30VDC/1A	
RF-4	potential-free, relay	

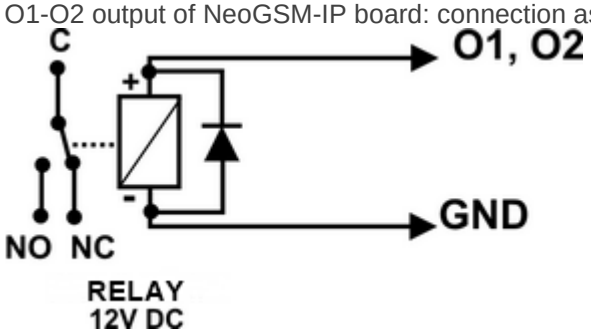
Device	Outputs type	Comments
	O1-O2: 30VDC / 1A potential, transistor O3-O8: type OC GND / 0.1A	



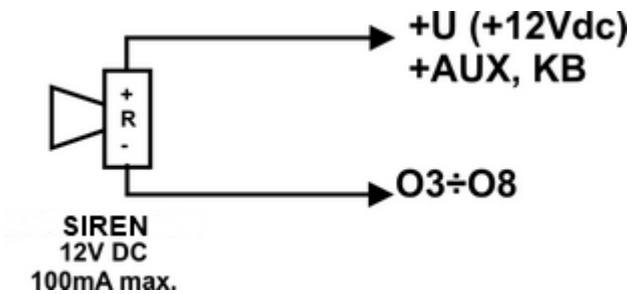
O1-O2 output of NeoGSM-IP board: connection of 12V DC siren (acoustic and / or optical).
Notes: O1, O2 require a 2K2 Ohm load at the end of the line for circuit continuity monitoring.



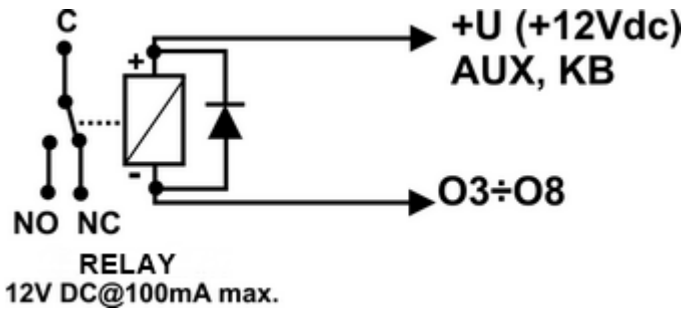
O1-O2 output of NeoGSM-IP board: connection as power supply, eg signaling device.



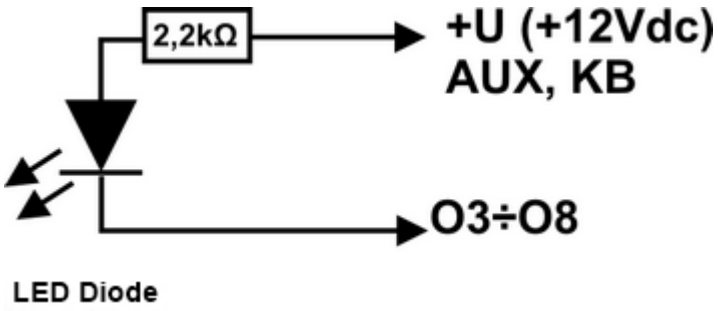
O1-O2 output of NeoGSM-IP board: connection of 12V DC relay.



O3-O8 output of NeoGSM-IP board: connection of 12VDC / 100mA signaling siren max. (acoustic and / or optical).



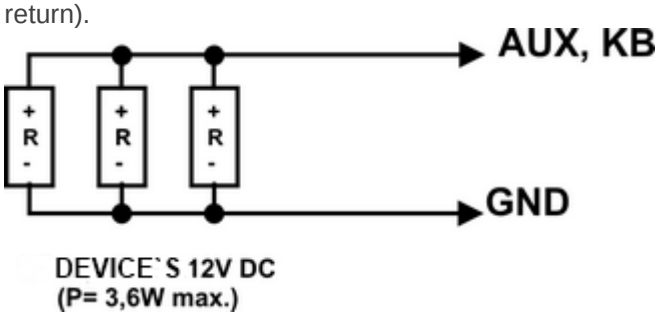
O3-O8 output of NeoGSM-IP board: connection of 12V DC relay, + V = AUX power supply.



O3-O8 output of NeoGSM-IP board: LED connection, + 12V power supply = AUX.

- **AUX,** power supply output + 12V / 1A (second terminal = GND) to power detectors, relays.
The output has an autonomous protection against short-circuit, overload and temperature (automatic return).

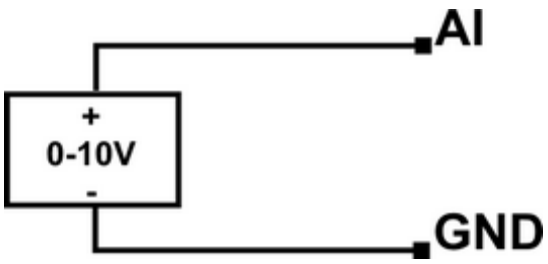
- **+ KB** power supply output + 12V / 1A (second terminal = GND) to power touch panels and system devices.
The output has an autonomous protection against short-circuit, overload and temperature (automatic return).



AUX output, + KB NeoGSM-IP board: connection of 12V devices power supply.

Connecting the signal to the AI input.

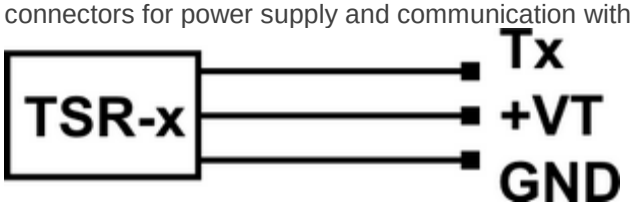
The analog input AI-GND is used to operate sensors, transducers with an analogue output 0-10. The input can be used to measure the DC voltage, e.g. via a voltage divider.
The reference potential for the AI input is GND, the mass of the measuring system must be connected to the GND NeoGSM-IP terminal. The input has the option of scaling to a physical value (two-point).



AI input: connection of a 0-10V voltage signal relative to common GND ground (asymmetric).

Connection of temperature sensors.

The system supports 2 temperature sensors, wired. On the NeoGSM-IP board there are dedicated connectors for power supply and communication with sensors of the TSR-1 series.

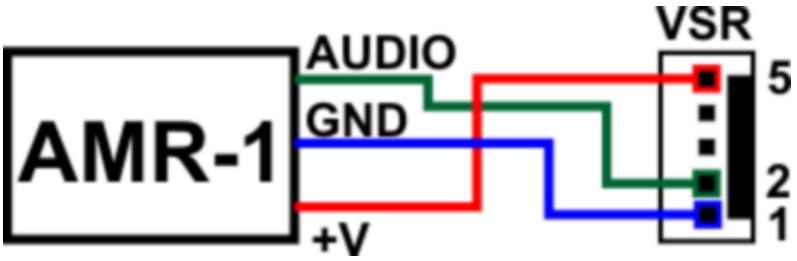


Connection of the TSR-1-xx sensor to the system, terminals Tx = T1-T2, port numbers address the sensor in the system.

Connection of a speech synthesizer, audio module.

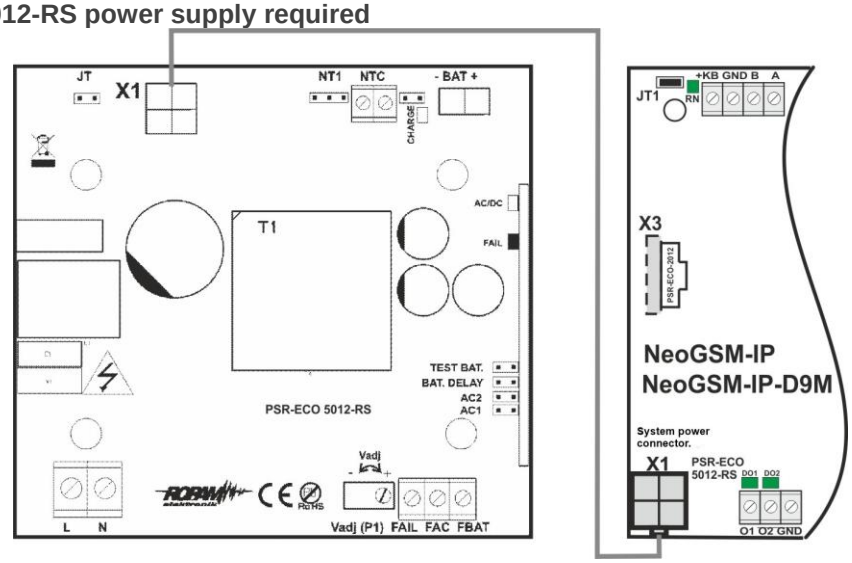
The control panel is equipped with a VSR socket for connecting the VSR-2, VSR-1 voice synthesizer or the AMR-1 audio module allowing the object to be listened to.
The speech synthesizer allows you to record and transmit a voice message in the event of an event in the system. Playback occurs automatically when you make a voice call. The message is played cyclically to end the connection. The speech synthesizer is connected directly to the VSR connector and after the power is turned on we record messages (built-in microphone). The message is remembered when power is lost (disconnecting the synthesizer). The synthesizer has a MINIJACK output for listening to the recording.
The AMR-1 audio module allows you to listen to the audio object in the event of an alarm or voice call (connections to the module from authorized numbers). To connect the control panel and AMR-1 modules or the + VSR-2 + AMR-1 control panel, use a 5-pin plug. The connection should be made according to the diagram using a microphone cable.

VSR	Description
1	**GND** – 0V, mass of power and audio signal
2	**AUDIO IN** audio signal input (microphone)
3	**T+** synthesizer triggering (+ 5Vdc)
4	**AUDIO OUT** audio signal input, (speaker)
5	**+12V** – power supply of a speech synthesizer or audio module

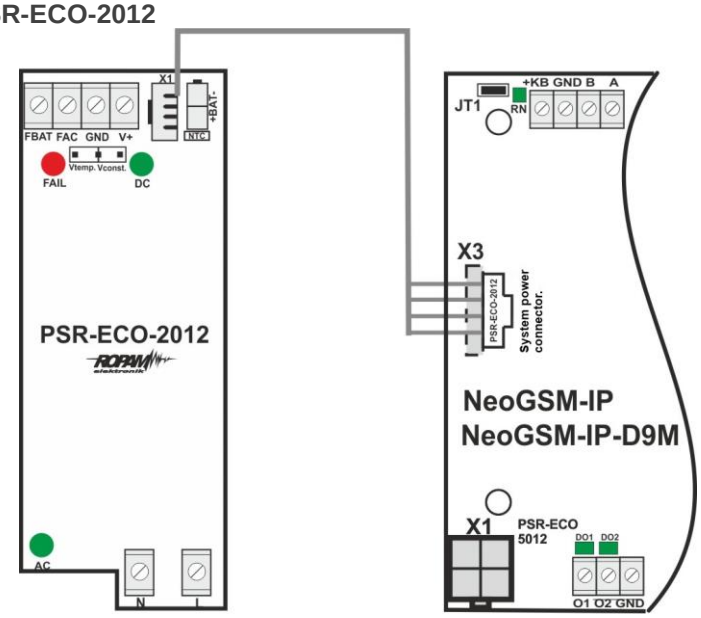


Connecting the power supply to the control panel.

The control panel is available in two power versions,
NeoGSM-IP:
- PSR-ECO-5012-RS power supply required

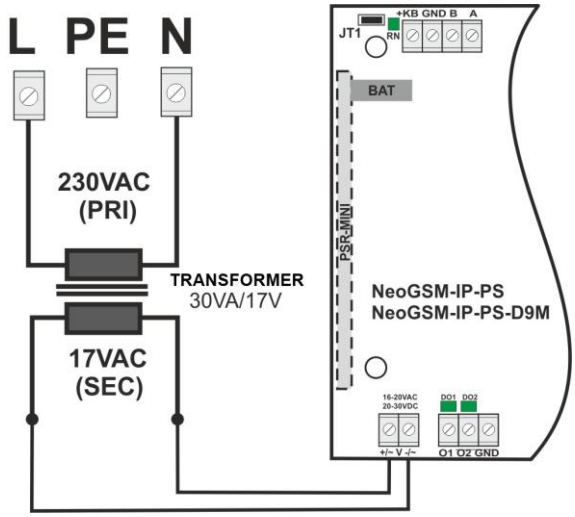


or power supply PSR-ECO-2012

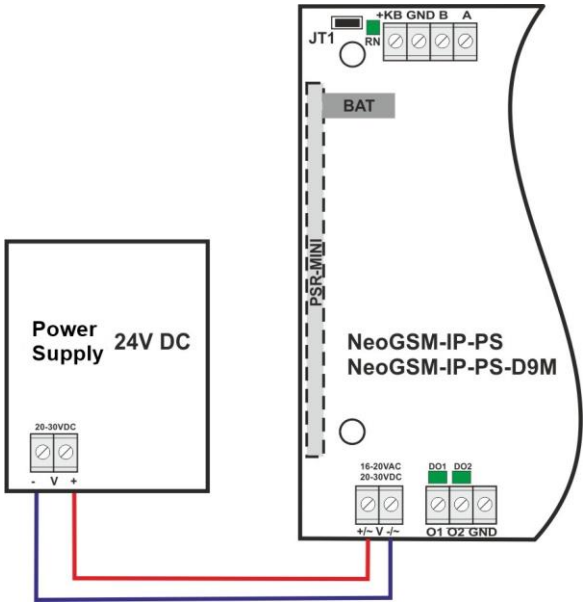


Installation and commissioning.

NeoGSM-IP-PS = 16÷20V/AC



or 20÷30V/DC



In the alarm control panel application, a supervised power supply must be used, ie: **NeoGSM-IP-PS or NeoGSM-IP + PSR-ECO-5012-RS / PSR-ECO-2012**.
The choice depends on the current balance of the system, temperature and working conditions, efficiency requirements.
If the system does not charge more than 1.5A and works in a stable room temperature, you can use NeoGSM-IP-PS. If the system has a consumption greater than 1.5A (max. 3.0A) or operates in a variable temperature, NeoGSM-IP + PSR-ECO-5012-RS / PSR-ECO-5012 is required.
The PSR-ECO-5012 power supply unit exceeds the requirements of the PN-EN 50131-6 standard, grade 2,3 type A.

Connector / element	Description / Function
+/~ V -/~	NeoGSM-IP-PS = 16 ÷ 20V / AC or 20 ÷ 30V / DC (according to polarization).
X1	NeoGSM-IP: connector for connecting the PSR-ECO-5012-RS power supply; (power supply and RopamNET) (if the PSR-ECO-5012-RS is used, the + V- terminals should be left unused)

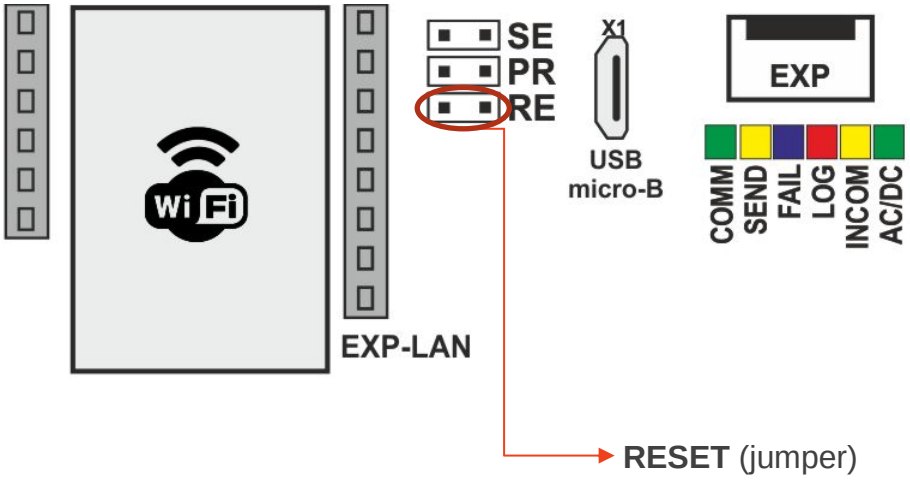
Installation and start-up procedure.

1. Perform complete wiring: signaling and power supply.
2. Install the enclosure, cabinet and insert the wiring through the cable gland.
3. Install and connect wiring in cooperating devices: detectors, sirens, touch panels, expanders, etc.
4. Install the SIM card in the control panel (the card must not be installed while the power supply is on!)
- insert vertically into the SIMCARD connector, the SIM card oriented with a slit (lock) towards the right edge of the PCB and the SIM contacts towards the O7-O8 outputs (in normal orientation).
5. Install the control panel, expanders and modules in the casing, rack
a) in the system casing (O-R3x, O-R4x) on the pins included in the set with the casing,
b) in cabinets, switchgears through the latch securing the DIN housing on the TS35 mounting rail.
6. Optionally connect expanders to dedicated connectors:
- connector X1: power supply PSR-ECO-5012-RS,
- VSR connector: VSR-2 / VSR-1 voice synthesizer or AMR-1 audio module or VAR-1 door intercom,
- X2 connector; EXP-I8 local input expander,
- connector X3: power supply PSR-ECO-2012,
7. Connect the motherboard power supply:
- NeoGSM-IP -PS: 17VAC voltage from the transformer under terminals + V- (any polarization),
- NeoGSM-IP: system PSR-ECO-5012-RS power supply for X1 connector,
8. Connect the devices to the appropriate terminals: detectors, sirens, relays, devices on the RopamNET bus, temperature sensors.
9. Connect the external antenna to the FME-M connector, in the system housings remove the connector from the H-FME holder and mount in the housing.
10. Turn on the control panel power supply.
11. Connect the programming cable to the service computer: USB Micro.
12. Start the NeoGSMIPManager program (in the version dedicated to the given control panel version).
13. Click the cable connection icon from the control panel. 
13. Open the tab "Modules, TPR panels" start "Identification of connected devices", detected modules, expanders to be rewritten to the control panel resources and save settings to the control panel.
14. Complete the system configuration by editing the tabs from "SIM card settings" to "LogicProcessor" depending on system requirements and configuration, save the settings to the control panel.
15. Perform tests and trials, go to the "Online Preview" tab to check the system status, among others: failures, operation of inputs, control of outputs, GSM status, temperature measurement, etc.
16. Terminate programming and disconnect the cable from the micro USB connector.

17. After programming, perform functional tests, user training, transfer the system to the user.
Comments:
Possible antistatic protection measures should be taken to protect electronic circuits against electrostatic discharge.
Do not turn on the power of the device without an external antenna connected.
In the case of assembly in housings adapted to the mains power supply (with transformer) to the PE ground terminal, do not connect the N ("zero") conductor of the 230VAC mains power supply. Connecting the N to PE cable can damage electronic circuits, GND potential is galvanically connected to PE! if there is no separate electric shock circuit in the facility, the clamp should be left free).

The reset procedure of the control panel to the factory settings.

If the control panel needs to be reset to factory settings then the procedure should be performed:
1. Turn off the control panel power supply (completely).
2. Insert the jumper on the RE connector pins as shown in the picture.
3. Switch on the control panel power supply.
4. COMM / SEND / FAIL / LOG / INCOM / AC / DC LEDs will light continuously and then blink 3 times.
5. Turn off power to the control panel and remove the jumper on the RE connector.



Comments:
After the reset, the control panel is restored to factory settings, no modules are stored in memory.
TCP / IP encryption key after reset to factory settings = ID plate (character size is important).

4.System configuration.

Programming and configuration of the system (control panel) can be performed:

- from the level of the NeoGSM IP Manager program; locally connecting the entire system and functions,
- from the level of the NeoGSMIPManager program; remote connection whole system and functions,
- from the service menu of touch panels, touch panel functions.

System configuration: NeoGSMIPManager.

The program is designed to work on PC computers with the Windows 7 / Windows 8 operating system, Windows 10. Communication between the application and Ropam devices is done via the USB port.

WARNING;
- only using dedicated micro USB cables guarantees correct communication and upgrade functions,
- for Windows 7, Windows 8, Windows 10 the program installer and the application for correct operation must be run with the level of access as the system administrator.

Description of the program toolbar.

The program has a text-graphic menu. Unavailable operations or functions for a given device type are presented as inactive (gray: icons or subtitles).

Warning:
Before saving the configuration to the device, leave all fields and windows to edit, because until the confirmation (leaving the window) changes in the configuration are the data before editing the field!

Local configuration via micro USB port.

PC service computer: USB	Cable: USB	Control panel: micro USB

The control panel is configured via a Micro USB connector and a USB Micro programming cable.

1. Turn on the power supply of the control panel.
2. Connect the programming cable to the service computer: micro USB.
3. Start the NeoGSMIPManager program (in the version dedicated to the given control panel version).

Click the cable connection icon from the control panel. 

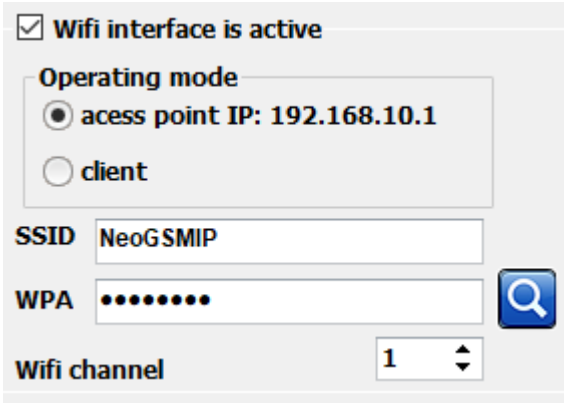
Open the tab "Modules, TPR panels" to start click  "Identification of connected devices" and detected modules, expanders to be rewritten to the control panel resources and save settings to the control panel.
5. Complete the system configuration by editing the tabs from "SIM card settings" to "LogicProcessor" depending on system requirements and configuration, save settings to the control panel.
6. Perform tests and trials, go to the "Online Preview" tab to check the system status, among others: failures, input operation, output control, GSM status, temperature measurement, etc.

7. Terminate programming and disconnect the cable from the micro USB connector.

Local TCP / IP configuration (GPRS).

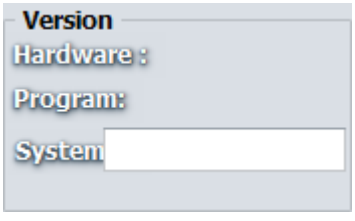
If the control panel has been configured (APN) and there is known access data, remote configuration via GPRS connection is possible.
The programming requires:
- access to the GPRS network of the control panel SIM card (set APN, password, user)
- remote access option via TCP / IP set,
- the control panel can not be in arming mode (standby), alarm mode,
- knowledge: ID of the control panel, TCP / IP key, communication password with the PC (or file with the control panel configuration),
- service computer with Internet access for TCP / IP mode RopamBridge and for TCP / IP mode local server, fixed IP address and open port (default 8081)
- possibility of sending an initiating SMS with the service or main code (see filter, 'SMS control only for numbers from the list').

1. Start the NeoGSMIPManager program.
2. Make sure that the PC is in the same network as the NeoGSM-IP control panel.

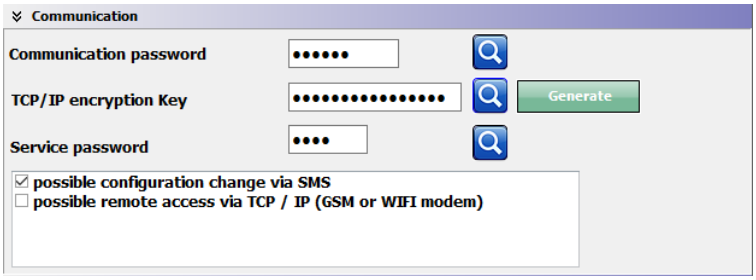


Default WiFi settings of control panel.

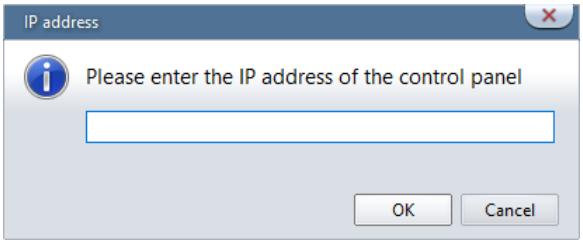
3. Select the connection mode "2. Local TCP / IP connection".
4. Enter the ID of the plate from the sticker.



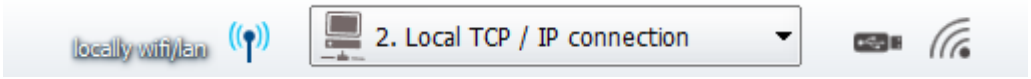
5. Enter the TCP / IP encryption key.



6. You can also open the settings file * .rpn which will load the ID and key automatically.
7. The control panel accepts connections only in the service mode. (SE jumper on the board of the NeoGSM-IP panel).
8. Press the button  .
9. The NeoGSM IP Manager program searches for available NeoGSM-IP exchanges in the field of the IP network addresses of the computer, a window with the found IP address appears. (manual editing is possible).



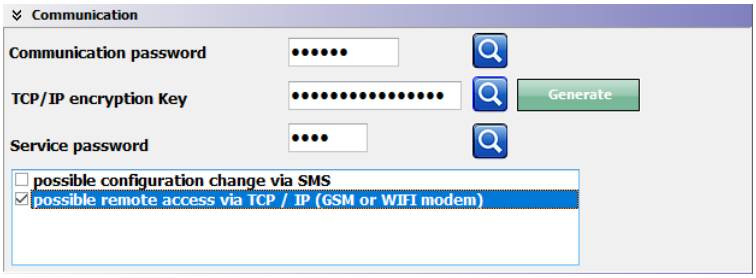
10. The connection to the control panel follows, a flashing antenna appears and the inscription: "local wifi / lan".



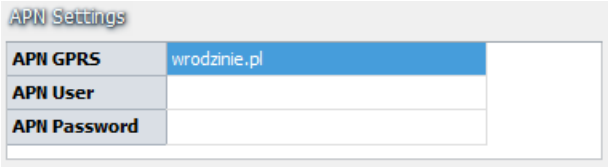
Remote configuration TCP / IP / GPRS.

Requirements:

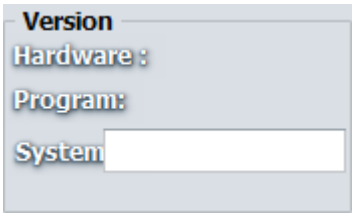
- A computer with Internet access.
- SIM card with active GPRS service (telemetry - M2M).
- Selected option "possible remote access via TCP / IP (GSM or WIFI modem)" (Communication, tests, counters)



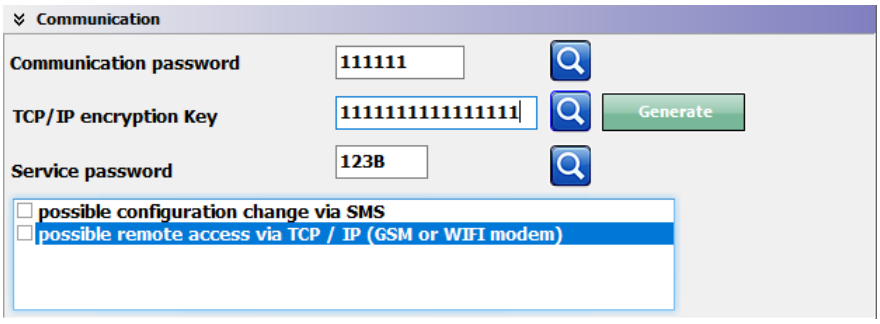
- Valid APN settings for a given operator.



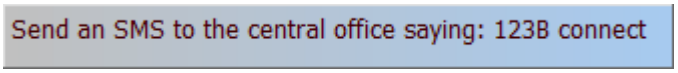
1. Start the NeoGSMIPManager program.
2. Make sure that the PC is connected to the Internet.
3. Select the connection mode "**2. TCP / IP / GPRS remote connection**".
4. Enter the ID of the plate from the sticker.



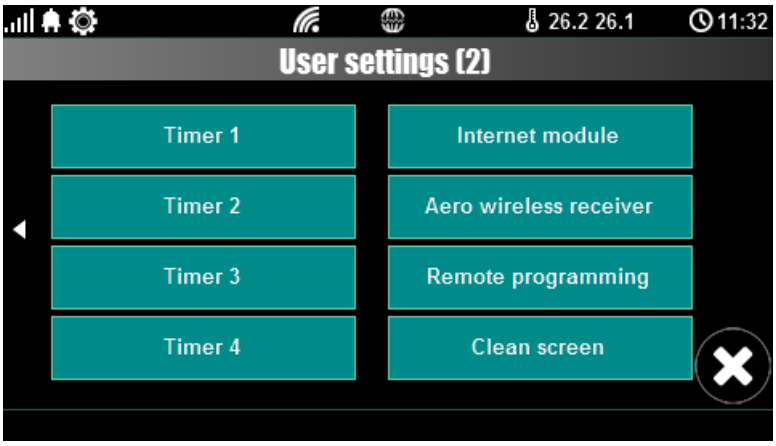
5. Enter the TCP / IP encryption key.



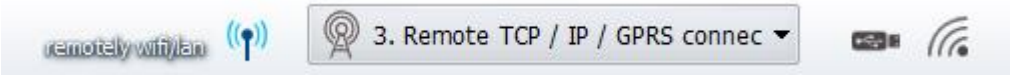
6. You can also open the settings file * .rpn which will load the ID and key automatically.
7. Press the button  .
8. The NeoGSMIPManager program searches the exchanges on the RopamBridge server.
9. Send an SMS to the control panel saying "connect service password" (eg "123B connect").



Or run the "**Remote programming**" functions from the TPR4 panel.



10. The connection to the control panel follows, a flashing antenna appears and the inscription: "**remote gprs**".



Firmware upgrade.

Comments:
Updating the panel, panels or expanders in the system always requires:
- updating all elements to compatible versions,
- identification and programming with the current configuration program, dedicated to the latest versions,
- verification and possibly changes in functions, LogicProcessor scripts,
- verification or deletion and re-creation of system users (codes).

Update methods.

1. Update using the NeoGSM IP Update program.

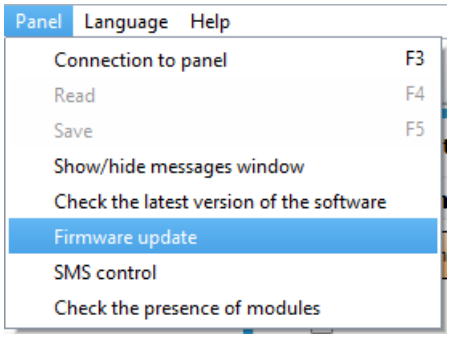
The update takes place using a micro USB cable and is possible even in the absence of internet or online update failure (upgrade firmware required).

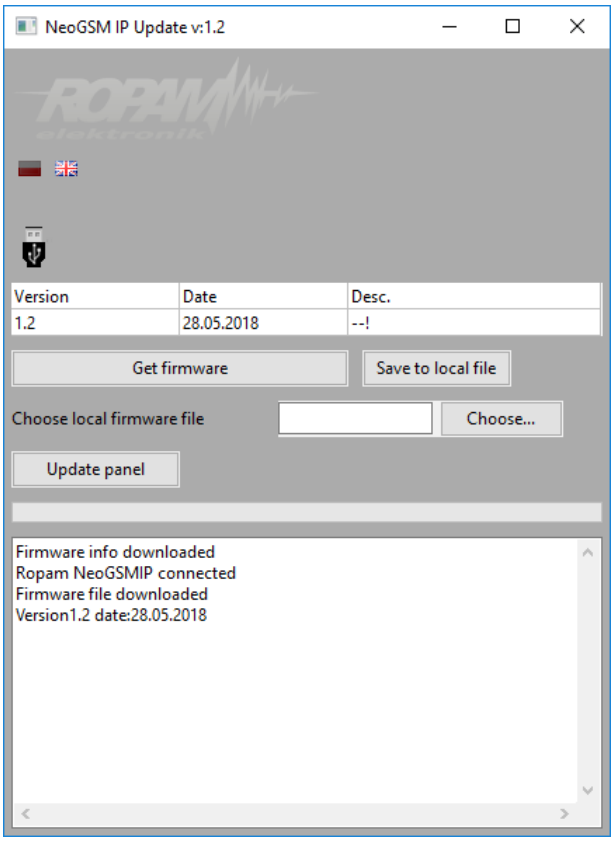
Requirements:

- connection of the computer with the control panel by means of a micro USB cable,

- Ensuring continuous power supply to the control panel without interruption.

- NeoGSM IP Update should be run with administrator privileges.





- **Download from the server** - downloads the current firmware from the Ropam server.
- **Save the firmware file to disk** - saves the downloaded firmware file to the local disk.
- **Select ... - allows you to select the update file located on the local disk.**
- **Update - starts the update process.**

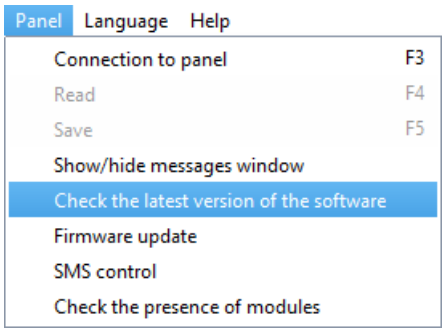
2. **Online update using the NeoGSMIPManager program.**

The update is possible remotely (without a micro USB cable) through a local TCP / IP service connection or remote TCP / IP / GPRS.

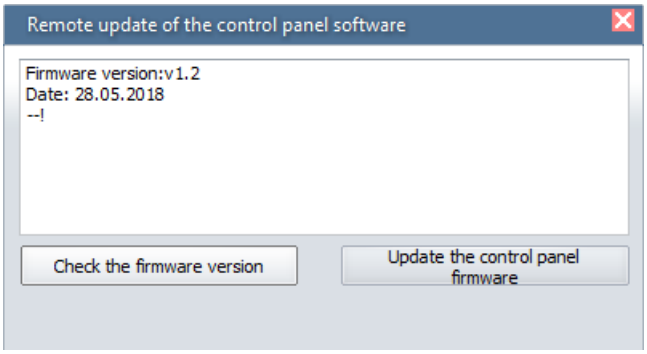
Requirements:

- Connection of the control panel to the Wifi or Ethernet Internet network.

- Ensuring continuous power supply to the control panel without interruption.



The "Remote update of the control panel software" window appears.



- **Check the firmware version** - checks the latest available version of the software on the Ropam server.
- **Update control panel firmware** - starts the update process.

The update process takes about 5 minutes.

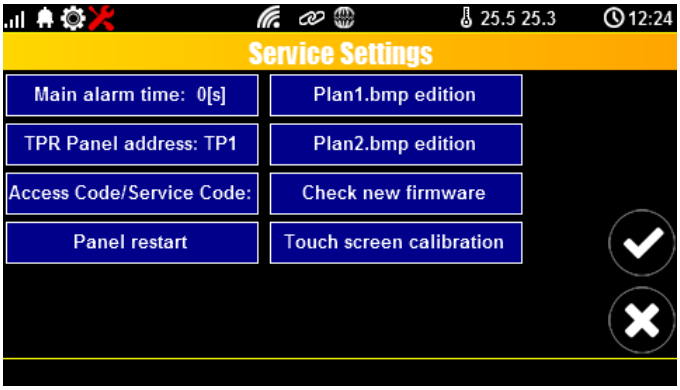
3. Update using the TPR4 panel.

Requirements:

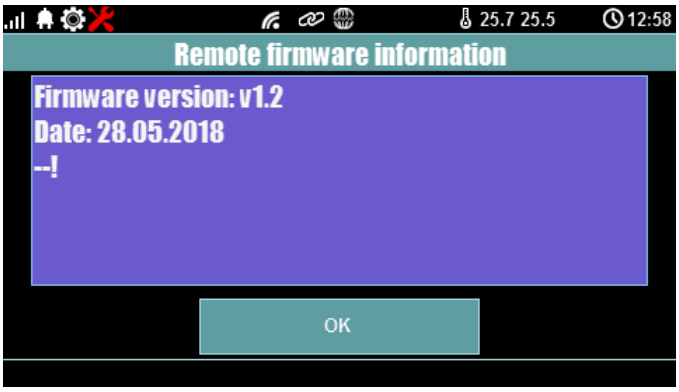
- Connection of the control panel to the Wifi or Ethernet Internet network.

- Ensuring continuous power supply to the control panel without interruption.

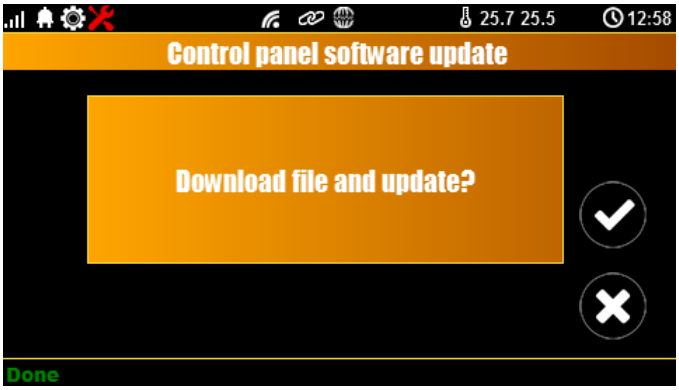
- Entry in the "Service settings" menu of the TPR4 panel.



- "**Check new firmware**" - checks the latest available version of the software on the Ropam server.



After pressing "**OK**" a window appears:



- Clicking the confirmation starts updating the control panel.

The update process takes about 5 minutes.

5. Additional modules and extensions.

EXP-LAN

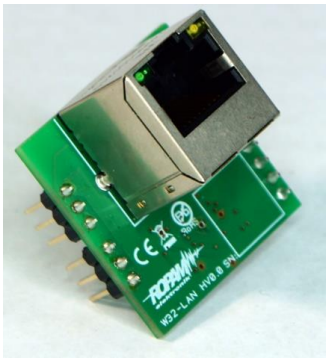
Ethernet Expander for NeoGSM-IP - allows connection of the control panel to the local network via a wired connection.

- Ethernet port: 10/100 BaseT, RJ45,

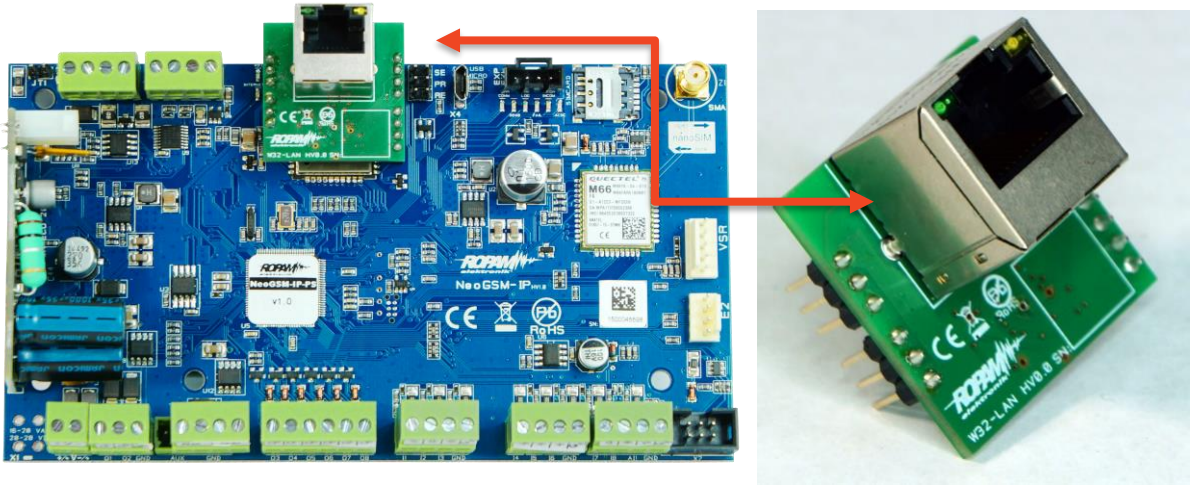
- compatibility: NeoGSM-IP,

- PCB local module, mounted on the board,

- installing EXP-LAN disables WIFI communication in the control panel,



Connection of the EXP-LAN module.



Adding the module to the control panel through NeoGSMIPManager.

TPR-4

General description.

Properties.

TPR-4 series touch panels are touch manipulators that allow you to fully use the resources of alarm systems and building automation based on Ropam Elektronik products.
A modern design based on capacitive touch technology and advanced communication algorithms allow the user to easily view and control the system status.
The function of a random keyboard displayed on the screen allows for the variable arrangement of the keys each time you need to log in to the system / verification of settings, which increases the security of the system. The flexibly configurable panel screen menu allows you to adjust the functionality of the screen and system according to the user's needs (the icon configuration function on the screens).
The SD card slot provides the ability to write events from the system (temperature, analog input AI logs) and allows you to save the file with the building plan and then view the current events (eg violation of inputs) on this plan as well as displaying photos from the SD card in the screen saver mode screen.
The panel is equipped with 2 additional inputs which increases the functionality and ergonomics of the system (inputs parametrized identically as in the system: NO, NC, EOL, 2EOL NO, 2EOL NC).
The intuitive user menu and extensive features of the installer fully meet the needs of current alarm systems and home automation.
The firmware update function in the panel through the micro USB connector makes it easy to upload new versions of the panel software to the device.

Appliance.

TPR-4 series touch panels and other additional devices are an ideal solution for residential buildings and small commercial facilities. Modern design, proven touch panel technology with a spectacular color LCD display fits perfectly into most interiors and rooms. The intuitive and clear interface makes the control of the alarm system / home automation has never been as easy as with the TPR-4 series touch panels. The touch panel in connection with the series control panels: NeoGSM-IP allows you to build a fully functional alarm system / home automation.
Flexible functions also allow for use in systems that use binary signal control, temperature, humidity, visual verification is required and information transfer is based on SMS, VOICE, MMS, e-mail.

Warrnings.

Ropam Elektronik devices are part of a full alarm system, whose effectiveness depends on the quality and technical condition of all devices (detectors, signaling devices), cabling, etc. included in the system. The user is obliged to periodically test the operation of the alarm system. It is necessary to check whether the control panel reacts to the violation of individual detectors (PIR, reed switches, etc.) or signaling devices (external and internal) and notifications. The detailed method of system control is determined by the installer that the system has designed. Periodic system maintenance is recommended (with device status check, back-up power supply, system operation, messaging, etc.).
Ropam Elektronik is not responsible for the correct operation of operators and GSM network infrastructure used for notification of alarm states and remote control. With this in mind, we recommend using such services and subscriptions available on the market, which guarantee correct operation (minimizing the human factor, eg blocked outgoing calls due to lack of funds on the account), allow full configuration of GSM bus occupancy (eg, exclusion of advertising services, not available in pre-paid services). In addition, it should be noted that services guaranteed by GSM

operators are voice transmission services (VOICE) and not SMSs, that is why important information should be transmitted through voice calls and possibly accurate identification of the event takes place in an SMS (eg VOICE + SMS, CLIP + SMS).

Description of the touch panel.

Basic properties of the TPR-4 touch panel:

- 4.3 "TFT LCD color display, 16.7 million. colors
- "Touch Panel" touch panel, without mechanical contacts
- interactive graphic menus with pictograms (icons)
- the function of a random numeric keypad layout
- configurable panel menu (icons)
- text hints for given functions
- intuitive: system control and control
- control of the control panel outputs
- fast control of the TPR-4 relay output
- system status LEDs
- a bar of additional information about the system status
- displaying information from LogicProcessor on the main screen
- acoustic signaling
- screen saver with calendar and clock function
- two alarm inputs
- RS485 bus for system communication
- local USBmicro port for updating the panel firmware
- software upgrade function
- esthetic and solid housing in white or black
- tamper protection of the casing
- detachable terminal strips
- cooperation with the NeoGSM-IP control panel

Construction of the TPR-4 touch panel.

The TPR-4 touch panel in a surface-mounted housing consists of:
- polycarbonate base, for fixing the PCB (fastened by screws (4) to the base),
- PCB with TFT display, anti-tamper switches, connectors and electronic components (fastened with screws (4) to the base),
- external polycarbonate panel, closing the TPR-4 housing (mounted to the base by screws on the side of the housing (4)
- frame masking fastening with screws

Description of connectors and elements.

The touch panel has two terminal strips.

Connector / Element	Description / Function
NC	relay contact normally closed (set when switching to the ON position)
C	relay contact common for NC and NO

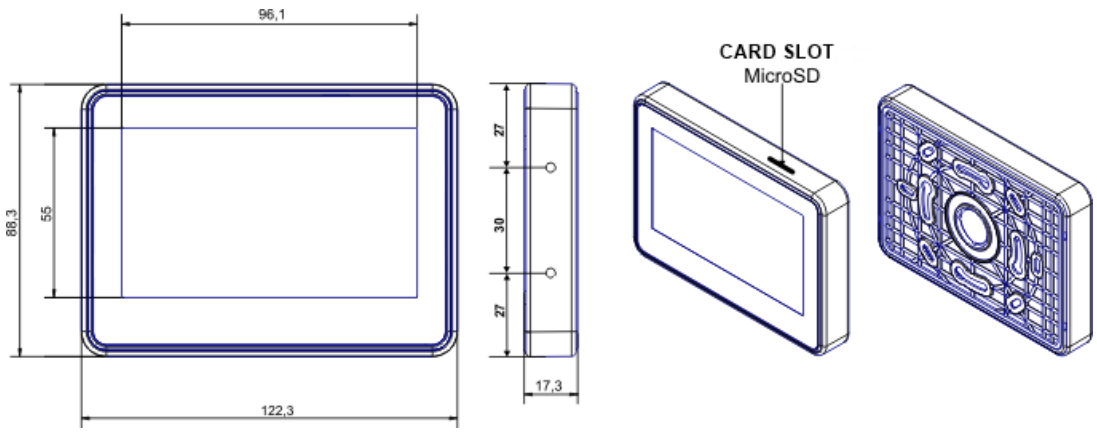
NO	relay contact normally open (short-circuiting when switching to the ON position)
I2	alarm input in the panel, the other terminal GND,
I1	alarm input in the panel, the other terminal GND,
A	RS 485 system bus connector, connection principle A-A
B	RS 485 system bus connector, B-B connection principle
GND	"panel" ground terminal, common for power supply and panel inputs.
+12V	DC power supply input panel, second terminal GND
USB micro	USB port for connecting the service computer, used for updating the firmware (firmware) in the touch panel (USB A - USB B micro cable required)
JT1 jumper	JT1 fitted = terminating resistor switched on in the RS485 bus JT1 removed = terminating resistor disconnected from the RS485 bus
PR jumper	Assumed = entering the panel update mode, buzzer on - continuous signal Off = normal operation
SD card slot	slot for microSD card (SD / SDHC) mounting required for the function: - **building plan** (synoptic board), 'plan.bmp' (service), - the ability to upload up to 4 plans file location: SD / plan1.bmp, file type: BMP, size: 480x272px or smaller in proportions, number of colors: 256 (8bit) or 16 mln. (24bit), **- digital photo frame,** 100 photos maximum, photo display time 10 sec., sequence: file date order (oldest = first) file location: SD card / pics, file type: BMP, JPG, size: 480x272px or smaller in proportions, number of colors: 256 (8bit) or 16 mln. (24bit) **- registration of the temperature history** (automatically), for each day a file with data in the format rr_mm_dd.txt is created. for further data processing

View and dimensioning of the panel.

On the back of the device there is a hole that can be used to feed power and signal wires to the panel. The aesthetic design, easy-to-install housing and ergonomic connections make the installation and operation of the device easy and uncomplicated operation.

Dimensioning and panel view:

System configuration.



Installation and commissioning.

Basic requirements.

The system built on the basis of TPR-4 series panels and other required elements are intended for assembly by a qualified installer, holding appropriate (required and necessary for a given country) permissions and licenses to connect (interfere) 230V / AC installations and low-voltage installations. The devices should be installed in closed rooms with normal air humidity (RH = 20% - 90% max. Without condensation) and temperature in the range -10 ° C ... + 55 ° C. Before starting the installation, a load balance of the power supply should be prepared. Since the system power supply is designed for continuous operation, it does not have a power switch, therefore proper overload protection should be provided in the power supply circuitYou should also inform the user about the method of disconnecting the power supply from the mains voltage (usually by separating and marking the appropriate fuse in the fuse box). The electrical installation should be made in accordance with applicable standards and regulations.

System cabling.

The system wiring should be made with the use of low-current cables. In addition, it should be in accordance with the rules and standards, in particular this applies to the selection of the type and cross-section of cables, the distance from the 230V / AC wiring, etc.
The RS485 system bus should be made using:
• UTP, STP, FTP so-called twisted pair copper
• YTSKY (optional) telecommunications (pairing) cables,
Signals and power supply should be run in one cable. If shielded cables are used, the screen should be connected point-by-point to the PE circuit in the control panel housing.

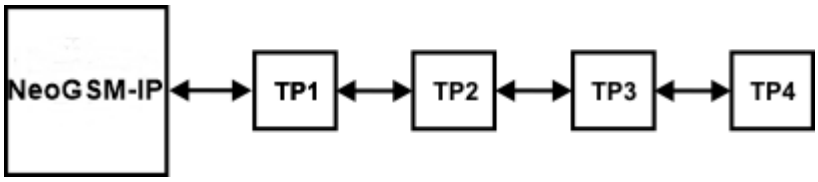
The remaining connections should be made in accordance with the device manufacturer's instructions, and if there are no such cables, the following cables can be used:
• YTDY, YTLZ,
• UTP, STP, FTP,
• YTSKY,
• other low-current, compliant with regulations and standards.

System configuration.

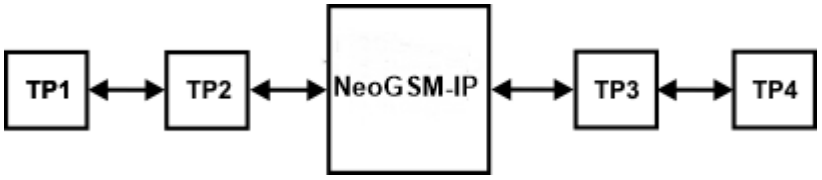
The system bus connection can be made according to the scheme, **with the total length of the RS485 bus should be maximum 1200 m:**

TP1÷TP4	NeoGSM-IP
A	A
B	B
GND	GND
+KB	+KB

- serial (JT1 jumper found only in TP4 and headquarters)



- in series (JT1 jumper found only in TP1 and TP4)



NeoGSM-IP	TP1÷TP4
A	A
B	B
GND	GND
+KB	+KB

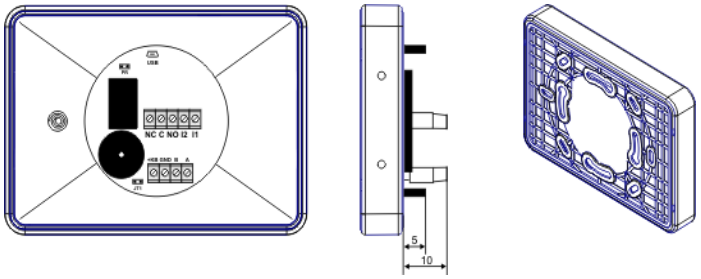
Recommended minimum cross sections for UTP 4x2x0,5mm cable (0.5mm - ø conductor), with one TPR-4 connection. The minimum supply voltage at the terminals of a given TP can not be lower than 9V / DC (ie at a minimum battery voltage of 9.5V-10.0V, the drop on the power supply wires can not be greater than 0.5V).

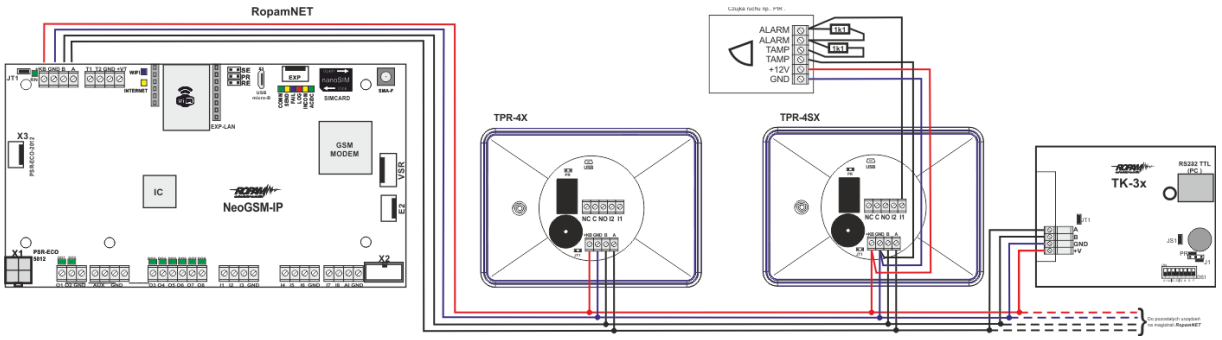
Signal	To 150m.	To 300m.
A	2x0,5 (1 pair)	2x0,5 (1 pair)
B		

Signal	To 150m.	To 300m.
GND	1x0,5	2x0,5 (1 pair)
+KB	1x0,5	2x0,5 (1 pair)

Panel connection.

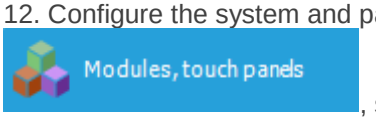
The rear view of the panel with PCBs and connectors.





Installation and start-up procedure TPR-4.

1. Perform complete wiring: signaling and power supply.
2. Disassemble the TPR-4 touch panel (e):
- remove the frame covering the sides of the housing (without tools, manual disassembly)
- remove the rear part of the housing
- screw the back of the housing to a properly mounted can in the ground **(The mounting surface must be smooth, as the deformation of the base will result in a lack of fitting with the external panel.) Attempting to forcefully fit the base and outer panel may damage the TFT display.**
3. Disassemble the terminal blocks from the PCB
4. Connect the required signals to the terminal blocks of the panel.
5. If the TPR-4 panel is at the end of the line at the serial connection or the panels are connected in a star, a JT1 jumper (terminating resistor RS485 bus) must be installed.
6. Assemble the TPR-4 panel (e) in reverse order of point 2.
7. Perform the remaining actions and connections in the system (GSM control panel, detectors, signaling devices).
8. Turn on the system power supply (230V / AC).

NOTE: if TPR-4 (2-4) panels are installed in the system, the first start-up should be performed without connected RS485 bus. After switching on the power supply, change the address of the selected panel on TP2, TP3, TP4, confirm the change (service menu) and turn off the power supply. Then connect the RS485 bus to the panels and re-connect the system power supply.
9. Perform the remaining steps in the system, eg connect the battery.
10. Start the service computer and the NeoGSMIPManager application.
11. Connect the Micro USB cable to the port on the computer and to the Micro USB port on the control panel board.
12. Configure the system and panel (e), identify the modules in the system (icon in tab 

, save the configuration to the control panel).
13. Perform tests and functional tests (without on-line mode !!).
14. Disconnect the cable from the Micro USB port and perform the other required operations.
15. Perform final tests and functional tests, user training.

NOTE: The TPR-4 is based on a capacitive TFT display. Avoid flooding, contact of the display with water!

Configuration of TPR-4 touch panels.

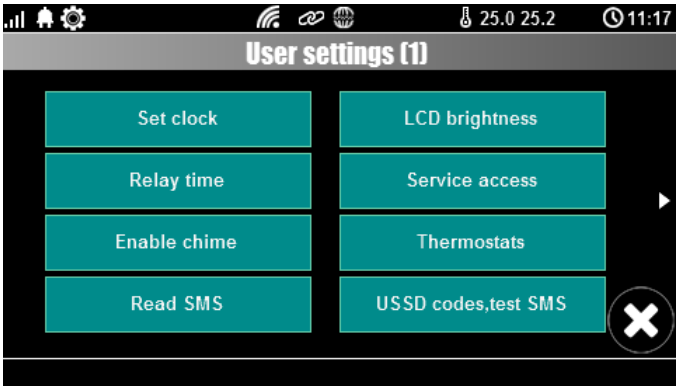
The programming and configuration of the touch panel can be done:
- from the service menu level (locally, each TPR-4 touch panel independently - only selected functions)
- from the NeoGSM-IPManager program (locally or remotely - RopamBridge, Local server)

Main menu of the TPR-4 touch panel (default setting of icons):

TPR-4 configuration: user menu.

User screen - NeoGSM-IP system

Window view with user settings for the TPR-4 panel:

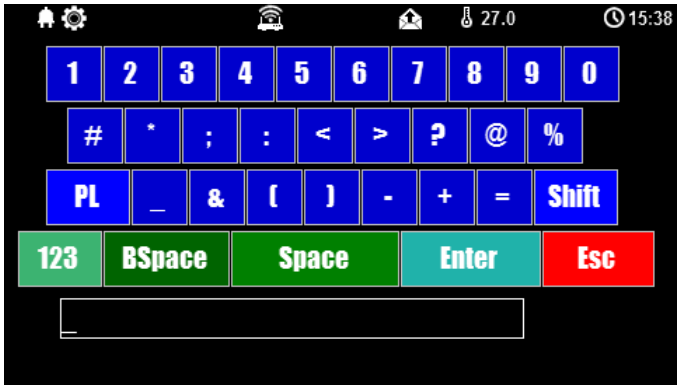


Set the clock.

Option to set time and date in the system.

Relay time.

The time the relay is switched on in the touch panel.



*** Setting: bistable operation, time 0s. causes the relay to operate from being switched on to being turned off by the icon on the touch panel.**

Turn on Gong.

Gong activation in the TPR panel.

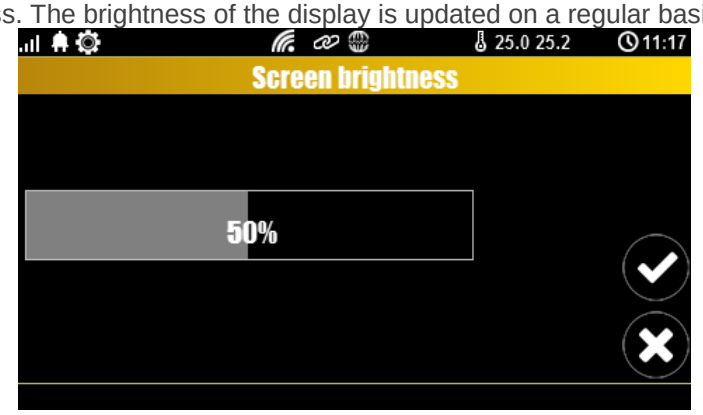
Reading an SMS.

Reading SMS sent to the system.

Brightness of the screensaver.

Adjust the brightness of the screen saver for the digital photo frame (when the current SD card with photos) or the brightness of the clock with a date stamp on the display screen.

The brightness changes can be made with the help of the "slide" gesture - the finger is moved along the scale of brightness. The brightness of the display is updated on a regular basis.



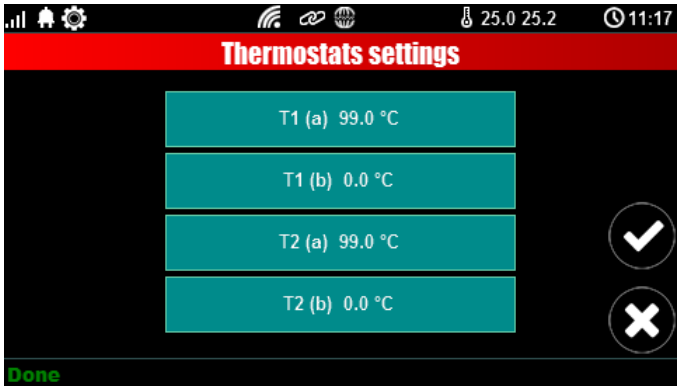
Service access.

Activation of access to service functions in the TPR panel.
Access to the service functions is possible for 8h or until the next restart of the control panel. After that, if necessary, activate the service mode again.

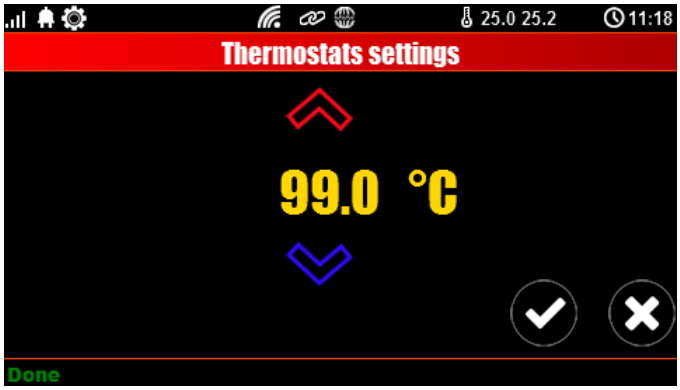
Thermostats.

Temperature settings for individual thermostats - temperature sensors (2 independent in the NeoGSM-IP system).

The upper temperature values are Tx (a)
The lower temperatures are Tx (b)



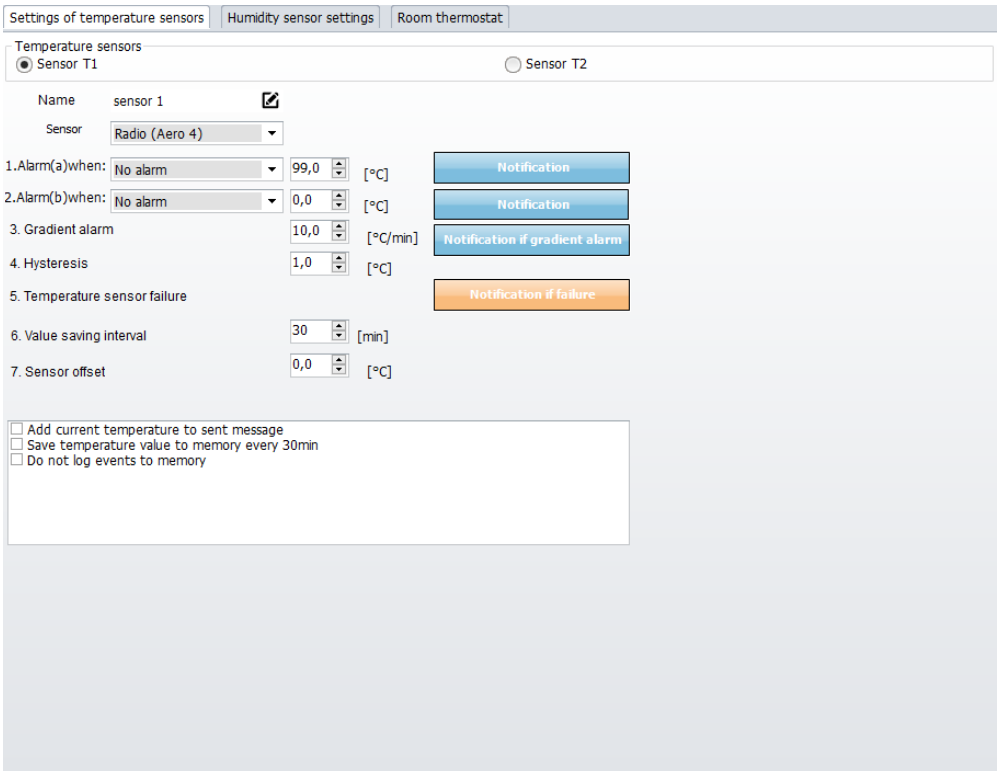
After selecting a window with the temperature settings of a given sensor, the temperature settings window opens:



Room thermostats.

The function allows setting two independent thermostats based on temperature sensors connected to the NeoGSM-IP system.
Room thermostats allow you to control the climate in rooms according to a set time and temperature schedule.
This functionality also allows significant energy savings in the building (no space heating during absence of household members, switching on the heating before returning to the rooms, room ventilation function ensures access of fresh air to the building according to a specified schedule).

Thermostat settings window - NeoGSMIPManager:



System configuration.

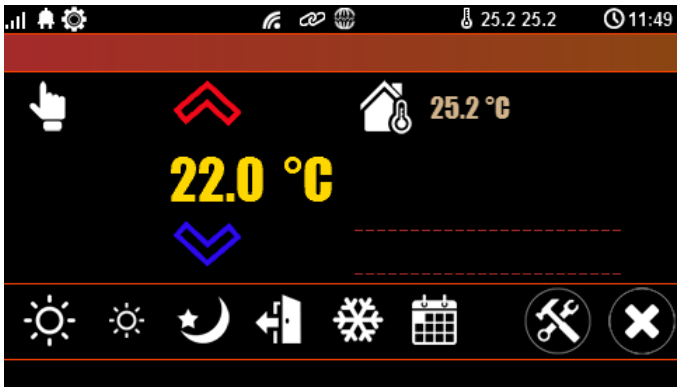
- "Show daily values min./max." displays on the touch panel next to the icons information on the maximum and minimum temperature measured over the last 24 hours.

- „ The detection of movement blocks (for 30min) the entry in temp.” stops the transition to the night temperature for 30 minutes if motion is detected by any of the detectors.

- the function "Detecting window opening (ventilation)" is used to save energy when a gradient of temperature drop above 2 ° C is detected. The function switches off the heating mode for 30 minutes. During this function, it is possible to manually activate any of the thermostat programs.

- the "Schedule priority" function (when enabled) allows you to restore the thermostat to automatic mode after manual activation of any of the functions (eg Wake, Exit, Return, etc.).

Thermostat view from the TPR-4 panel:



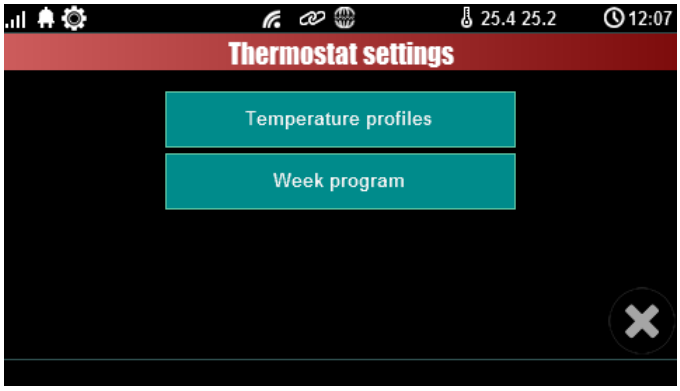
Explanation of the meaning of thermostat icons:

Icon	Explanation
	Entering the manual temperature control mode. It is also attached after sending an SMS saying "Heating"
	Heating mode - higher temperature
	Information: Heating mode included

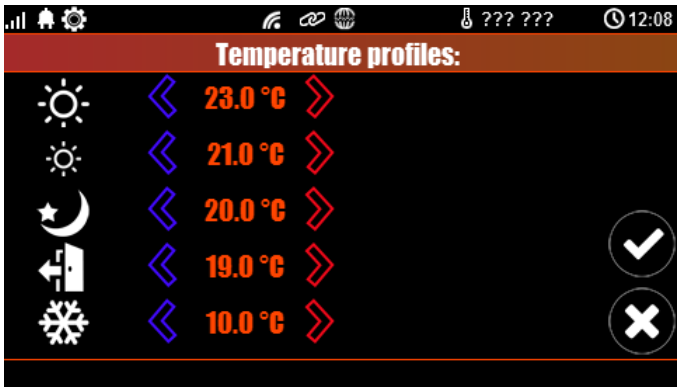
System configuration.

	Heating mode - reduced temperature.
	Night mode, lower room temperature, energy saving.
	Calendar mode, automatic - according to the settings in NeoGSMIPManager.
	The exit mode from the building, by default: lowering the temperature to save energy.
	Anti-freezing mode. It is used to ensure the minimum temperature in buildings in the absence of tenants. Prevents refrigerant from freezing in radiators.
	Outside temperature indicator. (connection of the TSR sensor to one of the 4 inputs in the NeoGSM-IP control panel).
	Internal temperature indicator. (connection of the TSR sensor to one of the 4 inputs in the NeoGSM-IP control panel)
	Histogram of switching on the relay in the TPR-4 panel responsible for the heating control functions in the room.
	Thermostat settings icon (temperature profiles, weekly program). Changing the settings changes the temperature and calendar parameters according to the settings and saves these settings in the control panel.

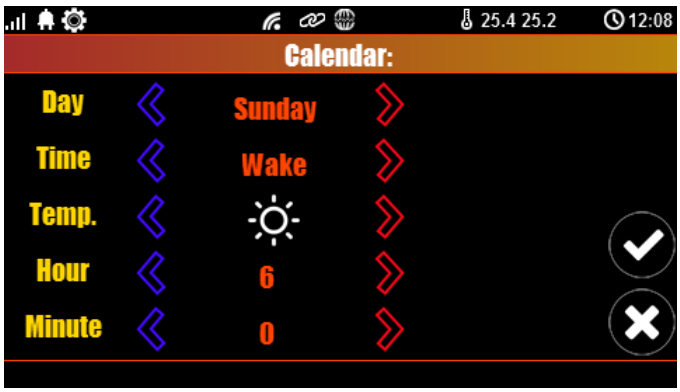
Thermostat settings from the TPR-4 panel:



Menu for setting temperature profiles:



Calendar settings menu for room thermostat:



USSD codes, test SMS.

Convenience allowing access to the system test functions from the touch panel level in NeoGSM-IPManager systems.

Testing system operation using USSD commands and sending test SMSs from the touch panel level without the need to access the system using the NeoGSMIPManager tool.

Introduction of the USSD code.

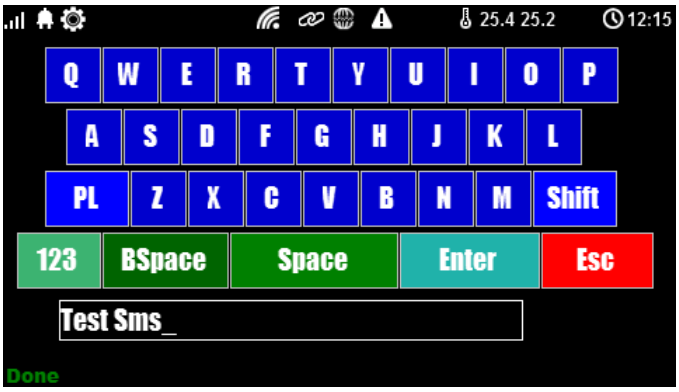
After pressing, the screen for entering the USSD code will appear.

Send the USSD code to the GSM network.

The function allows you to verify the funds available on your prepaid account, top-up and other account management functions using USSD codes.

Send a test SMS.

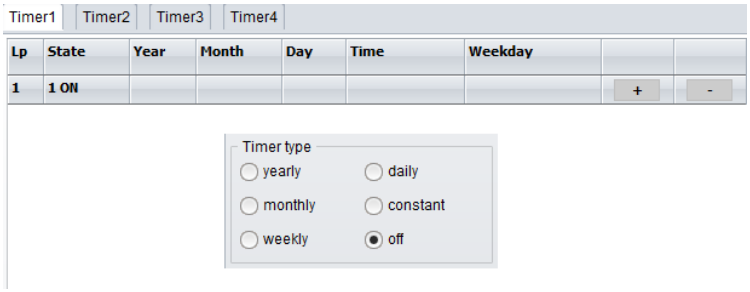
Sends an SMS entered using the keypad on the touch panel to the first user on the list of numbers in the system.
The function gives the possibility to test the operation of SMS commands in the system.



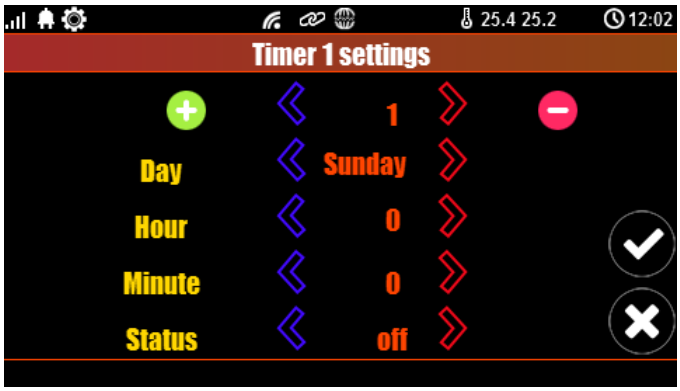
Timers 1-4.

Available timer modes for the NeoGSM-IP system are:
- constant
- daily
- weekly
- monthly
- one year

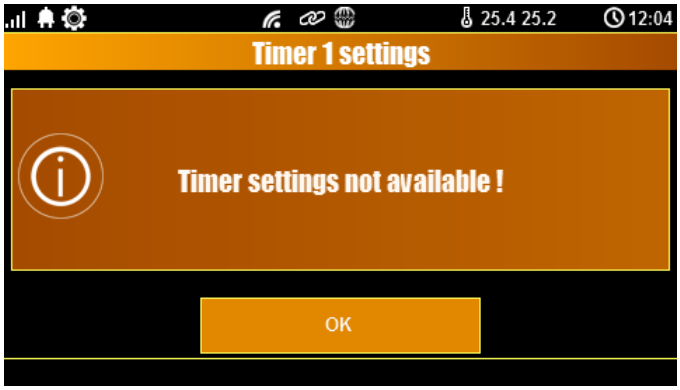
Timer settings for the system - window view in the NeoGSM-IPManager program:



The TPR-4 touch panel can only ONLY set day and week timers !!!



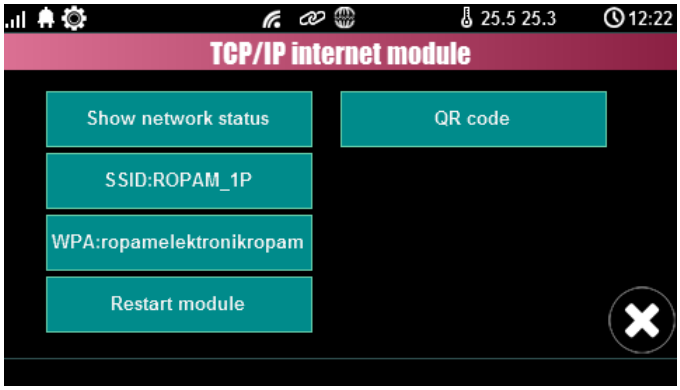
If there is a timer other than daily or weekly in the system, its editing is possible ONLY with the NeoGSM-IPManager utility.
If you try to edit such a timer using the TPR-4 panel, the following message will be displayed:



Internet module.

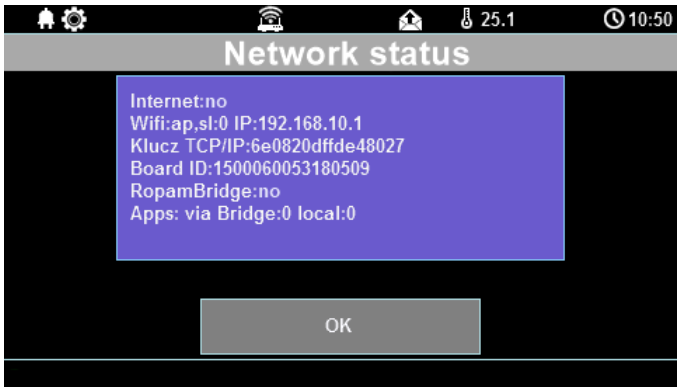
TCP / IP module configuration window. It allows you to read the module data:
- network status
- sending an SSID
- sending a WPA encryption key
- module restart
- QR code

The SSID key: allows you to give the system name broadcast for WiFi devices (in the name you must not use the space character!).
WPA key: allows you to give a WPA encryption key for wireless access (**min 8 characters**).
Restart button of the module: restart of WiFi or Ethernet communication.



Show network status.

Network status: read LAN and WiFi configuration data from the control panel for the purposes of remote connection with the system or diagnosis of problems with remote connection via TCP / IP.



SSID:

The name of the WiFi network to which the Internet module is to login.

WPA:

Security key for WiFi networks.

Module restart.

Internet module restart option, required when the module does not respond too long.

QR-code

The function displays a QR code, scanned by RopamNeo applications, allows connection to the control panel.

Remote programming.

A function that activates the possibility of remote system programming by means of a remote connection to a computer via the NeoGSMIPManager program (via GPRS, TCP / IP).

Screen cleaning.

Turning on the function locks the screen for 60 seconds to clear it.

TPR-4 configuration: service menu.

Activation of access to service functions takes place after activating service access in the user menu - button: "Service access".

To enter the access settings for the installer, press  , then the "service" button. **Enter the service code and confirm 'enter' (default service code = 123B).** After this operation, configuration options are available.

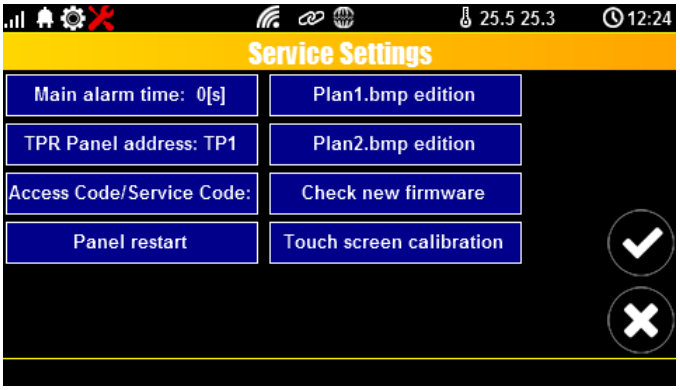
The approval of changes takes place via the button:  and the output without saving changes:  .

ATTENTION: In service mode, the system does not support current events from zones, tamper alarms, etc. The service mode is indicated by the blinking of the red and yellow LEDs.

For other windows / keyboards:

Window type / Keyboard	Confirmation of the function	Exit the function
Numerical	#	*
Full	**ENTER**	**ESC**
Graphic		

Window view with service settings for the TPR-4 panel:



Settings.

- **Loud alarm time** - defines the time of acoustic alarm signaling in a given touch panel. Setting range: 0-9999 [s].
- **Address of keyboard** - TP1 to TP4 (TP1 factory, if more than one TP panel will work in the system, the system should be started according to the procedure and TP TP-TP4 address should be changed in the selected TP).
- **Password / access code / service: available change of service code (also password of communication with NeoGSM-IPManager). The password should consist of four characters (digits, letters: large or small).**
- **Restart of the control panel** - TPR-4 allows the system to be restarted from the touch panel level. The function is useful after making changes to the system.
- **Plan edition:** the window allows you to place detectors on the building plan. The detectors are located (touch locations) in the order: I1, I2..Ix.

>: skip the given entry number
OK: accept the placement
X: output without acceptance

WARNING:

- all names of up to 20 characters,
- allowed Polish fonts,
- names are stored in the memory of a given TP

- **Check the new firmware:** allows you to check and if there is an update installing the latest firmware.
- **Calibration of touch:** allows you to calibrate the touch by following the instructions displayed on the panel screen.

Location of the file with the building plan: SD / plan.bmp, file type: BMP, size: 480x272px or smaller in proportions, number of colors: 256 (8bit) or 16 mln. (24bit), in addition, the touch panel version information is displayed.

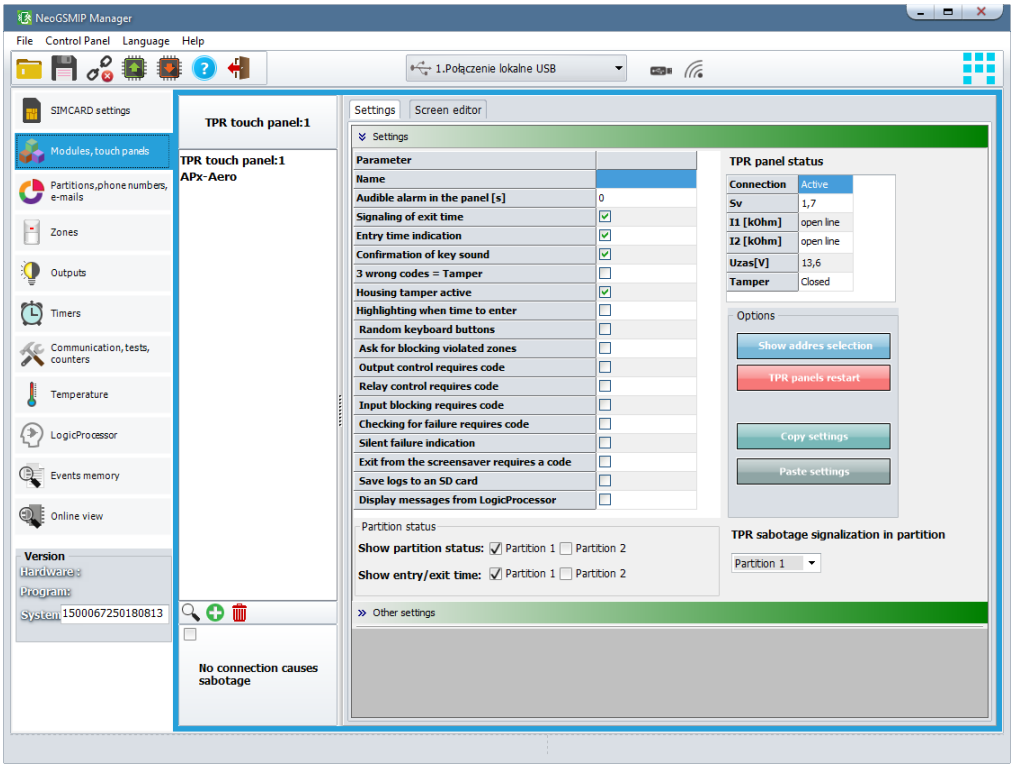
TPR-4 configuration: NeoGSM-IPManager.

The first installation or addition of TPR4 to the NeoGSM-IP system requires the identification of connected devices. "Identification of connected devices" (Modules tab, TPR panels)

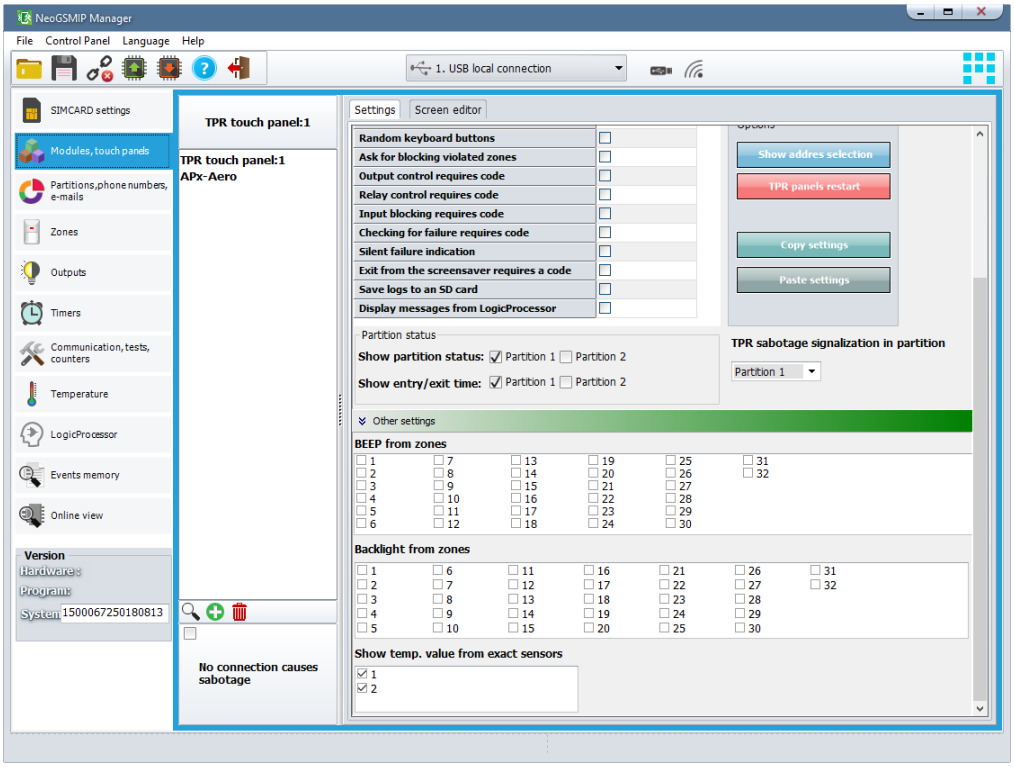
System configuration.

Reading and saving the configuration results in sending the configuration to the touch panels, optionally it is possible to configure the panel (i) individually from the level of the tab: touch panel.

Main menu of touch panel settings:



Menu for setting display options, controlling outputs and temperature visibility from individual sensors (1-4).



In addition, inputs from the touch panels are visible and configurable in the **Inputs** tab.

Tab: touch panel / settings.

- **Name:** allows you to enter a unique name for the touch panel.
- **A loud alarm in the panel [s]:** defines the time of acoustic alarm signaling in a given touch panel. Setting range: 0-9999 [s].
- **Output time signaling:** the active option activates the acoustic signaling in a given TP panel during the exit delay.
- **Input time signaling:** the active option activates acoustic signaling in a given TP panel during entry time.
- **Acknowledging the keypads:** the active option activates the acoustic signaling of pressing the button (detection field).
- **3 incorrect codes = sabotage:** entering three incorrect codes will activate the sabotage output, counting is independent for each TP panel.
- **Tamper housing active:** the active option activates the tamper protection of a given TP panel.
- **Highlighting when the time for input:** the active option causes full panel lighting in time to enter.
- **Random keyboard buttons:** the active option will activate a random numeric keypad layout.
- **Ask for blocking violated zones:** the active option will display a message about blocked zones in the system when the system is armed.
- **Control of the outputs requires a code:** the active option will require the user to enter the code at the entrance to the function of controlling the outputs.
- **Relay control requires a code:** the active option will require the user to enter the code at the entrance to the relay output control function in the given TP panel.

- **The blocking of zones requires a code:** the active option will require the user to enter the code when entering the blocking function of individual zones, after disarming the entry system they are unblocked.
- **Checking the failure requires a code:** the active option will require the user to enter the code at the entrance to the system failure check function.
- **Silent trouble signaling:** the active option only causes displaying information about failures without switching the busser in the panel
- **The exit from the screen saver requires a code:** the active option will require the user to enter the code when exiting the screen saver.
- **Saving logs to the SD card:** when active - logs from temperature sensors and / or analog input are saved to the SD card in the TPR panel
- **Displaying messages from logic processor:** when the option is active, information from LogicProcessor is displayed on the bottom bar of the screen in the panel.

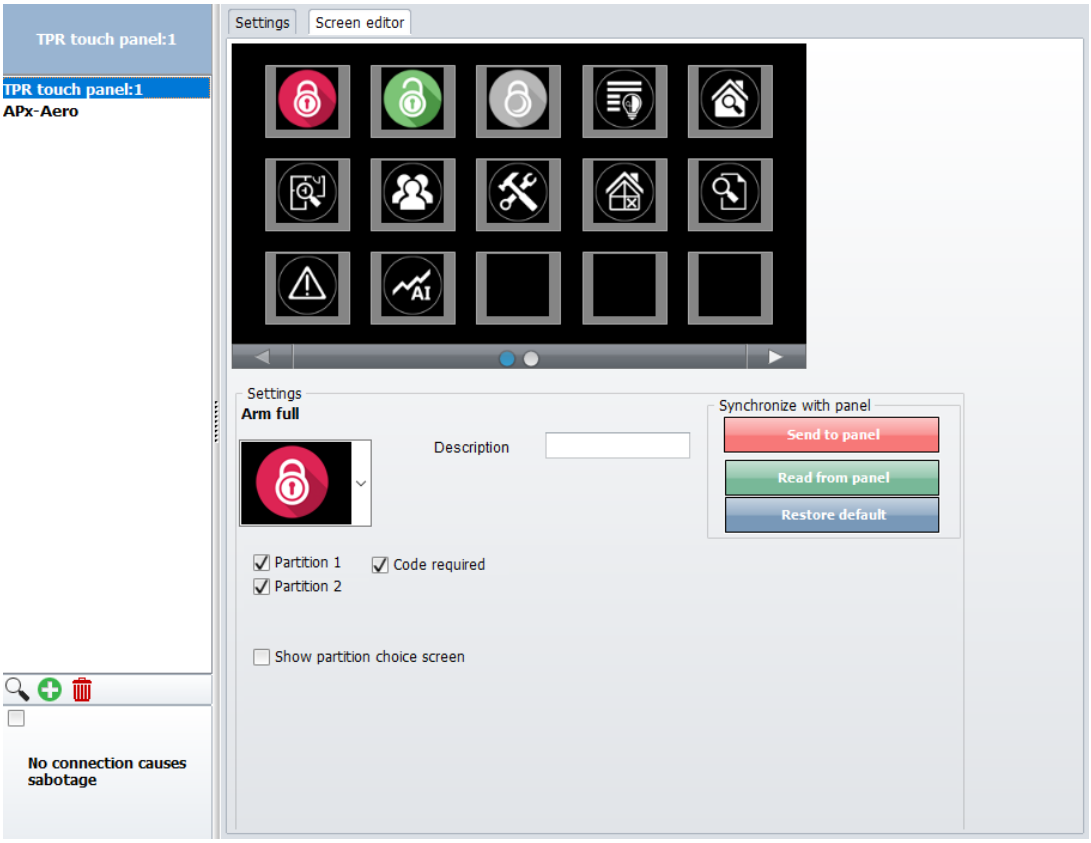
Tab: touch panel / other settings.

- **Input chime:** the option allows you to specify the inputs to generate the chime signal in a given TP panel.
- **Highlight from inputs:** this option allows you to specify the zones which are to trigger the full brightness of a given TP panel, exit from the screensaver.
- **Show temperature from selected sensors:** the option allows you to select temperature sensors connected to T1-T2 inputs in the NeoGSM-IP control panel and display temperatures on the top bar of the display and in the screensaver mode at the bottom of the screen.
  Selecting the temperature display option from a given input when no sensor connected to it is displayed with "???"

Tab: Editing screens.

Thanks to the screen editing function, the user / installer can program the appearance and functionality of the touch panel as needed.
The ability to display any icons on two independent screens allows to increase the functionality of the alarm system / home automation and facilitate the use of simple and advanced system functions (logic functions, process control based on events, etc.).

Screen editing menu - NeoGSMIPManager:



Each of the icons on any screen may have an additional description, which will be visible on the touch panel in the same way as in the program:

The "Show status by input" function indicates the activation of the output if the input changes from "0" to "1"
- dot on the left side of the exit icon:
white - input = 1,
empty - input = 0.

Description and functions of icons.

Icons pictograms are assigned to individual system functions, the meaning and operation of which are described below. TPR-4 touch panel allows you to place any icons anywhere on the two panel screensand some of them assign multiple actions.

Icon	A description of the action
	Full system utilities. Possible (set in NeoGSMIPManager): - selection of zones - required code - displaying the zone selection screen
	Disarming the system. Possible (set in NeoGSMIPManager): - selection of zones - displaying the zone selection screen
	Night time system. Possible (set in NeoGSMIPManager): - selection of zones - required code - displaying the zone selection screen
	Controlling the outputs: Possible (set in NeoGSMIPManager): Display of outputs to be available for control
	Preview of the zone status (violation, tamper, OK).
	Building plan preview (requires a MicroSD card with files: plan1.bmp to plan4.bmp). Possibility to edit the layout of detectors on the set from the service menu level in the TPR-4 panel.

System configuration.

Icon	A description of the action
	Giving, changing, deleting user codes and names (up to 32).
	Menu of user and service settings.
	Blocking an input or group of inputs. Set in the NeoGSMIPManager: - entry number - group blocking of zones - code request to confirm the block After disarming the entry system they are unlocked.
	View the history of events in the system.
	Overview of system failures. If a system failure occurs, next to the icon on the right side a yellow dot will be displayed indicating the presence of a new failure in the system, you can check by clicking the triangle icon with an exclamation mark.
	Preview values for the analog input. Possible (set in NeoGSMIPManager): - scaling of voltage values to physical values, e.g. ° C,% Rh, lux, etc.
	Temperature chart from TSR-1 sensors connected to the system.
	Preview of the entrance. Possible (set in NeoGSMIPManager): - selecting the entry number - blocking the zone after pressing the icon (after disarming the entry system they are unblocked) - indication of the status from the PLC I / O module input

Icon	A description of the action
	Room thermostat. Possible (set in NeoGSMIPManager): - thermostat selection (No. 1 or No. 2).
	Controlling the relay in the panel.
	Controlling control panel output. (1-32). Possible (set in NeoGSMIPManager): - the number of the exit - status indication according to entry - requiring a code to be attached
	Controlling control panel output. (1-32). 1 = white bulb icon 0 = dark bulb icon
	Controlling control panel output (1-32). e.g. roller blinds.
	Controlling control panel output (1-32). e.g. blinds down.
	Controlling control panel output (1-32). e.g. gate.
	Controlling control panel output (1-32). e.g. a garage door.

System configuration.

Icon	A description of the action
	
	Attaching output group. Possible (set in NeoGSMIPManager): - number of outputs / outputs - requiring a code to be attached
	Turning off output group. Possible (set in NeoGSMIPManager): - number of outputs / outputs - requiring a code to be attached
	Humidity indicator - Aero radio sensors. Possible (set in NeoGSMIPManager): - list of displayed sensors (up to 8) - sensor number on the widget
	Humidity and temperature indicator - radio sensors of the Aero system. Possible (set in NeoGSMIPManager): - list of displayed sensors (up to 8) - display only temp., only% Rh or temp and% Rh
	Basic information about the system: Firmware of the control panel, Panel firmware, Power supply to the control panel and modem, The status of the internet module.
	Panic
	Fire

System configuration.

Icon	A description of the action
	Single output control - Fan
	Controlling a single output - Radiator
	Single output control - Power supply
	Single output control - Sprinkler
	Wicket
	Controlling a single exit Garden lights
	Single output control Plugin

Icon	A description of the action
	Single output control Left
	Single output control Right
	Single output control Top
	Single output control Bottom

Firmware update.

The TPR-4 series touch panels have a software update function (firmware).
This functionality allows you to change the software to the latest version. The software update is done using a USBA - micro USB cable and a dedicated update program: TPR_4 update.

TPR-4 software update procedure.

To update the TPR-4 panel firmware:

- run the TPR-4 update program
- turn off the system power
- connect the USB cable to the computer and panel
- put on a PR jumper
- switch on the panel power supply (system)
- select the file by double-clicking

- click the "Update" button
- do not disconnect power when updating the module !!!
- the panel will go off during the update, the buzzer will turn on and emit a continuous signal
- after the update is completed, information will be displayed in the TPR-4 Update program
- remove the PR jumper
- restart the panel (turn the power off and on).

In case of failure with updating the firmware in the panel - repeat the operation from the "Update" step.

TPR-4 panel maintenance.

The touch panel does not require special maintenance. During periodic technical inspections, the condition of the screw joints should be checked. W przypadku zabrudzenia obudowy i panelu dotykowego należy go czyścić przy użyciu typowych środków do monitorów komputerowych LCD (najlepiej wprowadzić panel w tryb czyszczenie ekranu: Ustawienia --> Użytkownika --> Czyszczenie ekranu, ekran zostanie zablokowany na 60s celem wyczyszczenia, wszystkie klawisze zostaną aktywowane po upłynięciu czasu na czyszczenie).

Technical parameters TPR-4.

PARAMETER	VALUE
Power supply voltage	**9V÷14V/DC** min/max
Power consumption	**100mA/140mA @12V** (0,72W/2,4W) min/max
Load capacity of the relay output	**1A max. @30VDC/50VAC**
Input type TPR-1, -1F (programmable)	**NO, NC, EOL, 2EOL/NC, 2EOL/NO** rezystancja linii dla danego typu: brak naruszenia/naruszenie hi-Z/~30Ω, ~30Ω/hi-Z, hi-Z/2k2, 1k1/2k2, 2k2/1k1
System communication	**RS485** (restricted protocol)
LCD display	**4.3 ", TFT LCD, 16.7 million colors, 480x272 pixels**
Touch panel	**capacitive**
Acoustic signaling	**~ 80 dB max.**
SD card slot (functions)	- support for micro SD and SDHC cards (8GB max tested) - building plan (synoptic board) - digital photo frame (100 photos max.) - registration of temperature history from temperature sensors
Housing	**IP20** (tamper protection: opening and detaching from the housing base)
Working conditions	**environmental class: II** **T: -10 ° C ... + 55 ° C**

PARAMETER	VALUE
	RH: 20% ... 90%, no condensation)
Connectors	disjoint AWG: 24-12
Dimensions of TPR-4	122,3x88,3x17,3 mm (WxHxD)
TPR-4 weight	175g net

EXP-I8-RN

General description.

The EXP-I8-RN module is used to extend the functionality of the system by 8 configurable inputs as in the control panel.

Properties.

- 8 additional entries in the system,
- 2EOL / NC operation configuration, 2EOL / NO, EOL, NC, NO,
- module on the RopamNET bus, local or elevated work - bus length up to 200mb,
- configuration, properties and types of reactions like NeoGSM-IP inputs,
- transmission from EXP-I8-RN inputs: SMS / VOICE / CLIP / IP.
- disconnect terminal connectors.

Destiny.

The EXP-I8-RN is an input module that cooperates with the NeoGSM-IP and NeoGSM-IP-PS alarm control panels. The module increases the number of entries in the system by eight.

Warnings.

- ***For safety reasons, the device should only be configured by qualified installers.***
- ***Before proceeding to configuration, read the understanding with the above instructions.***
- ***Do not interfere with the construction or carry out independent repairs.***
- ***It is necessary to keep possible antistatic protection measures to protect electronic circuits on PCBs against electrostatic discharge ESD.***
- ***In order to meet the requirements of LVD and EMC, the following rules must be observed: power supply, installation, shielding - according to the appliance.***

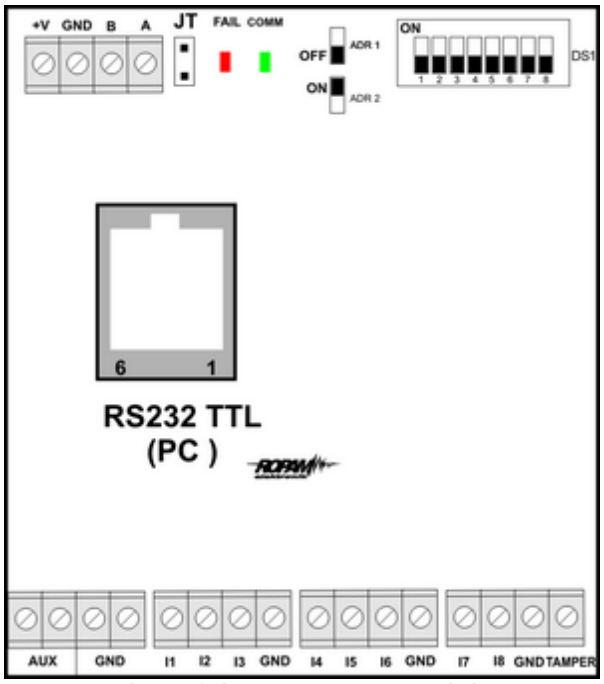
Module decription.

Module versions.

Code	Description

EXP-I8-RN	Zone expander module (additional 8 zones in the system), communication - RopamNET bus
EXP-I8-RN-D4M	Zone expander module (additional 8 zones in the system), communication - RopamNET bus, DIN rail housing, width 4 modules

Construction and description.



View of the EXP-I8-RN module

Description of the module.

Description	Properties
+V, GND	9-14VDC module power terminals
A,B	RopamNET communication bus (EIA 485)
JT	jumper terminating the RopamNET bus (only assumed if the module is located at the end of the communication bus).
LED:	- FAIL red - failure, no communication with the control panel or modules connected to the NeoGSM-IP system - COMM green - communication with the control panel or modules connected to the NeoGSM-IP system
DS1	Dip Switch to set the module address in the system - see image.
AUX|GND	power output terminals protected by a 300mA polymer fuse (power supply for detectors).

I1-I8	module inputs, parameterized identically to the inputs of the NeoGSM-IP exchange
Tamper	external tamper input for the module, status displayed and serviced from the NeoGSM-IP control panel.

Optical signaling of the state.

Operating status indication - LED diodes

LED	*COLOR*	*SIGNALING NORMAL STATUS*	*SIGNALING OF FAILURE*
COMM	GREEN	• short flashes every 1s = correct communication with the module	• short flashes every 1s = correct communication with the module
FAIL	RED	• does not light - correct operation of the module • blinks every 0.5s - entering the firmware update mode (active bootloader, PR jumper installed)	• shines - no communication with the module

Requirements, installation.

Basic requirements.

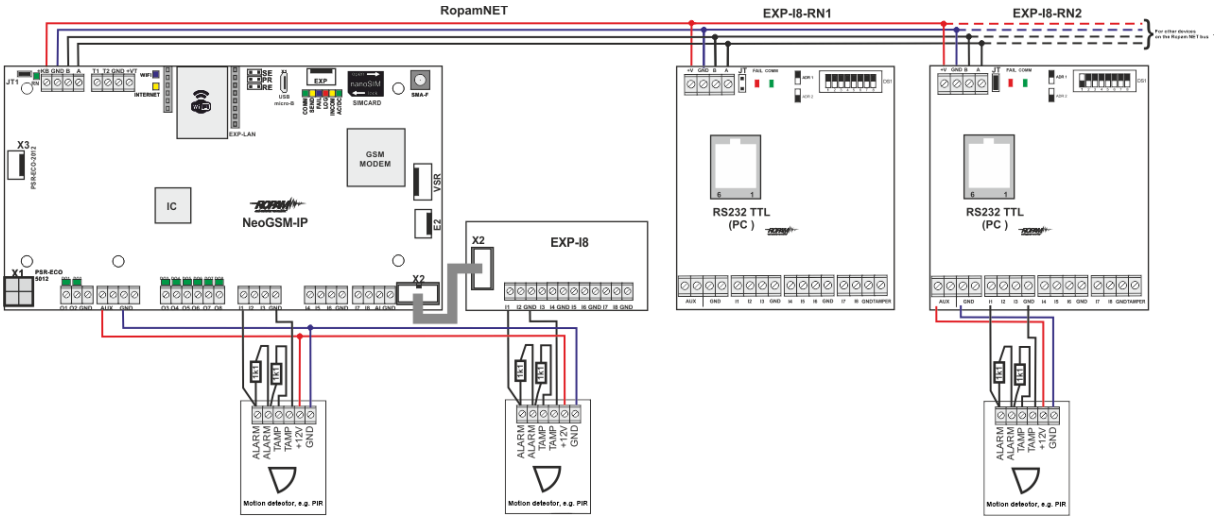
EXP-I8-RN zone expander module should be used in conditions with normal air humidity (RH = 90% max. Without condensation) and temperature in the range of -10 ° C to + 55 ° C.
It is absolutely necessary to observe the rules of assembly of devices for low-current networks (power supply, data bus, cabling).

Installation and connection of the module.

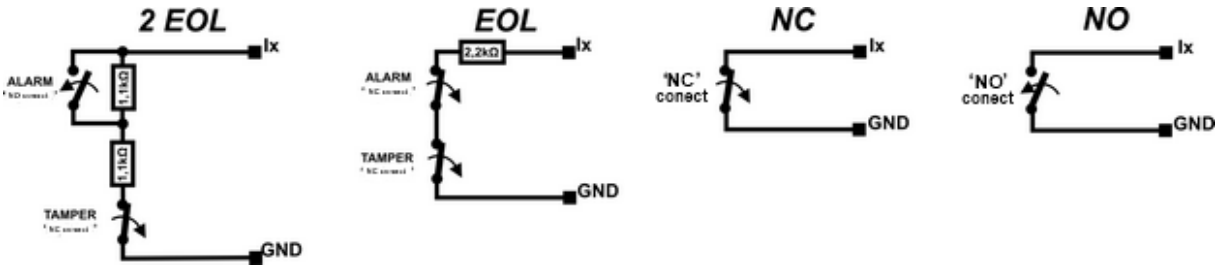
1. Install the module in the appropriate place (switchgear, external surface-mounted housing) and connect in accordance with the description of the terminals, taking particular care while connecting the power cables.
2. Connect the RopamNET bus cables of the module to the NeoGSM-IP control panel according to drawing below
3. Add the module to the control panel using the NeoGSMIPManager program.
4. Configure module inputs by needs (parameters identical to those for the NeoGSM-IP control panel).
5. Perform functional tests, check operation.
6. After completing the installation, perform user training.

Comments:
It is necessary to keep possible antistatic protection measures to protect electronic circuits on PCBs against electrostatic discharge ESD.

Connection of the module:



Line polarizations possible:



Technical parameters.

Parameter	Value
Power supply voltage	U = 9 - 14VDC from the connector + KB, GND
Power consumption	**20mA/40mA** min/max (Ix=2,5mA @12VDC)

Parameter	Value
Inputs I1-I8	**NO, NC, EOL, 2EOL/NC, 2EOL/NO** **=** **hi-Z/~30 , ~30 /hi-Z, hi-Z/2k2, 1k1/2k2, 2k2/1k1** line impedance for a given type [Ohm]: no violation / violation
Communication	EIA 485 RopamNET
Work signaling	LEDs: red - failure, green - communication, no communication
Working conditions	environmental class: II temp.:10°C ... + 55°C RH: 20% ... 90%, no condensation
Dimensions	67.5 x 25 x 87 (WxHxD, mm) without mounting studs, 67.5 x 30 x 87 (WxHxD, mm) with mounting studs 71mm x 57.5 x 90.7 (WxHxD, mm) housing for DIN rail, width 4 modules
Weight	~50g / ~100g.

EXP-O8T-RN

General description.

The EXP-O8T-RN module is used to extend the functionality of the system with 8 configurable outputs identical to those in the control panel.

Properties.

- 8 additional outputs in the system,
- NO, NC configuration
- module on the RopamNET bus, local or elevated work - bus length up to 200mb,
- configuration, properties and types of reactions like NeoGSM-IP inputs, NeoGSM-IP-PS,
- transmission from EXP-I8-RN inputs: SMS / VOICE / CLIP / IP.
- disconnecting terminal connectors.
- assembly in a housing for a DIN rail (version - D4M).

Destiny.

EXP-O8T-RN is an output module compatible with the NeoGSM-IP alarm panel.
The module increases by eight the number of transistor outputs (GND control, Rdc 500mOhm) in the system.

Warnings.

- ***For safety reasons, the device should only be configured by qualified installers.***
- ***Before starting the configuration, read the understanding with the above instructions.***
- ***Do not interfere with the construction or carry out independent repairs.***

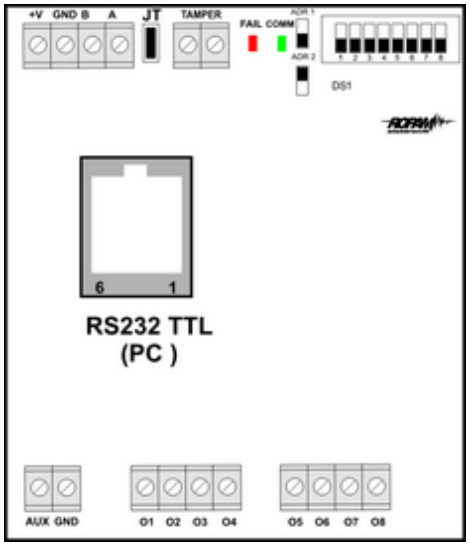
- ***It is necessary to keep possible antistatic protection measures to protect electronic circuits on PCBs against electrostatic discharge ESD.***
- ***In order to meet the requirements of LVD and EMC, the following rules must be observed: power supply, installation, shielding - according to the application.***

Module description.

Module version.

Code	Description
EXP-O8T-RN	Transistor output expander module (additional 8 inputs in the system), communication - RopamNET bus
EXP-O8T-RN-D4M	Transistor output expander module (additional 8 zones in the system), communication - RopamNET bus, DIN rail housing, width 4 modules

Construction and description.



View of the EXP-O8T-RN module

Description of the module.

Description	Properties
+V, GND	9-14VDC module power terminals
A,B	RopamNET communication bus (EIA 485)
JT	jumper terminating the RopamNET bus (only assumed if the module is located at the end of the communication bus).
Diody LED:	- FAIL red - failure, no communication with the control panel or modules connected to the NeoGSM-IP system

	- COMM green - communication with the control panel or modules connected to the NeoGSM-IP system
DS1	Dip Switch to set the module address in the system - see image.
AUX|GND	12VDC power output terminals protected by a 100mA polymer fuse
O1-O8	module outputs, parameterized in the same way as the NeoGSM-IP control panel inputs, 0.7A @ 24VDC, GND control
Protection	short-circuit OCP, overload OLP, thermal OHP, OVP overvoltage
Tamper	external tamper input for the module, status displayed and serviced from the NeoGSM-IP control panel.

Operating status indication - LED diodes

LED	*COLOR*	*SIGNALING NORMAL STATUS*	*SIGNALING OF FAILURE*
COMM	GREEN	• short flashes every 1s = correct communication with the module	• shines - no communication with the module, module not identified by the control panel.
FAIL	RED	• does not light - correct operation of the module • blinks every 0.5s - entering the firmware update mode (active bootloader, PR jumper installed)	• shines - no communication with the module

Optical signaling of the state.

Operating status indication - LED diodes.

LED	*COLOR*	*SIGNALING NORMAL STATUS*	*SIGNALING OF FAILURE*
COMM	GREEN	• short flashes every 1s: correct communication with the module	• shines - no communication with the module, module not identified by the control panel.
FAIL	RED	• does not light - correct operation of the module • blinks every 0.5s - entering the firmware update mode (active bootloader, PR jumper installed)	• shines - no communication with the module

Requirements, installation.

Basic requirements.

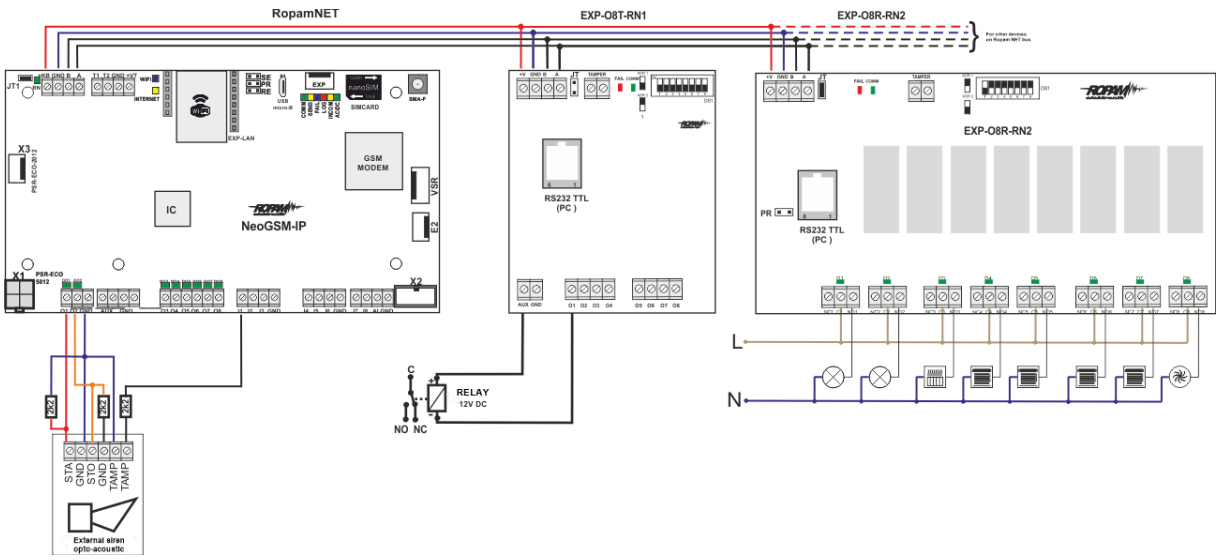
EXP-O8T-RN output expander module should be used in conditions with normal air humidity (RH = 90% max. Without condensation) and temperature from -10 ° C to + 55 ° C.
It is absolutely necessary to observe the rules of assembly of devices for low-current networks (power supply, data bus, cabling).

Installation and connection of the module.

1. Install the module in a suitable place (switchgear, external surface-mounted housing) and connect according to the description of the terminals with particular care when connecting the power cables.
2. Connect the RopamNET bus cables of the module to the NeoGSM-IP control panel according to drawing below.
3. Add the module to the control panel using the NeoGSMIPManager program.
4. Configure module outputs by needs (parameters identical to those for the NeoGSM-IP control panel).
5. Perform functional tests, check operation.
6. After completing the installation, perform user training.

Comments:
It is necessary to keep possible antistatic protection measures to protect electronic circuits on PCBs against electrostatic discharge ESD.

Module connection:



System maintenance.

The device does not require any special maintenance. During periodic technical inspections, check the condition of the screw joints, clean the PCB with compressed air.

Technical parameters.

Parameter	Value
Power supply voltage	U = 9 - 14VDC from the connector + KB, GND
Power consumption	**20mA/60mA** min/max @12VDC
Inputs O1-O8	**NO, NC, RDC 500mOhm, 700mA@24VDC**
Communication	EIA 485 RopamNET
Work signaling	LEDs: red - failure, green - communication, no communication
Working conditions	environmental class: II temp.:10°C ... + 55°C RH: 20% ... 90%, no condensation
Dimensions	67.5 x 25 x 87 (WxHxD, mm) without mounting studs, 67.5 x 30 x 87 (WxHxD, mm) with mounting studs 71mm x 57.5 x 90.7 (WxHxD, mm) housing for DIN rail, width 4 modules
Weight	~50g / ~100g.

EXP-O8R-RN

General Description.

The EXP-O8R-RN module is used to extend the functionality of the system with 8 configurable outputs identical to the one in the control panel.

Properties.

- 8 additional outputs in the system,
- NO, NC configuration,
- module on the RopamNET bus, local or elevated work - bus length up to 200mb,
- configuration, properties and types of reactions like NeoGSM-IP inputs,
- disconnect terminal connectors,
- potential-free contacts C, NO, NC,
- high quality relays (AC1: 16A / 250V, AC3: 750W single-phase motor),
- assembly in a housing for a DIN rail (width 9 modules).

Destiny.

EXP-O8R-RN is an output module compatible with the NeoGSM-IP / NeoGSM-IP-PS alarm control panel.
The module increases by eight the number of relay outputs (AC1: 16A / 250V, AC3: 750W 1-phase motor, contacts: C / NO / NC) in the system.

Warnings.

- ***For safety reasons, the device should only be configured by qualified installers.***

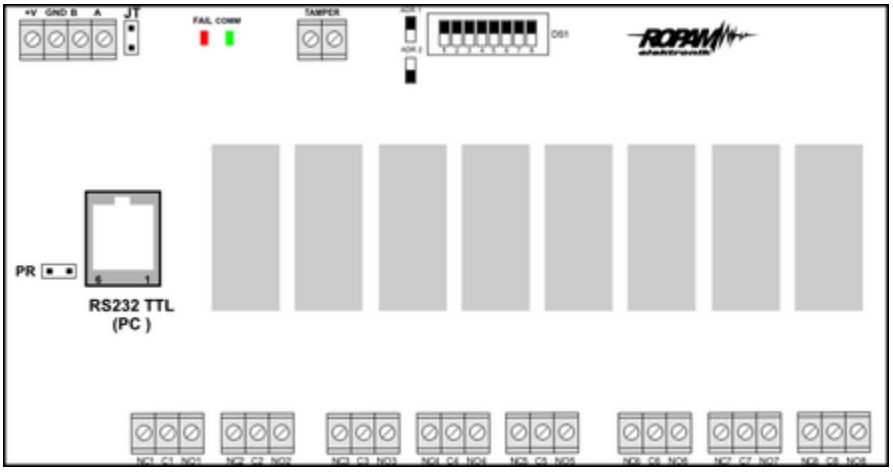
- ***Before starting the configuration, read the understanding with the above instructions.***
- ***Do not interfere with the construction or carry out independent repairs.***
- ***It is necessary to keep possible antistatic protection measures to protect electronic circuits on PCBs against electrostatic discharge ESD.***
- ***In order to meet the requirements of LVD and EMC, the following rules must be observed: power supply, installation, shielding - according to the application.***

Module description.

Module version.

Code	Description
EXP-O8R-RN-D9M	Expander module of relay outputs (additional 8 relay outputs in the system), communication - RopamNET bus, housing for DIN rail, width of 9 modules

Construction and description.



Module view EXP-O8R-RN

Module description.

Description	Properties
+V, GND	9-14VDC module power terminals
A,B	RopamNET communication bus (EIA 485)
JT	jumper terminating the RopamNET bus (only assumed if the module is located at the end of the communication bus).
LEDs:	- FAIL red - failure, no communication with the control panel or modules connected to the NeoGSM-IP system-

	COMM green - communication with the control panel or modules connected to the NeoGSM-IP system
DS1	Dip Switch to set the module address in the system - see image.
NCx,Cx,NOx	Relay contact terminals, NO - normally open contact, C - common contact, NC - normally closed contact
O1-O8	Module outputs, parameterized identically to the inputs of the NeoGSM-IP control panel, (AC1: 16A / 250V, AC3: 750W single-phase motor)
Assembly	DIN-TS35 DIN rail housing, 9 modules wide
Tamper	External temperature input for the module, status displayed and operated from the level of the NeoGSM-IP control panel.

Optical signaling of the state.

Operating status indication - LED diodes

LED	*COLOR*	*SIGNALING NORMAL STATUS*	*SIGNALING OF FAILURE*
COMM	GREEN	• short flashes every 1s: correct communication with the module	• shines - no communication with the module, module not identified by the control panel.
FAIL	RED	• does not light - correct operation of the module • blinks every 0.5s - entering the firmware upgrade mode (active bootloader, PR jumper installed)	• shines - no communication with the module

Requirements, installation.

Basic requirements.

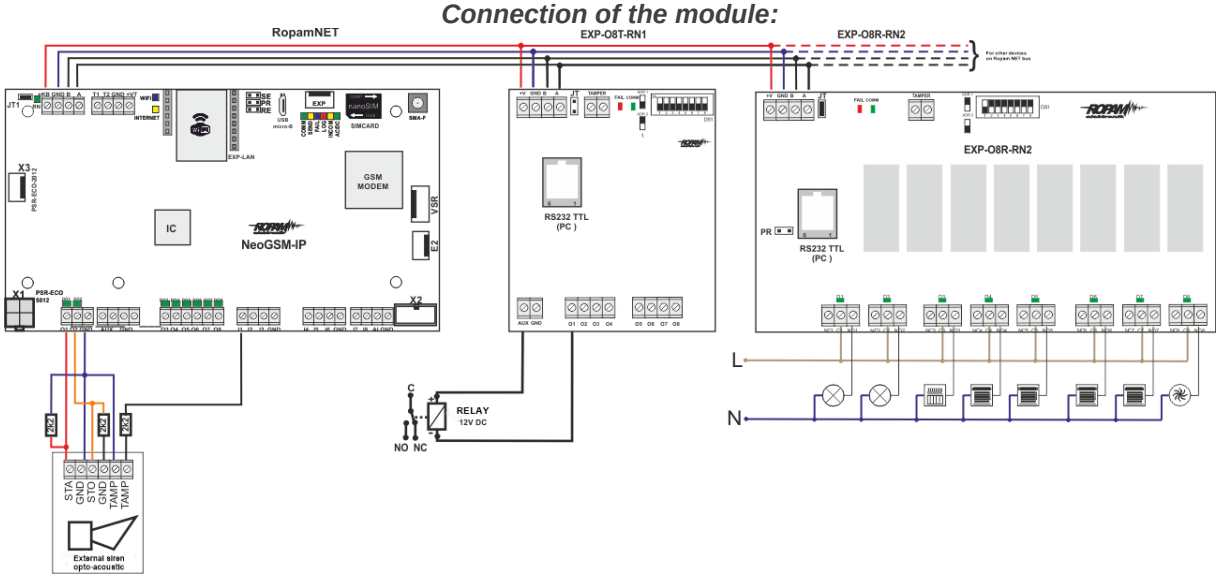
EXP-O8R-RN output expander module should be used in conditions with normal air humidity (RH = 90% max. Without condensation) and temperature in the range of -10 ° C to + 55 ° C.
It is absolutely necessary to comply with the installation rules for 230VAC mains (power supply, cabling).
It is absolutely necessary to observe the rules of assembly of devices for low-current networks (power supply, data bus, cabling).

Installation and connection of the module.

1. Install the module in the appropriate place (switchgear, external surface-mounted housing) and connect in accordance with the description of the terminals, taking particular care while connecting the power cables.
2. Connect the RopamNET bus cables of the module to the NeoGSM-IP control panel according to drawing below.
3. Add the module to the control panel using the NeoGSMIPManager program.
4. Configure module outputs by needs (parameters identical to those for the NeoGSM-IP control panel).
5. Perform functional tests, check operation.
6. After completing the installation, perform user training.

Comments:
It is necessary to keep possible antistatic protection measures to protect electronic circuits on PCBs against electrostatic discharge ESD.

Connection of the module:



System maintenance.

The device does not require any special maintenance. During periodic technical inspections, check the condition of the screw joints, clean the PCB with compressed air.

Technical parameters.

Parameter	Value
Power supply voltage	U = 9 - 14VDC from the connector + KB, GND
Power consumption	300mA max @12VDC
Outputs O1-O8	**C, NO, NC, (AC1: 16A / 250V, AC3: 750W 1-phase motor)**

Parameter	Value
Communication	EIA 485 RopamNET
Work signaling	LEDs: red - failure, green - communication, no communication
Working conditions	environmental class: II temp.:10°C ... + 55°C RH: 20% ... 90%, no condensation
Dimensions	159.5 mm x 57.5 x 90.2 (WxHxD, mm) housing for DIN rail, width 9 modules
Weight	~320g.

APm-Aero

General description.

Properties.

- Aero system controller (AP AccessPoint),
- support for 8 to 16 Aero devices in system mode,
- compliance with SSWiN PN-EN 50131-1 step 2,
- bi-directional, encrypted (AES 128-bit) communication in the ISM 868 MHz band,
- high RF sensitivity up to -110 dBm,
- automatic control of transmit power, up to + 10dBm, depending on strength (RSSI) and transmission quality (LQI),
- range above 300m in the open area,
- RopamNET bus for system communication,
- programming and diagnostics of the controller and Aero devices from the control panel level,
- full supervision and transfer of statuses to Aero devices, presence control, link quality, battery status,
- the unique ID-Aero of each controller allows for proper operation within the range of another Aero system,
- non-volatile configuration memory,
- optical work signaling,
- power supply: 9V ÷ 14V / DC,
- ABS surface-mounted housing white - dimensions: 80x80x25 [mm],
- cooperation with systems: NeoGSM-IP,
- in NeoGSM-IP systems, the Aero controller or the EXP-I8 local expander can be operated,
- anti-sabotage protection,

Destiny.

Controller, ccess point (AP) of the Aero system is designed to integrate Aero wireless devices with Ropam Elektronik systems via the RopamNET bus. Kontroler nadzoruje i zbiera informacje z bezprzewodowych urządzeń Aero.

Warnings.

- ***For safety reasons, the device should only be installed by qualified installers.***

- ***Before starting assembly, read the understanding with the above instructions, connection activities should be carried out without the power supply connected.***
- ***Do not interfere with the construction or carry out independent repairs.***
- ***It is necessary to keep possible antistatic protection measures to protect electronic circuits on PCBs against electrostatic discharge ESD.***
- ***In order to meet the requirements of LVD and EMC, the following rules must be observed: power supply, installation, shielding - according to the application.***

Controller description.

Controller versions.

Code	Description
APm-Aero	System controller Aero (AP AccessPoint), RopamNET bus, surface-mounted ABS housing white - dimensions: 80x80x25 [mm].

Construction and description.

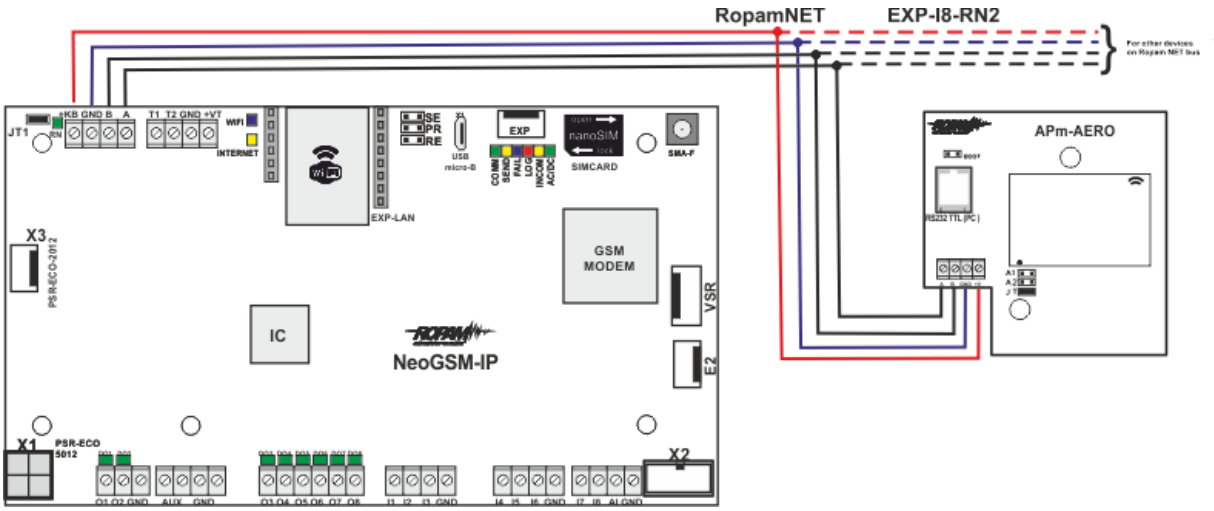
Element (vice)	Description, function
12V	DC power input: 9V ÷ 14 V / DC
GND	voltage terminal GND (0V) 'mass' power (GND-GND)
A, B	ROPamNET EIA485 system bus connector, connection principle A-A, B-B (GND-GND)
STATUS**	LED diode - green operation indicator: system work on the RopamNET bus Every 0.5s flashes = correct work and communication shines = correct power supply no connection via RopamNET

Assembly and installation.

Basic requirements.

The controller should be installed in closed rooms with normal air humidity (RH = 90% max. Without condensation) and temperature in the range of -10 °C to + 55 °C. When choosing a mounting location, the following criteria should be followed:
- range of the radio controller (attenuation of the walls of the room: wood / plaster - about 5% -20%, brick / ceramics: by 20% -50%, concrete / reinforced concrete: by 50% -80%, metal / steel: by 100%)
- assembly optimally centrally in relation to the expected range (radius) of pilots work,
- controller availability for third parties and sabotage attempts,
- maintaining a safe distance from sources of possible interference (eg 230V / AC power buses - buildings, radio transmitters, etc.).

Installing the controller.



1. Install the controller housing in a suitable place and enter the appropriate wiring through the cable glands.
2. Connect the power wires to the terminals. In the case of NEO / NeoGSM-IP:
+ KB - 12V, GND - GND
3. Connect, in cooperation with the NeoGSM-IP system, the RopamNET bus (3-wire):
A-A, B-B, GND-GND.
4. Add the module to the control panel using the NeoGSMIPManager program.
5. Connect (optional) the device to the controller outputs.
6. Start the system, turn on the controller's power supply.
7. Controller software: for system operation from the control panel level and the NeoGSM-IP application.
8. Perform functional tests, check range.
9. After completing the installation, perform user training.

Comments:
It is necessary to keep possible antistatic protection measures to protect electronic circuits on PCBs against electrostatic discharge ESD.

Configuration.

Configuration: NeoGSMIPManager.

Controller is configured from the level of the control panel.

NeoGSMIPManager: AP-Aero.

NeoGSMIPManager program tab: APx-Aero.
The controller configuration and the RSSI radio signal level are available.

Device status window (detectors):

ID: Device number in the controller -> entry number in the system.

Type: Aero device type.
Violation: state of the detector, motion detection.
Tamper: state of anti-sabotage circuit.
Slevel: communication level Aero (Excellent / Good / Weak), results from RSSI and LQI parameters.
RSSI: radio signal level (range -20 to -110 dBm).
Note: If there is another transmitter on the 868MHz band nearby, the RSSI reading (background) is lower, for the system it is a disturbance, increased ISM background.
LQI: radio transmission quality, lower value = **better quality**,
Vbat [V]: battery voltage in the detector, the new battery has 3.5-3.6V.
Warning: after installing the new battery reaches its nominal parameters only after about 24 hours of work in the detector, this is due to the battery construction, very low power consumption by the detector, ambient temperature.
Connection with AP: status of communication with detector.
Sensitivity: sensitivity parameter of the detector detection algorithm.
1: lowest sensitivity
...
8: highest sensitivity
Low sensitivity values also reduce real detection range. For applications in which animal resistance (PET) is to be used, use parameters 1 to 4.
Pulses: signal analysis time parameter, SmartPIR algorithm.
PULSE 1: the shortest sampling time, signal analysis
…..
PULSE 4: the longest sampling time, signal analysis
The parameter specifies sampling time for the SmartPIR algorithm. Each value allows effective detection, under normal conditions it is recommended to use PULSE 1-2 and for applications in which there may be interference or be resistant to animals (PET) PULSE 3-4.
PetImmunity: detector has the option of resistance to pets: cats, dogs up to 40 cm high and up to 30 kg and rodents. The detector has a default resistance to animals up to 12 kg. Detector must be mounted to a perpendicular wall relative to the floor, at the nominal height, do not point the detector on the bracket towards the floor. Animals can move around the floor of the protected area. The protected area must not contain furniture, shelves on which animals can move. The detector requires proper configuration regarding sensitivity and time of analysis (Pulse).

Configuration of detectors:

Learning mode: launches learning mode, adding new detectors.

Procedure:
- open detector and install the battery in the first detector according to the polarity. The detector after setting up the connection with the AP will generate two series of flashes (blue diode) with the device number in the AP (eg address 2 two series of flashes after two flashes),
- repeat point 2 for all detectors, detectors receive system no. according to the order of addition,
- check the status of detectors in the controller (RSSi, LQI), change the configuration for individual detectors, save the settings to detectors from AP level.

Remove detector no. X: removes the selected detector from the controller's memory, x; 1-16 (currently connected to AP).
Delete all detectors: the function removes all detectors from the controller (currently connected to the AP).
Read the detector settings: the function gets settings from the detectors.
Send sensor settings: the function sends settings to all detectors.

Enable WalkTest: the option starts the test mode in the detectors, motion detection is indicated by the WalkTest diode. Active mode only during programming also causes more frequent than the interval monitoring of Aero devices (RSSI, Vbat) resulting from the interval.

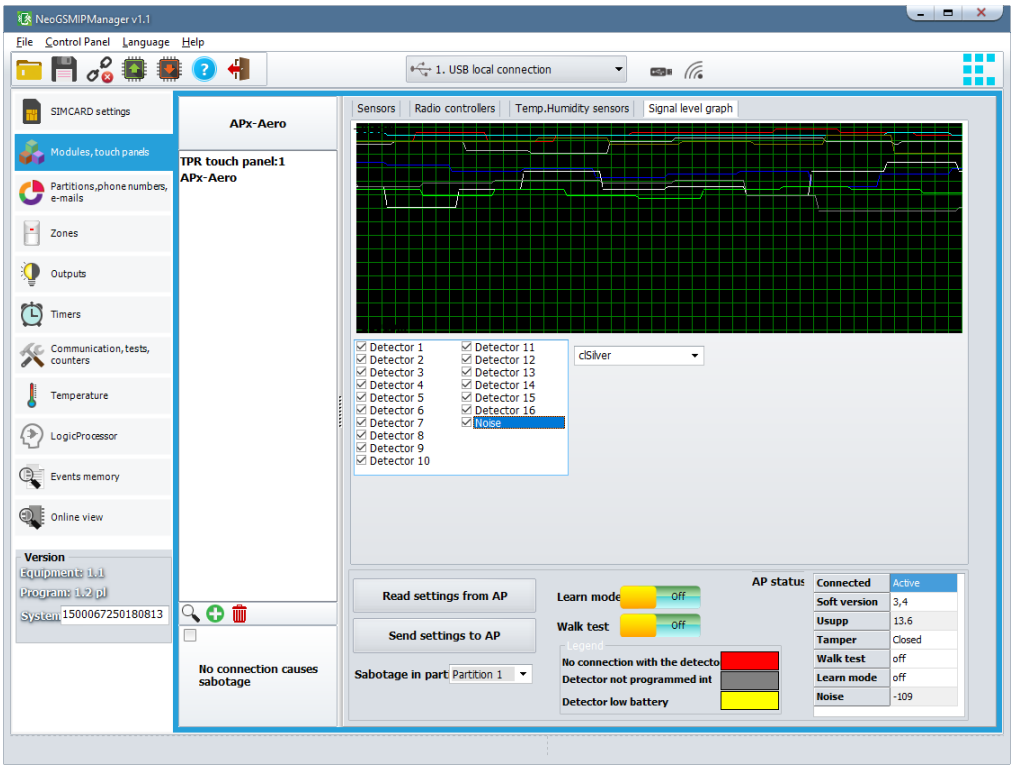
Wireless communication interval: detector status control interval has three compartments: 30/60/90 s (60s by default). For maximum battery life, select the interval of 90 seconds. **Control interval affects how long the AP command will be sent to the detector, including: watch (supervision), WalkTest. All alarms, sabotages are sent without delay to the AP controller.** The detector automatically controls the transmission power, in order to obtain effective communication and for maximum battery life.
Comments:
If the detector / transmitter is not connected to the AP (eg after turning off the AP power supply), the detector goes into the power saving state. **Subsequent attempts to connect and synchronize take place every 1 minute.**

Loss of wireless communication (disarmed): the function allows you to select the system's reaction to the loss of connection when the system is not armed (no supervision). The option allows selection: sabotage (loud alarm) or failure.
In system standby mode (supervision), the loss of Aero connectivity is a sabotage of the system.

Module status window (AP STATUS):

- **Connected:** connection status with the NeoGSM-IP control panel (yes / no)
- **Soft version:** the firmware version in the APm Aero device
- **Usupp:** supply voltage at the module power terminals
- **Tamper:** monitoring the opening of the APm device enclosure (open / closed)
- **Walk Test:** information about switching on the Aero system test (detector) during system configuration (on / off)
- **Learn Mode:** information about enabling learning mode for Aero devices (detectors, remote controls, modules) during system configuration (on / off)
- **Noise:** the value of the signal noise in the Aero system operating range, the limit value for the detection of jamming is -85 [dBm]

Graph of the RSSI signal level.
A level histogram is available for each detector, distinguishing by color.



Technical parameters.

Parameter	Value
Power supply voltage	U = 9V ÷ 14VDC (from the RopamNET bus or in accordance with the II class of insulation)
Power consumption	~ 25mA @12VDC
Aero communication in the ISM band	886.000 MHz ... 870,000 MHz sensitivity: -110 dBm, transmit power: up to + 10dBm, FSK modulation
System communication	EIA-485 - RopamNET system bus
Programming	From the level of the alarm control panel - system operation.
Working conditions	environmental class: II temp.: -10 ° C ... + 55 ° C RH: 20% ... 90%, no condensation
Connectors	AWG: 24-18, separable
Dimensions, weight.	80x80x25 (WxHxD, mm), antenna built into the PCB surface-mounted ABS cabinet white with optical signaling, ~ 70g

Keyfob-Aero

General descriptiom.

Properties.

- Aero system keyfob (Keyfob-Aero),
- compliance with SSWiN PN-EN 50131-1 step 2,
- bi-directional, encrypted (AES 128-bit) communication in the ISM 868 MHz band,
- high RF sensitivity up to -110 dBm,
- coverage above 200m in the open area,
- programming and diagnostics of the Aero remote control from the control panel level,
- full supervision and transfer of system statuses, presence control, link quality, battery status,
- the unique ID-Aero of each controller allows for proper operation within the range of another Aero system,
- optical and sound signaling of work,
- power supply: 3VDC, CR2032
- ABS housing white / black,

Destiny.

Remote control Keyfob-Aero is designed to work with Aero Ropam Elektronik wireless devices and, through them, to control the alarm system / building automation or control selected functions of the system.

Warnings.

- ***For safety reasons, the device should only be configured by qualified installers.***
- ***Before starting the configuration, read the understanding with the above instructions.***
- ***Do not interfere with the construction or carry out independent repairs.***
- ***It is necessary to keep possible antistatic protection measures to protect electronic circuits on PCBs against electrostatic discharge ESD.***
- ***In order to meet the requirements of LVD and EMC, the following rules must be observed: power supply, installation, shielding - according to the application.***

Remote control description.

Remote control versions.

Code	Description
Keyfob-Aero-W	System Aero bidirectional remote control (Keyfob-Aero), ABS housing white.
Keyfob-Aero-B	System Aero bidirectional remote control (Keyfob-Aero), ABS housing black.

Construction and description.

Keyfob-Aero remote control view

Description of the AERO remote control - LED RGB / buzzer interface.

1. Remote control unprogrammed when the button is pressed blinks white.
2. Remote control programmed when the button is pressed blinks blue.

Checking the zone status (RGB LED signaling, buzzer):

1. Unarmed zone, the diode blinks twice in green (buzzer 2x),
2. Armed zone, the diode will blink once in red (buzzer 1x),
3. Area armed night, the diode blinks once in violet (buzzer 1x),
4. Alarm / Tampering in the zone, the diode blinks ten times red (buzzer 10x tons high),
5. Not ready when arming in the zone, the diode blinks five times in red (buzzer 5x).

Transmission errors (RGB LED signaling, buzzer):

Remote control tries to transmit two times, then reports a transmission error. The diode blinks once red (buzzer 1x tons low).

Requirements, installation.

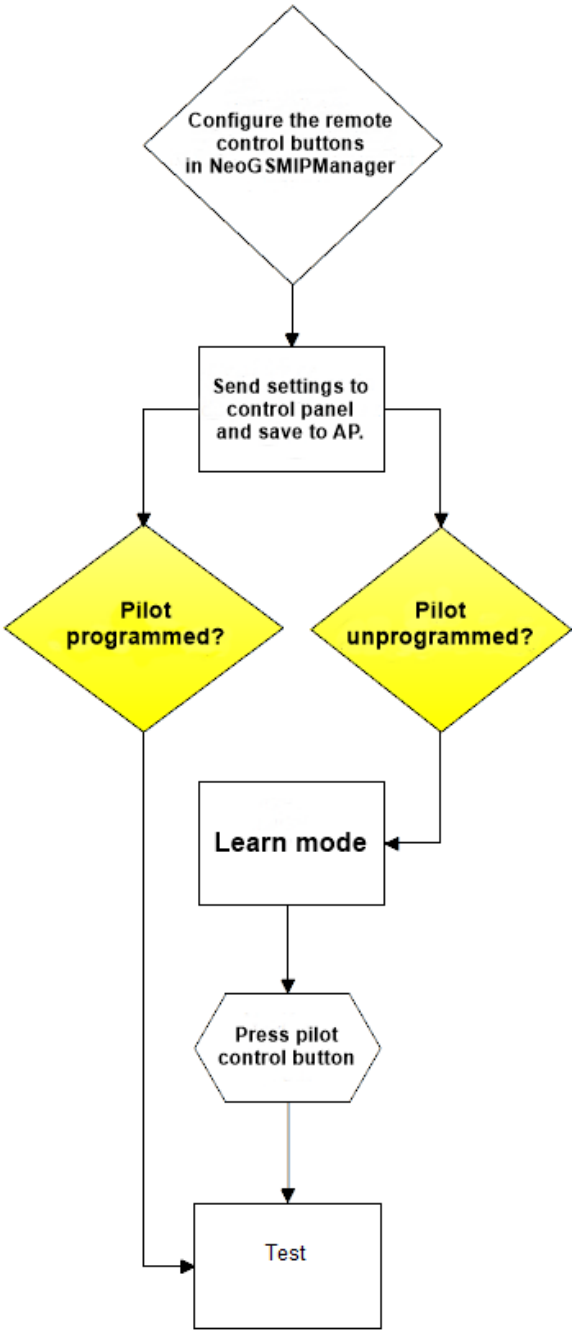
Basic requirements.

Keyfob-Aero remote control should be used in conditions with normal air humidity (RH = 90% max. Without condensation) and temperature in the range of -10 ° C to + 55 ° C. When selecting the installation location of the receiver (APx-Aero), the following criteria should be followed:
- radio remote control range (attenuation of walls of a room: drewno / gips- about 5% -20%, brick / ceramics: by 20% -50%, concrete / reinforced concrete: by 50% -80%, metal / steel: by 100%)
- assembly optimally centrally in relation to the expected range (radius) of pilots work,
- controller availability for third parties and sabotage attempts,
- maintaining a safe distance from sources of possible interference (eg 230V / AC power buses - buildings, radio transmitters, etc.).

Configuration.

Preparing the system for work.

Depending on whether the remote control is programmed into the system or not - the procedure for configuring the remotes to operate with the selected Ropam Elektronik production system is presented below.



Procedure for adding a non-programmed remote control to the system:

Learning mode in a dedicated software program: launches learning mode, adding new pilots.

Procedure:
- enable the learning mode in the NeoGSMIPManager program,
- press any button on the remote control, the appropriate message will be displayed in the program window (the LED blinks blue),
- test operation of the remote control by settings in the program,

The procedure of removing programmed remote from the system:
- open the case of the remote control, press the first two buttons (reset) simultaneously, insert the battery, the LED on the remote control will light up in white, the buzzer 1x
- repeat point 1 for all pilots to be removed from the system

Configuration: NeoGSMIPManager.

Remotes in system operation are configured from the level of the control panel.

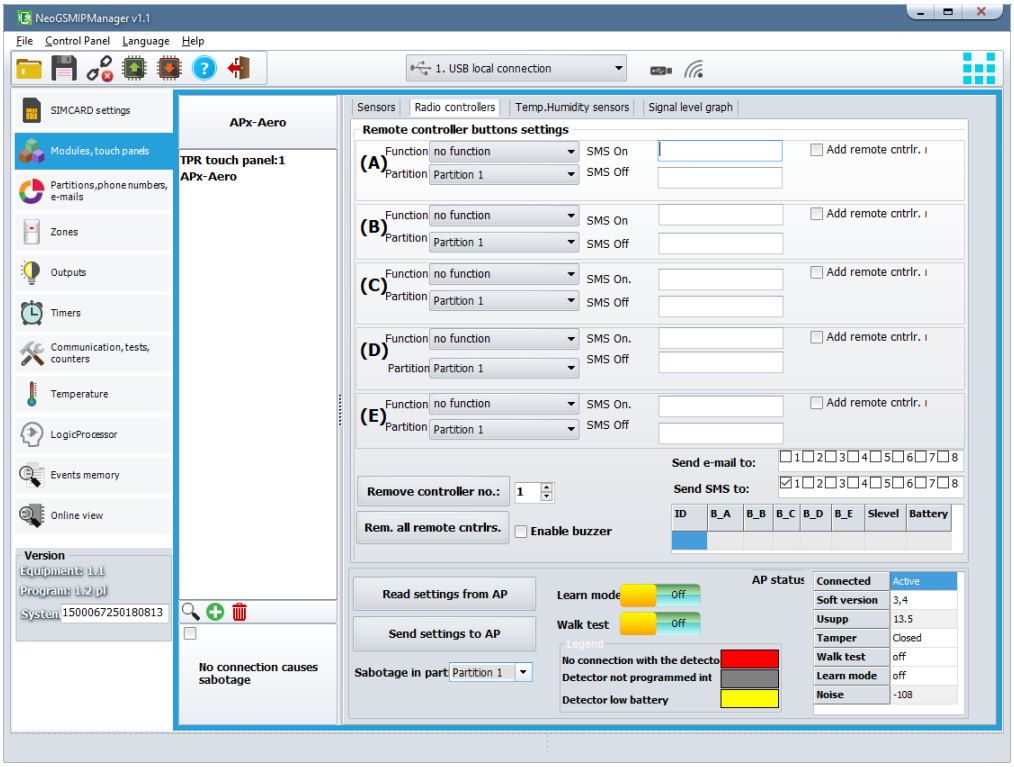
NeoGSMIPManager: AP-Aero.

NeoGSMIPManager tab: Modules, touch panels: APx-Aero.
The controller configuration and the RSSI radio signal level are available.

AP-AERO tab, Remotes:

Remove the keyfob x: removes the indicated keyfob from controller's memory, x; 1-16 (currently connected to AP).
Delete all keyfobs: function deletes all keyfobs from controller (currently connected to the AP).
Read settings from AP: function retrieves settings from AP.
Transfer settings to AP: function sends settings to the AP.

Two-way remote controls configuration window:



Configuration of channels (pilots).

- Button (A) / (B) / (C) / (D) / (E): select the action in the system for a particular channel.

Options:

no function,
on / off. full arm,
on / off night arm,
on full arm mode,
on night arm,
off arm / alarm,
loud panic,
check status.

- ***SMS on./SMS off***.; enter the message content for a particular event, eg for **on / off full arm** you can enter **SMS on / SMS off** and for **on full armed** mode you can enter: **SMS on**, etc.
- ***Add remote cntrl.***: selecting the function adds to the content of the SMS the pilot / detector number that generated the event.
- ***Send e-mail to:*** control panel allows you to specify phone numbers to which e-mails will be sent;
- ***Send SMS to:*** control panel allows you to specify phone numbers to which SMS will be sent;
- **Remove controller no.:** removes selected number o remote controller (1-16) from Aero system
- **Rem. all remote cntrlrs:** removes all remote controllers programmed into Aero system..

Remote control status window:

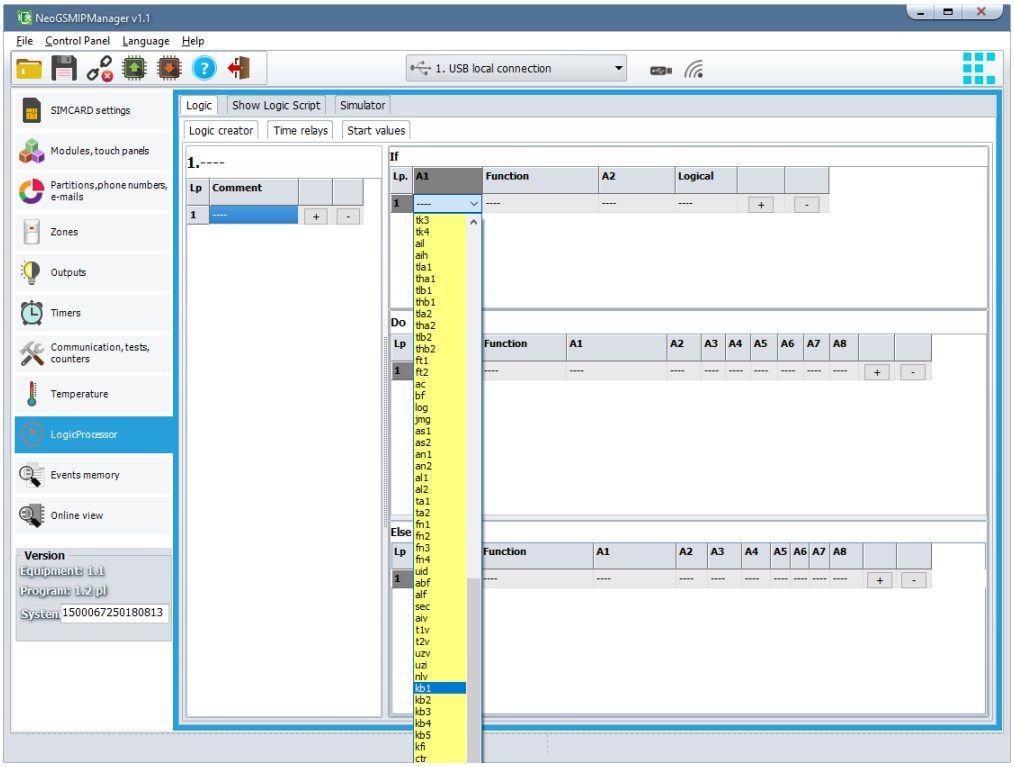
ID	B_A	B_B	B_C	B_D	B_E	Slevel	Battery
4						Good	Ok

ID – romote controller number programmed into the system (1-16),
B_A - B_E - button control light on the remote control (visible in the module programming mode),
Slevel - Aero communication level (range -20 to -110 dBm),
Bateria - battery status in Keyfob Aero remote controller (Ok, Poor).

Flags for the pilot in LogicProcessor.

In the Logic Processor tab, you can select the flags corresponding to each of the remote control buttons and set the appropriate action for them as needed.

Flags in LP for Keyfob-Aero:
- kb1,
- kb2,
- kb3,
- kb4,
- kb5



Technical parameters.

Parameter	Value
Power supply voltage	U= 3VDC (CR2032)
Work time	~ 2 years
Aero communication in the ISM band	886.000 MHz ... 870,000 MHz sensitivity: -110 dBm, transmission power: up to + 10dBm
Programming	from the level of the alarm control panel - system operation,
Working conditions	environmental class: II temp.:10°C ... + 55°C RH: 20% ... 90%, no condensation
Dimensions, weight.	69.85 x 34.80 x 17.53 (WxHxD, mm), antenna built into the PCB, ABS casing white / black with optical signaling, ~ 25g

IO-Aero.

General description.

Properties.

- system Aero wireless I / O module (IO-Aero),
- compliance with SSWiN PN-EN 50131-1 step 2,
- two-way, encrypted (AES 128-bit) communication in the ISM 868 MHz band,
- high RF sensitivity up to -110 dBm,
- automatic control of transmit power, up to + 10dBm, depending on strength (RSSI) and transmission quality (LQI),
- coverage above 200m in the open area,
- programming and diagnostics of Aero devices from the control panel level,
- full supervision and status transfer to Aero devices, presence control, link quality, battery status, presence of basic power supply,
- unique ID-Aero of each module allows for proper operation within the range of another Aero system,
- non-volatile configuration memory,
- optical work signaling,
- power supply: 3.6V / DC battery, or external 9-14VDC
- ABS surface-mounted housing white - dimensions: 80x80x25 [mm],
- cooperation with systems: NeoGSM-IP,
- anti-sabotage protection,

Destiny.

The IO module of the Aero system is intended for the wireless integration of wired devices (detectors, reed switches, etc.) with Ropam Elektronik systems via the wireless Aero system.

It allows you to extend the functionality of the system with wireless devices in the absence of wired resources (cabling).

Warnings.

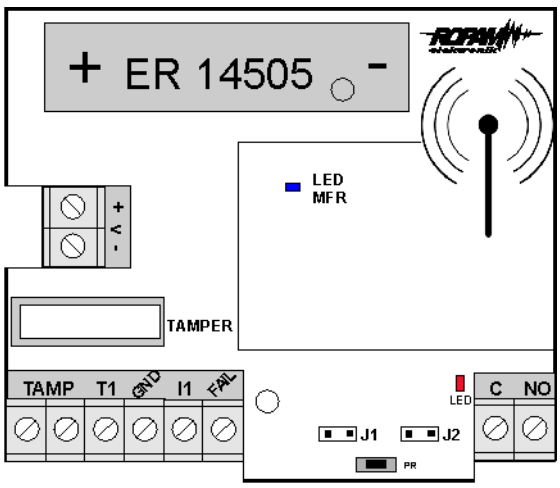
- ***For safety reasons, the device should only be installed by qualified installers.***
- ***Before starting assembly, read the understanding with the above instructions, connection activities should be carried out without the power supply connected.***
- ***Do not interfere with the construction or carry out independent repairs.***
- ***It is necessary to keep possible antistatic protection measures to protect electronic circuits on PCBs against electrostatic discharge ESD.***
- ***In order to meet the requirements of LVD and EMC, the following rules must be observed: power supply, installation, shielding - according to the application.***

Module descriptionm.

Versions of the IO-Aero module.

Code	Description
IO-Aero	System Aero module, wireless communication, surface-mounted ABS housing white - dimensions: 80x80x25 [mm].

Construction and description.



View of the IO-Aero module

Element (vice)	Description, function
+V-	DC power input: 9V ÷ 14 V / DC
GND	voltage terminal GND (0V) 'mass' power (GND)

TAMP	NC tamper output terminals
T1	external tamper input
I1	alarm input (for connecting an external device, type NC)
Fail	failure output (OC, 100mA @ 30VDC), signal output - GND, normal state - HiZ
C	COM relay output (0.5A / 125V AC1, 2A / 30V DC)
NO	COM relay output (0.5A / 125V AC1, 2A / 30V DC)

1. Input T1 NC min violation time 1s.
2. Input I1 NC min violation time 2s!
3. OUT output refresh every AERO communication interval eg: 90s.
4. J1 jumper removing / programming to the AERO system
5. Jumper J2 operating mode IO:
   - assumed, IO sends alarms from the input only when the system is armed
   - taked off, IO sends alarms all the time regardless of the weapon
6. FAIL output - short to ground if no connection to AP
7. LED blinking red at start in mode when jumper J2:
   - assumed, IO sends alarms all the time regardless of the weapon
   - taked off, IO sends alarms only when the system is armed

Assembly and installation.

Basic requirements.

The module should be installed in closed rooms with normal air humidity (RH = 90% max. Without condensation) and temperature in the range of -10 ° C to + 55 ° C. When choosing a mounting location, the following criteria should be followed:
- range of the radio controller (attenuation of the walls of the room: drewno / gips- about 5% -20%, brick / ceramics: by 20% -50%, concrete / reinforced concrete: by 50% -80%, metal / steel: by 100%)
- assembly optimally centrally in relation to the anticipated range,
- module availability for third parties and sabotage attempts,
- maintaining a safe distance from sources of possible interference (eg 230V / AC power buses - buildings, radio transmitters, etc.).

Description and operation of IO-Aero module.

The system wiring should be made using low-current cables.
Signals and power supply should be carried out in one cable.

Module checks the status:
- I1 input on the module's board,
- controls the OUT output according to the settings in the control panel, see table:

System NeoGSM-IP:

Nr of input in the system	Nr of output in the system
I13	O1
I14	O2
I15	O3
I16	O4
I17	O5
I18	O6
I19	O7
I20	O8

System NeoGSM-IP:

Nr of input in the system	Nr of output in the system
According to the allocation of entries	

Installation and programming of the IO module.

1. Install the module housing in a suitable place and enter the appropriate wiring through the cable glands.
2. Connect the power wires to the terminals (wired supply).
3. Install the battery in accordance with the polarity (battery supply when there is no power supply available).
4. Connect devices to the module's I / O.
5. Start the system, turn on the controller's power supply.
6. Program the module: in system operation from the control panel level and the NeoGSMIPManager application.
7. Perform functional tests, check range.
8. After completing the installation, perform user training.

Module programming procedure:

1. Start the procedure of adding devices in the Aero controller (system work: NeoGSMIPManager->Modules, touch panels-> APx-Aero-> Enable - Learn mode
2. Open the module and install the battery in the first module according to the polarity. The module after combining the connection with AP will generate a series of flashes (blue diode).
3. Repeat point 2 for all modules, IO modules receive system number according to the order of addition.
4. Check the status of the modules in the controller (RSSi, LQI), save the settings to the AP.

Comments:
It is necessary to keep possible antistatic protection measures to protect electronic circuits on PCBs against electrostatic discharge ESD.

Reset procedure for lips factory.

Reset procedure of the module to factory settings:

1. A module programmed into the AP controller (with a unique ID-Aero) can not be programmed into another AP, it needs to be reset.
2. Reset procedure:
Remove the battery from the module → put the jumper on J1 pins → install the battery → remove the jumper within 10s.
The module will confirm the reset by a series of flashes with a blue LED 10x every 100ms.
3. The module has reset ID-Aero (to factory), is ready for new programming.

Configuration.

Configuration: NeoGSMIPManager.

The module during system operation is configured from the control panel level.

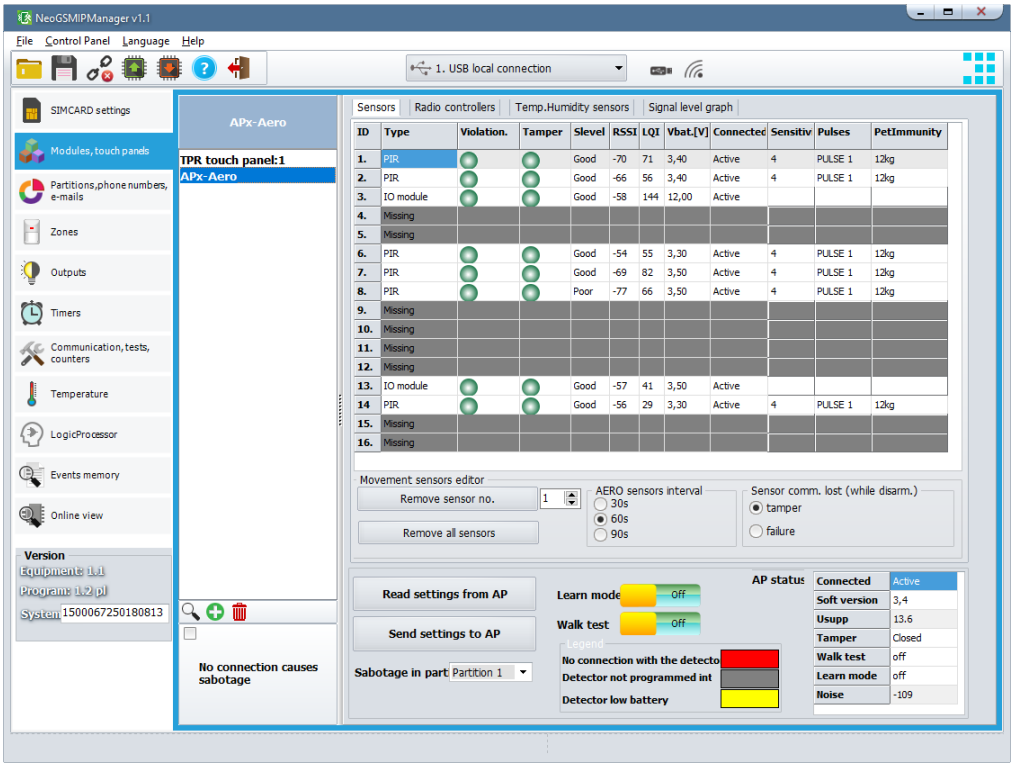
Requirements:

- cooperation with the system: NeoGSM-IP,

NeoGSMIPManager: AP-Aero.

NeoGSMIPManager program tab: Modules, TPR panels: APx-Aero.
The controller configuration and the RSSI radio signal level are available.

Device status window (detectors, IO modules):



Configuration of detectors / IO modules:

Learning mode: starts learning mode, adding new detectors / modules.

Procedure:
- open the detector / module and install the battery in the first detector or module in accordance with the polarity. The detector / module after combining the connection with the AP will generate two series of flashes (blue diode) with the device number in the AP (eg address 2 two series of flashes after two flashes),
- repeat point 2 for all detectors / modules, detectors / modules receive system number according to the order of addition,
- check the status of detectors / modules in the controller (RSSi, LQI), change the configuration for individual detectors / modules, save settings to detectors / modules from the AP level.

Remove sensor no. X: removes the selected detector or module from the controller's memory, x; 1-16 (currently connected to AP).
Remove all sensors: function removes all detectors / modules from the controller (currently connected to the AP).
Read settings from AP: function gets settings from detectors / modules.
Send settings to AP: function sends settings to all detectors / modules.

AERO sensors interval: the detector / module status interval has three intervals: 30/60/90 s (60 s factory). For maximum battery life, select the interval of 90 seconds.
The control interval affects the time after which the AP command will be sent to the detector / module including: armed mode (supervision).
All alarms, sabotages are sent without delay to the AP controller.

The detector / module automatically controls the transmission power to obtain effective communication and maximum battery life.

Comments:
If the detector / transmitter is not connected to the AP (eg after switching off the AP power supply), the detector / module goes into the power saving state.

Module status window (AP STATUS):

- Connected: connection status with the NeoGSM-IP control panel (yes / no)
- Soft version: firmware version in the APm Aero device
- Usupp: supply voltage at the module power terminals
- Tamper: monitoring the opening of the APm device enclosure (open / closed)
- Walk Test: information about switching on the Aero system test (detector) during system configuration (on / off)
- Learn mode: information about enabling learning mode for Aero devices (detectors, remote controls, modules) during system configuration (on / off)
- Noise: the value of the signal noise in the Aero system operating range, the limit value for the detection of jamming is -85 [dBm]

System maintenance.

The device does not require any special maintenance. During periodic technical inspections, it is necessary to check the condition of screw joints, emergency power supply status, clean the PCB with compressed air. The system should be periodically tested for proper operation and communication.

Technical parameters.

Parameter	Value
Power supply voltage	U = 9V-14V DC basic / U = 3.6VDC, battery ER14505M
Power consumption	~ 2mA@12VDC / ~ 0,2mA @3,6VDC
Aero communication in the ISM band	886.000 MHz ... 870,000 MHz sensitivity: -110 dBm, transmit power: up to + 10dBm, FSK modulation
System communication	RopamNET system bus
Programming	from the level of the alarm control panel - system operation,
Working conditions	environmental class: II temp.: -10 ° C ... + 55 ° C RH: 20% ... 90%, no condensation
Connectors	AWG: 24-18, disjointed
Dimensions, weight.	80x80x25 (WxHxD, mm), antenna built into the PCB surface-mounted ABS cabinet white with optical signaling, ~ 70g

RHT-Aero

General description.

Properties.

- system module of Aero wireless temperature and humidity sensor (RHT-Aero),
- temperature measurement in the range -20 ° C to 125 ° C - external sensor TSR1-HT, -20 ° C to 70 ° C built-in temperature sensor,
- humidity measurement in the 0-100% Rh range without condensation,
- bi-directional, encrypted (AES 128-bit) communication in the ISM 868 MHz band,
- high RF sensitivity up to -110 dBm,
- automatic control of transmit power, up to + 10dBm, depending on strength (RSSI) and transmission quality (LQI),
- coverage above 200m in the open area,
- programming and diagnostics of Aero devices from the control panel level,
- full supervision and transfer of statuses to Aero devices, presence control, link quality, battery status, presence of basic power supply,
- unique ID-Aero of each module allows for proper operation within the range of another Aero system,
- non-volatile configuration memory,
- optical work signaling,
- power supply: 3.6V / DC battery, or external 9-14VDC
- ABS surface-mounted housing white - dimensions: 80x80x25 [mm],
- cooperation with the following systems: NeoGSM-IP
- anti-sabotage protection,

Destiny.

RHT-Aero module is designed for wireless temperature and humidity measurement.
Thanks to it you can integrate measurements from multiple devices (up to 4 in the NeoGSM-IP system) and analyze changes in temperature and humidity parameters.

Warnings.

- ***For safety reasons, the device should only be configured by qualified installers.***
- ***Before starting the configuration, read the understanding with the above instructions.***
- ***Do not interfere with the construction or carry out independent repairs.***
- ***It is necessary to keep possible antistatic protection measures to protect electronic circuits on PCBs against electrostatic discharge ESD.***
- ***In order to meet the requirements of LVD and EMC, the following rules must be observed: power supply, installation, shielding - according to the application.***
- ***Bearing in mind the maximum battery life in the module, avoid installing the module in places subject to extreme ambient temperatures.***
- ***If it is necessary to measure temperatures from the extreme ranges, the RHT-Aero module should be equipped with the TSR-xx sensor and lead it to the places where temperatures affecting battery life occur or connect to the module external power supply - see technical parameters.***

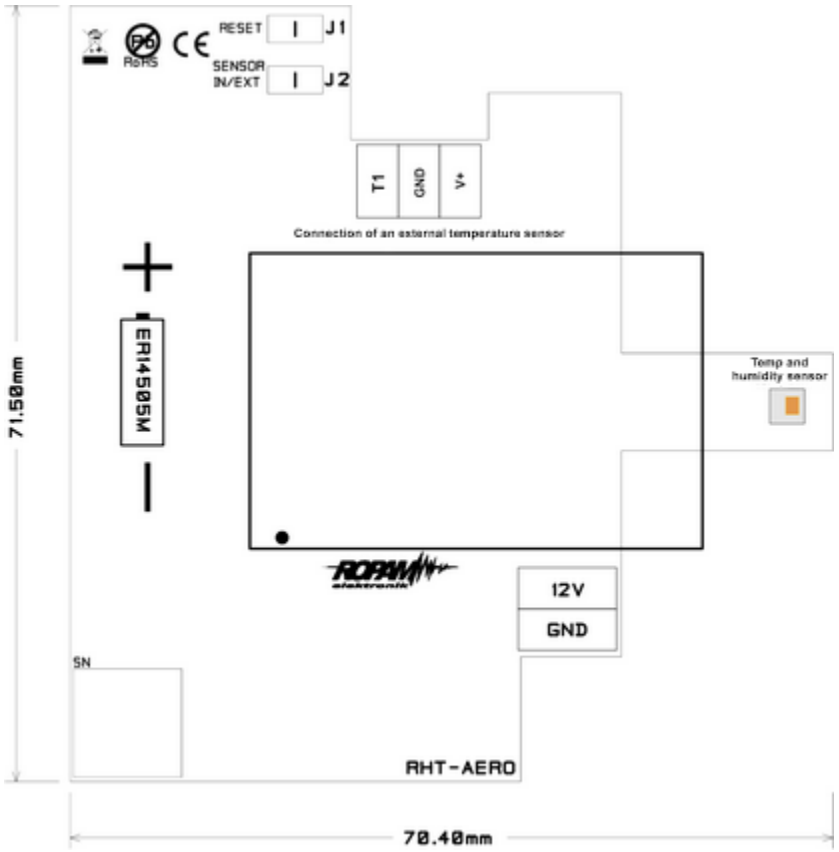
Module description.

Module version.

Code	Description
RHT - Aero	Wireless module of Aero temperature and humidity sensor.

Construction and description.

Module view:



Description of jumpers:

J1 - normal operation - jumper removed, installed - see the installation and programming procedure (deleting the detector from the system).
J2- temperature sensor selection: removed - internal module sensor, installed - external sensor TSR-xx series by Ropam Elektronik.

Description of connectors:

T1 - data from the TSR-xx digital temperature sensor
GND - power supply
V+ - power supply of the external temperature sensor (DO NOT COMBINE WITH 12V !!!)

12V - external sensor supply (eg from the alarm control panel)
GND - power supply

Assembly and installation.

Basic requirements.

The module should be installed in closed rooms with normal air humidity (RH = 90% max. Without condensation) and temperature in the range of -20 ° C to + 70 ° C. When choosing a mounting location, the following criteria should be followed:
- range of the radio controller (attenuation of the walls of the room: drewno / gips- about 5% -20%, brick / ceramics: by 20% -50%, concrete / reinforced concrete: by 50% -80%, metal / steel: by 100%)
- assembly optimally centrally in relation to the anticipated range,
- module availability for third parties and sabotage attempts,
- maintaining a safe distance from sources of possible interference (eg 230V / AC power buses - buildings, radio transmitters, etc.).

Description and operation of the RHT-Aero module.

The system wiring should be made using low-current cables.

The module checks the status of the environmental parameters:

- temperatures in the range -20 ° C to + 70 ° C, -20 ° C to + 125 ° C using an external TSR1-HT sensor
- humidity in the 0-100% Rh range without condensation

Readings from the module can be sent to the RopamNeo application, read locally in TPR-4 touch panels, text messages.

Installation and programming of the RHT-Aero module.

1. Install the module housing in a suitable place and enter the appropriate wiring through the cable glands.
2. Connect the power wires to the terminals (wired supply).
3. Install the battery in accordance with the polarity (battery supply when there is no power supply available).
4. Start the system.
5. Software module: from the control panel and the NeoGSMIPManager application.
6. Perform functional tests, check range.
7. Perform functional tests, check range. After installation, perform user training.

Module programming procedure:

1. Start the procedure of adding devices in the Aero controller (system work: NeoGSMIPManager-> APx-Aero-> Modules, touch panels-> Enable - Learn mode.
2. Open the module and install the battery in the first module according to the polarity. The module after combining the connection with AP will generate a series of flashes (blue diode).
3. Repeat point 2 for all modules, the RHT-Aero modules receive the system number according to the order of addition.
4. Check the status of modules in the controller (RSSi, LQI), save settings to RHT-Aero modules.

Procedure of removing the module from the system:

1. A module programmed into the AP controller (with a unique ID-Aero) can not be programmed into another AP, it needs to be reset.
2. **Remove the battery from the module → set jumper J1 → install the battery → remove the jumper within 10s.**
The module will confirm the reset by a series of flashes with a blue LED 10x every 100ms.
3. The module has reset ID-Aero and settings (to factory), is ready for new programming.

Comments:
It is necessary to keep possible antistatic protection measures to protect electronic circuits on PCBs against electrostatic discharge ESD.

RHT-Aero flags in LogicProcessor.

The functions of temperature and humidity reading of Aero wireless sensors in LP are as follows:
- gettw (1-4) (temperature)
- getthw (1-4) (humidity)

Example:

th1 = gethw (1); gets the humidity from sensor 1 aero into the variable th1

If the control panel detects a sensor read error, it is signaled by the following values: -999 for temp and 255 for humidity.

An example logic script using data from RHT sensors:

Function allows you to control the outputs (devices connected to them) depending on the set parameters (temperature, humidity from a given sensor number, in this example the Aero sensor No. 1, temperature test in the ranges of 25-30 degrees Celsius):

```
int tw;
int M1;
int O1;
main(){
gbenv();
M1=0
O1=geto(1);
while(1){
gbenv();
tw=gettw(1);
O1=geto(1);
if(tw<25&&M1==0){
M1=1;
PRINT("Zimno");
};
if(tw>30&&M1==1){
M1=0;
PRINT("Temp. OK.");
};
O1=tofd(1,M1,0,2);          // hysteresis of switching the output on and off
seto(1,O1);
};
};
```

Configuration.

Preparing the system for work.

Before connecting the RHT-Aero module to the system, please read the connection documentation.

Power connection / ext. sensor for the module.

When connecting power to the module, take particular care with regard to ESD protection and correct connection of power to the module.
Connect the optional external temperature sensor TSR1-HT according to the polarity.

Configuration: NeoGSMIPManager.

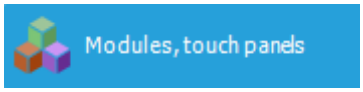
The system operation module is configured from the control panel level.

Requirements:

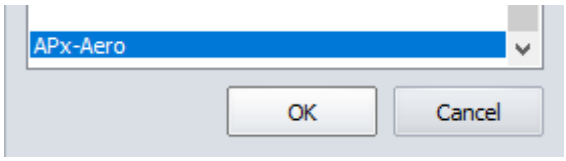
- cooperation with the NeoGSM-IP system

NeoGSMIPManager: Apx-Aero – sensor temp./hum.

NeoGSMIPManager program tab:



and then:



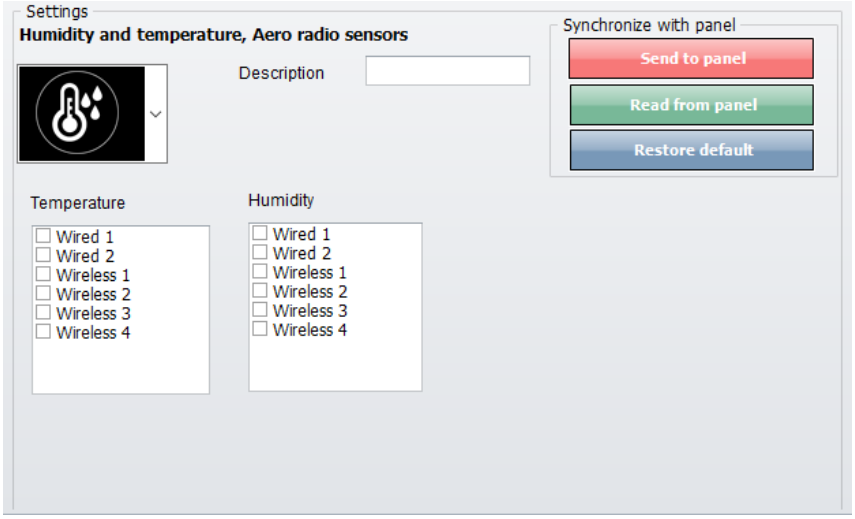
A window is available with a preview of the sensor parameters and the values of the measured parameters:

ID	Type	Violation.	Tamper	Slevel	RSSI	LQI	Vbat.[V]	Connected	Sensitiv	Pulses	PetImmunity
1.	PIR			Good	-62	71	3,40	Active	4	PULSE 1	12kg
2.	PIR			Good	-69	57	3,30	Active	4	PULSE 1	12kg
3.	IO module			Good	-57	144	12,00	Active			
4.	Missing										
5.	Missing										
6.	PIR			Good	-53	55	3,30	Active	4	PULSE 1	12kg
7.	PIR			Good	-66	82	3,50	Active	4	PULSE 1	12kg
8.	PIR			Poor	-77	72	3,50	Active	4	PULSE 1	12kg

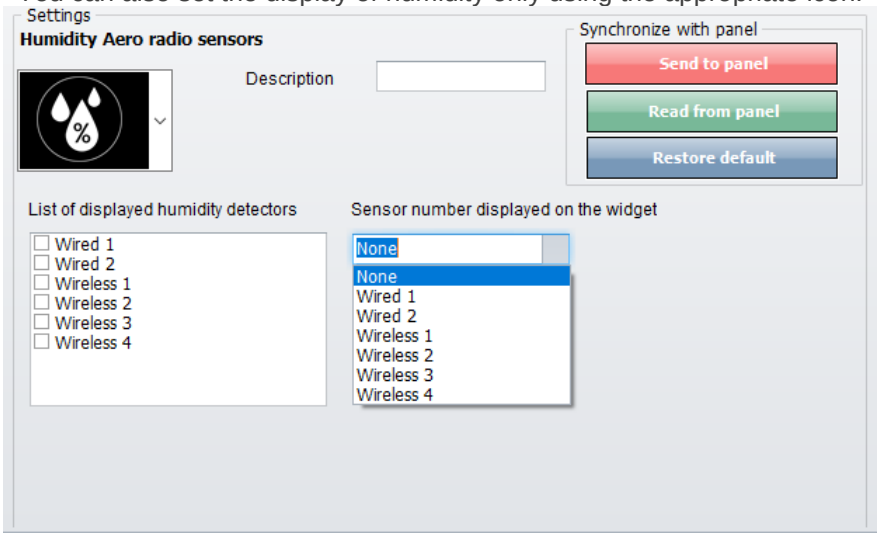
Value display settings on the TPR-4 panel.

These settings allow you to display information about the measured parameter values on the TPR-4 touch panel screen.

Below is the settings window from the NeoGSMIPManager utility.
The icon allows you to display both parameters at the same time.



You can also set the display of humidity only using the appropriate icon:



System maintenance.

The device does not require any special maintenance. During periodic technical inspections, it is necessary to check the condition of screw joints, emergency power supply status, clean the PCB with compressed air. The system should be periodically tested for proper operation and communication.

Technical parameters.

Parameter	Value
Power supply voltage	U = 9V-14V DC basic / U = 3.6VDC, battery ER14505M
Power consumption	~ 2mA@12VDC / ~ 0,2mA @3,6VDC
Aero communication in the ISM band	886.000 MHz ... 870,000 MHz sensitivity: -110 dBm, transmit power: up to + 10dBm, FSK modulation
System communication	Ropam NET system bus
Programming	from the control panel level - system operation
Working conditions	environmental class: II temp.: -10 ° C ... + 55 ° C RH: 20% ... 90%, no condensation
Measurement ranges: Rh% Temp. ° C	0-100% without condensation -20 ° C to 125 ° C - external sensor TSR1-HT, -20 ° C to 70 ° C, built-in temperature sensor
Connectors	AWG: 24-18, disjointed
Dimensions, weight.	80x80x25 (WxHxD, mm), antenna built into the PCB surface-mounted ABS cabinet white with optical signaling, ~ 70g

VAR-1U

General description.

Properties.

- two-way audio communication between the video entry phone and the mobile phone over the GSM network,
- intelligent algorithm for transferring calls to the detection of local call reception,
- transferring calls only during absence of the owner (system arming),
- voice or hidden information about call forwarding,
- adjustable delay time for connection redirection,
- control and change of messages by the user (independent SMS commands: AUDIO),
- remote control (by SMS command) by a system video door intercom (bolt),
- remote control (DTMF code) with a system video door intercom (bolt),
- integration with many producers of video intercoms (see list of tested devices): Vidos, Commax, Abaxo, Leleen, Kenwei, PROCOMM, Competition, Eura,
- regulation of the sound level in the doorphone and mobile phone from the level of the device and / or the NeoGSMIPManager program,
- the system does not limit other functions of the systems and increases their functionality,
- functions of reducing costs and number of transfers.

System configuration.

Destiny.

The VAR-1U module is used to integrate doorphone / video intercom systems with alarm systems / building automation NeoGSM-IP.
Thanks to its functions, the device raises the functionality of the alarm system with the possibility of remote identification and verification of persons.

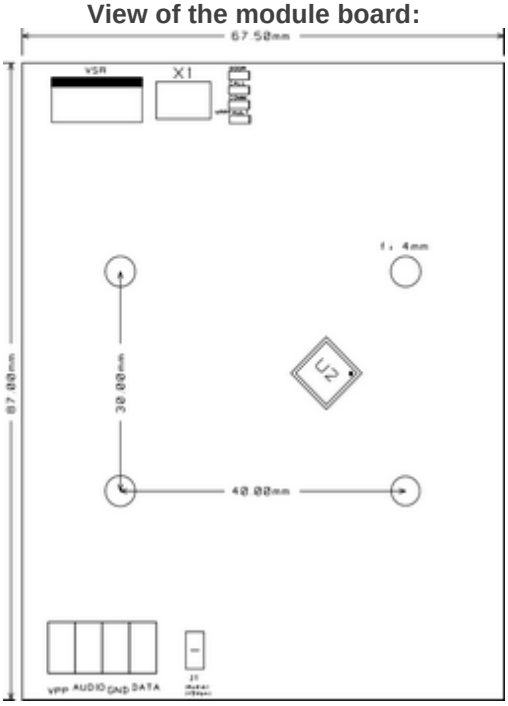
Warnings.

- ***For safety reasons, the device should only be configured by qualified installers.***
- ***Before starting the configuration, read the understanding with the above instructions.***
- ***Do not interfere with the construction or carry out independent repairs.***
- ***It is necessary to keep possible antistatic protection measures to protect electronic circuits on PCBs against electrostatic discharge ESD.***
- ***In order to meet the requirements of LVD and EMC, the following rules must be observed: power supply, installation, shielding - according to the application.***

Module description.

Construction and description.

View of the module board:



Description of connectors:

VSR - communication interface for connecting the VSR-1 module - a speech synthesizer allowing to play one voice message for the system user (eg that the call will be redirected to GSM - the owner's cellular phone).

X1 - connection cable of the module with the NeoGSM-IP control panel,

Vpp - power supply of doorphones (selected models),
Audio - audio line,
GND - mass of the system,
Data - data line,

Description of LEDs:

- DOOR - lock opening indication (lighting), wink 1 x 500ms = wrong data frame from Leleen / Procomm digital entry phone
- CALL - signaling of establishing / ongoing voice call / doorphone call (shining)
- COMM - blinking every 250ms - correct communication with the NeoGSM-IP control panel, correct receiving of data from the Kenwei doorphone: blink 2 x 250ms, redirection active
- Vpp FAULT - Vpp output failure indication (lighting = failure)

Module versions.

Code	Description
VAR-1U	Gate (interface) of the video intercom. (mounting holes to be mounted on pins)
VAR-1U-D4M	Gate (interface) of a video intercom for DIN TS-35 DIN rail, width 4 modules.

Requirements, installation.

Basic requirements.

The VAR-1U module should be used in conditions with normal air humidity (RH = 90% max. Without condensation) and temperature in the range of -10 ° C to + 55 ° C.

Installation.

Preparing the system for work.

Before the VAR-1U module is connected to the system, please refer to the documentation regarding the connection of the video intercom to which it will be used.

System configuration.

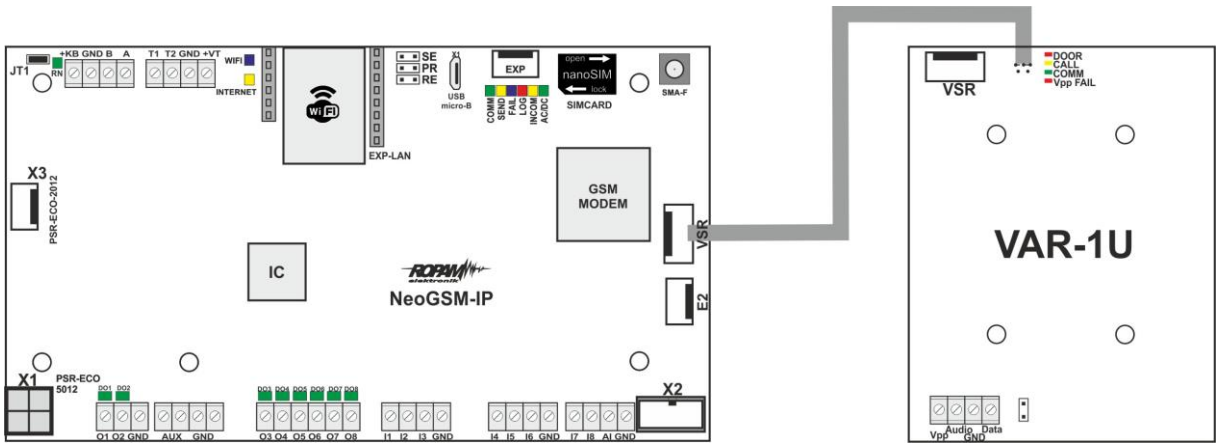
Please refer to the technical documentation and instructions for the specific model of the video intercom that will be connected to the system because its incorrect configuration and connection may result in damage or malfunction of the Ropam Elektronik system or its damage for which Ropam Elektronik bears no responsibility.

1. Make the correct electrical installation for the video intercom.
2. Connect the installation to the doorphone / video intercom system.
3. Add the module to the control panel using the NeoGSMIPManager program.
4. Perform the connection of the NeoGSM-IP + Var-1U system with the entry phone / video intercom system.
5. Connect the programming cable of the control panel to the USB socket.
6. Start the NeoGSMIPManager program.
7. Turn on system power.
8. Identify the modules connected to the control panel.
9. Configure the system.
10. Save the configuration to the control panel.
11. Check operation.
12. Disconnect the control panel programming cable.
13. Carry out user training.

Connecting the module to the control panel.

When connecting the module to the system, take particular care with regard to ESD protection and correct connection of signals to the module.

Module is connected to the NeoGSM-IP control panel by means of the X1 bundle.
Beam plug should be connected to the VSR socket at the NeoGSM-IP control panel.



Connecting the VSR-1 module to the VAR-1U module (VSR connector) allows you to play a voice message. We recommend recording messages no longer than 5s.

List of devices cooperating with the module.

The VAR-1U module has been designed to work with video intercoms of many popular brands. Below is a list of devices with which it has been tested.

LP	Brand	Video door phone - model	Doorphone - model
1	Kenwei	KW-128C	KW-138MC-1B
2	Kenwei	KW-128C	KW-138NE
3	Kenwei	S702C	KW-138NE
4	Kenwei	E706FE	KW138MC-1B
5	Kenwei	E100F/E101F	KW138MC-1B
6	Competition	MT337C-CK2 (2012r.)	SAC5C-CK
7	Competition	MT300C-MK1 (2011r.)	SAC5C-K1 (2001r.)
8	Competition	MT337C-CK2 (2012r.)	SAC551C-CK (2011r.)
9	Vidos	M670W	COMPETITION SAC5C-CK
10	Commax	CDV-50N	DRC-4CAN
11	Commax	CDV-35H	DRC-4CAN
12	Abaxo	M820C	C700C
13	Procomm	PRO-4719(4519)	PRO-420SA(5846)
14	Procomm	PRO-4719(4519)	VP-716A-B(4783)
15	Procomm	VP-716A-B(4783)	VP-716A-B(4783)
16	Eura	VDA-06A03	VDA-81A3
17	Leleen	Seria JB-304, V-25	Seria JB-304, No.15(1)

Connection of intercoms to VAR-1U.

Wiring diagrams for video intercom devices for the VAR-1U module are shown below.
The table represents signals connected to the appropriate pins of the VAR-1U module.

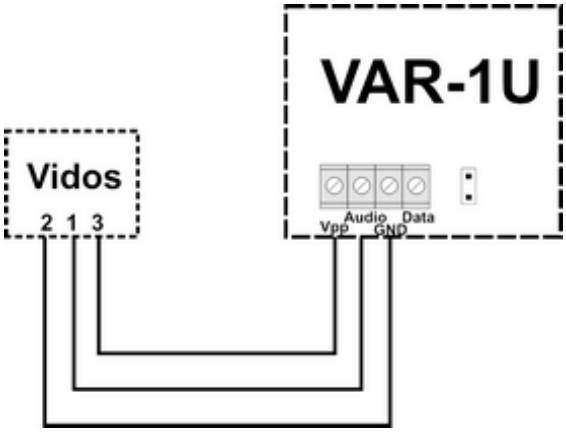
Example:

Vidos: 3 --> Vpp, 1 --> Audio, 2 --> GND, --- Data --> no connection

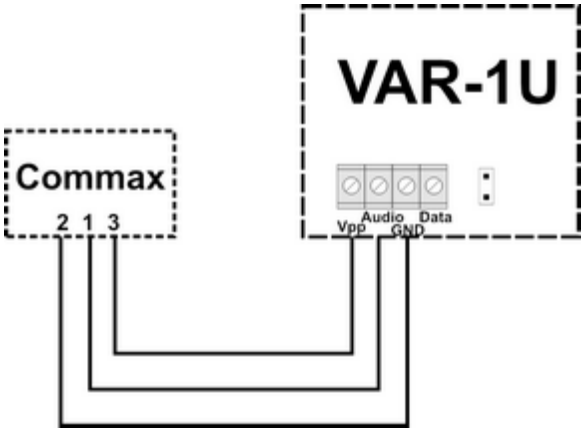
LP	Producer	Signal	VAR-1U
1	Vidos	3, 1, 2, ---	Vpp, Audio, GND, Data
2	Commax	3, 1, 2, ---	Vpp, Audio, GND, Data
3	Abaxo	B+,A,GND, ----	Vpp, Audio, GND, Data
4	Leleen	---, A(AF), G, ---	Vpp, Audio, GND, Data
5	Kenwei	---, AF, GND, DAT	Vpp, Audio, GND, Data
6	Procomm	Pro4719 (---, Audio, GND, Data), Pro716A video intercom (10, 7, 8, ---) Pro 716A intercom (4, 1, 2, ---)	Vpp, Audio, GND, Data
7	Competition	MT 300C (3,1,2,---), MT 337C (E4, E2, E3, ---)	Vpp, Audio, GND, Data
8	Eura	4,1,2,---	Vpp, Audio, GND, Data

Connection diagrams for individual manufacturers acc. the table above:

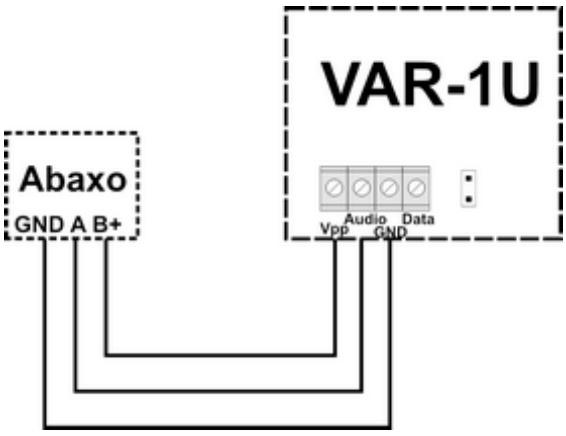
Vidos:



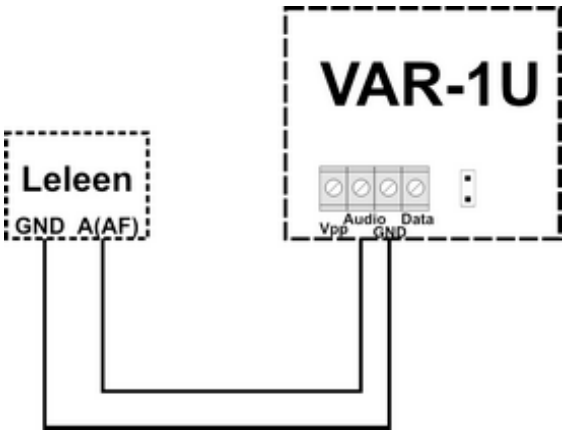
Commax:



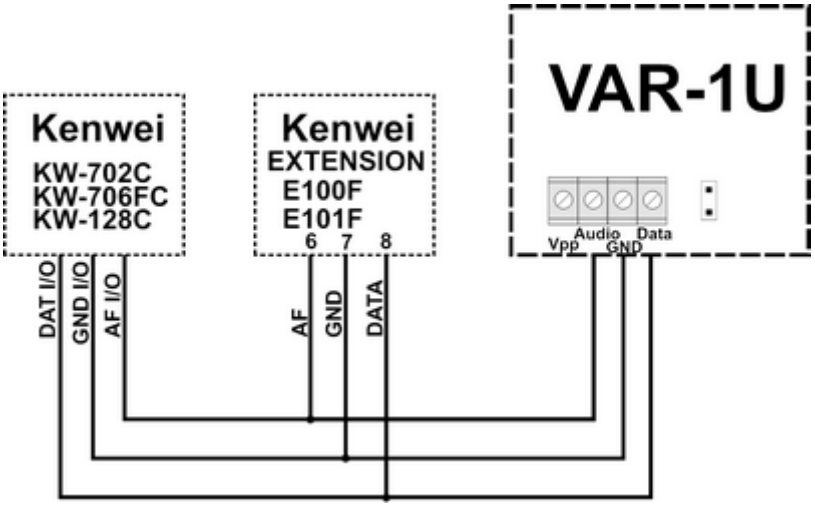
Abaxo:



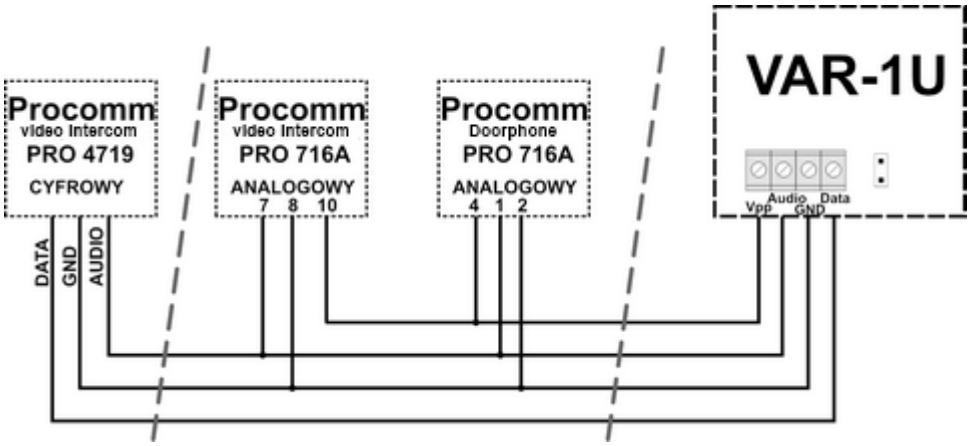
Leelen:



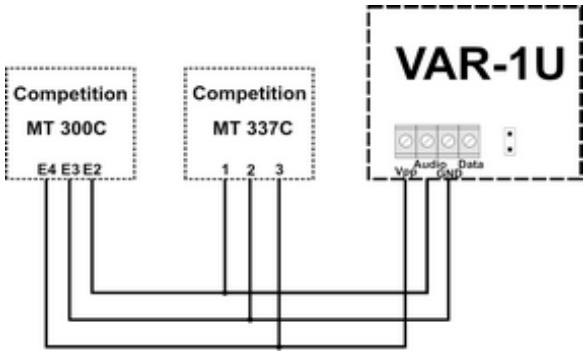
Kenwei:



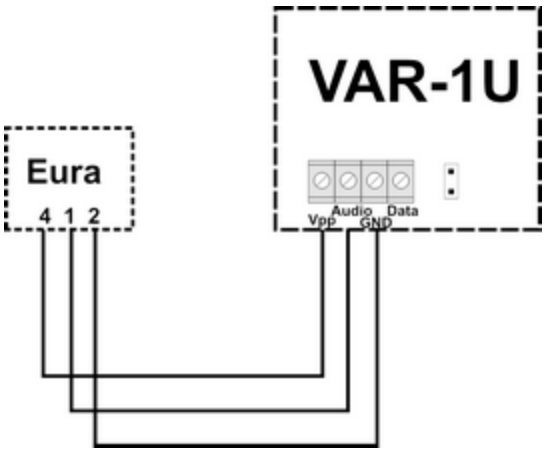
Procomm:



Competition:



Eura:



Configuration.

The system operation module is configured from the control panel level.

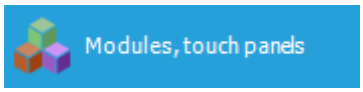
Requirements:

- control panel: NeoGSM-IP

NeoGSMIPManager: VAR-1U.

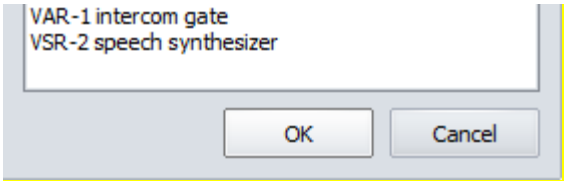
Identification of the module in the system:

- NeoGSMIP program tab:



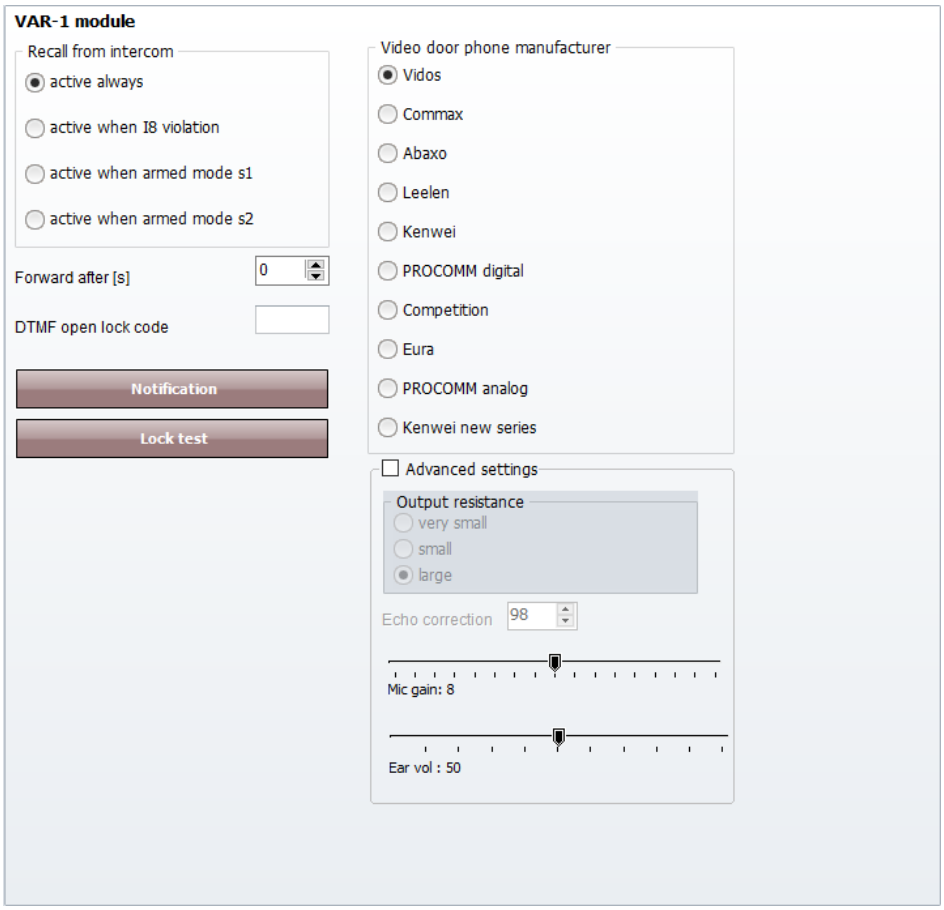
- choose a symbol  - modules connected to the control panel will be identified.

- after that a window will appear with modules found by the control panel.



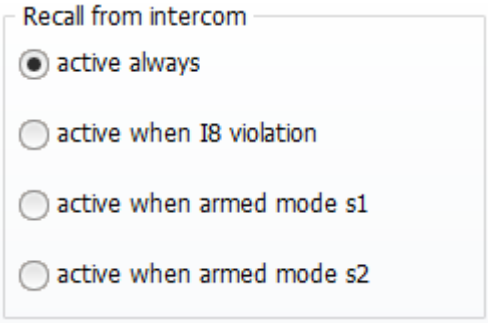
- save the configuration to the control panel by clicking: 

Then in the tab concerning the module VAR-1U module configuration are available options:



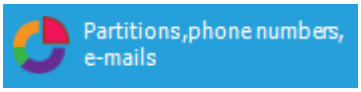
Changing the parameters of the module.

Redirection of the call from the module.
The function allows you to redirect conversations from a video intercom / doorphone when:



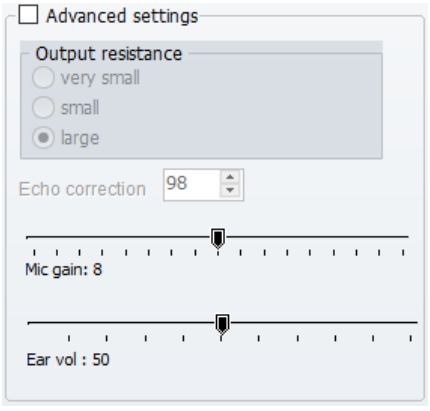
For redirection, the conditions above must be met.

always active - call is forwarded from the doorphone to the mobile phone whenever a call button is pressed on the doorphone
active when I8 violation - call is forwarded from the doorphone to the mobile phone whenever there is a violation of the entry - 8 (eg detectors at the gate) and during this time the doorphone button will be pressed
active when armed s1-s4 - doorphone forwarding is active only when the zone number is armed.
When the VSR-1 voice synthesizer is installed in the module - first the message saved in the VSR-1 module memory will be played and then the system user number saved in position 1 or 2 will be selected in the tab:

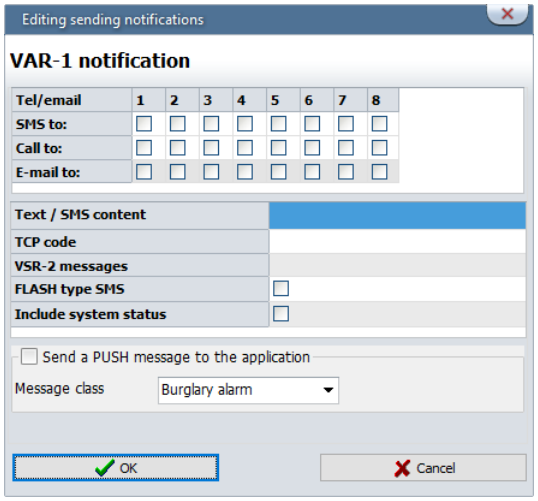


Custom settings.

Custom settings allow you to adjust the parameters of the audio line to achieve the best possible sound quality.
Factory settings are recommended for individual device models (they load automatically after selecting the device model).



Notifications from the VAR-1U module.



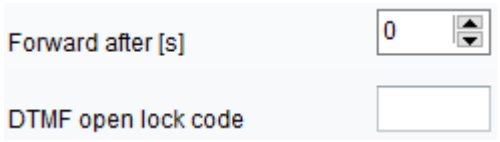
Bolt control using DTMF.

The VAR-1U module enables remote opening of the bolt using the DTMF code during an ongoing voice connection between the user and the NeoGSM-IP system.

Call forwarding after [s] - the function allows to play a message from the VSR-1 module installed in the VAR-1U door intercom (we recommend that the redirection time should not be shorter than the message duration in the VSR-1 module).

To use the option of opening the bolt using the DTMF code, enter the code (1-4 digits) in the field, and the DTMF code is confirmed by pressing "*".

Dialing configuration window and DTMF opening code:



Attaching transom.

Function of turning the lock allows remote opening of the gate by means of DTMF code or the SMS command.

The opening of the bolt takes place:

- remotely by the user - DTMF, code from 1 to 4 digits, confirmation "*"
- remotely by the user - SMS, example: #### bolt (#### = access code)
- locally - button in the video door phone

System maintance.

The device does not require any special maintenance. During periodic technical inspections, it is necessary to check the condition of screw joints, emergency power supply status, clean the PCB with compressed air. System should be periodically tested for proper operation and communication.

Technical parameters.

Parameter	Value
Power supply voltage	U = 12-14VDC
Programming	from the level of the alarm control panel - system operation,
Working conditions	environmental class: II temp.:10°C ... + 55°C RH: 20% ... 90%, no condensation
Dimensions, weight.	67.5 x 87 x 17.53 (WxHxD, mm), ~ 30g without housing, 71 x 90.2 x 57.5 (WxHxD, mm), ~ 90g housing D4M,

5.System operation.

Applications that support the NeoGSM-IP system using SMS, DTMF or TCP / IP.

Basic SMS commands

ARMING:

The control of armed mode by SMS consists in sending an SMS about the form, access to functions and zones, determining the authorization of the given code.

Command	Description	Exampla	Responce
#### arm **#### arm 1,2**	**Arming the system** (full or indicated zones)	5555 arm 5555 arm 1,2	System armed. Arming error, check partitions acess code.
#### arm night **#### arm noc 1,2**	**Arming night system** (all or selected zones)	5555 arm night 5555 arm night 1,2	Night armed. Arming error, check partitions acess code. Arming night error, no night zones
#### disarm	**Disarming the system** (full or night, all or selected zones)	5555 disarm 5555 disarm 1,2,	System disarmed. Disarming error, check partitions acess code.

The armed mode control via SMSs is interpreted by the system in the same way as control from the touch panel.

CONTROL OF OUTPUTS:

Controlling the outputs via SMS consists in sending an SMS with a specific content, the control command may require an access code or not (service). The flexible software of the module allows that: the content of SMSs controlling the outputs can have any content, eg pump on, pump off. The exact parameters of the outputs and their intended use are determined by the installer.
The control syntax using the factory control commands is shown below:

Command	Description	Example	Response
#### onx	**Enable o**utput x, where x is the output number.	5555 lighton	Output ON
#### offx	**Disable** output x, where x is the output number.	5555 lightoff	Output OFF

If touch panels are installed in the system, the relay output can also be remotely controlled via SMS commands:

Command	Description	Example
#### **ontpX**	**Enabling** relay output on the **TP** panel, where X = panel number (address, service)	5555 ontp1
#### **offtpX**	**Disabling** relay output on the **TP** panel, where X = panel number (address, service)	5555 offtp1

If a radio controller is installed in the system, the control of two relay outputs is additionally available. Controlling via SMS consists in sending an SMS about the form:

Command (####= access code)	Description	Example
#### **onrx**	**Enabling** relay x, where x (1,2,3,4) is the RF-4 relay / output number	1212 onr1
#### **offrx**	**Disabling** relay x, where x (1,2,3,4) is the RF-4 relay / output number	1212 offr1

REMOTE CONFIGURATION OF SELECTED FUNCTIONS:

Access to remote control can be blocked in the control panel settings (service), selected commands are available only for the main code in the system or the service code.

Parameter	Description	Example	Responce
#### **code zzzz**	Change of the SMS access code zzzz = new access code	5555 kod 0987	Configuration changed
#### **time rr, mm, dd, gg, mi**	Setting or changing the date and time (yy, mm, dd, hh, mi = year, month, day, hour, minute)	5555 czas 17, 01, 01, 12, 05	Time set 17/01/01 12:05
#### **restart**	Control panel restart	1234 restart	
#### **downloading x**	Remote activation / deactivation of modem connection function X = 1 function enable x = 0 function disable	5555 downloading 1	Configuration changed
##### **replysms x**	Remote activation / deactivation of confirmation return function for SMS commands X = 1 function enable x = 0 function disable	5555 replysms 1	Configuration changed

Parameter	Description	Example	Responce
##### **echo x**	Remote on / off function of sending undetectable SMSes from the ECHO network, e.g. passwords to the www account, information from the network X = 1 function enable x = 0 function disable	5555 echo 1	Configuration changed
#### **setapn**	GPRS access configuration: APN user password.	123B setapn internet internet internet	Configuration changed
#### **upadate**	Checking the availability and version of the **latest software** on the RopamBridge server.	First, send an SMS: xxxx update where xxxx - service code, (the control panel can not be in armed mode) after receiving such an SMS, the control panel will check the availability and version of the latest software on the Ropam server and send an SMS with the information and a special authorization code To start the update send: xxxx update 481e	Control panel firmware :1.2 New version of firmware:1.3 Description: version 1.3!

Basic DTMF commands.

ARM / DISARM OF PARTITION:

- arming / disarming the system via the DTMF code:
  syntax: select from the phone DTMF keypad:
  [kod]#1 arms all zones to which the code has access
  [kod]#0 disarms all zones to which the code has access
  Example:
  main code 5555 # 1 - will arm all zones 1-4

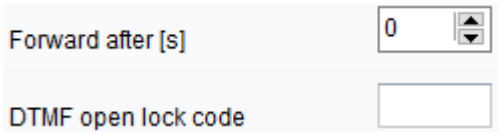
CONTROL OF RYGLES (opening):

The VAR-1U module enables remote opening of the bolt using the DTMF code during an ongoing voice connection between the user and the NeoGSM-IP system.

Call forwarding after [s] - the function allows to play a message from the VSR-1 module installed in the VAR-1U door intercom (we recommend that the redirection time should not be shorter than the message duration in the VSR-1 module).

To use the option of opening the bolt using the DTMF code, enter the code (1-4 digits) in the field, and the DTMF code is confirmed by pressing "*"

Dialing configuration window and DTMF code of the bolt opening:



RopamNeo application.

After connecting with the NeoGSM-IP control panel, you can perform the following operations:
- control panel status display,
- view of partition status,
- view of the state of inputs,
- view of the state of outputs,
- control of outputs (remote switching on of lights, opening of gates, control of blinds, etc.),
- arming partition,
- disarming partition,
- temperature control by means of a thermostat (temperature profiles, calendar),
- preview of current system failures,
- system events preview,
- user code change,
- USSD code support (prepaid card control)

Requirements:
NeoGSM-IP control panel version v1.1 or higher.
A phone or tablet with Android, Apple iOS.

System demo.

The Ropam Elektronik company allows you to connect to the "Demo" object using the RopamNeo application, which allows you to easily find out about the possibilities of the system and check its functionality.

To do this, the program must be configured as follows:

- download the **RopamNeo** application to the smartphone (stores: Google Play, AppStore),

- click "**Try demo version**".

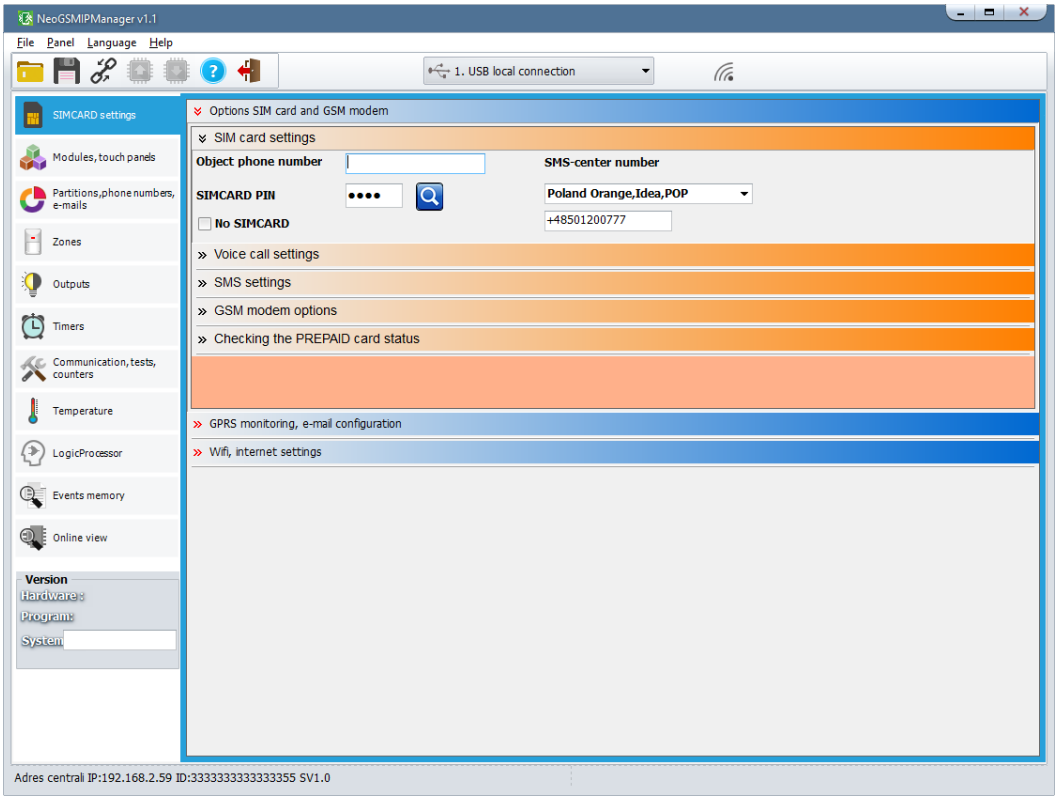
The full installation and operation manual for the RopamNeo application is available at: www.ropam.com.pl.

6. NeoGSMIPManager

Functional description.

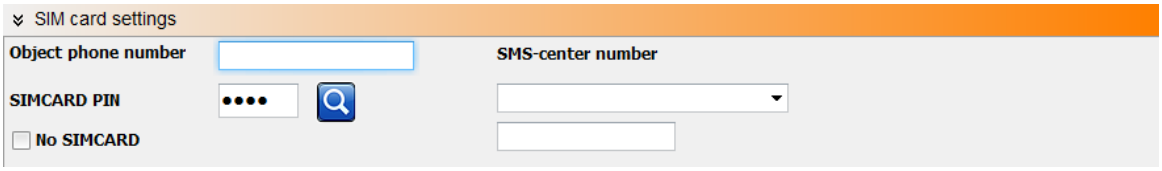
The description of the function and configuration method is presented by means of windows, descriptions and program messages.

Tab: SIM card settings.



Options SIM card and GSM modem.

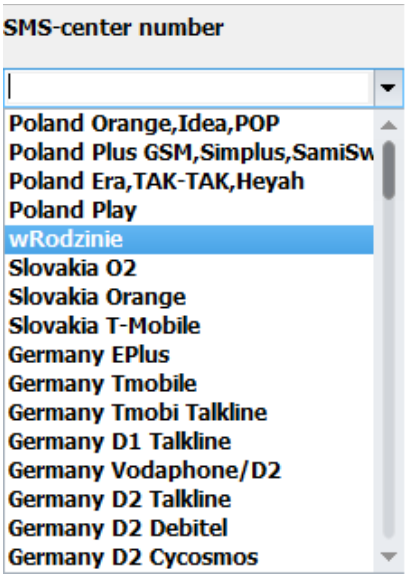
SIM card settings.



Object phone number
This is the number of the SIM card in the module. The field is saved to the module's memory.

SIMCARD PIN
In the "PIN katy SIM" field, enter the digits of the PIN code of the SIM card installed in the module telephone. If you use a card that does not require (disabled) PIN code, do not enter the PIN code.

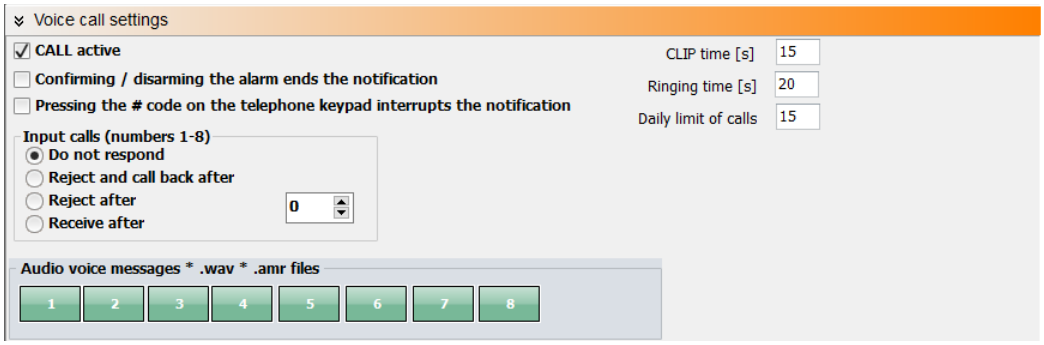
SMS-center number
SMS center number, select in the operator tab from the list (the number will be displayed automatically) or edit the field. The number should be entered in the international format.



No SIMCARD
The function disables the presence of the card.

Comments:
- The SIM card PIN is only required if the card has a PIN.

Voice call settings.



CALL active
The function of notification of events in the system in the form of calling the user is enabled. In addition to notification in the form of ringing, messages from voice synthesizers are also sent: VSR-1, VSR-2, AMR-1 module.
When inactive - no possibility to send CLIP and voice notifications from the NeoGSM-IP control panel.

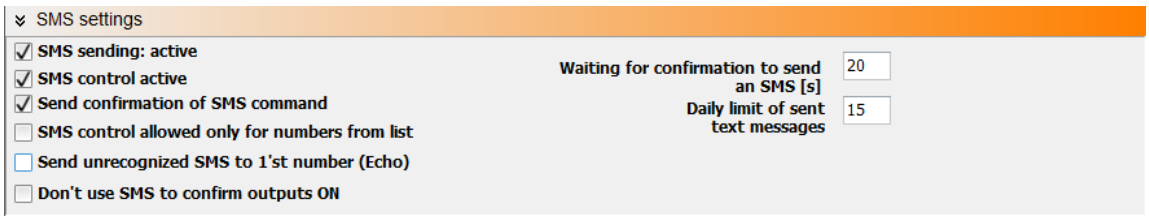
Confirming / disarming the alarm ends the notyfication
Turning off the alarm during the notification will end the notification.

Pressing the # code on the telephone keypad interrupts the notification

Input calls (numbers 1-8)
- Do not respond
- Reject and call becj after
- Reject after
- Receive after

Audio voice messages *.wav *.amr files
Select the available messages recorded in the VSR-2 module or in the control panel, enter the message number to be played back for the given event. (Configuration of messages in the tab: "Communication, tests, counters").

SMS settings.



SMS sending: active
Global disable notification sms.

SMS control active
Allows control of the control panel by means of SMS codes.

Send the confirmation of SMS command
It sends a return SMS confirming the execution of the given SMS command.

SMS control allowed only for numbers from the list
It allows you to control using SMS commands only the numbers added to the list in the control panel.

Send unrecognized text to 1`st number (Echo)
The function enables sending unrecognized text messages (eg messages from GSM operator) to the first number from the list.

Don`t use SMS to confirm outputs ON

Waiting for confirmation to sen an sms[s]
This is the time in which the control panel will wait for confirmation of sending a text message.

Daily limit of sent text messages
Specifies the number of sms sent during the day. E.g. 15

GSM modem options.

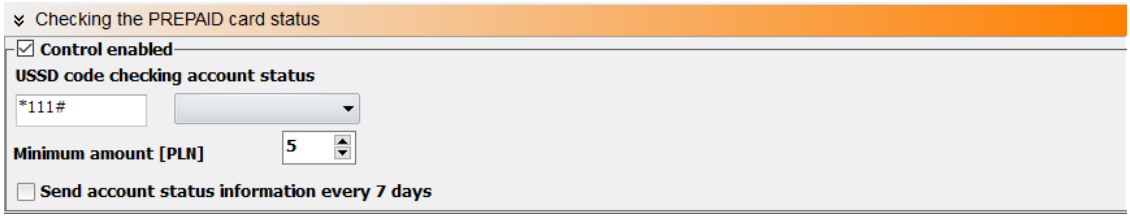
Don`t monitor GSM Jamming
The control panel does not monitor jamming of the GSM network (Jamming)

Don`t show low level of GSM network
The control panel will not signal the low GSM network level at every drop to the low level.

Restart of the modem every 24h
The control panel will restart the modem every 24h.

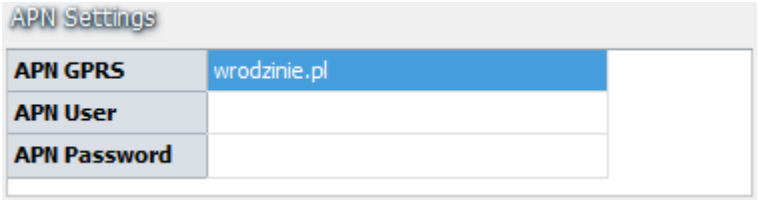
Do not indicate a lack of GPRS
The control panel will not indicate that there is no GPRS connection.

Checking the PREPAID card status.



This option allows you to control the costs of a prepaid card account. That this function would work it should be properly:
- select the operator of the SIM card installed in the control panel (drop-down menu) if there is no one on the operator list, you can enter the command manually.
- set the limit of the lower amount (not less than PLN 5) acceptable for the proper operation of the system.
Account status control using the USSD code is carried out once a day (since the device was last restarted). You can also set up sending account status information to the first phone number from the list of numbers. The interval for sending account status information is 7 days. Time 7 days is counted from the last restart of the NeoGSM-IP.

GPRS monitoring, e-mail configuration.

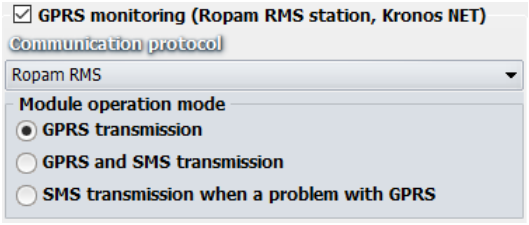


APN SETTINGS
Login settings for the access point (internet via GPRS). Required to control the module from the RopamNeo application, GPRS monitoring, send e-mail notifications from the module.

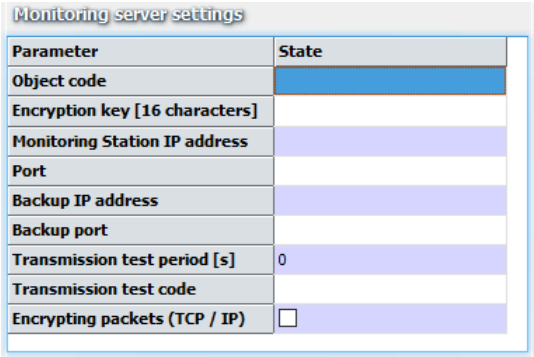
Access data for APN operators in Poland:

Operator	APN GPRS	APN user	APN password
T-Mobile PL	internet	none (empty field)	none (empty field)
Orange PL	internet	internet	internet
Plus GSM PL	internet	none (empty field)	none (empty field)
Play	internet	none (empty field)	none (empty field)
wRodzinie	wrodzinie.pl	none (empty field)	none (empty field)
Nju Mobile	internet	internet	internet
Heyah	heyah.pl	heyah	heyah

Monitoring GPRS (Ropam RMS station, Kronos Net)

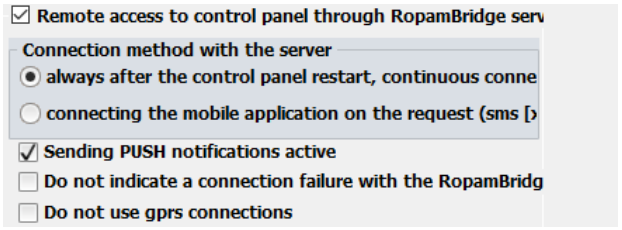


Monitoring server settings



Remote access to control panel through the RopamBridge server

To set access to the module from the mobile application, you must configure the appropriate options in NeoGSMIPManager.



Access to the control panel and control of its functions takes place from the RopamNeo application. The connection is established using the RopamBridge server, which allows connection between the control panel and mobile application based on GPRS data....
There are 2 ways of connecting by application to NeoGSM-IP control panel:
- Always after restart (control panel) - the control panel sends data to the RopamBridge server that it is ready to connect to the mobile application, the server stores these data until the connection between the user and control panel is established.
- At the request of application (mobile) - the user after switching on the application is asked to send an SMS with a request to establish a connection with the control panel (recommended due to accidental unauthorized control of the control panel from the application).

Remote access to the control panel through RopamBridge server
This option allows you to operate the NeoGSM-IP control panel from the RopamNeo application.

The NeoGSM-IP control panel can connect to RopamBridge via Wifi / Ethernet (Internet) or via a GPRS connection.

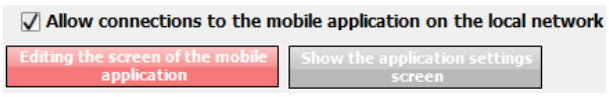
Depending on the connection between the control panel and the RopamBridge server, the appropriate settings are required:

Sending PUSH notifications active
The function activates sending PUSH notifications to the RopamNEO application.

Do not indicate a connection failure with the RopamBridge server

Do not use GPRS connections
If you connect to RopamBridge via Wifi / Ethernet, the GPRS connection will not be used as backup.

Allow connections to the mobile application on the local network



Clicking "**Edit the screen of mobile application**" will bring up the screen.

The function allows you to edit the screen visible in the RopamNEO application.

Description
Places a description of the pictogram under it.

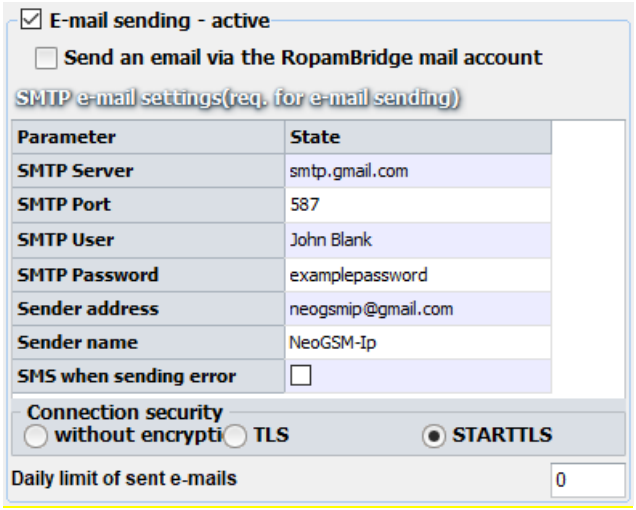
Confirm
It approves the changes made on the RopamNEO application screen.

Restore default
Restores default settings.

Screen edition by application avaliable
It allows the user to edit the pictograms visible on the screen from the application level.
(It does not allow you to change their appearance!)

Description and operation of individual pictograms described in the RopamNEO manual, available at www.ropam.com.pl.

E-mail sending - active



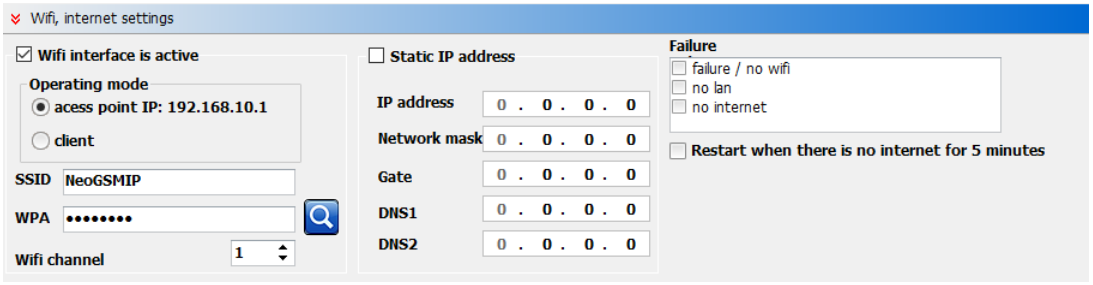
Tab for entering e-mail account information from which event notifications in the system will be sent. The image shows sample data for configuring your Gmail account.

Example SMTP accounts:

Server	Incoming mail server (POP3)	Outgoing mail server (SMTP)	Account name	The SMTP server port number	Secure connection (SSL)
gmail.com	pop.gmail.com	smtp.gmail.com	nazwa_konta@gmail.com	587	Yes
onet.pl	pop3.poczta.onet.pl	smtp.poczta.onet.pl	nazwa_konta@onet.pl	587	No
interia.pl	poczta.interia.pl	poczta.interia.pl	nazwa_konta	587	No

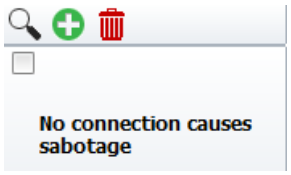
It is necessary for accounts configured in the system to be ACTIVE!
That means: there should be standard traffic on them (receiving and sending messages), otherwise they will be deleted by the service provider (see regulations on the use of an e-mail account).

Wifi, internet settings



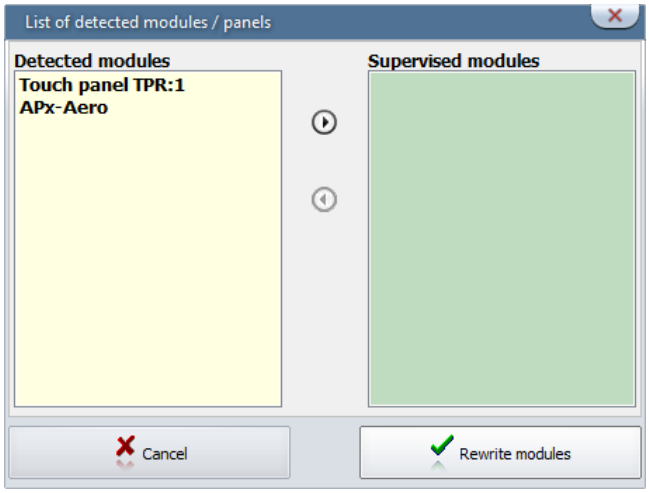
Tab: Modules, touch panels.

The procedure for identifying new modules connected to the control panel.



Addition of new modules to the NeoGSM-IP control panel:

1. Connect the module in accordance with the connection diagram.
2. Connect the control panel behind the NeoGSMIPManager.
3. Call the "magnifier" function  .
4. There will be "modules detected" that should be transferred to "supervised modules".



5. Confirm with the "Rewrite modules" button.

No connection causes sabotage - the function enables supervision of connections with modules, lack of connection calls for sabotage.

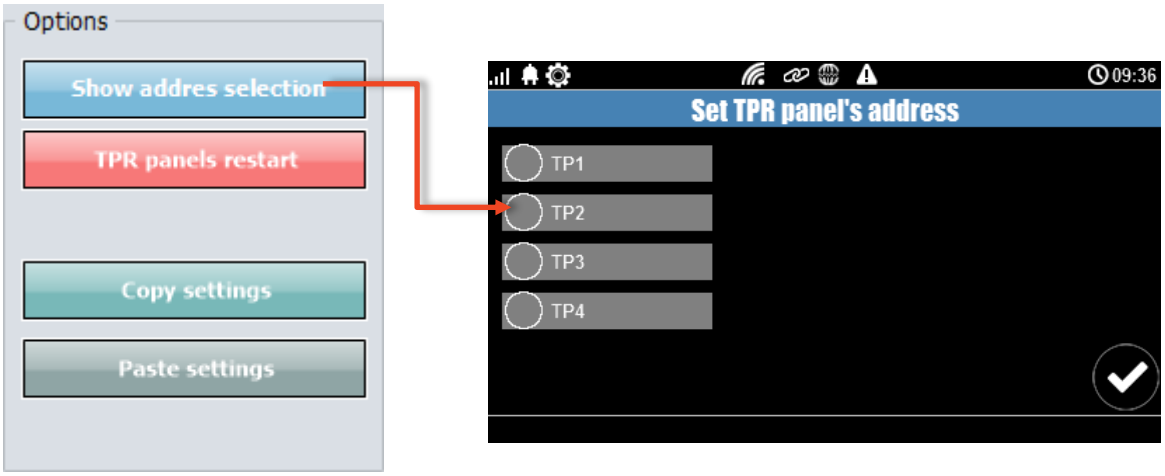
TPR touch panel.

Touch panel / options:
Name: allows you to enter a unique name for the touch panel.
Audible alarm in the panel [s] - determines the time of acoustic alarm signaling in a given touch panel. Setting range: 0-9999 [s].
Sygnaling of exit time: active option activates the acoustic signaling in the given TP panel during the exit delay.
Signaling of entry time: active option activates acoustic signaling in a given TP panel during entry time.
Confirming of key sound: active option activates acoustic signaling of pressing the button (detection field).
3 wrong codes = Tamper: entering three incorrect codes will activate the sabotage output, counting is independent for each TP panel.
Housing tamper active: active option triggers the anti-tampering protection of the given TP panel.
Highlighting when time to enter: active option causes full panel lighting in time to enter.
Random keyboard buttons: active option will activate a random numeric keypad layout.
Ask for blocking violated zones: active option will display a message about blocked inputs in the system when the system is armed.
Output control requires code: active option will require the user to enter the code when entering the output control function.
Relay control requires code: active option will require the user to enter the code at the entrance to the relay output control function in the given TP panel.
Input blocking requires code: active option will require the user to enter the code at the entrance to the function of blocking zones in the system (always), after disarming - zone blocking is deactivated.
Checking for failure requires code: the active option will require the user to enter the code at the entrance to the failure check function (always).
Silent failure indication: active option will cause the panel to not squeak when detecting a failure.
Exit from the screensaver requires a code: aktywna opcja będzie wymagała od użytkownika podania kodu przy wyjściu panelu z wygaszacza (zawsze).
Save log to an SD card: function activates log recording with temperature measurement on the SD card in the given panel (files YYMMDD.txt).
Display messages from LogicProcessor:
Displaying messages from the PRINT LogicProcessor function.

Partition status.
Displays the status of selected zones.

Options

- Show addres selection



The function shows the TPR4 panel address selection screen connected to the control panel.

- TPR panels restart

- Copy settings
Copy TPR4 panel settings to the clipboard.

- Paste settings
Paste TPR4 panel settings from the clipboard.

TPR sabotage signalization in partition

Other settings

Gong from inputs
Violation of the input causes the gong.

Backlight from inputs
Violation of the input causes the exit from the TPR4 touch panel quencher.

Show temperature from selected sensors
Displays the temperature from the sensor (one or two) in the top bar of the touch panel

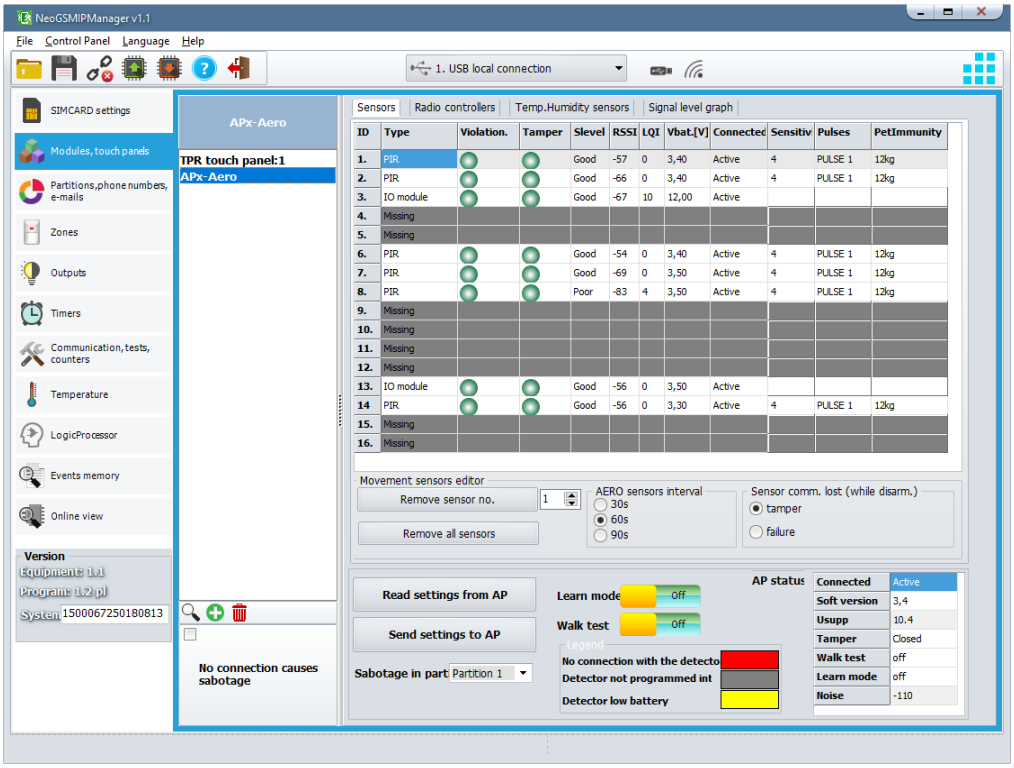
Warning!

After adding a new extension module, check the zone allocation.

Expander EXP-I8.

Local zone expander (8).
Line configuration as in the NeoGSM-IP control panel.
Warning!
After adding a new extension module, check the zone allocation.

APx-Aero.



Device status window (detectors)

ID: device number in the controller.
Type: Aero device type.
Violation: state of the detector, motion detection.
Tamper: state of anti-sabotage circuit.
Slevel: Aero communication level (**Excellent / Good / Weak**), results from RSSI and LQI parameters.
RSSI: radio signal level (range -20 to -110 dBm).
Note: If there is another transmitter on the 868MHz band nearby, the RSSI reading (background) is lower, for the system it is a disturbance, increased ISM background.
LQI: quality of radio transmission, value lower value = **better quality**,
Vbat[V]: battery voltage in the detector, the new battery has 3.5-3.6V.
Note: after installing the new battery reaches its nominal parameters only after about 24 hours of work in the detector, this is due to the battery construction, very low power consumption by the detector, ambient temperature.
Connected: status of communication with the detector.
Sesitivity: the sensitivity parameter of the detector detection algorithm.
1: lowest sensitivity
...
8: highest sensitivity
Low sensitivity values also reduce the real detection range. For applications in which animal resistance (PET) is to be used, use parameters 1 to 4.
Pulses: signal analysis time parameter, SmartPIR algorithm.
PULSE 1: najkrótszy czas zbierania próbek, analizy sygnału…..

PULSE 4: the longest sampling time, signal analysis
The parameter specifies the sampling time for the SmartPIR algorithm. Each value allows effective detection, under normal conditions it is recommended to use PULSE 1-2 and for applications in which there may be interference or be resistant to animals (PET) PULSE 3-4.

PetImmunity: the detector has the option of resistance to pets: cats, dogs up to 40 cm high and up to 30 kg and rodents. The detector has a default resistance to animals up to 12 kg. The detector must be mounted to a perpendicular wall relative to the floor, at the nominal height, do not point the detector on the bracket towards the floor. Animals can move around the floor of the protected area. The protected area must not contain furniture, shelves on which animals can move. The detector requires proper configuration regarding sensitivity and time of analysis (Pulse).

Configuration of detectors:

Add new detectors: launches learning mode, adding new detectors, procedure:
- open the detector and install the battery in the first detector according to the polarity. The detector after setting up the connection with the AP will generate two series of flashes (blue diode) with the device number in the AP (eg address 2 two series of flashes after two flashes),
- repeat point 2 for all detectors, detectors receive system no. According to the order of addition,
- check the status of detectors in the controller (RSSi, LQI), change the configuration for individual detectors, save the settings to detectors from the AP level.

Remove sensot no.: removes the selected detector from the controller's memory, x; 1-8 (currently connected to AP).
Remove all sensors: function removes all detectors from the controller (currently connected to the AP).
Read settings form AP: function gets settings from detectors.
Send settings to AP: function sends settings to all detectors.

WalkTest: option starts the test mode in the detectors, motion detection is signaled by the WalkTest diode. The active mode only during programming also causes more frequent than the interval monitoring of Aero devices (RSSI, Vbat) resulting from the interval.

Aero sensors interval: the detector status control interval has three compartments: 30/60/90 s (60s by default). For maximum battery life, select the interval of 90 seconds. **The control interval affects how long the AP command will be sent to the detector, including: watch (supervision), WalkTest. All alarms, sabotages are sent without delay to the AP controller.**
The detector automatically controls the transmission power, in order to obtain effective communication and for maximum battery life.

Sensor comm. Lost (while disarm.): the function allows you to select the system's reaction to the loss of connection when the system is not armed (no supervision). The option allows selection: sabotage (loud alarm) or failure.

Warning!
After adding a new extension module, check the zone allocation.

Signal level graph.
A level histogram is available for each detector, distinguishing by color.

RF-4.

Configuration of channels (pilots).

- **Button (A) / (B) / (C) / (D)**: select the action in the system for a particular channel. Options: **no function, full on / off, on / off night watch, full armed mode, on night mode, off arm / alarm, loud panic.**
- **SMS on / SMS off**; enter the message content for a particular event, e.g. for **on / off. full armed mode**, you can enter **SMS on / SMS off** and for the **full armed system** you can enter: **SMS on**, etc.
- Add remote cntrlr.: selecting the function adds to the content of the SMS the number of the pilot who generated the event.
- ***Send sms to:*** allows you to specify phone numbers to which SMS messages will be sent.
- Send e-mail to: allows you to specify contacts to which e-mails will be sent.
- RF-4 status: during the connection with the control panel in the programming mode, the status view is available: connection status, HV version (hardware version), SV version (software version), Uzas supply voltage, pilot number (during transmission), battery status remote control, state of outputs O1-O4

- RF-4 programming: entering the radio controller programming mode (during connection with the control panel via RopamNET).

Remote controllers edition;
- Add remote cntrlt. nr. in 10s time: entering the radio control program (during the connection with the control panel via RopamNET). The pilot will be entered in memory at the lowest free number. After completing the programming window, you can check the pilot number in the **Status RF-4 tab**.
- Remove remote controller no.: the function removes from the memory the remote control with the indicated number.
- Rem. All rmt. cntrlrs: the function removes all remotes from the memory.

RF-4 outputs settings:
- Output work type / Run time [s]: this option will allow you to select the type of work output from the given channels in the programmed pilots:
Monostable: output will be activated after activation of the channel for the duration of operation [1-255 p.].
Bistable: output will be activated after the channel activation and will remain active until the next activation (step by step ON-OFF-ON.)
Real: output will be activated after activating the channel and will remain active as long as the transmission is in progress (pressing a given button on the remote control).
OFF: output will not change the state from the activation of a given channel in the pilot, eg only the RopamNET bus is used.
Save configuration to RF-4: zapisanie ustawień do pamięci RF-4.

Finish prog. RF-4: terminating the RF-4 programming mode and returning to the RF-4 configuration in the system.

PSR-ECO-xx.

System impulse power supply with RopamNET bus and monitoring of power supply and network operation status (loss of power) and battery (charging, charge status, voltage).

EXP-I8-RN.

System may have two EXP-I8-RN-xx series expanders.
Address of the given EXP-I8-RN-xx. determined by the first DS1 switch:
1: OFF = adres 1
1: ON = adres 2.

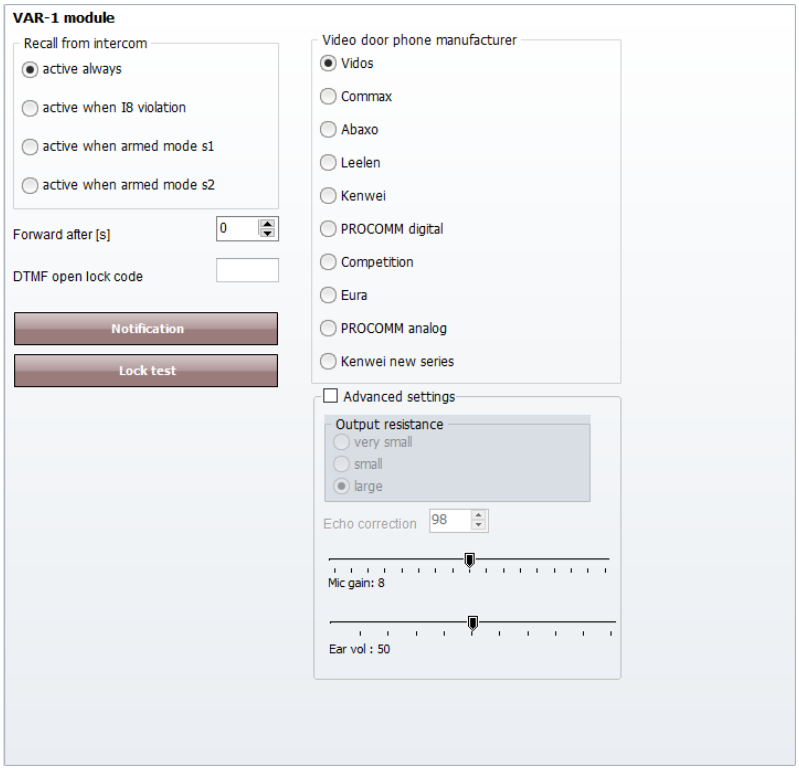
Warning!
After adding a new extension module, check the zone allocation.

EXP-O8x-RN (EXP-O8R-RN lub EXP-O8T-RN).

Dystem may have two EXP-O8x-RN-xx output expanders.
Address of the given EXP-O8x-RN is determined by the first switch DS1:
1: OFF = adress 1
1: ON = adress 2.

Warning!
After adding a new extension module, check the output allocation.

VAR-1U



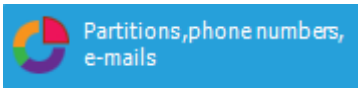
Changing the parameters of module.

Redirection of the call from the module.
The function allows you to redirect conversations from the video intercom / door station when:

For redirection, the conditions above must be met.

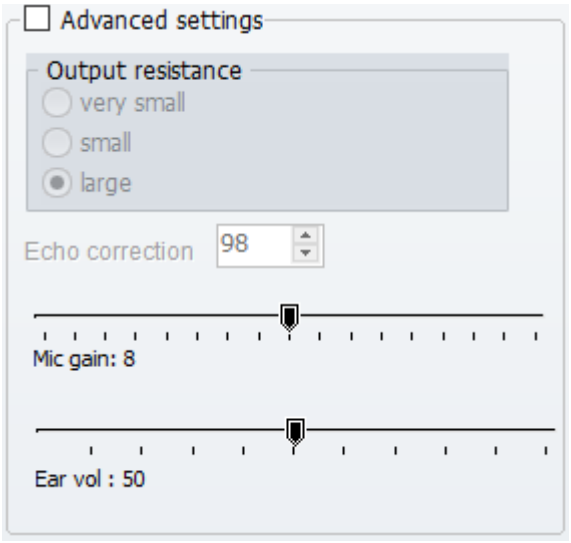
active always - call forwarding from the intercom to the mobile phone always occurs when the call button is pressed on the doorphone
active when I8 violation - call forwarding from the intercom to the mobile phone always occurs when there is a violation of the entry - 8 (eg detectors at the gate) and during this time the doorphone button will be pressed
active when armed mode s1-s4 - call forwarding from the doorphone only active when the zone number is armed.

When the VSR-1 voice synthesizer is installed in the module - first the message saved in the VSR-1 module memory will be played and then the system user number saved in position 1 or 2 will be selected in the tab:

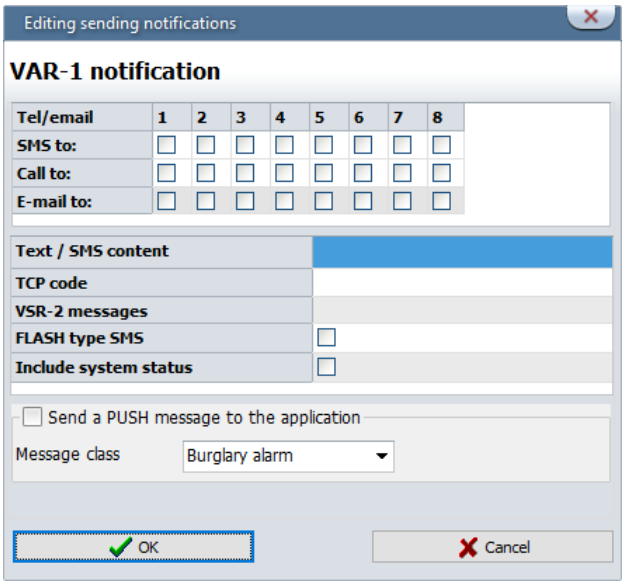


Advanced settings.

Custom settings allow you to adjust the parameters of the audio line to achieve the best possible sound quality.
Factory settings are recommended for individual device models (they load automatically after selecting the device model).



Notifications from the VAR-1U module



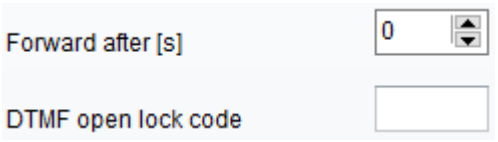
Bolt control using DTMF.

The VAR-1U module enables remote opening of the bolt using the DTMF code during an ongoing voice connection between the user and the NeoGSM-IP system.

Call forwarding after [s] - the function allows to play a message from the VSR-1 module installed in the VAR-1U door intercom (we recommend that the redirection time should not be shorter than the message duration in the VSR-1 module).

To use the option of opening the bolt using the DTMF code, enter the code (1-4 digits) in the field, and the DTMF code is confirmed by pressing "*"

Dialing configuration window and DTMF opening code:



Attaching the transom.

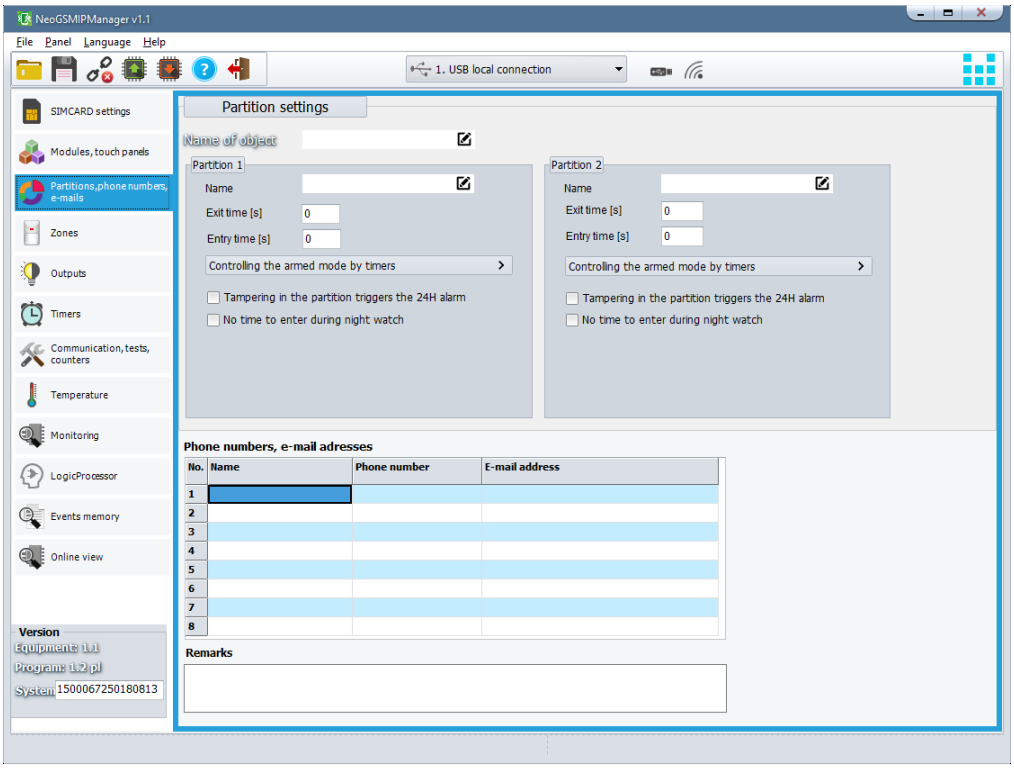
The function of turning the lock allows remote opening of the gate by means of DTMF code or the SMS command.

The opening of the bolt takes place:

- remotely by the user - DTMF, code from 1 to 4 digits, confirmation "*"
- remotely by the user - SMS, example: #### bolt (#### = access code)
- locally - a button in the video door phone

Tab: Partitions, phone numbers, e-mails.

The tab is used to set the input / output parameters for each zone, enter the system users data (max 8).
In this field you can also use the option of arming the system to standby with the use of timers.



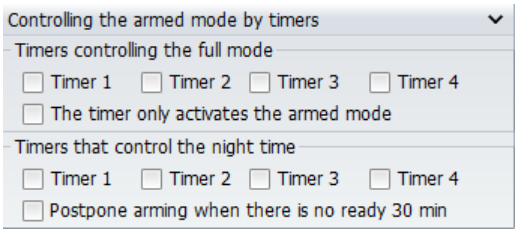
Name of object – name displayed in the TPR panels and the RopamNeo application.

Partition
Name – name displayed in TPR panels and RopamNeo applications and attached to notifications.

Exit time - time counted down after arming an alarm in which it is possible to violate delayed zones.

Entry time – the time counted after the delayed zone violation, in which the alarm should be disarmed.

Controlling the armed mode by timers – standby is controlled according to the timer.

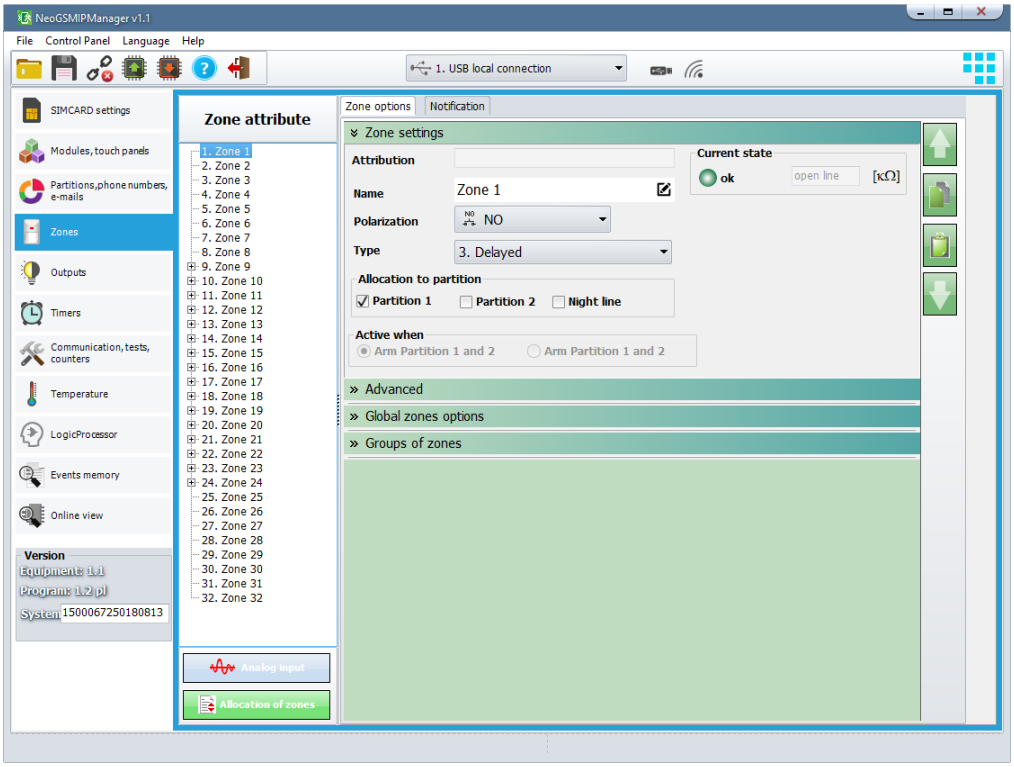


Tampering in the partition 24H – sabotage causes a 24H alarm.

No time to enter during night watch – causes an immediate reaction of delayed zones in case of night arming.

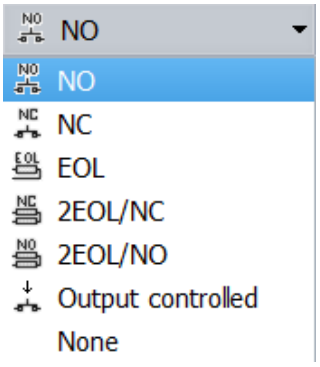
- the telephone number should be entered in the international format, e.g. +48500111222.

Tab: Zones.



Zone settings

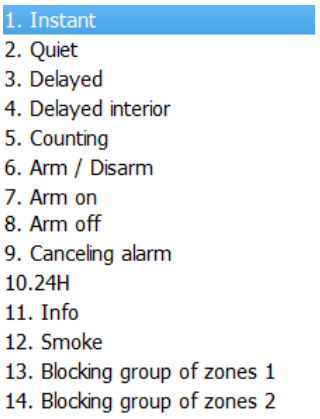
Attribution – information on the physical allocation of input from available modules in the control panel.
Name - name displayed in the system, TPR panels, RopamNeo application.
Polarization –



Module inputs can independently be configured in one of the polarization types (configuration):

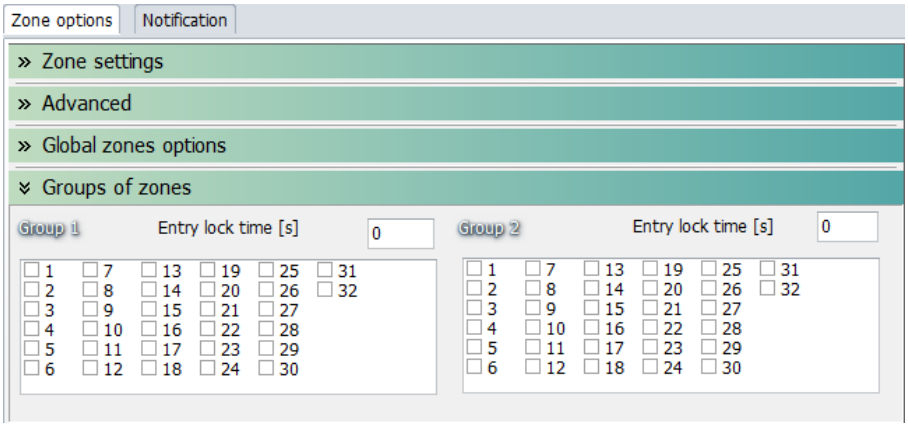
NO - means the input in the NORMALLY OPEN configuration, triggered by the "GND".
NC - means input in NORMALLY CLOSED configuration, triggered by disconnection from “GND”.
EOL – means input in the PARAMETRIC configuration (one parametric resistor), is triggered by disconnecting the parametric resistor 2.2 kΩ, the resistor must be connected between the input and the system ground.
2EOL/NC – means the input in the configuration: two-parameter, the NC detector, the detector circuit is closed with two 1.1 kΩ resistors. The 2EOL zones of this type enable the control panel to simultaneously control the state of the detector and its tamper contact.
2EOL/NO – means the input in the configuration: two-parameter, NO detector, the detector circuit is closed with two 1.1 kΩ resistors. The 2EOL zones of this type enable the control panel to simultaneously control the state of the detector and its tamper contact.
Output controlled – means an input whose state reflects the state of the specified output.
None - disables the input regardless of other input settings.

TYPE –



1.Instant - line triggers an alarm (loud) if the system is in armed mode and generates a notification process.
2.Quiet - zone works only in armed mode, does not generate a loud alarm, it generates only the notification process.
3.Delayed - line triggers a loud alarm after the violation and after the entry delay time has elapsed in the absence of disarming the system (during this time). The time for entry is set in the Zones tab,

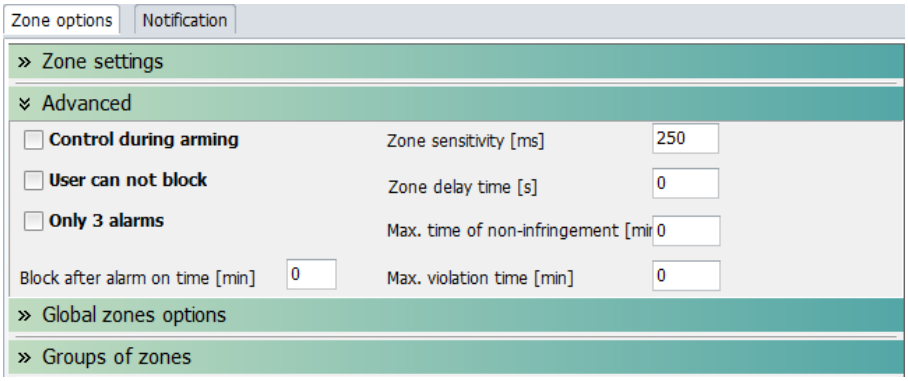
phone numbers, e-mail for zones or individually for Entry delay time [s] in the Zones -> Zone settings -> Advanced.
4.Delayed interior - delayed line only in the case of earlier violation of a delayed line, otherwise a normal line. The time for entry is set in the Zones tab, phone numbers, e-mail for zones or individually for Entry delay time [s] in the Zones -> Zone settings -> Advanced.
5.Counting - violation of this type of line will increase the counter of violations, reaching the value of the counter will start alarming actions. The line is active during the module standby time (as Normal), the line violation counter is reset after a specified period of time has elapsed since the last violation.
6.Arm/disarm - a line that enables / disarms the system. The input can work in bistable mode (switch): violation activates the partition, end of violation turns off or monostable (button when the option: PULSION LINE enabled) the operation is then: the first violation is arming the module, the second violation disarms, alternately. Allocating the entrance to the night zone generates ONLY night standby and global disablement.
7.Arm on - violation of the zone will only arm the system (supervision). Allocating the entrance to the night zone generates ONLY night standby and global disablement.
8.Arm off - violation of the zone only disarms the system (supervision) and possibly clears the loud alarm if it was in the system.
9.Cancelling alarm - zone violation only clears the loud alarm without affecting system arming.
10.24H- zone generates a tamper alarm in each state of the control panel and generates a notification process.
11.Info- violation of the zone does not trigger an alarm action, but starts the notification process.
12.Smoke - Detection algorithm: if the system has an output with the "Smoke detector power supply" option selected, then after the smoke is detected, the output is reset to 30s. After this time, re-violation of the zone within 30s triggers the 24H alarm. If there is no "power supply for smoke detector" output, the input acts as 24H input.
13.Blocking group of zones 1 – violation of the zone causes blocking of inputs from Group 1 to Entry blocking time [s]
14.Blocking group of zones 2 - violation of the zone causes blocking of inputs from Group 2 to Entry blocking time [s]



Input options: Input groups - input blocks.

Allocation to partition – function allows for assigning an entrance to the zone or to zones in accordance with the set logic and enabling the entry of the night zone (the zones marked as night will be armed when the night watching is started).

Advanced



Control during arming – checking the option enables checking for entry violation during arming.

User can not block – selecting the option disables the possibility of blocking the input by the user, eg from the TPR4 panel.

Only 3 alarms – inputs with the option selected will generate a maximum of three transmissions, alarms during one arm. The third violation will block further reactions.

Block after alarm on time [min] - Entry time (reaction) time after the first violation. The option works for zones type: Info, Instant, Quiet, Delayed, Delayed interior. For each of zones, you can set the lock time independently (by default set to 0s). Time min/max.= 1min./360min
Warning:
- the option is used for limiting the number of notifications and for motion detectors connected to inputs; limiting the number of transmissions from a given source, readability of sent messages,
- for motion detectors, eg PIR, the parameter should be the duration of a loud alarm or a minimum of 1 minute.

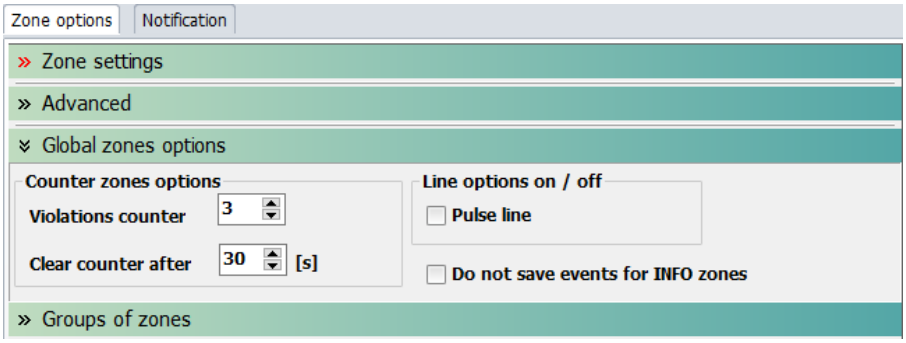
Zone sensitivity [ms] - The parameter specifies the time in ms. (1s = 1000ms) through which the input must be violated so that a change in its status can be detected. For each of the inputs, you can set the reaction time independently (by default set to 500ms). Time min / max = 250ms / 60s.

Zone delay time [s] – individual time delay (entry time).

Max. time of non-infringement [min] – parameter specifies the maximum time after which zone will fail if it was not violated.

Max. violation time [min] – parameter specifies the maximum violation time of the zone, followed by the entry failure.

Global zones options.

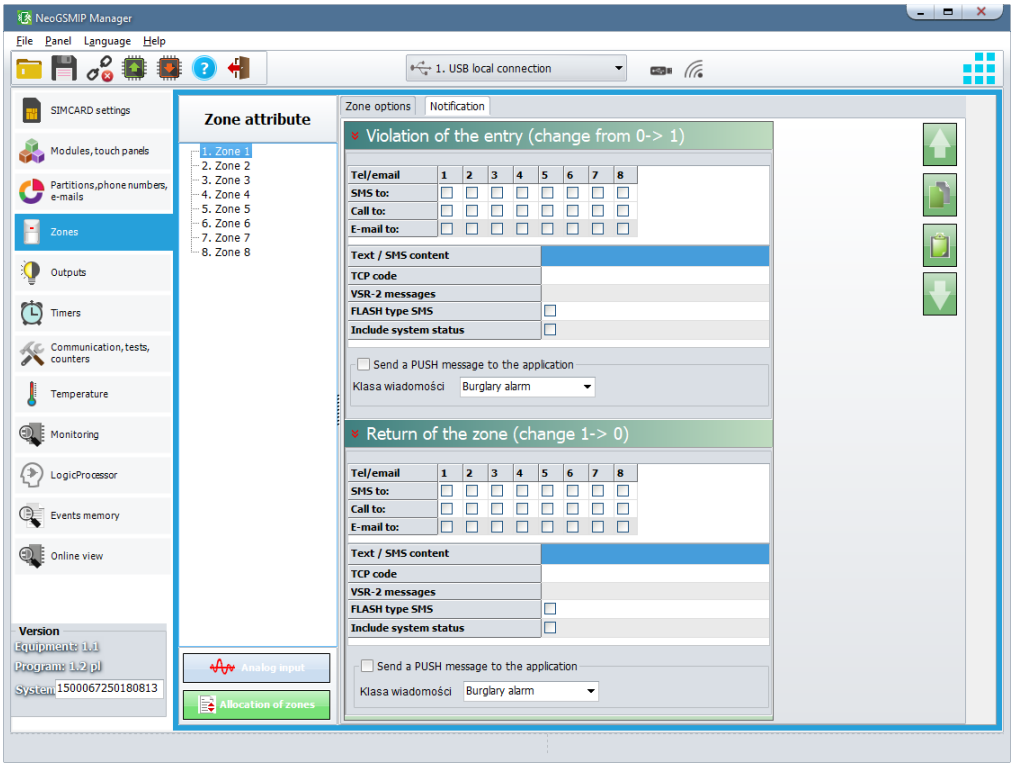


Violations counter / Clear counter after - Configures the type 5. Counter input: the number of violations and the time of resetting the violation counter (p.)

Pulse line – By selecting the PULSED LINE option, the system is armed as a "button": the first violation activates the system, the second disarms, etc.

Do not save events for INFO zones- It does not record 11. onfo line violations to the memory of events.

Notyfication



Violation of zone (change z 0>1)
Tel/e-mail – specifies the user number from the list of numbers.

Sms do – selection enters the user to the SMS notification action.

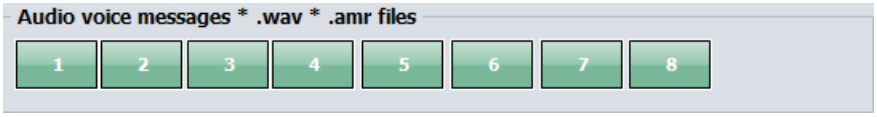
Call to – selection causes the user to join the voice notification action.

E-mail to – selection adds the user to the e-mail notification action.

Text / Sms content– content of SMS / e-mail notification. (without Polish language signs).

TCP code – notification code for monitoring stations.

VSR-2 messages – field is used to configure the content of voice messages played on notification. Enter the number of the voice message. It is possible to upload to the control panel 8 .wav or .amr messages from tab SIM card settings -> Voice call settings -> Audio voice messages * wav * amr files.



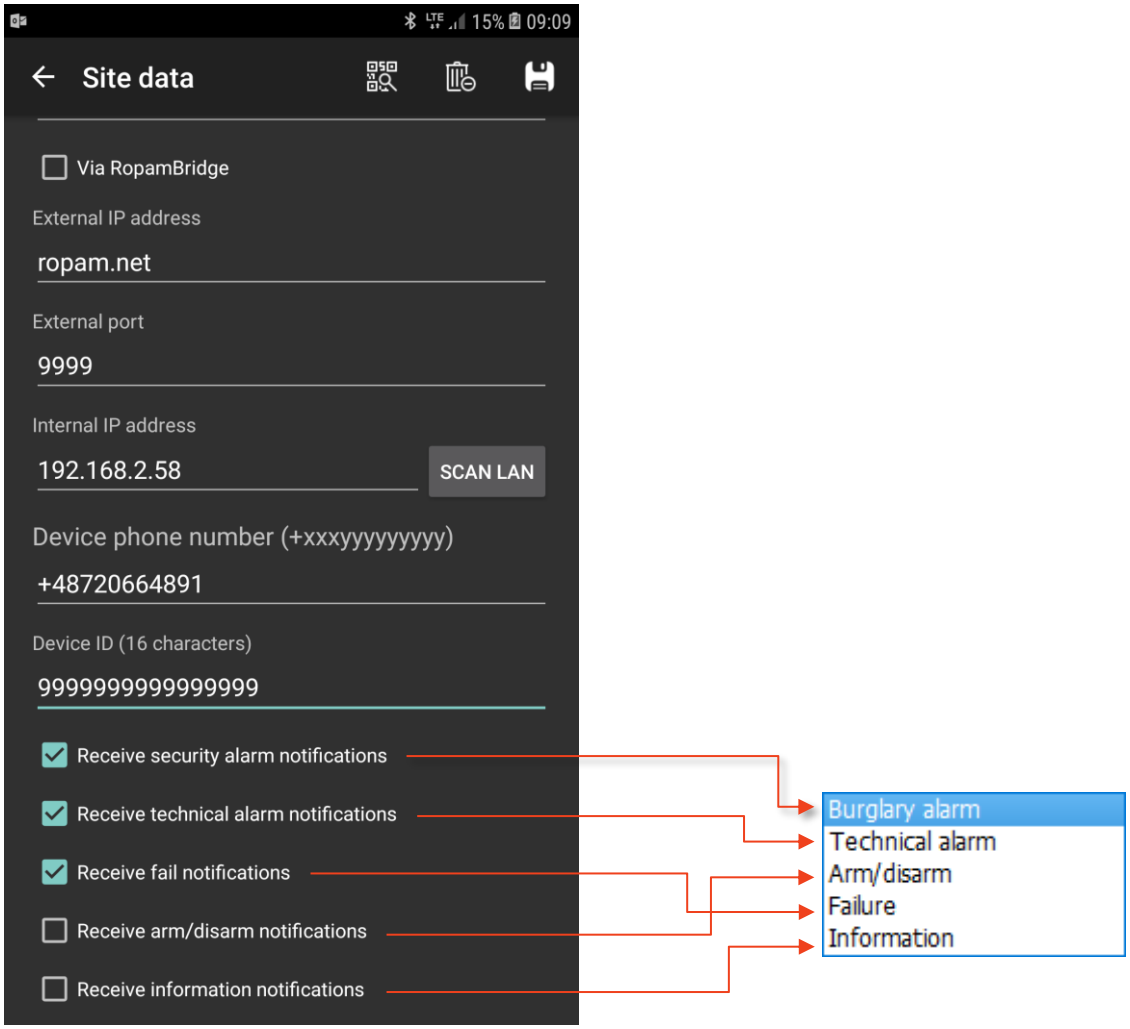
- audio module (microphone): m
Introduction of "m" switches on the microphone from the AMR-1 audio module.

FLASH type SMS – defines whether the sent SMS is to be displayed directly on the phone's display (flash) or read from the inbox.
COMMENTS:
- remember that the FLASH type SMS message can be easily overlooked because it is not stored in the phone (it disappears from the phone display, eg when someone is calling) FLASH option may not work if you send SMSes to a different operator than the module SIM card (it is not dependent on the settings but it results from the restrictions introduced by the operators!).

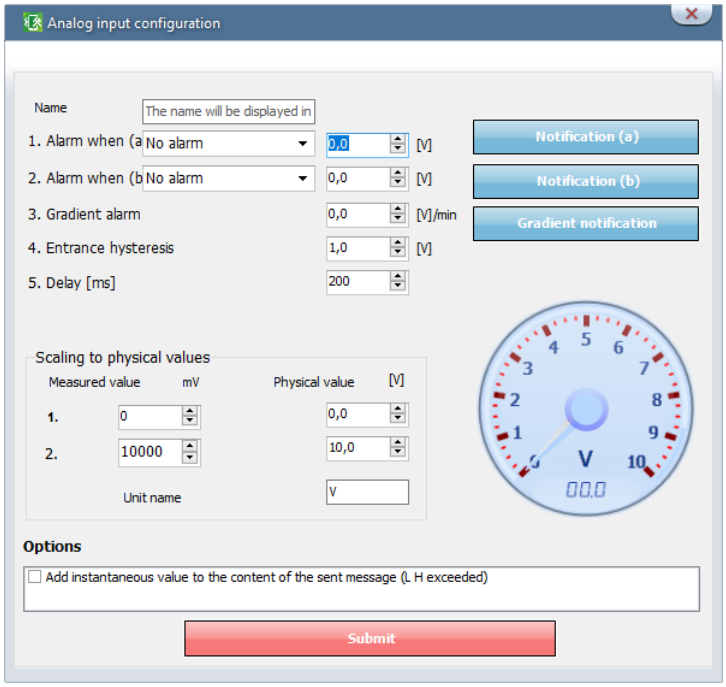
Include system status – appends the object's status to the notification content according to the setting in tab Communication, tests, counters.

Send a PUSH message to the application – selecting this option sends a PUSH message to the RopamNeo application. The application user determines what class of messages will be received by him.
Requirements:

- active internet connection (Wifi / Ethernet / GPRS),
- an active connection to the RopamBridge server,
- subscription to the RopamBridge service in the Google Play or AppStore store,
- minimum three successful logins of the RopamNeo application by RopamBridge,



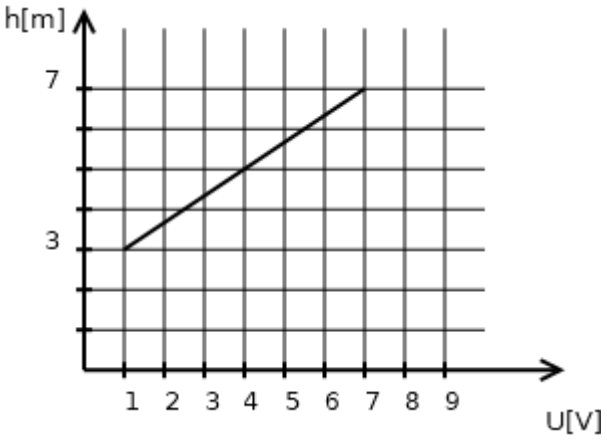
Analog input



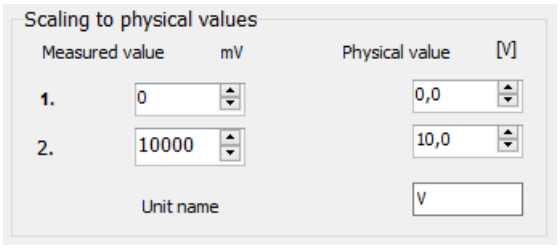
Name – easier identification of the measured quantity,
Alarm when (a) – It is possible to set the override parameters "higher or lower than" and set the notification action.
Alarm when (b) - It is possible to set the override parameters "higher or lower than" and set the notification action.
Gradient alarm – Alarm generated if the value change within one minute exceeds the set threshold.
Input hysteresis - a setting that allows entry delay to change
parameters at the entrance.
Delay [ms] - time delay in response to a change in the measured value.

Add instantaneous value to the content of the sent message (L, H exceeded) – the option adds an instantaneous value to the notification content.

Scaling to physical values



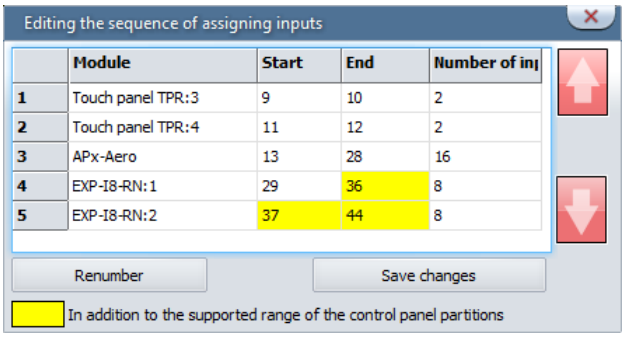
Sensor characteristics.



Sample configuration for the water level sensor (meters).

Allocation of inputs

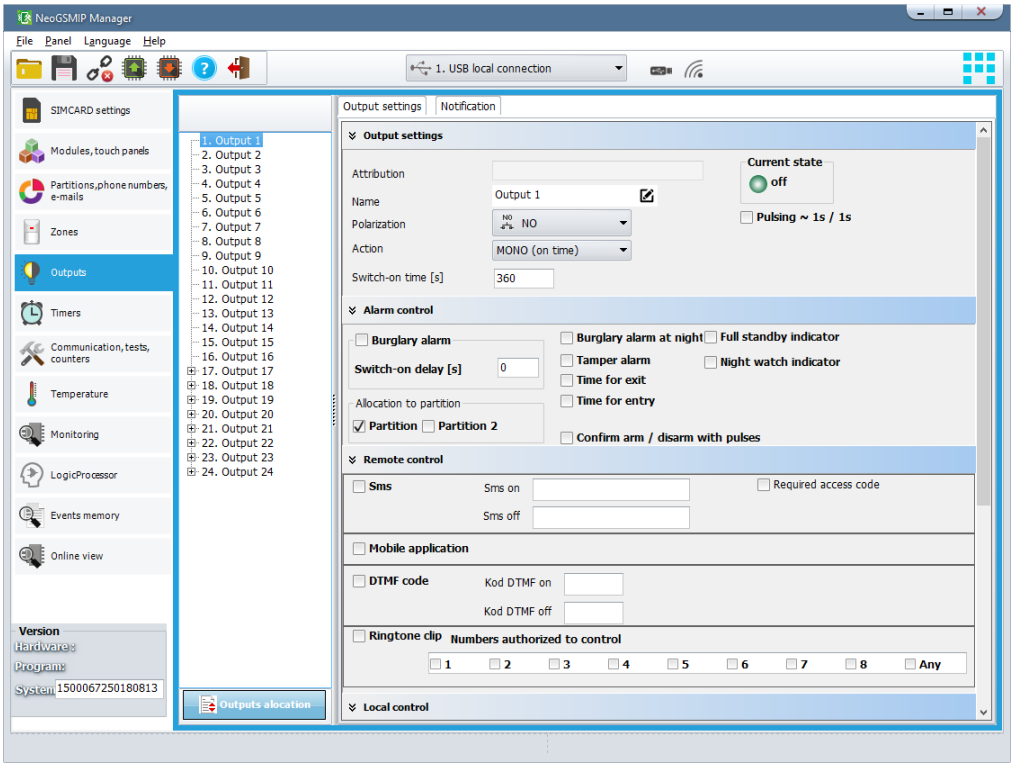
The function is used for arbitrary deployment of inputs from available extension modules in the control panel.
Warning!
After adding a new extension module, check the allocation of inputs.



Renumber - automatic arrangement of available inputs.
Save changes – saves changes (necessary to send configuration to the control panel).

Inputs outside the range supported in the control panel are marked yellow.

Tab: Outputs.



Output settings

Attribution – information on the physical assignment of the output from the available modules in the control panel.

Name – nazwa wyświetlana w systemie, panele TPR, aplikacja RopamNeo.

Polarization – Wybór konfiguracji w stanie normalnym:
- rozwarte NO czy zwarte NC do „plusa” modułu: wyjście O1, O2
- rozwarte NO czy zwarte NC do „masy” modułu: wyjście O3-O8

Action –

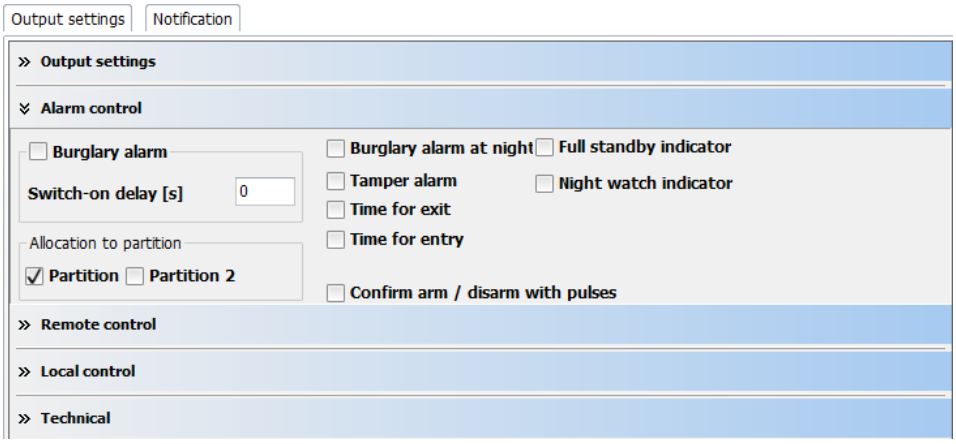
MONO (on time) the output changes the normal state after the event marked in the "Switched on" box for the time specified in the "Time [s]" field, after its expiry returns to the normal state.
It is possible to shorten the MONO time by means of the SMS Off or DTMF Off commands.

BI (till disable) the output changes the normal state after the event marked in the field "Switched by" to the opposite state and remains in it until the next event, e.g. entry violation, control from the touch panel. The output in BI mode for triggering as an ALARM acts as a latch (latch) to reset the alarm.

Swirch-on time [s] – determines the operation time [s] of the output in the MONO mode, parameter 1-999960 s.

Pulsing ~1s/1s – output in ON state pulsates.

Alarm control



Burglary alarm – output active at the occurrence of an alarm, it is possible to set the delay of switching on the output in relation to the occurrence of an alarm.

Allocation to partition – assignment to a specific zone. The operation of the output assigned to the two zones takes the OR logic.

Burglary alarm at night – output active at alarm occurrence, night arming.

Tamper alarm – output active at the occurrence of a tamper alarm.

Time for exit – output active when counting down the exit time.

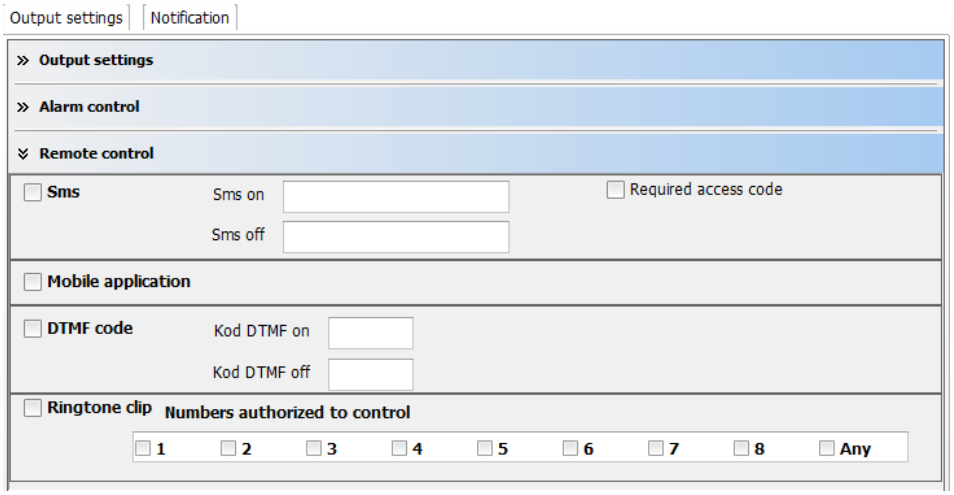
Time for entry – output active when counting down the entry delay.

Full standby indicator – active output when the partition is full armed.

Night watch indicator – active output with night standby.

Confirm arm / disarm with pulses – the function generates pulses on the output when arming or disarming.

Remote control



Sms on – in the tab we enter the content of the SMS which will activate the given output. You can not use special characters (e.g., Polish letters).

Sms off – in the tab, enter the content of the SMS which will disable the given output. You can not use special characters (e.g., Polish letters).

Required access code – selecting this option will cause that the control of the given output via SMS will require the content to be placed in addition to SMS ON / SMS OFF, ACCESS CODE (OPTIONS tab).

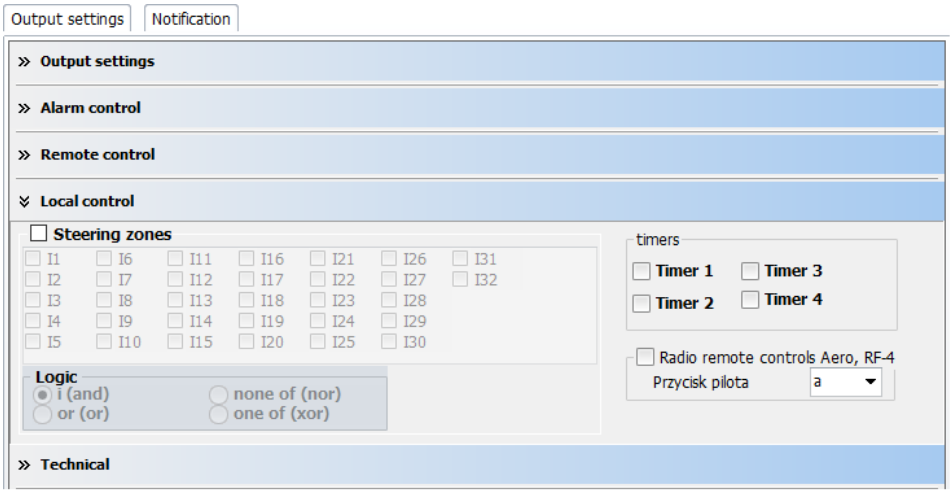
Mobile application – option allows control from the RopamNeo application.

DTMF code on – in tab, we enter the DTMF code which will activate the given output (DTMFOn *). recommended length 2-4 characters (numbers).

DTMF code off – in the tab, enter the DTMF code that will disable the given output (DTMFOff *). recommended length 2-4 characters (numbers).

Ringtone clip – the option allows the output to be controlled by short connection to the module telephone number. In addition, it is possible to determine the response of the module to an incoming call, using the option INCOMING CALLS.

Local control.

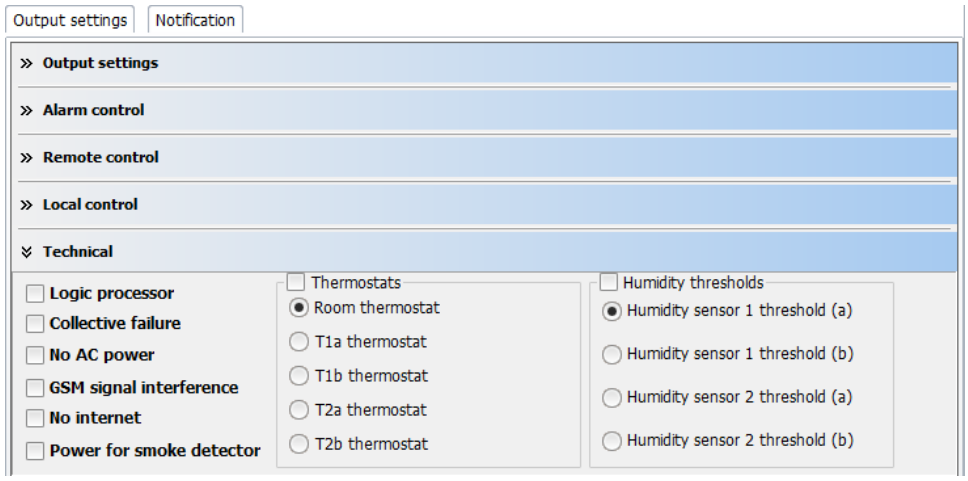


Steering zones – allows you to control the output from any of the control panel zones using logic.

Timers – controlling the output according to the selected timer.

Radio remote controls Aero, RF-4 – controlling output with the chosen remote control button.

Technical



Logic processor - output control only from the Logic processor level
Warning! If this option is selected, the output control will be taken over by the Logic processor script regardless of the other exit control options selected.

Collective failure – switching on output when any failure occurs.

No AC power – turning on the output when power is off.

GSM signal interference – switching on output when signal interference is detected

No internet –enabling output when detecting the lack of Internet.kryciu braku Internetu.

Power for smoke detector – if the system has an output with the "Smoke detector power supply" option selected, after the detection of smoke, the output is reset to 30s. After this time, re-violation of the zone within 30s triggers the 24H alarm.

Thermostats – controlling the output from the selected thermostat.

Humidity treshold – controlling the output from the selected humidity threshold.

Notyfication.

The tab allows configuration of notifications when the control panel status changes.

Output switching (change from 0> 1)
Tel/e-mail – specifies the user number from the list of numbers.

Sms to – the selection enters the user to the SMS notification action.

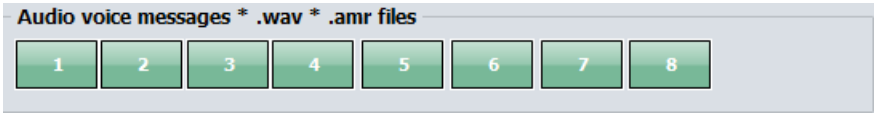
Call to – the selection causes the user to join the voice notification action.

E-mail to – the selection adds the user to the e-mail notification action.

Text / SMS content – content of SMS / e-mail notification. (without Polish language signs).

TCP code – notification code for monitoring stations.

VSR-2 messages – field is used to configure the content of voice messages played on notification. Enter the number of the voice message. It is possible to upload 8 .wav or .amr messages to control panel from tab SIM CARD settings -> Ustawienia połączeń głosowych -> Komunikaty głosowe audio pliki *wav *amr.



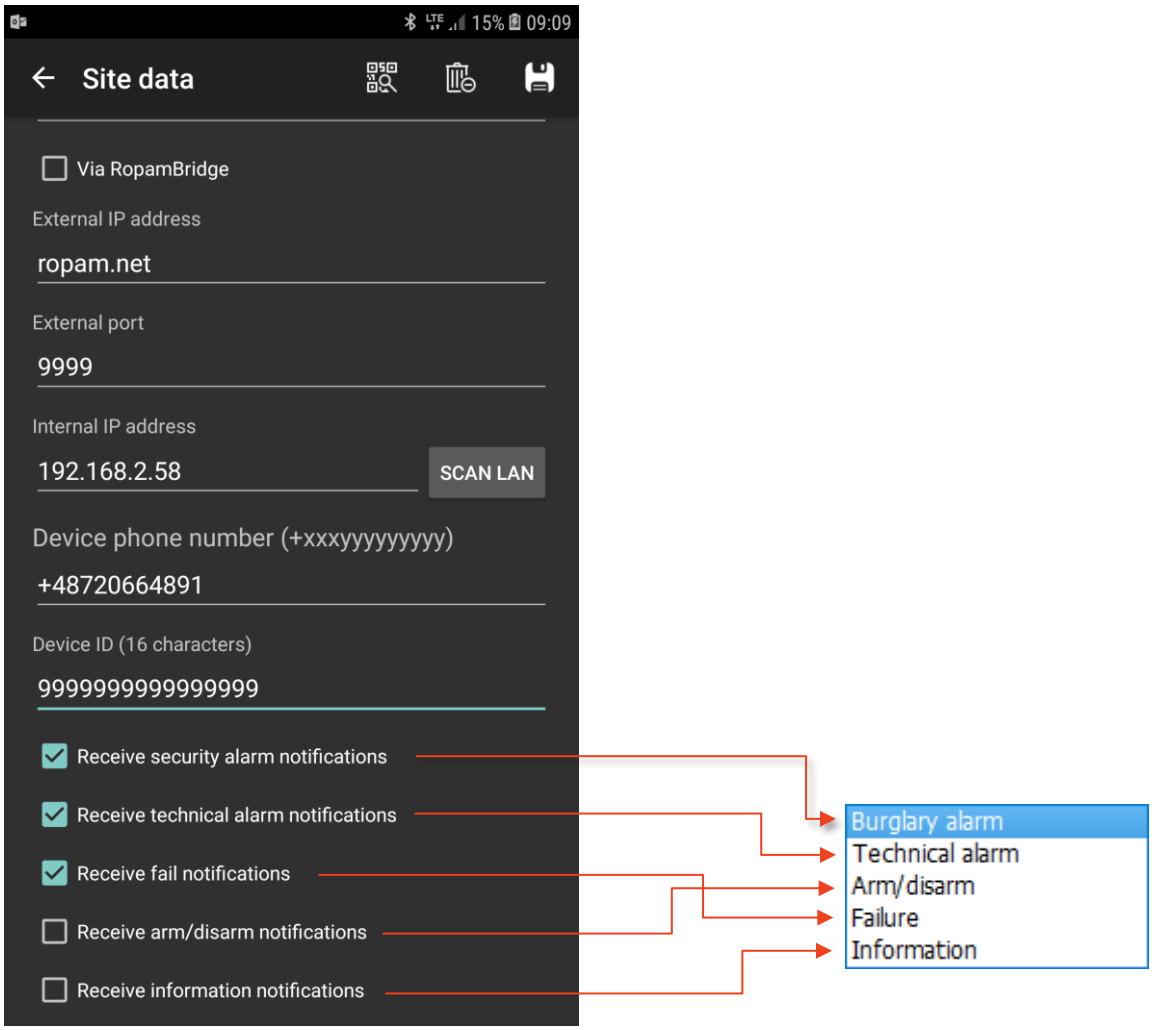
- audio module (microphone): m
The introduction of "m" switches on the microphone from the AMR-1 audio module.

FLASH type SMS – defines whether the sent SMS is to be displayed directly on the phone's display (flash) or read from the inbox.
COMMENTS:
- keep in mind that a FLASH SMS message can be easily overlooked because it is not memorized in the phone (it disappears from the phone's display, eg when someone calls)
the FLASH option may not work when sending SMSs to a different operator than the SIM card of the module (this is not dependent on the settings but results from restrictions introduced by the operators!).

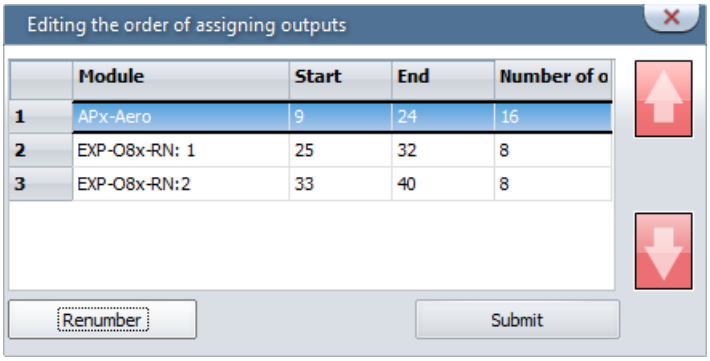
Include system status – appends the object's status to the notification content according to the setting in the Communication, tests, and counters tab.

Send a PUSH message to the application – selecting this option sends a PUSH message to the RopamNeo application. The application user determines what class of messages will be received by him.
Requirements:

- active internet connection (Wifi / Ethernet / GPRS),
- an active connection to the RopamBridge server,
- a subscription to the RopamBridge service in the Google Play or AppStore store,
- a minimum of three successful logins of the RopamNeo application by RopamBridge,



Allocation of outputs.

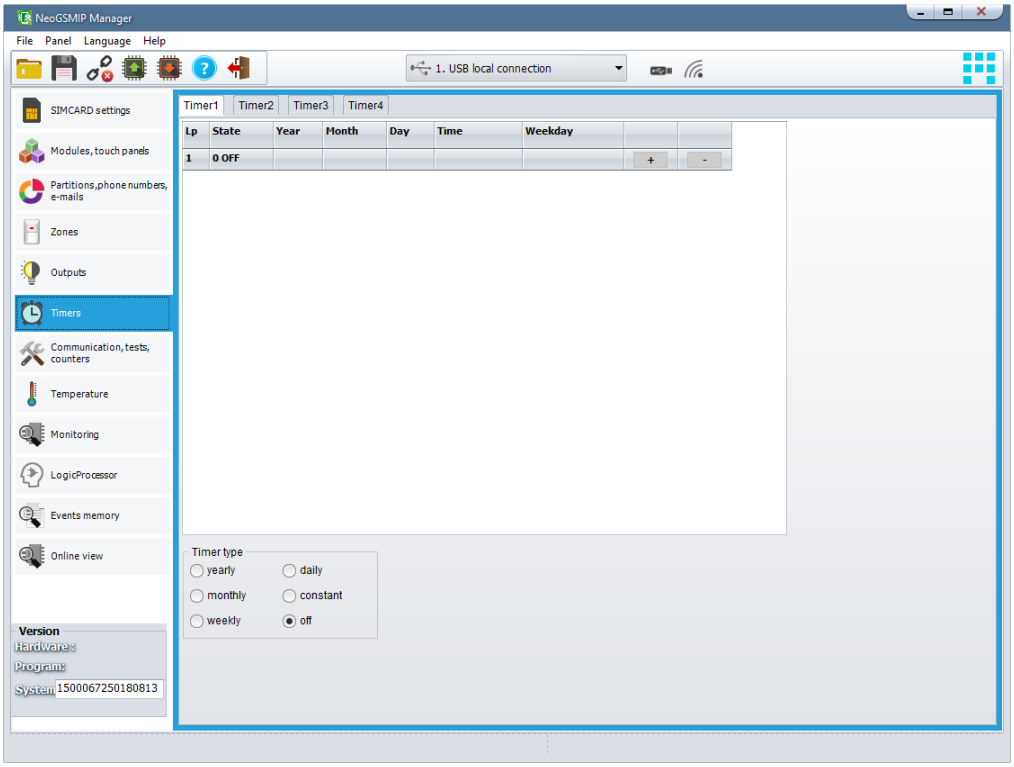


The function is used to freely arrange the outputs from the available extension modules in the control panel.
Warning!
After adding a new extension module, check the output allocation.

Renumber – automatic arrangement of available outputs.
Save settings – saves changes (necessary to send configuration to the control panel).

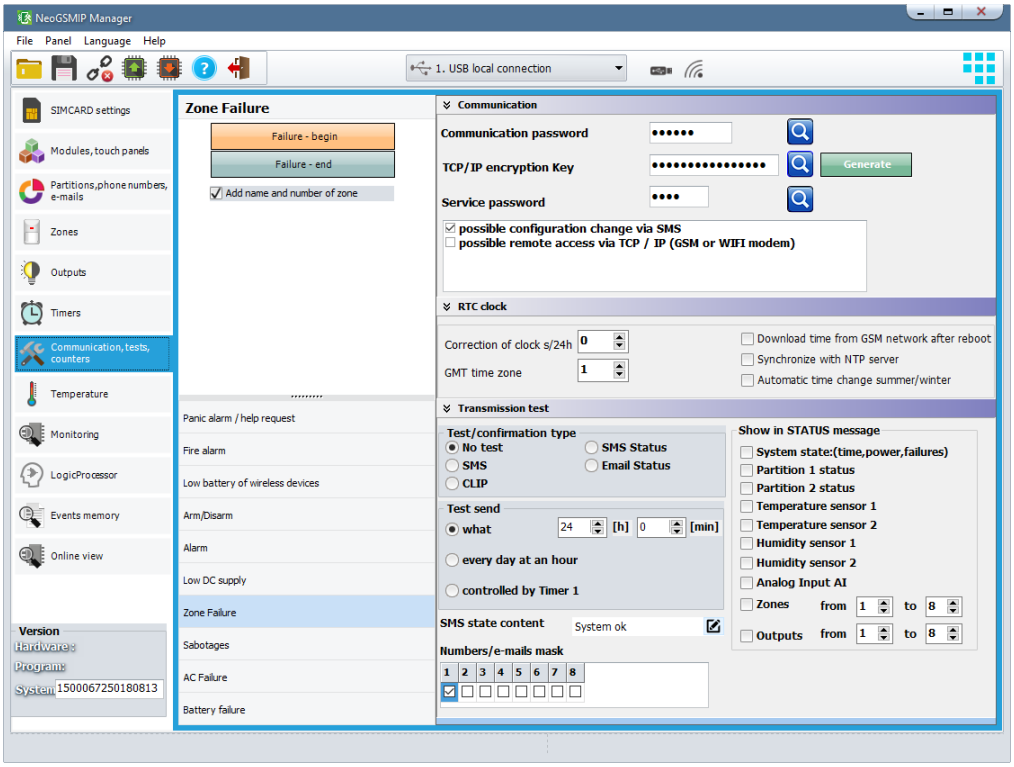
Tab: Timers.

Settings of four independent timers to control the system arming,
control of outputs, LogicProcessor functions.
Each timer can have 20 independent entries on attachments.

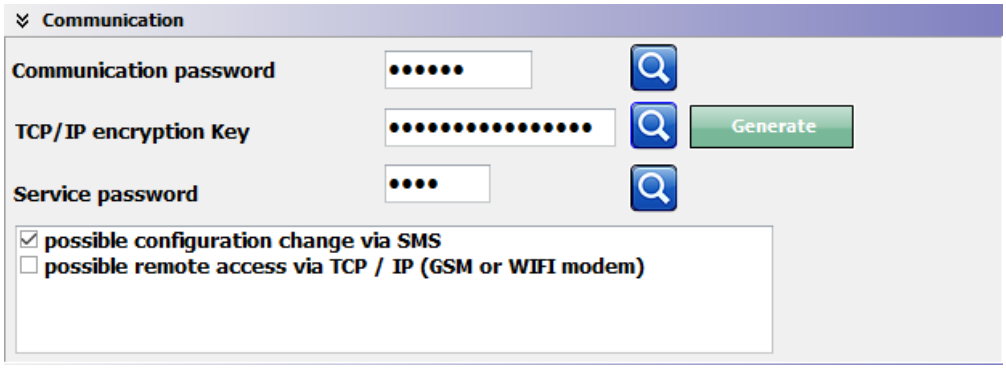


Tab: Communication, tests, counters.

Settings of parameters and methods of communication between the control panel and the user, the Internet network.
Configuring notifications in the event of a system failure.



Communication



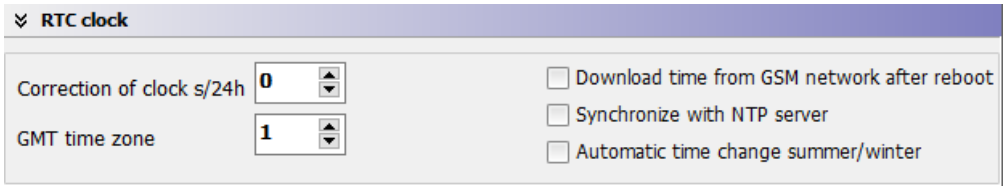
- Communication password - password protecting unauthorized reading of data from module using a computer and the NeoGSMIPManager application. If the password is incompatible, it is not possible reading

- TCP/IP encryption Key: key encrypting transmission between the module NeoGSM-IP and the RopamNeo mobile application. The key is generated automatically each time when running the NeoGSMIPManager program. Also used when encrypting the service connection with NeoGSMIPManager.

- Service password: The password should consist of four characters (digits, letters: large or small).

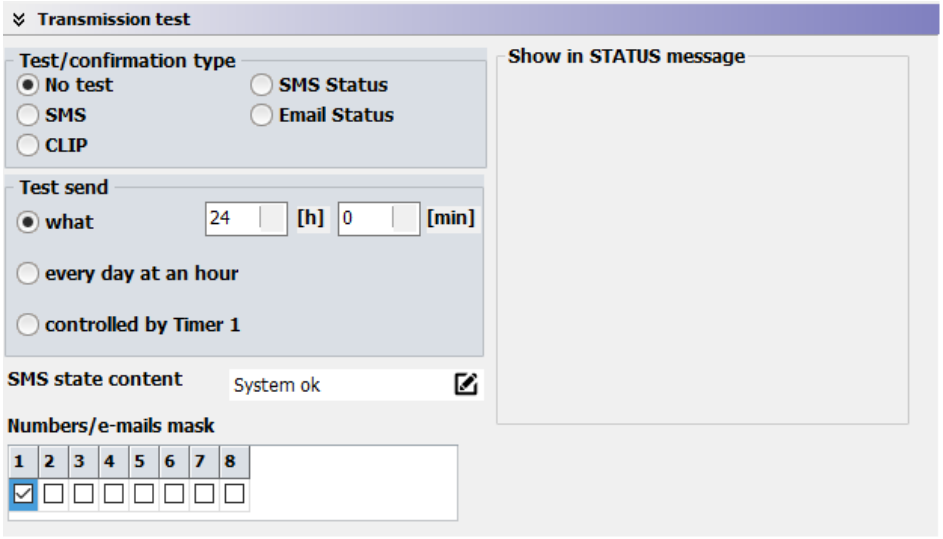
In order for the user to change the configuration via SMS channels and a GSM or WIFI modem, the following options should be selected:
- possible configuration change via SMS - (allows you to control the module with SMS commands and RopamNeo applications),
- possible remote access via TCP / IP (GSM or WIFI modem) - allows you to connect to the module through the NeoGSMIPManager program,

RTC clock



Synchronize with NTP server works in GPRS or Wifi / Ethertnet network**.**

Transmission test



You can set different methods and frequency of the transmission test. We recommend switching on the transmission test to increase the reliability of the system.

Show in STATUS message – the function allows you to adjust the information contained in the text message.

NOTIFICATIONS WHEN:

- **Panic alarm / help request**
  Configuring notifications after calling a panic alarm.
  Loud alarm

- **Fire alarm**

Configuration of notifications after calling / ending fire alarm.
Loud alarm

- **Low battery of wireless devices**
  Configuration of notifications after a failure of a weak Aero battery.
- **Arm/Disarm**
  Configuring notifications after arming / disarming.
  - add partition number - add zone number or name to the notification content (SMS, EMAIL, PUSH)
  - add user number (for TPR touch panels) - in the case of arming from the panel, the user number or name will be added to the notification content

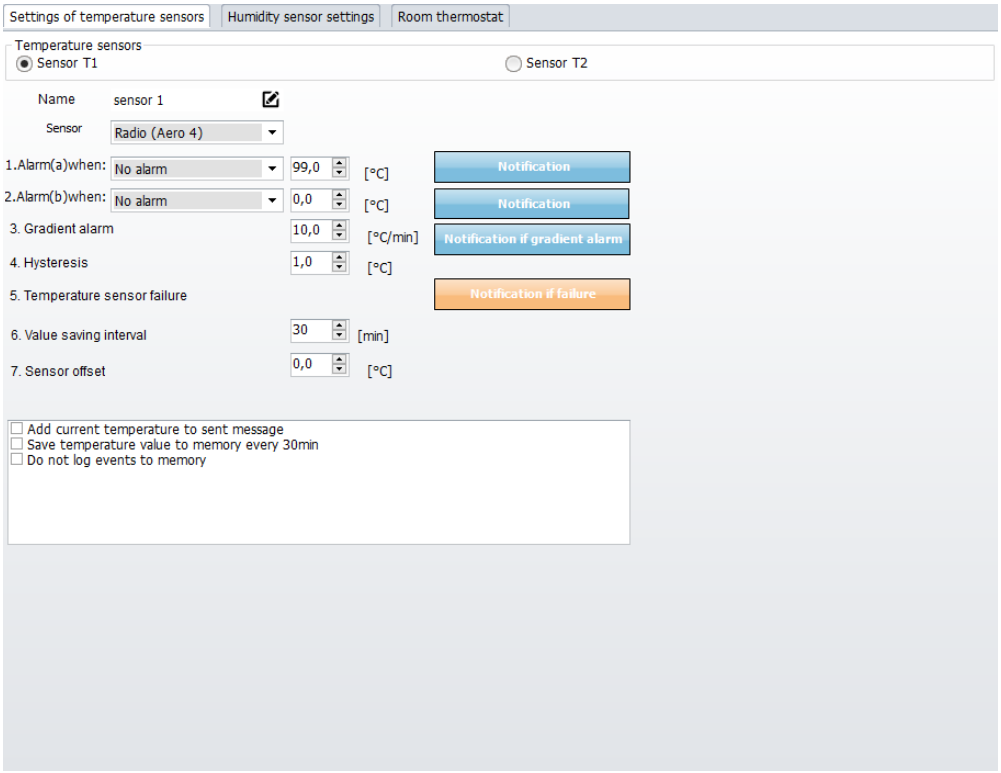
  For arm/disarm partition
  - Partition 1
  - Partition 2
- **Alarm**
  Configuration of notifications for the beginning of an alarm and deletion.
  - Add partition number – add a zone number or name to the notification content (SMS, EMAIL, PUSH)
  - Send only one alarm – will limit the number of notifications to one until the alarm is cleared,

- **Low DC supply**
  Configuration of notifications for low voltage supply failure.
- **Zone Failure**
  Configure notifications for an input failure. Exceeding the maximum time of no violation or maximum violation time.
  - Add name and number of zone – add a zone number or name to the notification content (SMS, EMAIL, PUSH)
- **Sabotages**
  Configuration of notifications for the occurrence of sabotage.
  - Add number/name of zone or module - it will add the name of the entry number to the notification content,
  - Add partition number – add a zone number or name to the notification content (SMS, EMAIL, PUSH)
- **AC Failure**
  Configuration of notifications for loss / return of AC power (PSR-ECO power supplies).
  - Sygnalization delay [s] – delay from the occurrence of power failure to send a notification.
- **Battery failure**
  Configure notifications for battery failure.
  - Dynamic battery test - selecting this option cycles the battery every 10 minutes. If the control panel detects a significant voltage drop at the battery terminals, there is an error or no error.

Tab: Temperature

Parameter settings for temperature sensors in the system (2).

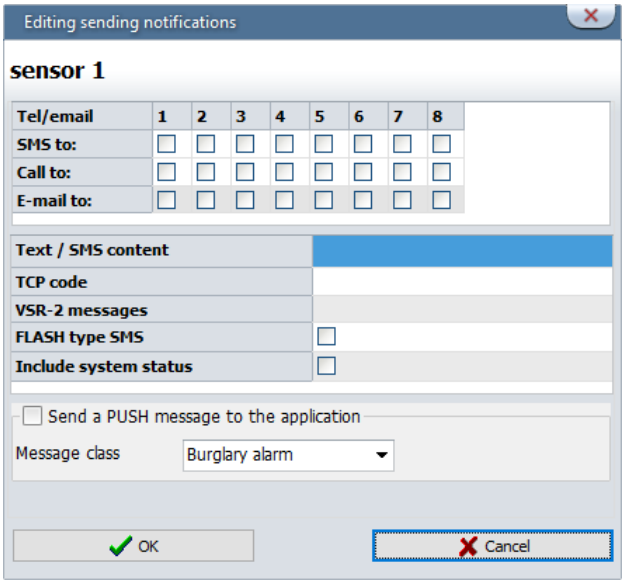
Settings of temperature sensors



The NeoGSM-IP module allows you to measure temperature using a digital temperature sensor TSR-xx.
Temperature measurement takes place every 30s. The measurement accuracy is 0.5 ° C. Based on the temperature measurement, you can perform the LogicProcessor functions, send notifications about changes in temperature parameters and temperature sensor failures.

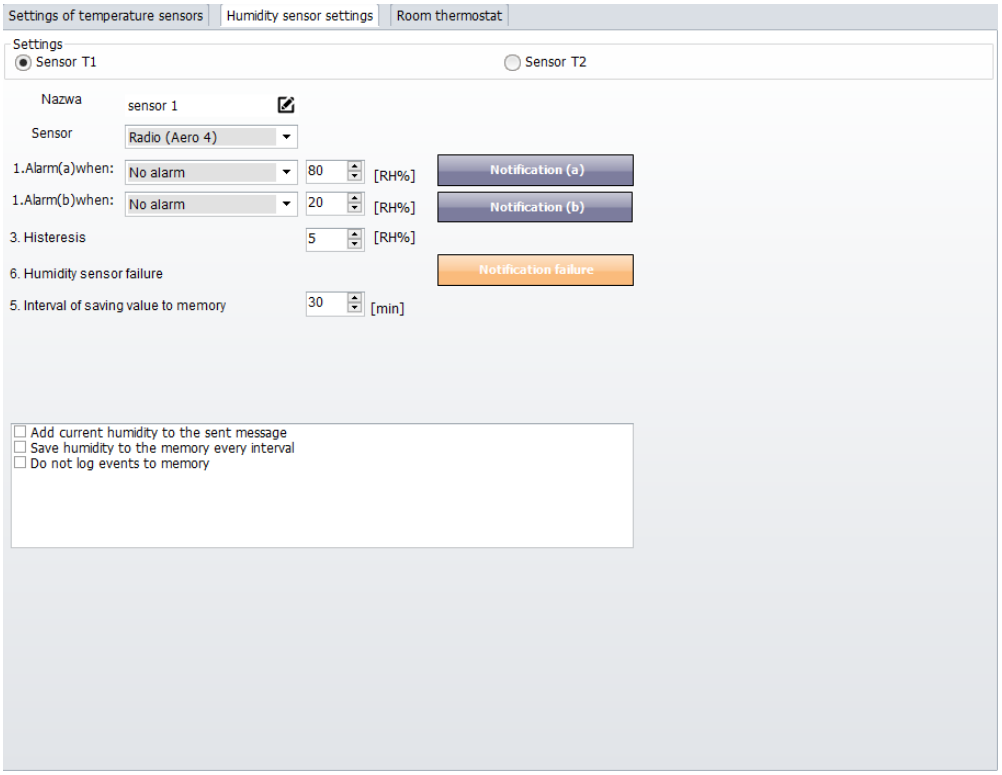
- **Name:** name of the temperature sensor (required to be displayed in SMS STAN, w RopamNEO applications).
- **Sensor:** selection of wired (control panel) / radio sensor (Aero)
- **Alarm when:** the module sends a notification in the form below (the required forms of notification on exceeding the set temperature threshold are required).
- Gradient alarm: the module sends a notification about the exceeded set point gradient (rate of change) of temperature beyond the defined value defined in the field ..... [ºC / min].
- Hysteresis: Difference in temperature values for the lower and upper switching threshold.
Example: if the set temperature a = 30 [ºC] and b = 20 [ºC] and the hysteresis was set to 2 [ºC] the module will switch off the heating when the temperature drops below 22 [ºC] and turn off the heating when the temperature rises above 28 [ºC].
COMMENTS:
"Thermostat" control should be implemented based on the functions available in the "LogicProcessor".
- Temperature sensor failure: notification of failure / damage of the temperature sensor sent to the system user. Possible notification options: the same as for occurrence of alarms when temperature values are exceeded (j / w).

- Value saving interval: time interval between entries of subsequent values
temperature to the event memory in the module. Minimum time: 1 [min], max. Interval time: 1440 [Min]
- **Sensor offset:** fixed parameter modifying the value of the sensor's readings
- Add current temperaturę to sent message – adds the current temperature value to the notification,
- Sace temperature value to memory every 30 min – writes the temperature value into the event memory every interval
- Do not log events to memory – does not save alarms for exceeding thresholds and other events



Humidity sensor settings

- **Name:** name of the humidity sensor (required for displaying in SMS STAN, w RopamNEO applications).
- **Sensor:** selection of wired (control panel) / radio sensor (Aero)
- **Alarm when:** the module sends a notification in the form below (required selection required) forms of notification about exceeding the set humidity threshold).
- Histeresis: Difference in humidity values for the lower and upper switching thresholds.
Comments:
"Thermostat" control should be implemented based on the functions available in the "LogicProcessor".
- Humidity sensor failure: notification about the failure / damage of the humidity sensor sent to the system user. Possible notification options: the same as for the instance alarms on exceeding the humidity value (j / w).
- Interval of saving value to memory: time interval between entries of subsequent values humidity to the event memory in the module. Minimum time: 1 [min], max. Interval time: 1440 [min]
- Add current humidity to the sent message – adds the current temperature value to the notification,
- Save humidity to the memory every interval – writes the humidity value to the event memory every interval
- Do not log events to memory – does not save alarms for exceeding thresholds and other events



Room thermostat.

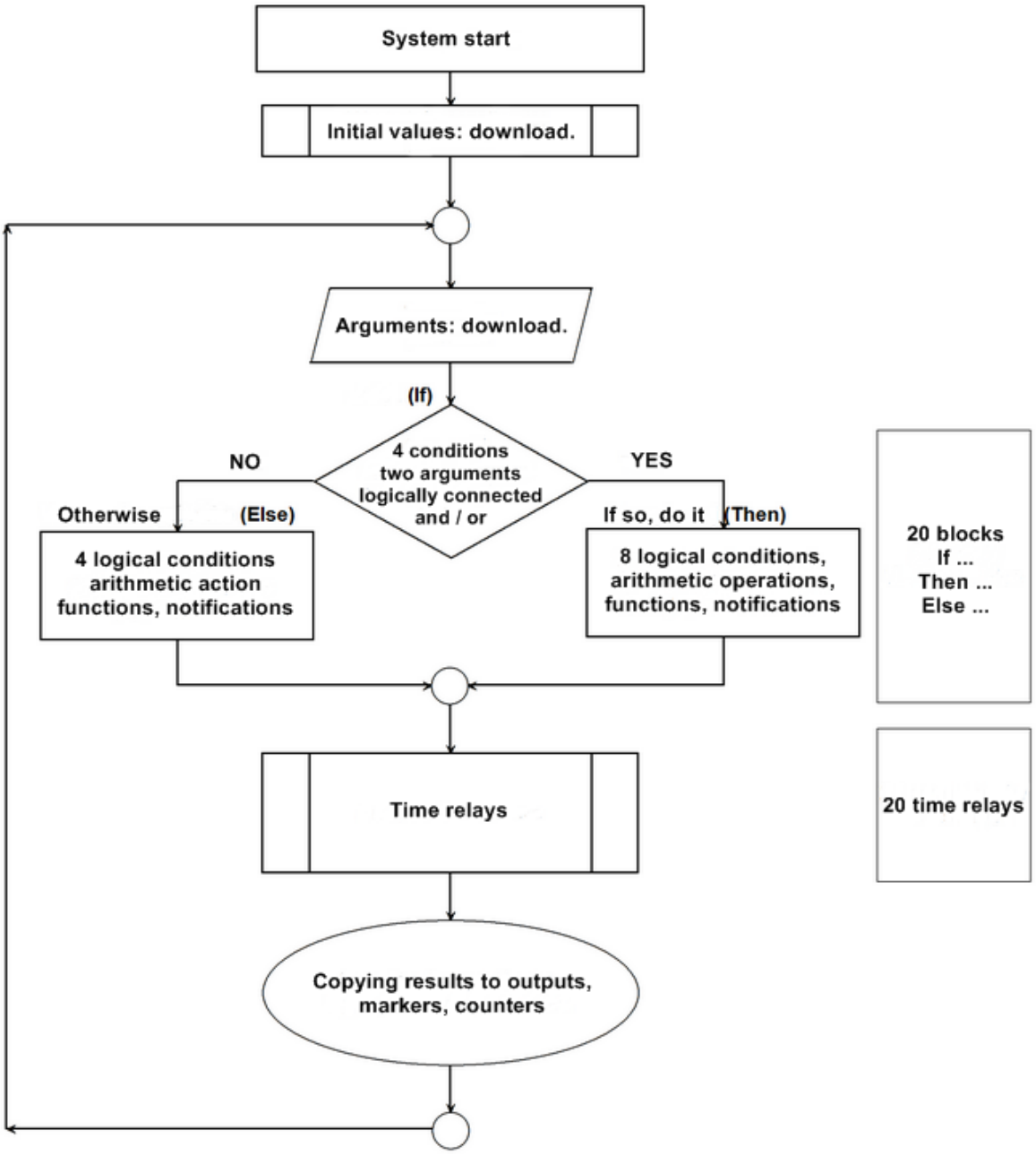
The function allows to set an independent thermostat operating based on temperature sensors connected to the NeoGSM-IP system. The room thermostat allows you to control the climate in rooms according to a set time and temperature schedule. This functionality also allows significant energy savings in the building (no space heating during absence of household members, switching on the heating before returning to the rooms, room ventilation function ensures access of fresh air to the building according to a specified schedule).

- "Show min/max from 24h" displays on the touch panel with icons information about the maximum and minimum temperature measured over the last 24 hours.
- function "Window open detection (ventilation)" it is used to save energy when a gradient of temperature drop above 2 ° C is detected. The function switches off the heating mode for 30 minutes. During this function, it is possible to manually activate any of the thermostat programs.
- the "Scheduler priority" function (when enabled) allows to restore the thermostat operation to automatic mode after manual activation of one of the functions (eg Wake, Exit, Return, etc.).

Tab: LogicProcessor.

Examples of the LogicProcessor configuration can be found in the application notes on the installation CD or on the website: https://ropam.com.pl/pl/aplikacjeo.html.

LogicProcessor:
- advanced logic functions, arithmetic functions, counters, time relays,
- up to 20 independent logic conditions, (If ... Then ... Else blocks),
- 20 time relays for the implementation of time-logic functions,
- logic wizard or script editor (scripting language C), simulator: setter and script preview,



LogicProcessor, functions are executed in a loop according to the scheme.
After the restart, the initial values are taken (optional).
The script then retrieves the argument data.
Then, up to 20 blocks are executed: **If ... Do this ... Otherwise (If ... Then ... Else)**.
Conditions **If** is a maximum of 8 conditions between two arguments, each line is bound to logic' and / or '(AND / OR) with the next.
If the '**If**' condition is met, the '**Then**' block is executed, otherwise '**Else**'.

Conditions "**That do (Then)**" is up to 8 lines of logic, arithmetic or notification panels (Print = Information window panel TPR-1x / 4x-TPR, HINT = bottom bar, or SMS).
Conditions **“Otherwise (Else)”** is a conditional maximum of 4 functions if it is not the condition "**If**".. Then, up to 20 time relays are performed.
At the end of the loop, the results are transcribed to physical outputs, markers, and counters.

Comments:
Functions are performed in a loop according to the scheme. The physical outputs used (function results) in the LogicProcessor must have the "LogicProcessor" control selected.

Logic functions.

Arguments		
Symbol	Description	Values
I1÷I32	state of zones, assumes a binary value of 0 or 1,	0 = zone not violated 1 = zone violated
O1÷O24	state of physical outputs, assumes a binary value of 0 or 1	*0 = inactive output* *1 = active output*
tk1÷tk4	timers / calendars, takes on a 0 or 1 binary value	1 = timer activated (ON-> OFF) 0 = timer off (OFF-> ON).
ac	primary supply voltage (AC) error indicator, it assumes a binary value of 0 or 1	0 = basic voltage present 1 = basic voltage absent
bf	emergency battery failure indicator, status taken from the supervised power supply, assumes a binary value of 0 or 1,	0 = no failure 1 = battery failure
uzv	value of DC power supply voltage [mV]	xxxx
uzi	current value of the PSR-ECO PSU output [mA]	xxxx
log	the modem login indicator to the GSM network, assumes a binary value of 0 or 1	0 = modem not logged in to the GSM network 1 = modem logged into the GSM network
jmg	GSM jamming indicator, adopts a binary value of 0 or 1	0 = no GSM jamming 1 = GSM network jamming
nlv	GSM network level 1-4, so-called 'Stroke'	1÷4
tha1-tha2	temperature indicator for threshold A if the selected mode H, assumes a binary value of 0 or 1	1 = temp.> H 0 = temp <(H-hysteresis)
tla1÷tla2	temperature indicator for threshold A if the selected mode L, assumes a binary value of 0 or 1	1 = temp. <L 0 = temp> (L + hysteresis)
thb1÷thb2	temperature indicator for threshold B if the selected mode H, assumes a binary value of 0 or 1	1 = temp.> H 0 = temp <(H-hysteresis)
tlb1÷tlb2	temperature indicator for threshold B if the selected mode L, assumes a binary value of 0 or 1	1 = temp. <L 0 = temp> (L + hysteresis)
t1v÷t2v	temperature value from sensors T1-T2, interval of measurement every 60s, value [° C], integer with sign	Value in degrees.
ft1÷ft2	temperature sensor failure indicator, assumes a binary value of 0 or 1	0 = no failure 1 = temp sensor failure
ail	analog input value indicator AI for threshold L, assumes a binary value of 0 or 1	1 = (ail <L) 0 = [ail> (L + hysteresis)]

aih	analog input value indicator AI for threshold H, assumes a binary value of 0 or 1	1 = (a and h> H) 0 = [a and h <(H-hysteresis)]
M1÷M16	value of the markers assumes a binary value of 0 or 1	0 = marker value 0 1 = marker value 1
L1÷L8	counters of integer values, 8 independent counters	-2 147 483 648 ÷ 2 147 483 647
as1÷as2	full armed indicator in the system for a given zone, assumes a binary value of 0 or 1,	0 = no full arm (supervision) 1 = full arm (supervision)
an1÷an2	night standby indicator in the system for a given zone, assumes a binary value of 0 or 1, a Binary Value type object	0 = no armed mode (supervision) 1 = night watch (supervision)
al1÷al2	alarm indicator in a given zone, assumes a binary value of 0 or 1,	0 = no alarm 1 = alarm state
ta1÷ta2	sabotage indicator in a given zone, assumes a binary value of 0 or 1,	0 = no sabotage 1 = sabotage state
fn1÷fn4	status of relay outputs in touch panels with the addresses TP1-TP4, assumes a binary value of 0 or 1,	0 = inactive output 1 = active output
uid	ID number of user code 1-32 entered in the panel,	1÷32
abf	low voltage indicator of any registered radio device in the system: Aero, RF-4, assumes a binary value of 0 or 1	0 = no failure 1 = battery failure in the RF device
alf	indicator of wireless connection loss in the Aero system, assumes a binary value of 0 or 1	0 = Aero wireless connectivity 1 = no Aero connection
sec	operation time of the control panel [s] since the restart, accuracy 1%	sec= xx
fcd	failure code xx (see SMS STATUS)	00 = no breakdown xx = failure
aiv	value of analogue input voltage AI [mV]	
kb1÷kb5	the number of the active pilot channel (RF-4 module, Keyfob-Aero), assumes a binary value of 0 or 1	0 = pilot channel (button) inactive 1 = remote control channel (button) active (suitable)
kfi	number of active module's remote control (RF-4, Keyfob-Aero)	1÷42: RF-4 1-16: Keyfob Aero
ctr	connection status with the MSR-1 monitoring station	"0" - no connection "1" - active connection
tr1, tr2	thermostat activation indicator	"0" - heating off, "1" - heating is included
0	binary value 0, Binary Value type object	0
1	binary value 1	1

Logic function (If)		
Symbol	Description	Name

==	returns true if both arguments have the same value.	equality
!=	returns true if both arguments have different values	inequality
_|	returns true if both arguments have a rising edge	equality; rising edge
--|	returns true if both arguments have a falling edge	equality; falling edge
>	returns the truth if the left argument has a greater value than the right one	bigger than
<	returns true if the left argument has a lower value than the right one	smaller than
>=	returns true if the left argument has a greater or equal right value	greater or equal
<=	returns true if the left argument has less than or equal to the right value	less or equal

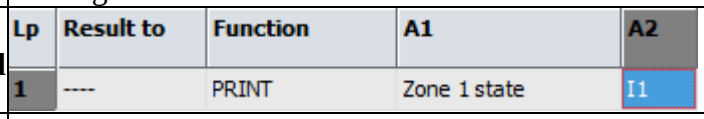
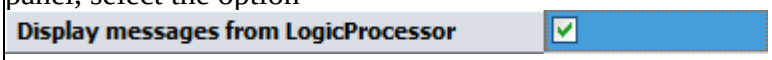
Result (Output)		
Symbol	Description	Logical values
O1÷O24	status of physical outputs, assumes a binary value of 0 or 1	0 = inactive output 1 = active output
M1÷M16	value of the markers assumes a binary value of 0 or 1	0 = marker value 0 1 = marker value 1
L1÷L8	counters of integer values, 8 independent counters	-2 147 483 648 ÷ 2 147 483 647

Logic function, arithmetic, notifications. (Then, Else).		
Symbol	Description	Table of truth
AND	**logical product: A1 ÷ A8** it is a logic that performs the following functions: the '1' signal appears on the output if and only if all n input signals have a logical value of '1'	A1 0 0 1 1
OR	**logical sum: A1 ÷ A8** it is a logic sum system that gives the output a '1' signal if this value has at least one of the signals. This means that '0' appears if and only if both signals are '0'	A1 0 0 1 1
NAND	**negated logical product (NOT AND): A1 ÷ A8** it is a logic sum system that outputs '1' when this value has n-1 input signals. This means that '0' appears if and only if all signals are '1'	A1 0 0 1 1

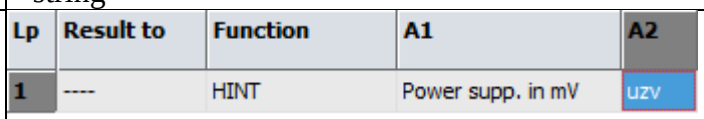
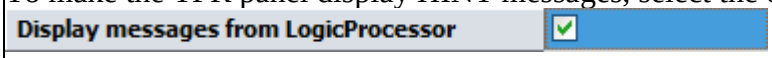
NOR	**negated logical sum (NOT OR); A1 A8 ÷** it is a logic that performs the following functions: the '1' signal appears on the output if and only if all n input signals have a logical value of '0'	A1 0 0 1 1
XOR	**an exclusion alternative: A1 ÷ A8** this is the circuit on which the '1' signal appears, if and only if one of the input signals has '1'. In case when the signals are equal to '0' or more than one the value '1' on the output the signal will be '0'.	A1 0 0 1 1
NOT	**negation: A1** this is the circuit on which the '1' signal appears, if and only if the input has a '0' signal, if '1' appears on the input, then the output has '0'	A1 0 1
=	**assignment; A1** it is a system that rewrites the value of the input signal to the output	A1 0 1
--|	**falling edge: A1** it is a system that will generate on the '1' output if and only if the input changes state '1' to '0'	A1 1->0 1 0
_|	**rising edge: A1** it is a system that will generate on the '1' output if and only if the input changes state '0' to '1'	A1 0->1 1 0
+	**adding: A1 ÷ A2** function adds arguments and writes the result to the Lx counter	
-	**subtraction: A1 ÷ A2** function subtracts the arguments and writes the result to the Lx counter	
/	**dividing A1 ÷ A2** function divides two arguments and writes the result to the Lx counter	
*	**multiplication: A1 ÷ A2** function multiplies two arguments and writes the result to the Lx counter	
%	**remainder of division of two integers (modulo)** function returns the remainder of the division of two integers and writes the value to the Lx counter	
WAIT	**wait: A1** function stops the loop for the time of [ms] or the given value	
PRINT	**display information: A1 ÷ A2** function displays a window with information on touch panels, as argument A1 you can specify info text and argument A2 another system argument, eg power, function will connect A1 and A2	

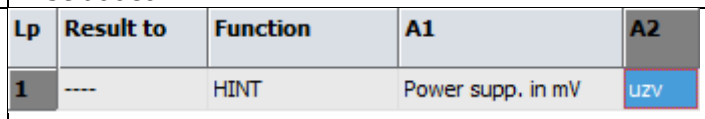
HINT	**display information on the bar: A1 ÷ A2** function displays on the bottom bar of the touch panels information, as argument A1 you can specify the text info and the argument A2 another system argument, eg power, function will connect A1 and A2	
SMS	**send an SMS: A1 ÷ A2** function generates SMS to indicated numbers, as A1 argument you can enter text and phone numbers in the form '$ 1,2,3,4,5,6,7,8' and argument A2 other system argument, eg power, function will connect A1 and A2	
EMAIL	**send EMAIL: A1 ÷ A2** function generates EMAIL to the specified addresses, as the A1 argument you can enter the text and email address in the form '$ 1,2,3,4,5,6,7,8' and argument A2 another system argument, eg power, the function will connect A1 and A2	

Examples:

Name of the function	**PRINT**
Destiny	The function prints a given message on the TPR panel window. A window is created where messages are displayed along with their time of occurrence. The window has a history of the last 7 entries. Recent entries replace the older ones. Application of the PRINT function
Syntax	PRINT (string x) or PRINT (string) • The inscription covered by the text "text to be displayed max. 20 characters • x additional parameter of the variable to be displayed at the end of the text string
An example from the wizard	
Script example	*PRINT("Stan wejscia 1",I1);*
Comments	In order for the TPR panel to display PRINT messages from the control panel, select the option  in the configuration settings of the TPR panel

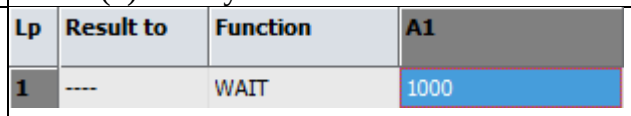
Name of the function	**HINT**
Destiny	Function prints a given message on the bottom of the TPR panel. Displayed text is not remembered, the next HINT () call or other system message will overwrite the displayed message.

Syntax	HINT (string, x) or HINT (string) • The inscription covered by the text "text to be displayed max. 20 characters • x additional parameter of the variable to be displayed at the end of the text string
An example from the logic wizard	
Script example	HINT ("Power supply unit in mV", uzv); HINT ("LED lighting failure");
Comments	To make the TPR panel display HINT messages, select the option  in the configuration settings of the TPR panel.

Name of the function	**SMS**
Destiny	The function sends a text message with any content to a specific group of recipients.
Syntax	**SMS (string, x)** • the inscription covered by the characters "text message • x additional parameter of the variable to be added at the end of the text message sent There are several variants of calling a function eg 1. SMS ("Too high humidity") sends a text message to the 1st preset number 2. SMS ("Too high humidity $ 2.3") send 2 text messages to programmed number 2 and number 3 sign $ separates content from recipient numbers 3. SMS (For a high humidity of $ 2.3 ", aiv) as in point 2, additionally the value of variable aiv (value of the measured voltage at the AI input) will be added
An example from the logic wizard	

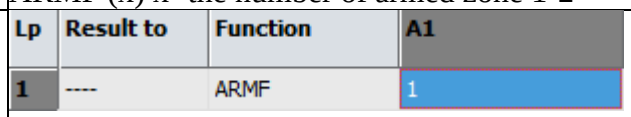
Sample script	*One time sending a text message when the voltage value at the analog input AI exceeds 5V*
	int aiv;
	int M1;
	main(){
	while(1){
	aiv=getai(1);

	if(aiv>5000&&M1==0){
	SMS("Alarm, high humidity ",aiv);
	M1=1;
	};
	};
	};

Name of the function	**WAIT(x)**
Destiny	The function stops the program execution for a given number of ms (1000ms = 1s)
Syntax	WAIT (x) x delay in ms
An example from the logic wizard	

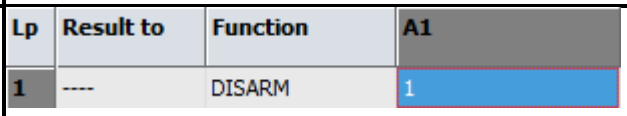
Script example	*Cyclic switching on / off of the O8 1s / 0.5s output when the 1st zone is armed*
	
	int as1;
	main(){
	while(1){
	gbenv();
	if(as1==1){
	seto(8,1);
	WAIT(1000);
	seto(8,0);
	WAIT(500);
	};
	};
	};

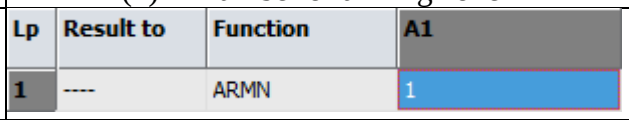
Comment	**Function blocks execution of the script for a given time, if it is unacceptable, use time relays that do not block the execution of the script (they operate asynchronously)**

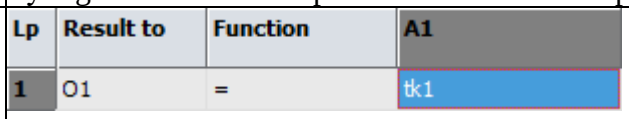
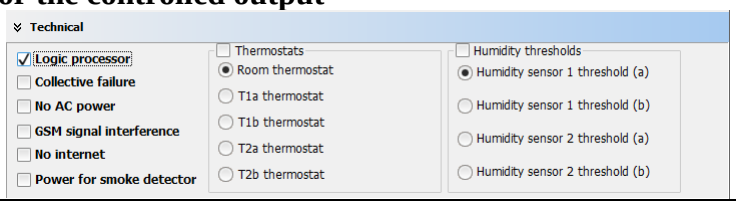
Name of the function	**ARMF(x)**
Destiny	Function arms the set partition in full armed mode
Syntax	ARMF (x) x- the number of armed zone 1-2
An example from the logic wizard	
Script example	*Automatic arming / disarming of partition 2 when zone 1 is armed* *int as1;*int as2;

	main(){
	while(1){
	gbenv();
	if(as1==1){
	if(as2==0){
	ARMF(2);
	};
	} else {
	if(as2==1){
	DISARM(2);
	};
	};
	};
	}

Comments	**Available from the v1.8 version of the control panel**

Name of the function	**DISARM(x)**
Destiny	**Function disarms the zone in full armed mode**
Syntax	**DISARM (x) x- number of disarmed zone 1-4**
An example from the logic wizard	
Script example	**Automatic disarming of zone 2 when zone 1 is armed** **int as1;** **int as2;** **main(){** **while(1){** **gbenv();** **if(as1==1){** **if(as2==0){** **ARMF(2);** **};** **} else {** **if(as2==1){** **DISARM(2);** **};** **};** **};**

	}
Comments	
The name of the function	**ARMN(x)**
Destiny	Function armes the set zone in the night armed mode (only zones with the flag night watch are active)
Syntac	ARMIN (x) x- number of arming zone 1-2
An example from the logic wizard	
Script example	
Comments	

Name of the function	**seto(x,y)**
Destiny	Function that sets the given control panel output
Syntax	seto (x, y) • x number of the output to be switched on / off • y logical value 1 = output switched on 0 = output switched off
An example from the logic wizard	
Script example	*Activation of O1 output according to the Timer 1 state* *int O1;* *int tk1;* *main(){* *while(1){* *gbenv();* *O1=tk1;* *seto(1,O1);* *};* *};*
Comments	**In order to access the output it is necessary to enable the option in the exit tab for the controlled output** 

	Activation time of the output is then overwritten by the logic module.

Name of the function	**geto(x)**
Destiny	Function that retrieves the logical state of the selected control panel output
Syntax	geto y = (x) • x - logical variable to which the output state will be assigned 0 = off 1 = switched on • y - number of the output state to be read 1-24
An example from the logic wizard	

Script example	*Information on the TPR panel about the activation of the O1 output*
	int O1;
	int O1p;
	main(){
	while(1){
	O1=geto(1);
	if((O1p==0&&O1==1)){
	HINT("O1 output came to a close");
	};
	O1p=O1;
	};
	};

Comments	

Name of the function	**geti(x)**
Destiny	Function that retrieves the logical state of the selected control panel zone
Syntax	Geti y = (x) • y - logical variable to which the input state will be assigned value 1 = violated 0 = intact • x - the entry number of the state to be read 1-32
An example from the logic wizard	

Script example	*Rewriting the state of input I1 to output O1 (input tracking)*
	int I1;
	int O1;
	main(){
	while(1){

	I1=geti(1);
	O1=I1;
	seto(1,O1);
	};
	};

Comments	

Name of the function	**gett(x)**
Destiny	Function that takes the temperature value from the tsr-1 sensor
Syntax	ghettos y = (x) • y - variable to which the temperature value from the sensor will be assigned • x - sensor number 1-2
An example from the logic wizard	

Script example	*Information on a TPR panel with a negative temperature measured by a temperature sensor. Nr 1*
	int t1v;
	main(){
	while(1){
	t1v=gett(1);
	if(t1v<0){
	HINT("It is frost T=",t1v);
	} else {
	HINT("Positive temperature ");
	};
	WAIT(30000);
	};
	};

Comments	**The function returns only the total temperature in degrees Celsius If there is no sensor or failure, the function returns -999**

Name of the function	**getenv()**
Destiny	A function that retrieves the value of all system variables
Syntax	getenv()

An example from the logic wizard	
Script example	*int uzv;* *main(){* *while(1){* *gbenv();* *HINT("power supply U [mV]",uzv);* *WAIT(1000);* *};* *};*
Comments	**The function returns only the total temperature in degrees Celsius** **If there is no sensor or failure, the function returns -999**
Name of the function	**gettw(x)**
Destiny	Function that takes the temperature value from the RHT-Aero wireless sensor (1-4)
Syntax	**gettw y = (x)** • y - variable to which the temperature value from the sensor will be assigned • x - sensor number 1-4
An example from the logic wizard	

Script example	**Information on the TPR panel with a negative temperature measured by the temperature sensor No. 1**
	int twv;
	main(){
	while(1){
	twv=gettw(1);
	if(twv<0){
	HINT("It is frost T=",twv);
	} else {
	HINT("Positive temperature ");
	};
	WAIT(30000);
	};
	};

Comments	**The function returns only the total temperature in degrees Celsius** **When a read error is found, the function returns -999**

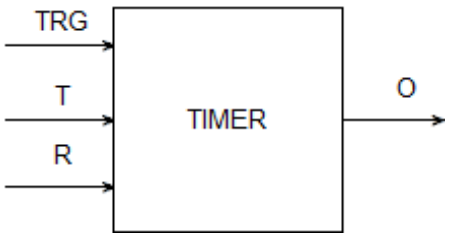
Name of the function	**getthw()**
Destiny	Function that takes the humidity value from the RHT-Aero wireless sensor (1-4)
Syntax	getthw y = (x) • y - variable to which the humidity value from the sensor will be assigned • x - sensor number 1-4
An example from the logic wizard	

Script example	*Information on the TPR panel with the humidity measured by the humidity sensor. No. 1*
	int thv;
	main(){
	while(1){
	thv=getthw(1);
	if(thv>70){
	HINT("Too much humidity H=",thv);
	} else {
	HINT("Humidity OK.");
	};
	WAIT(30000);
	};
	};

Comments	**The function returns only the total humidity value in%. When a read error is found, the function returns 255.**

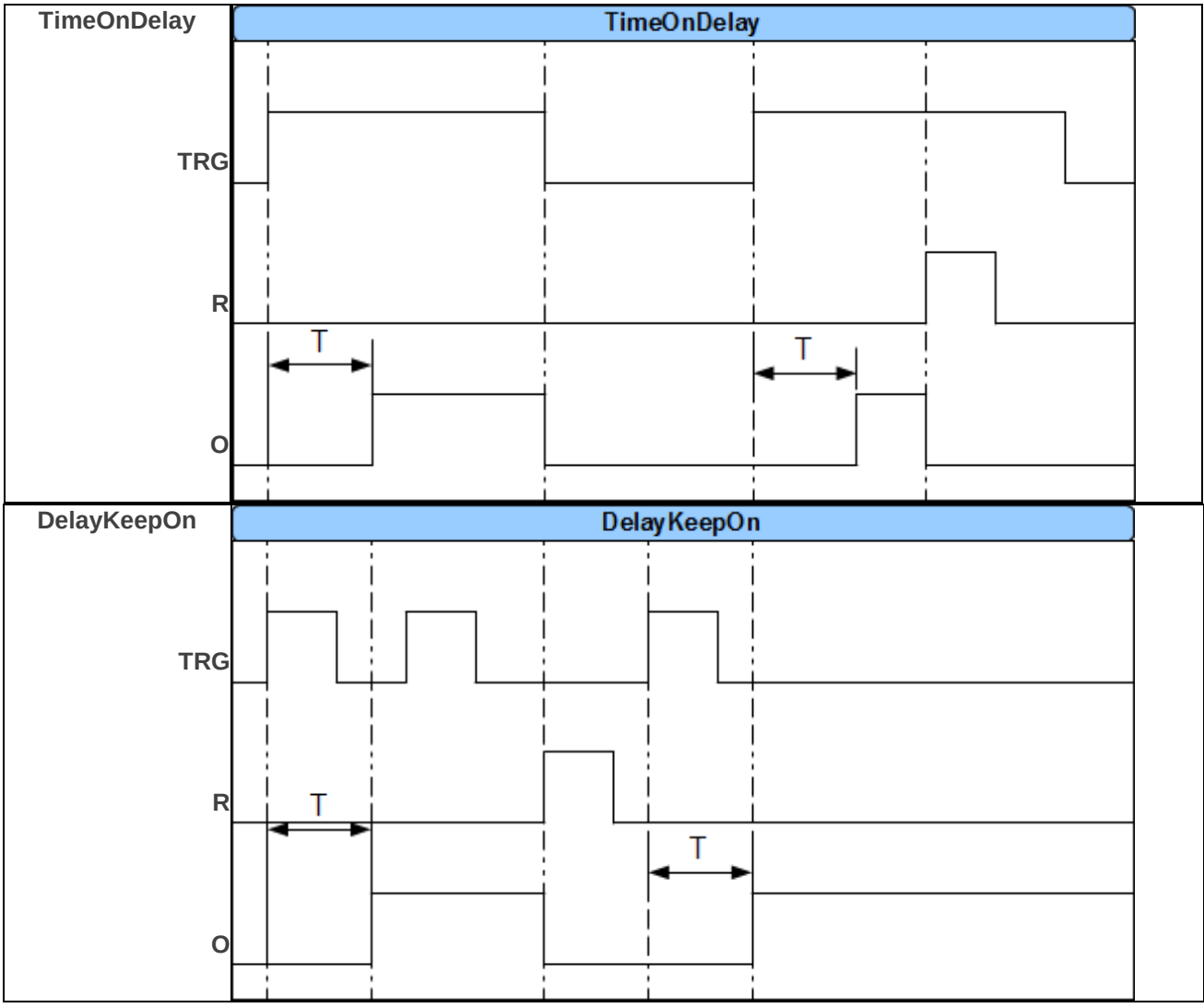
Time relays.

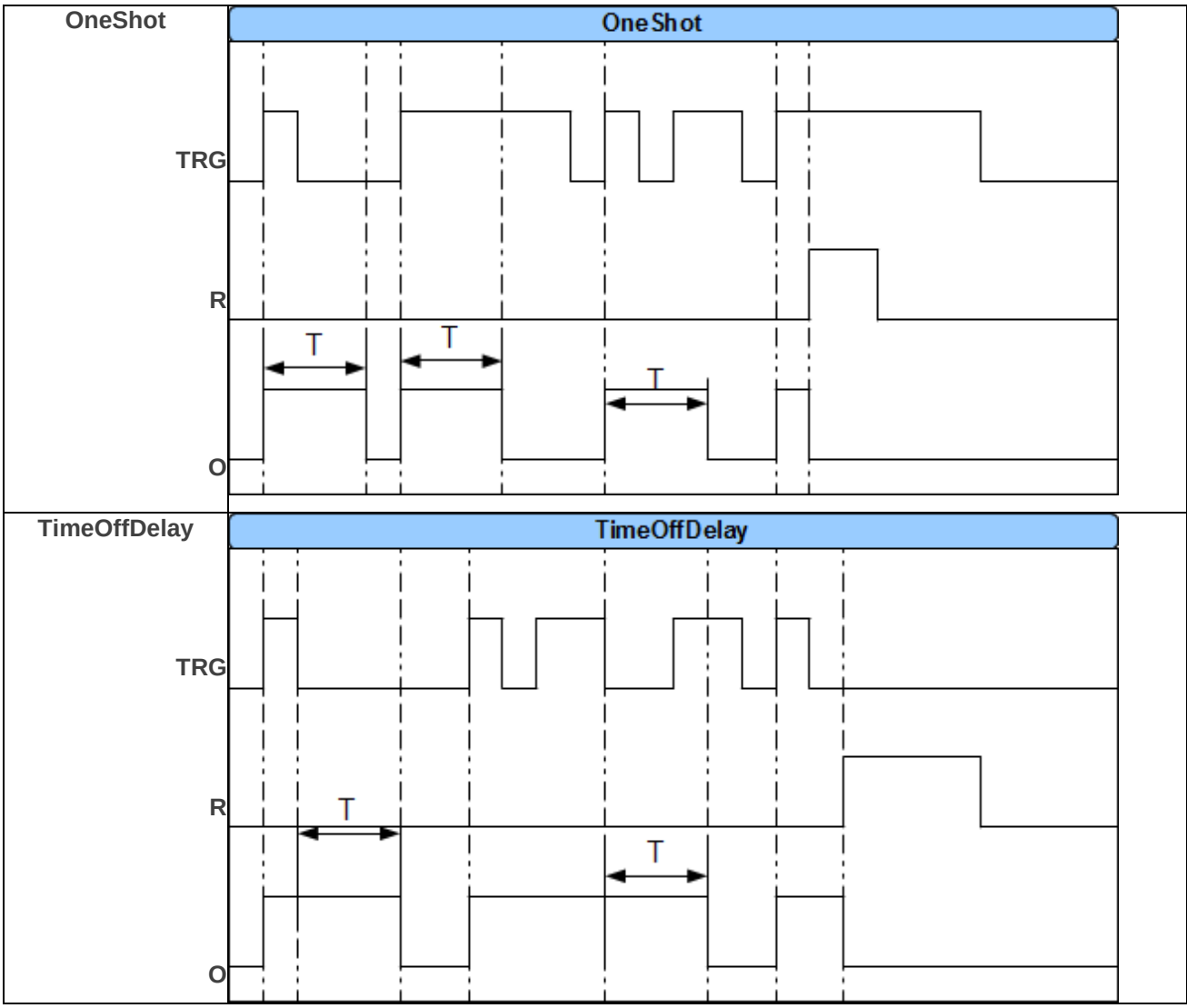
Time-logic functions allow to perform programmed timers, triggers and resets of timers (blocks) identical to arguments in logic functions and results are written to outputs or markers.

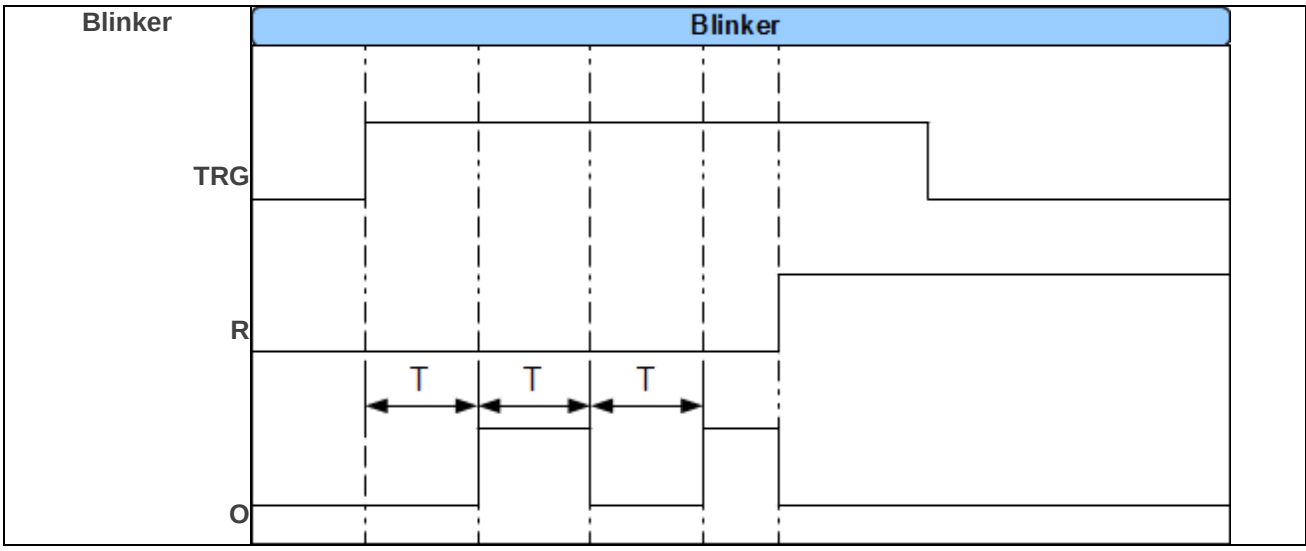


Symbol	Parameter	Description

TRG	Trigger	triggering signal
T	Time	time of the timer, function
R	Reset	reset signal
O	Output	function output
TIMER	Timer type	type of time / counter function

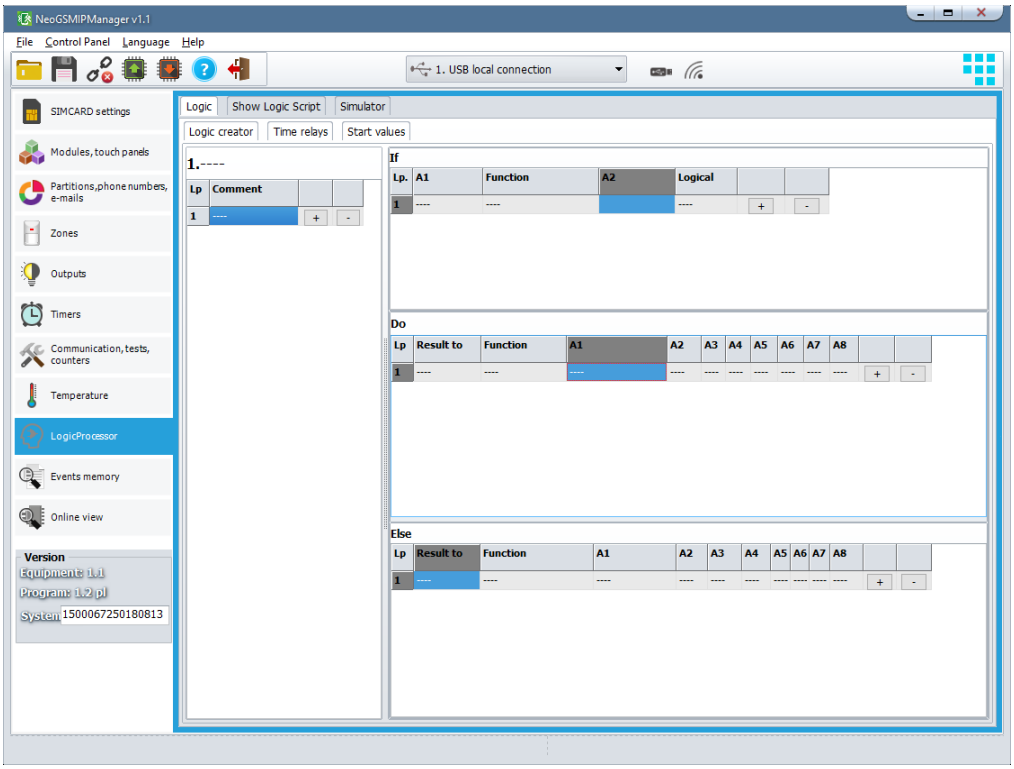




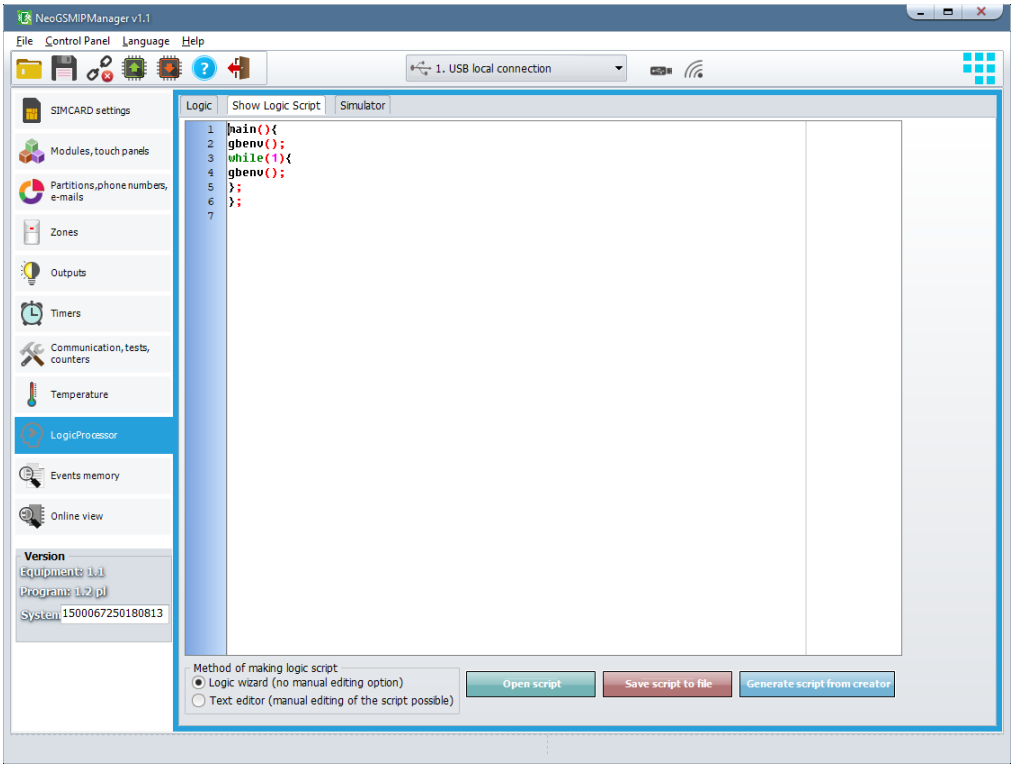


Starting values.

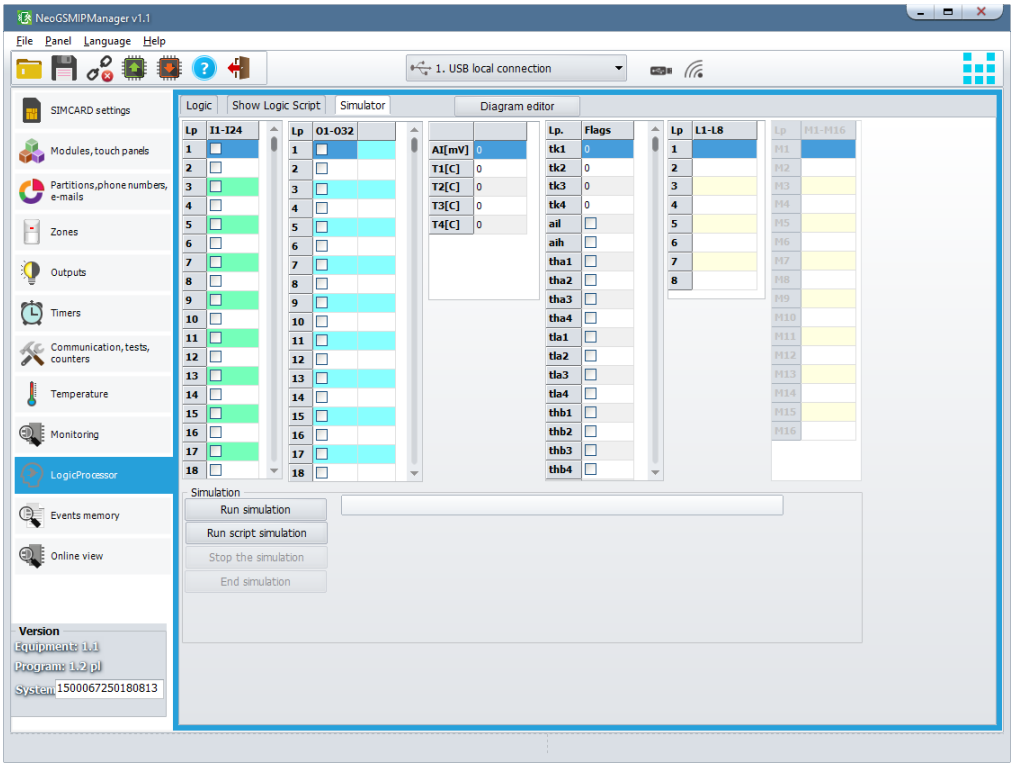
In order to avoid transients during the start of the LP script, you can set start values for the script based on the resources of the system intended for the Logic Processor.



Preview of the script.



Simulator.



Note: the simulator is not able to fully reproduce the real system, functional tests should be carried out on the control panel.

Application notes.

Data for the FTP server with technical data, application notes, firmware.

All in one place available through the FTP client

server: ftp.ropam.com.pl

login: anonymous@ropam.com.pl

password: leave the field blank and click OK

Tab: Event memory.

The real-time clock used in the device allows recording in the memory of events of the module violation of inputs, functions, tests, etc. The memory contains 10,000 events that have occurred recently, the memory is overwritten and the oldest information is deleted in a chronological manner.

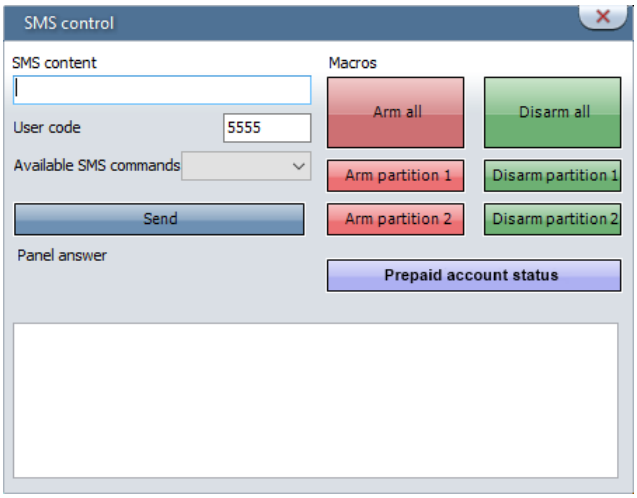
Tab: Online preview.

STATUS OF ZONES
The status of inputs is indicated by round indicators placed in the place of screw terminals of the module connectors. The state in which the given input is located is determined by the color of the indicator:
RED - entry violated
YELLOW - entry sabotage
GREEN - entry intact

STATUS OF OUTPUTS
The option allows you to activate module outputs. For example, it is possible to test the siren without having to run the alarm procedure.

Reset access codes - restores the main code to 5555 and removes all created users.

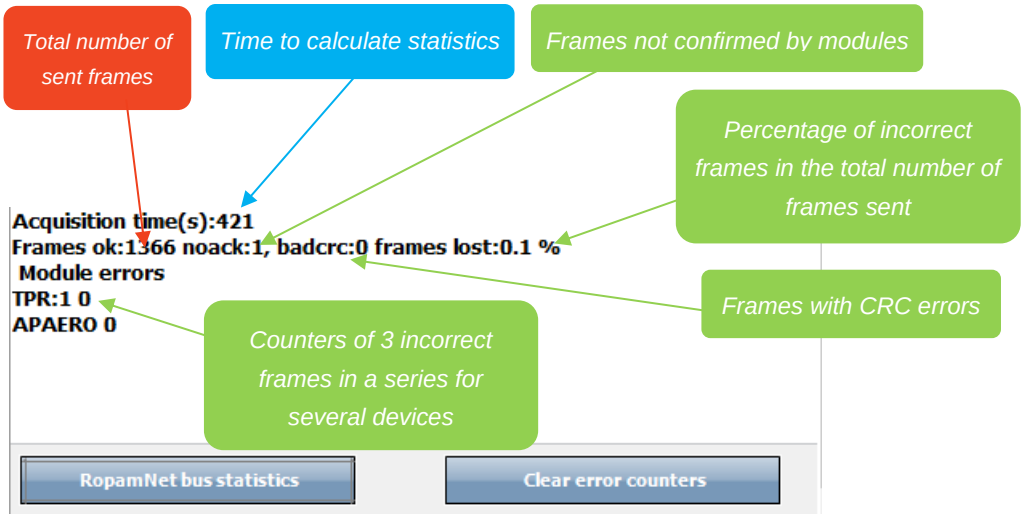
Emulator, control, SMS -



It allows you to check the functions normally available via SMS.

Notification test – allows you to check the communication of e-mail notifications, sms, call.

Diagnostics



NETMONITOR GSM (BTS)
The option opens a window in which data downloaded from the modem is refreshed. They provide advanced parameters of the GSM network.
The parameters of the current selected operator cell and the cube of the remaining available cells are given (x: {0-6})

SET TIME AND DATE
Pressing the SET TIME AND DATE box saves the time and date to the module from the PC. The correct time and date is required for sending the transmission test according to the clock and for the correct recording of events in the event log.
Time setting is also possible via the TIME configuration SMS, SMS format:
xxxx TIME year, month, day hour, minute where xxxx is the ACCESS CODE

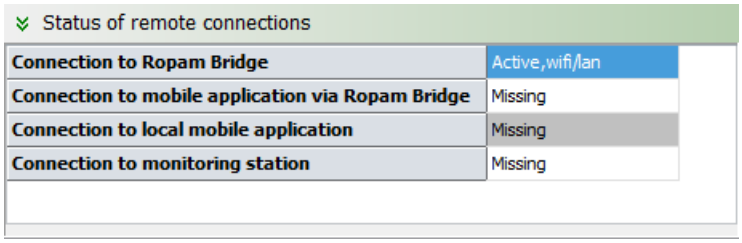
SYSTEM RESTART
Restarts the control panel.

ENTER PIN CODE
Pressing the ENTER PIN code field will send the command module to enter the PIN code, which is currently displayed in the SIM CARD PIN CODE field. The option allows testing the module with SIM cards of different operators without the need to change and save the configuration. The configuration saved to the MGSM module must have the option PIN CODE NEVER REQUIRED selected, in order to block the automatic entry of the PIN code by the module procedure.
COMMENTS:
- all activities related to the change of the SIM card, jumper settings, connections of modules and interfaces should be made after disconnecting the module's power supply and maintaining all available static protection.

MODEM RESET
Restarts the GSM modem.

RESTART WIFI/LAN
Restarts WIFI / LAN

Status of remote connections



7.System maintenance.

Control panel does not require special maintenance. During periodic technical inspections, it is necessary to check the condition of screw joints, emergency power supply status, clean the PCB with compressed air. The system should be periodically tested for proper operation and communication.

8.Technical parameters.

Parameter	Value
Power supply voltage **NeoGSM-IP**	**U = 9V ÷ 14V** / DC min / max @ 1.5A min. (PSR-ECO-5012-RS / 2012 PSU required)
Power supply voltage **NeoGSM-IP-PS**	**U = 16V ÷ 20V** / AC min / max @ 30VA min. **U = 20V ÷ 28V** / DC min / max @ 0.7A min.
The output voltage of the **NeoGSM-IP-PS** power supply	**Un= 13,8V/DC (+/- 2%)** **U=9,5V-13,8V/DC****.
NeoGSM-IP -PS power supply (current efficiency) *	**20W (1,5A)**
DC power failure signaling	**U<11V**
Load capacity of controlled outputs O1, O2, and power supply AUX, KBD	**In = 1.0A (continuous)** **Ipeak = 1.3A (instantaneous)**
Short-circuit protection and thermal outputs O1, O2, AUX, KBD	**Ilim = 1.0A ÷ 1.7A, Tj, Tc = 125 ° C** (condition: limit of short-circuit current or output overload)
Load control for O1, O2 outputs	**2KΩ** max. line impedance
Load capacity of O3-O8 outputs	**700mA @30Vdc**
Power consumption by control panel systems (without exits)	**300/95/70 – max/mid/min**
	Wifi off = - 15mA, GSM off = -10mA, Eth = +30mA
Battery cooperating with **NeoGSM-IP-PS**	**12V, 1,2Ah - 12Ah (VRL/SLA)**
Battery charging current **NeoGSM-IP-PS**	**Ibat= 0,3A max.**
Output protection **+BAT- NeoGSM-IP-PS**	undervoltage: **Ubat <10,0V (+/- 5%)** Reverse polarity protection and short circuit protection: **1.6A PTC fuse (reversible)**
Modem GSM	**Quectel** (Quad-Band, GPRS class 10, CSD)
GSM modem frequency	**850/ 900/ 1800/ 1900 MHz** (switched automatically)
Type of data transmission	**SMS, VOICE, GPRS**

Technical parameters.

Parameter	Value
Audio signal AUDIO IN, AUDIO OUT (VSR connector))	**2 Vrms.**
Binary inputs (Programmable)	**NO, NC, EOL, 2EOL / NC, 2EOL / NO = hi-Z / ~ 30Ω, ~ 30Ω / hi-Z, hi-Z / 2k2, 1k1 / 2k2, 2k2 / 1k1** Line impedance for a given type: no violation / violation
Inputs of temp sensors	**T1-T4 (Data), GND, +VT (3,3V)**
Analog input (Programmable)	**Uin= 0-10V/DC (max.)** (impedance Z = 30KΩ, resolution 10mV, accuracy 1% of the whole range)
System communication	**EIA-485 -** RopamNET system bus **USB B / microUSB -** connection to the service computer (communication, upgrade)
Working conditions	environmental class: II t -10 ° C ... + 55 ° C RH: 20% ... 90%, no condensation
Connectors	AWG: 24-12, separable
Dimensions: **NeoGSM-IP / NeoGSM-IP-PS** **NeoGSM-IP-xx-D9M**	156x 88 x 25 [-/+1] [mm] 159,5x 90 x 58 [-/+1] [mm] housing DIN 9M
Waga: **NeoGSM-IP** **NeoGSM-IP-PS** **NeoGSM-IP-D9M** **NeoGSM-IP-PS-D9M**	125g netto 145g netto 265g netto 285g netto

9. Version history.

Version	Date	Description
1.0	2018.04.20	First version.
1.2	2018.05.25	**- added SMS update software update,**

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Version history.