

DATA TRANSMISSION MODULE

GsmAlarm-340 (V2.00)

The device operates in connection with a standard alarm systems and is designed for transmission of alarm messages via GSM network.



FEATURES

- Transmission of security system messages to a central monitoring station via GSM network by CONTACT ID protocol.
- Decoding of alarm system messages and transfer to alarm monitoring station via GPRS channel by SIA DC-09 IP protocol. AES128, AES196 and AES256 encryption.
- Decoding of alarm system messages and transfer to user mobile phone by SMS messages.
- 5 users receive information about the protected object.
- 4 programmable inputs/outputs.
- Possibility to connect up to 4 temperature sensors.
- 48 programmable names of alarm system zones and 4 partitions names.
- 16 programmable user names.
- GSM jamming detection.
- Remote control by short calls or with a mobile phone keypad (through DTMF tones).
- Remote control and programming by SMS messages.
- Full simulation of a telephone land line (ring tone signal and line voltage of 48 V).
- Remote diagnostics, programming and firmware upgrade via the Internet under GPRS protocol.
- Diagnostics, programming and firmware upgrade via USB connection.
- Integrated quad-band GSM module.
- Wide operating temperature range: -30 ... +65°C.
- Easy installation

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1. GENERAL INFORMATION

1.1 1.1. SAFETY INSTRUCTIONS

In order to protect the safety of yourself and others and to avoid injuries due to the impact of heat and electric voltage, it is necessary to read carefully the following requirements and to follow them strictly! The manual should be preserved as long as the device is in use.

	GsmAlarm-340 is a device mounted in limited access areas. GsmAlarm-340 corresponds to essential safety requirements of LST EN 60950-1:2003 standard. Device power supply must meet the requirements of LST EN 60950-1 standard. Any additional devices (the alarm system control panel, the remote control relays, etc.) should meet the requirements of LST EN 60950-1 standard.
	Installation (mounting) and technical service can be performed only by qualified specialists who have necessary knowledge about the device and the general safety requirements. In case of device operational failure, the repair works shall be performed by qualified specialists only. There are no parts inside the device that can be replaced locally.
	Prior to any device installation or service works, the whole system must be disconnected from the control panel AC power supply and the standby battery. It is forbidden to perform any installation or service works in lightning conditions!
	Alarm system disconnection device should be included in the installation room. An easily accessible, 2-pole circuit breaker capable of disconnecting circuit in the event of short circuit or over-current condition is used for disconnection. The circuit breaker simultaneously disconnects GsmAlarm-340 and all auxiliary devices.
	If a computer of safety class 1 is used for configuration of parameters, it must be grounded.

Device information label is located on the bottom side of the device. The software version label is on the front side of the device.

Device GsmAlarm-340 is equipped with a radio transmitter functioning via GSM900 and GSM1800 networks. Do not use the device in areas where the potential of disturbance or danger may occur. Do not install device nearby medical equipment or appliances. Do not use device in explosive environments. The device is not resistant to moisture, chemical substances and mechanical impact.



This symbol on the product or on its packaging means that your electrical and electronic equipment should be disposed at the end of life time separately from your household waste.

There are separate collection systems for recycling in the EU. For more information, please contact the local authority or the dealer where you purchased the product.



The device is compliant to the RoHS Directive.

1.2 PACKAGE CONTENT

GsmAlarm-340 device	1 unit
GSM antenna	1 unit.
End of line resistors 2.2 k Ω \pm 5%	4 units
Colours marking: red, red, red.	
End of line resistors 1.0 k Ω \pm 5%	4 units
Colours marking: brown, black, red.	
Fastening stands	4 units
User manual	1 unit

1.3 INTRODUCTION

GsmAlarm-340 is designed for transmission of alarm system messages via GSM network.

GsmAlarm-340 simulates telephone land (PSTN) line and works in connection with standard alarm systems that support the Contact ID data protocol. Data can be transferred directly to alarm monitoring station by Contact ID protocol (audio channel), or can be converted to a standardized, many security service stations understandable, SIA DC-09 IP format and transmitted via Internet (GPRS channel). It is possible to transfer data in both methods: first try to send data via GPRS channel, if fails, use Contact ID protocol (audio channel).

GsmAlarm-340 can convert Contact ID data into SMS messages and send SMS messages to five users.

Connection of GsmAlarm-340 is very simple. It takes only four wires: two to connect a power source and the other two to connect a telephone communicator of the alarm system panel.

The device can transmit information to the central monitoring station by Contact ID protocol and to users via SMS. If the information on the protected object must be transmitted only to the central monitoring station, GsmAlarm-340 simply retransmits data under Contact ID protocol.

If it is necessary that the information on the protected object should be received by the users and the security service, GsmAlarm-340 decodes the data transmitted by Contact ID protocol and sends an SMS message to the users with the description of an event (events). The device can send SMS messages to five independent users.

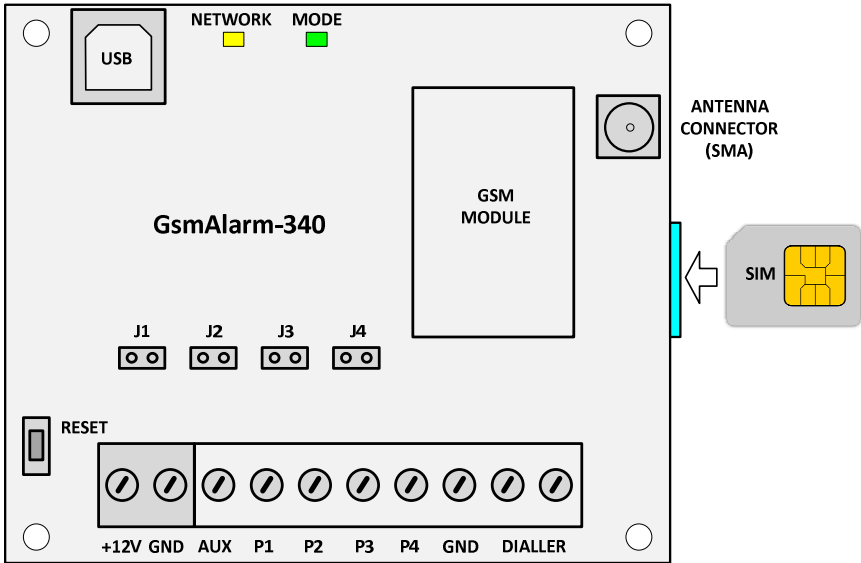
It is possible to use the mode when the information on the protected object is received by the user(s) only. In this case the reports are not sent to the monitoring station, the SMS messages are sent to the users.

GsmAlarm-340 has four connection terminals that may operate in input and output modes. The inputs may be used as additional local zones for protection or temperature measurement. 8 independent input zones can be created by means of end of line resistors. Programmable outputs can be used for remote arming/disarming of alarm system, remote control of lighting, heating, ventilation systems, electromagnetic lock and gates.

Outputs can be controlled by short call, SMS message or commands of user telephone keypad (DTMF commands). 24 h timer can turn on or turn off outputs at the preset time.

GsmAlarm-340 device parameters can be set by SMS messages or by the complimentary application GAprog via the USB interface or the Internet.

2. CONNECTORS AND JUMPERS



GsmAlarm-340 connection terminals and LED indicators

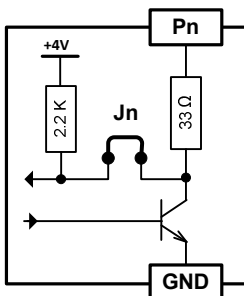
2.1 TERMINALS +12V and GND

Terminals +12V and GND are used for connection of power supply. Supply voltage should be stabilized in the range +11... +15 V.

2.2 POWER OUTPUT AUX

The auxiliary power supply can be used to power relays, sensors and other devices and is short-circuit-protected. Maximal allowed current: 500 mA max.

2.3 TERMINALS P1 – P4



P1 - P4 can operate as inputs (the jumper **J_n** is applied) or as outputs (the jumper **J_n** is removed). Maximal allowed current is 150 mA (for a single output).

Operating modes of inputs are provided in Ch. 5.3.5.1.
Operating modes of outputs are provided in Ch. 5.3.6.1.

Equivalent scheme of P1-P4

2.4 TERMINAL *GND*

Auxiliary ground terminal. It can be used for connection of a common conductor (ground) for input zones.

2.5 TERMINALS *DIALLER*

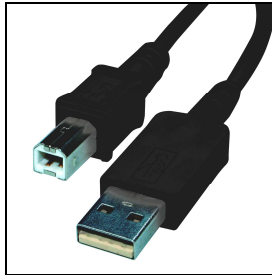
DIALLER terminals are used for connection of alarm panel communicator (see Ch. 4.1).

2.6 JUMPERS *J1 – J4*

The jumper J_n must be applied when the terminal P_n operates in the input mode and must be removed when P_n operates in the output mode.

2.7 USB CONNECTOR

The connector serves for connection of the module to a computer via an USB-B cable.



USB-B cable

GAprog application must be used for configuration of the module and for updating its software.

2.8 RESET BUTTON

RESET button is used to restore factory default settings (see Ch. 6).

3. LED INDICATORS

3.1 NETWORK: GSM MODULE OPERATING MODE AND SIGNAL QUALITY INDICATOR

Indicator status	Description
No light.	GSM module does not work. Supply voltage absent or power supply failure.
Constant light.	No network registration. Possible causes – request of PIN code for SIM card is not turned off, antenna is not attached or bad signal quality.
Blinking several times per second.	GSM module is in use: outgoing call, SMS is being sent or sending data.
Blinking 5 times, after that – short pause.	Excellent connection.
Blinking 4 times, after that – short pause.	Good connection.
Blinking 3 times, after that – short pause.	Satisfactory connection.
Blinking 2 times, after that – short pause.	Weak connection.
Blinking 1 times, after that – short pause.	Extremely weak connection.

3.2 MODE: GsmAlarm-340 OPERATING MODE INDICATOR

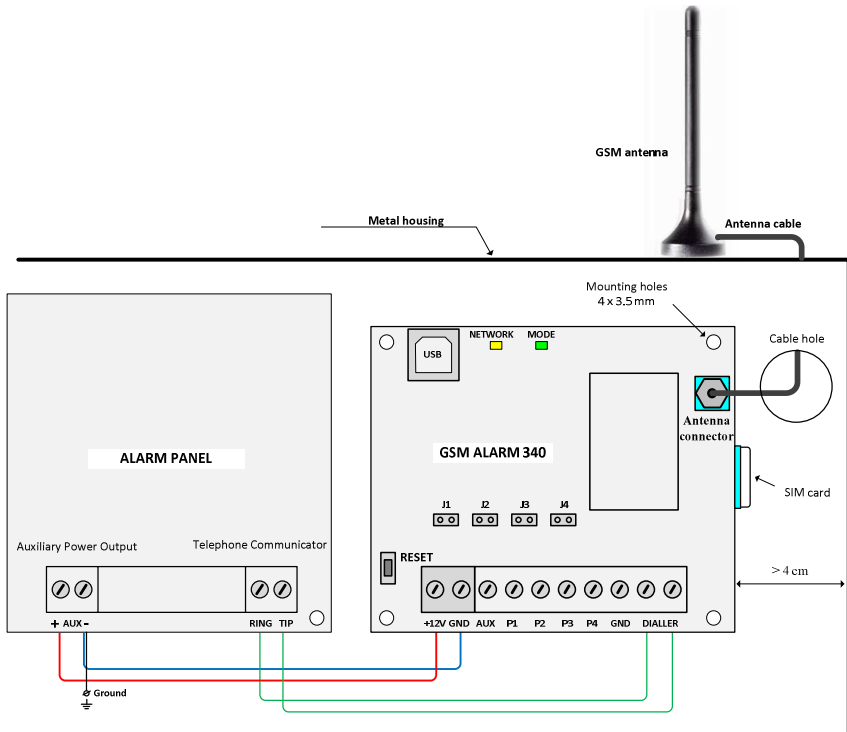
Indicator status	Description
No light.	Supply voltage absent or power supply failure.
Constant light.	The device is set-up and is in standby state.
Blinking one time per second.	Alarm system is trying to connect to alarm monitoring station or is preparing to transmit data to the module GsmAlarm-340.
Blinking several times per second.	Alarm system communicator is in operating condition, the device is in active mode.
Blinking very fast for a second (several times per second)	SMS or decoded CONTACT ID command is received.

4. INSTALLATION

4.1 GENERAL INSTALLATION INSTRUCTIONS

Prior to installation works it is necessary to disconnect the alarm system power supply and the backup battery! Do not leave any foreign metal objects during installation and thereafter!

GsmAlarm-340 is installed in the same box, where the alarm system is mounted near the alarm panel. GsmAlarm-340 panel is fastened with four fastening stands included in the package box. GSM antenna is installed outside the box.



GsmAlarm-340 mounting scheme

GsmAlarm-340 power supply terminals are connected to auxiliary power output of alarm system panel. Use single-thread cable ($2 \times 0.75 \text{ mm}^2$) for connection to power supply.

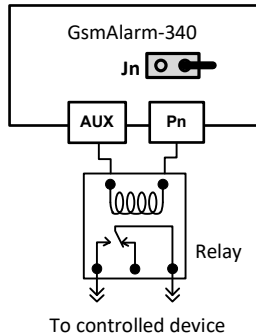
ATTENTION! GND terminal at the alarm panel must be connected to the ground terminal of the metal box. The metal box must be grounded!

Contacts DIALLER are connected to the telephone land line connection terminals of control panel. It is recommended to use single thread cable ($2 \times 0.5 \text{ mm}^2$) for connection. When two separate wires are used, they must be twisted together to eliminate interference.

ATTENTION! GsmAlarm-340 cannot operate with a Public Switched Telephone Network. The connection to a PSTN may cause damage to the device!

4.2 OUTPUT WIRING DIAGRAM

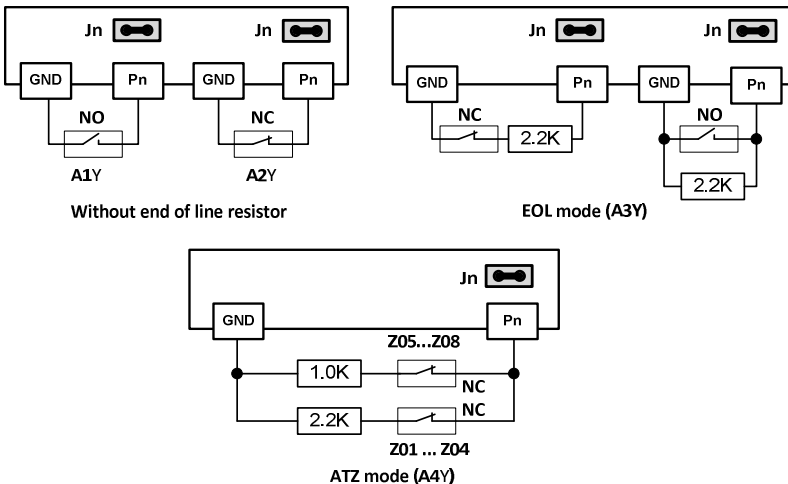
When connection terminal Pn operates in the output mode, the jumper Jn must be removed and the output mode must be selected (see Ch. 5.3.6.1). The input function must be disabled (see Ch. 5.3.5.1).



We recommend to install remote control relays in sockets. The sockets can be easily mounted inside the metal box. The operating voltage of relay coil: 12 V DC. The operating current of a relay coil cannot exceed 150mA max. The relays should be selected according to required commutated voltage and current.

4.3 INPUT WIRING DIAGRAMS

In the input mode, the jumper Jn must be applied and the input operating mode selected (see Ch. 5.3.5.1). The output function must be disabled (see Ch. 5.3.6.1). Inputs can be wired according to 3 diagrams:



NC: normally closed contacts. NO: normally open contacts.
A1Y-A4Y: zone operating modes, parameter A (see Ch. 5.3.5.1).

INSTALLATION

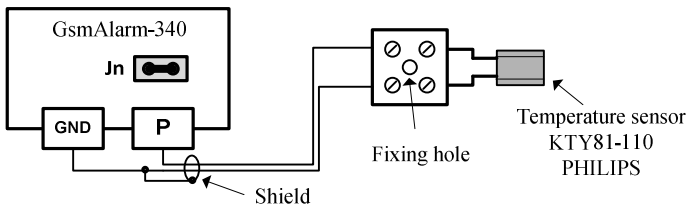
Terminals P1...P4 correspond to zone numbers Z01...Z04. If 4 local zones are sufficient, the inputs may operate in non-EOL (without end of line resistor) or EOL (with end of line resistor) modes. In EOL mode, the system activates both at short circuit and at breaking the circuit. The resistor is mounted in the housing of an alarm sensor.

If 4 zones are insufficient, an advanced technology zone (ATZ) mode may be used. In this case, one input can control two zones. Two parallel connected end of line resistors are used in ATZ mode. Resistors of 2.2k Ω are associated with the zones Z01...Z04. Resistors of 4.7k Ω are associated with the extended zones Z05...Z08. The number of the main ATZ zones (Z01...Z04) should correspond to the number of the extended ATZ zones (Z05...Z08).

The main zones and the extended zones are associated automatically in the order of increasing zone number. Example: If ATZ mode has the main zones Z01, Z02, Z04 and the extended zones Z05, Z06, Z07, the zone Z01 will be associated with zone Z05, Z03 with zone Z06, and zone Z04, with zone Z07.

4.4 CONNECTION OF TEMPERATURE SENSORS

GsmAlarm-340 has temperature measurement ability. Up to 4 temperature sensors KTY81-110 (PHILIPS) can be connected to the GsmAlarm-340. Sensors are connected to the inputs P1...P4.



In order to minimise influence of external interferences and measurement error, it is recommended to use a shielded twisted pair cable 0.5 mm². The shield is connected to the ground wire only in one end, close to GsmAlarm-340 board. Use 2-pin terminal block with a fixing hole for temperature sensor fastening.

Parameter “A” must be changed in order to activate temperature measurement mode (see Ch. 5.3.5.1). Also, we recommend to increase the zone response time to 9 seconds (increase parameter “Response time” to 90) by GAplog application. The alarm triggering temperature is set by the input parameter “T”.

The triggering temperature can be programmed in -99 ... +99 °C rage (T-99 ... T99) by SMS or by GAplog application. In temperature measuring mode parameter “I” corresponds to the temperature hysteresis (see Ch. 5.3.5).

If two triggering temperatures are required, an extended temperature zone (Z5...Z8) may be assigned to the main temperature zone (Z1...Z4). A8Y mode or A9Y mode should also be activated for the extended temperature zone (see Ch. 5.3.5.1). The extended temperature zone operates according to the temperature measured by the main temperature zone. The number of the main temperature zones should correspond to the number of the extended temperature zones.

4.5 SYSTEM PRE-OPERATION

GsmAlarm-340 requires a SIM card that can be purchased from a GSM service provider. It is recommended to choose the same GSM service provider that is used by majority of the protected object users. Thus, the fastest transmission of information is ensured. If need to transfer data via GPRS channel, a GPRS data service must be activated.

Prior to inserting the SIM card to the GsmAlarm-340 card holder, it is necessary to turn off the function of PIN code request. To do so, insert the SIM card in any standard mobile telephone and follow the instructions of that particular device.

After the system circuit was connected according to the scheme provided in section 4.1, the SIM card was inserted in GsmAlarm-340 card holder, the power supply was switched on, it is necessary to wait until the indicator NETWORK starts flashing and the indicator MODE turns on. If NETWORK constantly on, it is necessary to check whether the function of PIN code request for SIM card is turned off and GSM antenna is attached. According to the number of blinks of indicator NETWORK it is possible to evaluate the quality of GSM signal. If indicator flashes 5 or 4 times and then the pause of 2 seconds follows – the quality of signal is good. If the number of flashes is lower – the connection is weak. In such a case, consider relocating the GSM antenna.

If GsmAlarm-340 is used for data retransmission to the central monitoring station only via audio channel, no additional programming is necessary. If the data is sent to the monitoring station via GPRS channel, then need to activate data transfer via GPRS channel, program central monitoring station IP address, port, user account number (see Ch. 7).

If the user (users) must receive information on protected object, the operating mode of GsmAlarm-340 should be set up and user telephone numbers as well as zone names and user names should be programmed (refer to section 5).

ATTENTION!

In the main alarm panel (which is connected to the GsmAlarm-340) a Contact ID data transmission protocol must be activated, tone dialing mode must be enabled, monitoring station telephone number and 4-digit Contact ID user identification number must be programmed.

A programmed user ID is used only for the transmission of data via audio channel. If use the GPRS channel, user ID should be programmed along with the other GPRS settings. (see Ch. 7).

The monitoring station telephone number should be programmed even in case when it is not necessary to transmit data via audio channel, when transmitting data via GPRS channel or transmitting SMS only. In this case, any number can be used, even a number consisting of one digit.

5. PROGRAMMING

If GsmAlarm-340 is used only for data transfer to the monitoring station via audio channel, no additional programming is necessary. If the device is used for GPRS and SMS transmission and (or) remote control, programming is required. Fastest and easiest way to configure the module is with a computer via USB interface or via the Internet (the GPRS channel) using application GAprog. The application is downloadable from the website of the manufacturer at www.eltech.lt.

If a computer is unavailable, the system is set up by SMS messages.

GsmAlarm-340 parameters can be divided into two groups. The first group consists of telephone numbers of users who receive SMS messages. These numbers are stored in the SIM card. User numbers can be programmed with any standard mobile phone (refer to section 5.1.) or remotely by sending SMS with user numbers to GsmAlarm-340 (refer to section 5.2.) or with a computer using GAprog application.

The second group includes parameters defining system operation algorithm, names of protected zones, user names, operating conditions of programmable outputs. These parameters are stored in the memory of GsmAlarm-340. System parameters can be programmed by SMS only (refer to section 5.3) or with a computer using GAprog application.

GsmAlarm-340 can send SMS messages to up to five users. In the SIM card user names should be as the following: ALRNR1, ALRNR2, ALRNR3, ALRNR4, and ALRNR5. Correspondent numbers are assigned to each name.

After programming of user names, the system parameters should be programmed (refer to section 5.3).

After programming is accomplished, it is recommended to change SMS password (refer to Ch. 5.3.9).

5.1 PROGRAMMING OF USER NUMBERS WITH A STANDARD CELL PHONE

SIM card is inserted into a standard mobile phone. The user names (e.g., first user ALRNR1) are entered in capital letters to the phone book of SIM card and particular telephone number is assigned to each name. It is recommended to enter the numbers with international codes.

Important:

When programming, it is necessary to ensure that the memory of SIM card is used, not the phone memory. Otherwise, user numbers will be stored in the memory of the phone used for programming, while the SIM card will remain empty.

After the programming is complete and PIN code request for the SIM card is turned off, the SIM card is taken out of the mobile phone and inserted in the GsmAlarm-340 SIM card holder.

5.2 PROGRAMMING OF USER NUMBERS VIA SMS

In order to program numbers of users, it is necessary to send SMS with the following content from any standard mobile phone:

A	A	A	A	A	A	A	A	L	R	N	R	1	:	+	3	7	0	6	1	2	3	4	5	6	7	8	9	A	L	R	N	R	2	:	+		
3	7	0	6	1	2	3	4	5	6	7	8	9	A	L	R	N	R	3	:	+	3	7	0	6	1	2	3	4	5	6	7	8	9	A	L	R	
N	R	4	:	3	7	0	6	1	2	3	4	5	6	7	8	9	A	L	R	N	R	5	:	+	3	7	0	6	1	2	3	4	5	6	7	8	9

AAAAAAA: Eight digit alphanumeric SMS password, which is obligatory in the beginning of each SMS. Manufacturer-programmed password is AAAAAAAA. User can change the password as desired (see Ch. 5.3.9). If the password is disabled (see Ch. 5.3.6.4), entry of password is optional.

ALNR1-ALNR5 – user numbers.

Important:

- a) *No characters/spaces can be used before the password;*
- b) *No spaces are allowed before and after the colon;*
- c) *Spaces must follow the password and each phone number;*
- d) *It is recommended to enter user numbers with international code (e.g. +123...).*

It is not necessarily to send all user numbers. E.g., in order to program only the first user number, send the following SMS:

A	A	A	A	A	A	A	A	A	L	R	N	R	1	:	+	3	7	0	6	1	2	3	4	5	6	7	8	9
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Receipt and decrypting of the SMS by GsmAlarm-340 is confirmed by blink of the indicator MODE. The phone, which has sent the programming SMS, immediately receives a confirming SMS with programmed numbers.

In order to delete unnecessary number, send the following SMS:

A	A	A	A	A	A	A	A	A	L	R	N	R	2	:	N
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Number ALNR2 is deleted; user receives SMS with programmed numbers. In order to replace one number with another, no separate instruction for deletion needs to be sent.

In order to receive SMS with programmed numbers ALNR1 ... ALNR5, send GsmAlarm-340 the following SMS:

A	A	A	A	A	A	A	A	N	R	I	N	F	O
---	---	---	---	---	---	---	---	---	---	---	---	---	---

5.3 PROGRAMMING SYSTEM PARAMETERS VIA SMS

GsmAlarm-340 parameters can be programmed via an SMS message. First, it is recommended to receive SMS with programmed parameters and then to send the same SMS with corrected parameters back to GsmAlarm-340.

In order to receive SMS with zone Z1 - Z15 parameters (see Ch. 5.3.1), send GsmAlarm-340 the following SMS:

A	A	A	A	A	A	A	A	Z	N	A	M	E	S
---	---	---	---	---	---	---	---	---	---	---	---	---	---

In order to receive the message with user names (see Ch. 5.3.2), end the following message to GsmAlarm-340:

A	A	A	A	A	A	A	A	U	N	A	M	E	S
---	---	---	---	---	---	---	---	---	---	---	---	---	---

To receive a message with control panel partition names (see Ch. 5.3.3), send the following message:

A	A	A	A	A	A	A	A	P	N	A	M	E	S
---	---	---	---	---	---	---	---	---	---	---	---	---	---

To receive a message with GsmAlarm-340 local zone parameters (see Ch. 5.3.5), send the following message:

A	A	A	A	A	A	A	A	Z	P	A	R	A	M
---	---	---	---	---	---	---	---	---	---	---	---	---	---

In order to receive SMS with output and common system parameters, send GsmAlarm-340 the following SMS:

A	A	A	A	A	A	A	A	C	P	A	R	A	M
---	---	---	---	---	---	---	---	---	---	---	---	---	---

5.3.1 PROGRAMMING OF ALARM SYSTEM ZONE NAMES

Users can assign names to the security system zones Z1-Z48, which will be included in the SMS messages. The names of zones above 48 cannot be changed. The zones will be indicated in SMS messages as “ZONE49”, “ZONE50”, etc.

To receive a message with zone names send the following message to GsmAlarm-340:

A	A	A	A	A	A	A	A	Z	N	A	M	E	S
---	---	---	---	---	---	---	---	---	---	---	---	---	---

GsmAlarm-340 sends eight messages with names of zones Z1-Z48 to the user.

The first message includes names of the first six zones:

AAAAAAA N01:ZONE1, N02:ZONE2, N03:ZONE3, N04:ZONE4, N05:ZONE5, N06:ZONE6
--

The next messages include names of zones 7...12, 13...18, 19...24, 25...30, 31...36, 37...42, and 43...48.

AAAAAAA - password.

N01: - control panel zone number.

ZONE1, ZONE2 - names of zones shown in SMS.

The user can change the names at his own discretion (e.g. N01:Doors, N02:Windows) and send the adjusted SMS back to GsmAlarm-340. Maximal number of symbols for a name is 16.

ATTENTION!

No symbols and spaces should be inserted at the beginning of the password..

A space should not be inserted after the colon.

5.3.2 PROGRAMMING OF ALARM SYSTEM USER NAMES

Individual names can be assigned to the alarm system users. These names are shown in the SMS sent by GsmAlarm-340, when a user arms or disarms the alarm system. It is possible to change the names of the first, the second, the third, the fourth and the fifth user. The names of other users will be shown in the SMS as "USER:17", "USER:18", etc.

In order to receive the message with user names, it is necessary to send the following message to GsmAlarm-340:

A	A	A	A	A	A	A	A	U	N	A	M	E	S
---	---	---	---	---	---	---	---	---	---	---	---	---	---

GsmAlarm-340 sends 3 messages with user names to the user. The first message contains names of the first - sixth user:

AAAAAAA U01: USER1, U02: USER2, U03: USER3, U04: USER4, U05: USER5, U06: USER6,

The second and the third message contain names of 7th...12th and 13th...16th users.

AAAAAAA - password.

U01: - number of alarm system user.

USER1, USER2 - names of users shown in the SMS.

The user can change the names of users at his own discretion. The maximal number of symbols for one name is 16.

Send the SMS message with adjusted parameters back to GsmAlarm-340.

ATTENTION!

No symbols and spaces should be inserted at the beginning of the password.

A space should not be inserted after the colon.

5.3.3 PROGRAMMING OF PARTITION NAMES

Many alarm systems have a possibility to divide the protected object into several independent objects (partitions). The user can attribute a corresponding name to each partition. It is possible to program four names of partitions. The names of other partitions will be shown as "OBJECT:05", "OBJECT:06", etc in the SMS.

It is possible to receive the message with names of partitions by sending the following message to GsmAlarm-340:

A	A	A	A	A	A	A	A	R	N	A	M	E	S
---	---	---	---	---	---	---	---	---	---	---	---	---	---

GsmAlarm-340 sends user a message with the names of the partitions:

AAAAAAAA R01: OBJECT1, R02: OBJECT2, R03: OBJECT3, R04: OBJECT4,
--

AAAAAAAA - password.

R01: - number of alarm system partition.

OBJECT1, OBJECT2 - names of partitions shown in SMS.

The user can change the names at his own discretion. The maximal number of symbols for one name is 16.

Send the SMS message with adjusted parameters back to GsmAlarm-340.

ATTENTION!

Partition names are included in SMS messages only when the corresponding option of parameter "B" is enabled (see Ch. 5.3.6.3).

*No symbols and spaces should be inserted at the beginning of the password.
A space should not be inserted after the colon.*

5.3.4 CONTACT ID DATA DECODING AND PROGRAMMING OF ADDITIONAL EVENTS

Each event transmitted by CONTACT ID protocol corresponds to a particular code of three numbers. The codes that can be decoded by GsmAlarm-340 and sent by SMS are provided in the table below.

CONTACT ID code	Information visible in SMS message
100	SILENT ALARM BUTTON, ACTIVATED (RESTORED);
110 111	ZONE, FIRE ALARM, ACTIVATED (RESTORED);
120 121 122 123	ZONE, PANIC ALARM, ACTIVATED (RESTORED);
130 131 132 133	ZONE, ACTIVATED (RESTORED);
139	ACTIVATED SEVERAL ZONES;
301	AC VOLTAGE FAULT (FAULT ELIMINATED);
302 309 311	BATTERY FAULT(FAULT ELIMINATED);
308	SYSTEM RESTART;
321	BELL FAULT (FAULT ELIMINATED)
350 354	COMMUNICATOR FAULT (FAULT ELIMINATED);
351 352	TELEPHONE LINE FAULT(FAULT ELIMINATED);
373	FIRE ZONE FAULT(FAULT ELIMINATED);
374	EXIT FAULT(FAULT IS ELIMINATED);
383	TAMPER FAULT (FAULT ELIMINATED);
400 401 402	SYSTEM ARMED (DISARMED), USER;
406 458	ALARM CANCELLED, USER;
408	QUICK ARM;
456	PARTIAL ARM, USER;
459	ALARM AFTER ACTIVATION;
570 571 572 573	ZONE BYPASS (BYPASS ELIMINATED), ZONE;
601 602	PERIODICAL TEST;
626	INACCURATE TIME/DATE;
627	PROGRAM MODE ENTRY;
628	PROGRAM MODE EXIT;

If the alarm system sends information about the event and the code thereof is not provided in the table, SMS generated by GsmAlarm-340 will include the code of event (e.g., EVENT:158) and the group to which it belongs (ALARM, DIAGNOSIS, PROBLEM, OPENING/CLOSING,

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DEACTIVATION, TEST). In order to receive SMS with more detailed information, it is possible to assign an event description to the event code. In this case, the description of event programmed by the user will be shown in the SMS instead of event code.

In order to program an additional event description, it is necessary to send the following message to GsmAlarm-340:

A	A	A	A	A	A	A	A	A	D	D	E	V	:	1	5	8		N	E	W		E	V	E	N	T	,
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	--	---	---	---	--	---	---	---	---	---	---

AAAAAAA - password.

ADDEV: - programming command.

158 - new event code.

NEW_EVENT - description of new event shown in the SMS sent to the user.

It is possible to program up to 16 additional event descriptions. The description should consist of no more than 16 symbols (letters or numbers). Information on CONTACT ID protocol event codes is provided in security system guide or can be provided by the system installer.

In order to delete event description, it is necessary to send the following message to GsmAlarm-340:

A	A	A	A	A	A	A	A	A	D	E	L	E	V	:	1	5	8	,
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

AAAAAAA - password.

DELEV: - deletion command.

158 - event code.

It is possible to program or delete several events by one SMS by separating commands with commas. For example:

A	A	A	A	A	A	A	A	A	A	D	D	E	V	:	1	5	8		N	E	W		E	V	E	N	T	,
D	E	L	E	V	:	1	5	4	,		D	E	L	E	V	:	1	5	5	,								

In order to receive SMS with programmed list of additional events, it is necessary to send a following message to GsmAlarm-340:

A	A	A	A	A	A	A	A	A	E	V	L	I	S	T
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

ATTENTION!

No symbols and spaces should be inserted at the beginning of the password.

A space should be inserted after the password.

A space should not be inserted after the colon.

It is necessary to insert space between event code and description

5.3.5 PARAMETERS OF THE LOCAL ZONES

Up to 8 local sensors, independent from the main security system, can be connected to GsmAlarm-340 (see Ch.. 4.3). To get a message with local zone parameters, send the following messages to the GsmAlarm-340 number:

A	A	A	A	A	A	A	A	Z	P	A	R	A	M
---	---	---	---	---	---	---	---	---	---	---	---	---	---

If SMS password is disabled (see Ch.. 5.3.6.4), entry of the password (AAAAAAA) is not required. GsmAlarm-340 sends two SMS messages with local zone parameter. The first message contains parameters of the first-fourth zones:

AAAAAAA Z01:A11M40I02T00 Zone-P1, Z02:A11M40I02T00 Zone-P2, Z03:A01M40I02T00 Zone-P3, Z04:A01M40I02T00 Zone-P4,

The second message contains parameters of the fifth-eighth zones:

AAAAAAA Z05:A01M40I02T00 Zone_P5, Z06:A01M40I02T00 Zone_P6, Z07:A01M40I02T00 Zone_P7, Z08:A01M40I02T00 Zone_P8,

AAAAAAA – password.

Z01: - zone number. Zones Z01 ... Z04 correspond to inputs P1 ... P4. Zones Z05 ... Z08 can operate as extended zones (temperature or ATZ).

A11 - parameter defines operating mode of the corresponding input (see Ch. 5.3.5.1)

M40 - parameter defines response to a triggering of the input zone and the users who are informed if certain zone sensors are triggered (see Ch. 5.3.5.2).

P00 - partition number. P10 - first partition, P20 - second partition, P30 – third partition, P40 – fourth partition. If the partition number is not zero, information about the zone will be sent to the monitoring station via GPRS channel.

I02 - the pulse counting mode (hysteresis in temperature measurement mode). When the first number is larger than 1, the zone operates in the pulse counting mode. After the zone triggers N number of times during the preset duration, the system switches over to the alarm state. N: the first digit. The second number establishes the duration of pulse counting. Multiplication of this number by 10 produces the time in seconds. Minimal time: 10 seconds (1), maximal time: 90 seconds (9). The factory preset time: 20 seconds. If N=0 or N=1, the pulse counting mode is switched off.

In temperature measuring mode, parameter “I” defines hysteresis (temperature difference, at which a triggered zone returns to the primary state). Minimal hysteresis: 2°C. If parameter “I” is 0 or 1 in temperature measurement mode, hysteresis is still 2°C.

In temperature measurement mode (A8Y or A9Y), value of the parameter “T” corresponds to temperature, at which alarm is triggered (see Ch. 5.3.5.1). Possible values are: -99 °C ... +99 °C.

Zone-P1, Zone-P2, Zone-P3, Zone-P4 - local zones names. User can change the name of zone under his own discretion. Maximum number of name characters: 16.

5.3.5.1 OPERATING MODES OF THE LOCAL ZONES (PARAMETER A)

Input zone triggering conditions	AXY		Input zone operating mode
	X	Y	
Zone is disabled (unused).	0	0	Instant zone. Operates only when local zone protection mode is activated.
Without end of line resistor. Alarm is activated if contacts are closed (NO, see Ch. 4.3).	1	1	24H zone. Operates continually.
Without end of line resistor. Alarm is activated if contacts are opened (NC, see Ch. 4.3).	2	2	-
EOL mode, 2.2kΩ end of line resistor is required (see Ch. 4.3).	3	3	ON/OFF. Activates/deactivates protection of local zones. Affects only instant zones.
ATZ mode. 2.2kΩ and 1.0kΩ end of line resistors are required (see Ch. 4.3).	4	4	-
-	5	5	Dual activation instant zone. *
-	6	6	Dual activation 24-hour zone. *
Temperature measurement mode. Alarm is activated if measured temperature exceed the preset temperature T.	8	8	-
Temperature measurement mode. Alarm is activated if measured temperature falls below the preset temperature T.	9	9	-

* System is responding both to zone activation and zone restoring in the dual activation mode. After opening of the zone, system is responding in the same way as in mode “0” and “1”. After closing users receive only an SMS message (if sending of SMS messages is enabled; see Ch. 5.3.5.2).

5.3.5.2 OPERATING MODES OF THE LOCAL ZONES (PARAMETER M)

Type of alarm after triggering of a local zone.	MXY		Users who are called or sent an SMS after triggering of a local zone.
	X	Y	
All functions described below are deactivated.	0	0	ALRNR1-ALRNR5
-	1	1	Only ALRNR1
System is calling.	2	2	Only ALRNR2
-	3	3	Only ALRNR3
System is sending SMS message.	4	4	Only ALRNR4
-	5	5	Only ALRNR5
First call, then an SMS message.	6	6	ALRNR1 and ALRNR2.
-	7	7	ALRNR1, ALRNR2, ALRNR3.
-	8	8	ALRNR1, ALRNR2, ALRNR3, ALRNR4

5.3.6 OPERATING MODES OF THE OUTPUTS AND COMMON SYSTEM SETTINGS

GsmAlarm-340 can control up to 4 external devices. In order to receive a message with outputs modes and common system settings, it is necessary to send a following message to GsmAlarm-340:

A	A	A	A	A	A	A	A	C	P	A	R	A	M
---	---	---	---	---	---	---	---	---	---	---	---	---	---

The system sends user a message with outputs modes and the common system settings:

AAAAAAA C1:M00T00 Out-P1, C2:M00T00 Out-P2, C3:M01T00 Out-P3, C4:M01T00 Out-P4,
S01:A01B20D52F61L01,

C1: - number of the programmable output, corresponding to the terminal P number.

M01 - output operating mode (see Ch. 5.3.6.1).

T05 - output operation time in seconds.

Out-P1 ... Out-P4: names of programmed outputs. The user can change these names at his own discretion. The maximal number of symbols for one name is 16.

S01: A01B20D52F61L01 -common system settings (see Ch. 5.3.6.2 ... 5.3.6.6).

Send back the message with adjusted parameters to GsmAlarm-340 module.

5.3.6.1 OPERATING MODES OF THE OUTPUTS (PARAMETER M)

Output mode	Description
M00	Output is disabled (unused).
M01	Output is controlled by DTMF and SMS commands. If zero operation time is programmed (T00), output is turned on and turned off after DTMF or SMS commands and remains in the same status. If programmed operation time is not zero, after DTMF or SMS commands output is turned on and automatically turns off after programmed period of time is passed.
M02	System status indicator mode. Output is in operating together with "MODE" LED.
M03	Output is activated, when protection of local zones is active (armed). Open contact, when protection of local zones is not active (disarmed).
M04	Control by short call without number recognition function. Output is activated with a call from any number. If zero operating time is programmed (T00), output state changes after a call and remains unchanged till the next short call. If not zero operating time is programmed, after receiving short call instruction output is activated, it deactivates automatically after expiration of the programmed period.
M05	Control by short call with number recognition function (gate control mode). This mode operates analogue to M04, thus it is activated only if short call number coincides with programmed numbers.
M09	A short call activates the output, a long call (3-4 call tones) deactivates the output. The protection of local zones is activated/deactivated simultaneously. **
M10	Output is activated in case of GSM JAMMING.
M11	Output state depends on the state of zone Z1. *
M12	Output state depends on the state of zone Z2. *
M13	Output state depends on the state of zone Z3. *
M14	Output state depends on the state of zone Z4. *
M15	Output state depends on the state of zone Z5. *
M16	Output state depends on the state of zone Z6. *
M17	Output state depends on the state of zone Z7. *
M18	Output state depends on the state of zone Z8. *

* If zero operating time is programmed (T00), output is activated when adequate zone is open and deactivated when adequate zone is closed. If not zero delay time is programmed, output is activated automatically when adequate zone is opened and deactivates automatically after expiration of the programmed time T.

****ATTENTION!** If at least one output operates in mode M09, GsmAlarm-340 automatically terminates the call after 3-4 signals and does not proceed to conversation mode.

5.3.6.2 TRANSMISSION OF INFORMATION TO THE MONITORING STATION AND THE USERS (PARAMETER A)

User notification method	AXY		Information to the monitoring station
	X	Y	
All functions below are deactivated.	0	0	Information is not sent to the monitoring station.
Information is sent to the users.	1	1	Information is sent to the monitoring station via audio channel.
Short call after arming.	2	2	Information is sent to the monitoring station via GPRS channel.
In case of alarm, the users are called, and then SMS messages are sent.	4	4	-

To active multiple functions, use the sum of several parameter values. For example, use parameter A71 (1+2+4=7) to activate all X functions or A70, if notification of the control panel of the security service is disabled.

5.3.6.3 SMS MESSAGE CONFIGURATION (PARAMETER B)

SMS after arming/disarming	BXY		SMS Structure
	X	Y	
SMS are sent to all users (ALNRN1 ... ALNRN5)	0	0	All options below are disabled.
SMS are sent only to the user ALNRN1.	1	1	On system malfunction or maintenance event SMS will be sent only to the user ALNRN1. If the option is disabled, SMS messages are sent to all users.
Only to the user who has armed/disarmed the system.	2	2	SMS message contains the partition name.
-	-	4	Accelerated sending of SMS messages *

* If this option is disabled, the SMS message is sent only after CONTACT ID data transfer session is completed (the alarm control panel “hangs up”). If the option is enabled, an SMS message is sent immediately after any event is decoded and before completion of data transfer session. In this case, the user receives information faster, but more SMS messages are sent.

5.3.6.4 SYSTEM MANAGEMENT PASSWORD AND NUMBER OF ATTEMPTS TO COMMUNICATE WITH THE MONITORING STATION (PARAMETER D)

Number of attempts to communicate with the control panel	DXY		System Management Password
	X	Y	
After X failed attempts to communicate with the control panel, the user is sent an SMS message: "MONITORING STATION UNREACHABLE".	1 ... 9	0	Password is disabled; anybody can program and control GsmAlarm-340.
-	-	1	GsmAlarm-340 responds only to messages sent from user numbers ALRNR1...ALRNR5. A password is not required.
-	-	2	GsmAlarm-340 responds only to messages beginning with the password. Programming and control may be executed from any number.

5.3.6.5 SYSTEM RESPONSE TO INCOMING CALLS, VOLTAGE OF "DIALLER" TERMINALS, INFORMATIONAL SMS MESSAGES (PARAMETER F)

System response to incoming call and voltage of "DIALLER" terminals	FXY		SMS configuration, informational SMS
	X	Y	
All functions below are deactivated.	0	0	All functions below are deactivated.
Checking via short calls. After a short call from a user, GsmAlarm-340 responds with a short call.	1	1	SMS message contains the number of times the local zone was triggered.
Incoming calls are ignored (calls are neither terminated nor answered).	2	2	Users are sent an SMS message in case of GSM JAMMING.
Standard voltage of a telephone line (48 V mode).*	4	4	If a call is received from unknown caller, user ALRNR1 will receive a SMS with caller's number.

* If the option is disabled, voltage of the "DIALLER" terminals in the idle state (the alarm panel is hung up) is 9V. In most cases, the voltage is sufficient for operation of alarm panel communicator. If the option is enabled, voltage of the "DIALLER" terminals in the idle state (the alarm panel is hung up) is 48 V. In this case, the current consumed by GsmAlarm-340 a slightly increases (see Ch. 9). A signal of 90 V amplitude and 25 Hz frequency is generated during an incoming call.

To active multiple functions, use the sum of several parameter values. For example, use parameter F77 to (1+2+4=7) to activate all functions.

5.3.6.6 SMS MESSAGE LANGUAGE (PARAMETER L)

L00 SMS message language: English.

L01 SMS message language: Lithuanian.

5.3.7 SETTING SYSTEM CLOCK

System's clock should be set only if timer function is used. Time sets automatically, when GSM module connect to network (if GSM service provider does provide automatic time synchronization service). Check of programmed system time can be performed by sending following SMS to GsmAlarm-340:

A	A	A	A	A	A	A	A	S	C	L	O	C	K
---	---	---	---	---	---	---	---	---	---	---	---	---	---

GsmAlarm-340 sends an SMS message with the system time to the user.

To synchronize the system clock time with the GSM network time, send the following SMS:

A	A	A	A	A	A	A	A	T	S	I	N	C	H
---	---	---	---	---	---	---	---	---	---	---	---	---	---

A specific date and time can also be used:

A	A	A	A	A	A	A	A	C	L	O	C	K	:	1	2	-	4	5	:	1	3	/	0	4	/	2	0
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

AAAAAAA - password;
SCLOCK: - time set instruction
12-45 - time (12 h. 45 min.).
13/04/20 - date (year, month, day).

5.3.8 PROGRAMMING TIMER

Timer function can turn on or turn off the programmable output, activate or deactivate protection of the local zones, send SMS message on a desired time.

It is recommended to receive SMS message with programmed timer parameters. To do that, following SMS message must be sent to GsmAlarm-340:

A	A	A	A	A	A	A	A	S	T	I	M	E	R
---	---	---	---	---	---	---	---	---	---	---	---	---	---

GsmAlarm-340 sends back 2 messages with current timer parameters to user:

AAAAAAA TMR01:00,00-00 TMR02:00,00-00 TMR03:00,00-00 TMR04:00,00-00 TMR05:00,00-00
 TMR06:00,00-00 TMR07:00,00-00 TMR08:00,00-00 TMR09:00,00-00 TMR10:00,00-00

AAAAAAA - password.
TMR01...TMR10 - number of timer event. 20 independent timer events can be programmed.

:00, -timer instruction, defining which function should be performed in programmed time (see Ch. 5.3.8.1).

00-00 - timer activation time.

Renewed SMS message has to be sent to GsmAlarm-340. User receives SMS message with newly programmed parameters after.

Programming example.

For the system to activate PGM output C2 on 12:30, deactivate on 13:00 and to send SMS message, informing about the state of outputs on 13:01, following SMS has to be sent to GsmAlarm-340:

A	A	A	A	A	A	A	A	T	M	R	0	1	:	2	2	,	1	2	-	3	0	T	M	R	0	2	:	2	0	,	
1	3	-	0	0	T	M	R	0	3	:	7	7	,	1	3	-	0	1													

5.3.8.1 TIMER INSTRUCTIONS

Timer instruction	Description of the timer instruction
00	Timer event is not active
01	Activates protection of the local zones.
02	Deactivates protection of the local zones.
11	Turns on output P1.
10	Turns off output P1.
22	Turns on output P2.
20	Turns off output P2.
33	Turns on output P3.
30	Turns off output P3.
44	Turns on output P4.
40	Turns off output P4.
77	Requests to send SMS message with information about output state.
88	Requests to send SMS message with information about GSM signal quality and power supply voltage.
98	Requests to send SMS with temperature values only.
99	Requests to send SMS message with information about state of local zones.

5.3.9 CHANGE OF SMS PASSWORD

In order to change factory programmed SMS password, it is necessary to send the following message to GsmAlarm-340:

A	A	A	A	A	A	A	A	P	A	S	S	W	:	n	e	w	p	a	s	s	w
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

AAAAAAA - an old SMS password.

PASSW: - password change command.

newpassw - new SMS password. Maximal number of symbols: 8.

Important:

- a) No symbols and spaces should be inserted at the beginning of the password;
- b) A space should be inserted after the password

If programming command is successful, the user receives confirmation SMS with new SMS password.

5.4 PROGRAMMING OVER THE INTERNET

The system parameters can be changed, the system status observed, and the module software updated via the Internet. Connection to GSM module is established through GPRS channel. The GAplog application can be used for connection. The latest version of the application is accessible on the manufacturer's website at www.eltech.it.

Two conditions are necessary for connection over the internet.

The first condition: GPRS service should be activated for the SIM card of the GSM module.

Usually, GPRS service is activated automatically. You may contact your GSM service provider to inquire about activation of the GPRS service.

The second condition: The GSM module or the computer that is used for connection to the GSM module should have unique IP addresses. A unique IP address also is called a real address or an external address. An external IP address is accessible from any Internet-connected computer. An IP address to the GSM module is automatically provided by the GSM network. Inquire your GSM service provider to find out, if your SIM card has a unique IP address. Inquire your ISP to find out, if your computer has a unique IP address.

Before connecting to the module, it is recommended to verify access point settings. Send the following message to GsmAlarm-340:

A	A	A	A	A	A	A	A	A	P	N
---	---	---	---	---	---	---	---	---	---	---

 or

A	P	N
---	---	---

 (if SMS password is deactivated).

The message returned to the user by GsmAlarm-340 contains the access point name, the login name and the login password:

AAAAAAA APN:Internet.tele2.it, APLOG:wap, APPASS:wap,

Adjust the access point name, the login name and the login password as required. The fields may be blank (comma after colon) if the access point name, login and (or) password is not required. SMS message with adjustments is sent back to GsmAlarm-340 module.

There are two ways to connect to a GsmAlarm-340 module over the Internet.

The first method: the user connects to the GSM module (the module operates as a server). This method is possible only if the GSM network has assigned an unique IP address to the module. The user sends an SMS message to the GSM module:

A	A	A	A	A	A	A	A	G	E	T	I	P	A
---	---	---	---	---	---	---	---	---	---	---	---	---	---

 or

G	E	T	I	P	A
---	---	---	---	---	---

 (if SMS password is deactivated)

The GETIPA command activates the GPRS interface of the GSM module and the “server” mode. The GSM module sends connection data to the user: the IP address and the port number. The user should mark the option “Connect to GSM module” in the window “Connect over GPRS” of GAplog application, enter the IP address and the port number, click the button “Connect”, and wait for establishment of connection.

The second method: the GSM module connects to the computer of the user (the module operates as a client). This method is possible only if a real (unique) IP address has been assigned to the computer of the user. The user sends an SMS message to the GSM module, containing the command CONNECT and the IP address of the user computer:

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A	A	A	A	A	A	A	A	C	O	N	N	E	C	T	2	1	3	.	1	3	0	.	3	2	.	5	5
C	O	N	N	E	C	T	2	1	3	.	1	3	0	.	3	2	.	5	5								

 or
(if SMS password is deactivated)

The CONNECT command activates the GPRS interface of the GSM module and the “client” mode. The GSM module sends an SMS message to the user, containing the computer IP address and the connection port number. The user should mark the option “Wait for connection by GSM module” in the window “Connect over GPRS” of GAprog application, enter the port number, click the button “Wait”, and wait for the GSM module to connect to the computer. The GSM module retries connecting to the specified IP address every 30 seconds.

The computer IP address that was included in the SMS message from the user is automatically saved in the GsmAlarm-340 memory. Later, the CONNECT command is sufficient to make the GSM module to connect to the same IP address:

A	A	A	A	A	A	A	A	C	O	N	N	E	C	T
C	O	N	N	E	C	T								

 or
(if SMS password is deactivated).

Connection port number can be changed by an SMS message:

A	A	A	A	A	A	A	A	P	O	R	T	:	1	2	3	4	5
P	O	R	T	:	1	2	3	4	5								

 or
(if SMS password is deactivated)

GPRS interface deactivates automatically after a user disconnects from GsmAlarm-340 and the preset interface timeout period expires. Interface timeout period can be set by GAprog application.

ATTENTION! Software can be updated only in the client mode (when the module connects to the computer).

6. RESETTING SETTINGS TO FACTORY DEFAULTS

In order to reset all system parameters to factory default settings, press and hold the RESET button until the indicator MODE starts repetitively blinking. Then release the RESET button and press again within 2 seconds. Hold until the indicators MODE and NETW will illuminate continually. Then release the button. The system will restart automatically, and the parameters will be reset to the values indicated in Chapter 6.1.

Alarm system zone names		Alarm system user names		Alarm system partition names	
ZONE1 ... ZONE48		USER1 ... USER48		PARTITION1 ... PARTITION4	
Local zones (inputs) parameters					
Input	Name	Parameter A	Parameter M	Parameter I	Temperature T
Z1	Zone-P1	A11	M40	I02	T00
Z2	Zone-P2	A11	M40	I02	T00
Z3	Zone-P3	A01	M40	I02	T00
Z4	Zone-P4	A01	M40	I02	T00
Z5	Zone-P5	A01	M40	I02	T00
Z6	Zone-P6	A01	M40	I02	T00
Z7	Zone-P7	A01	M40	I02	T00
Z8	Zone-P8	A01	M40	I02	T00
Outputs parameters					
Output	Name	Param. M	Operation time T		Inverted
C1	Out-P1	M00	T00		No
C2	Out-P2	M00	T00		No
C3	Out-P3	M01	T00		No
C4	OUT-P4	M01	T00		No
Common system parameters					
SMS password	A	B	D	F	L
AAAAAAA	A01	B20	D52	F61	L00

GsmAlarm-340 factory parameters

ATTENTION! Factory values are reset only for parameters stored in the internal module memory. User numbers will not be deleted from the SIM card.

7. DATA TRANSFER TO ALARM MONITORING STATION

Messages to alarm monitoring station are transmitted through GPRS channel, SIA DC-09 IP protocol, or audio channel, Contact ID protocol. Both transmission methods also can be used. In this case, the data are sent first through the GPRS channel, and if fails, are attempted to make a call and transmit data by the audio channel.

GsmAlarm-340 automatically checks the connection to the monitoring station, the module periodically sends SIA DC-09 standard test message via GPRS channel. The test message delivery period can be changed using GaProg program, available values are from 1...255 minutes (default factory setting - 2 minutes). In the absence of a response from the monitoring station, the message is repeated every 60 seconds. Above a certain number of requests, a SMS message "Monitoring station unreachable" is sent to the user.

GsmAlarm-340 also has the ability to send a standard test message on programmed time (via GPRS channel) to the monitoring station (see "Programming Timer", Ch.5.3.8).

In order GsmAlarm-340 local zones to be visible for monitoring station, it is necessary to change the partition number 1, 2, 3 or 4 (see Ch. 5.3.5) of a corresponding zone. The zone number (transmitted to monitoring station) corresponds with the program GAprog visible zone number, the partition number corresponds to the programmed partition number. If the zero partition number is set, data about the zone will not be sent to monitoring station.

7.1 GPRS CHANNEL SETTINGS

GPRS settings can be programmed through the USB interface using the program GAprog or SMS messages. If programming via USB interface – monitoring station server IP, port and user account number must be set into window "GPRS" under "Monitoring Station Server Socket (SIA DC-09 protocol)". Also data transmission must be activated in the window "Common settings" under "Data Transfer to Alarm Monitoring Station". A connection status to monitoring station server is visible in window "GPRS", at the bottom.

Possible errors:

- **GPRS not activated:** wrong access point settings or GPRS service is not activated. Please contact your GSM service provider to check whether GPRS service is activated or not.
- **Server not accessible:** wrong server IP address or port number.
- **No answer or wrong answer:** the monitoring station does not support SIA DC-09 IP protocol.
- **Data send error:** module cannot send data. Check the SIM card account balance.
- **Response error:** the monitoring station can't decrypt data. Potentially incorrect encryption key encryption method or the monitoring station can't accept DC-09 IP data.

When programming remotely, we firstly recommend to receive SMS with current settings. Send the following SMS message to GsmAlarm-600:

A	A	A	A	A	A	A	A	M	S	T
---	---	---	---	---	---	---	---	---	---	---

AAAAAAA – SMS password;

The user receives an SMS message with settings:

MSTID:0000 - user identification number (only for GPRS channel)

PROGRAMMING

MSTIP:0.0.0.0 - monitoring station server IP address;
MSTPR:0 - monitoring station server port.

After adjusting the settings, the message is sent back to the device.

8. CONTROL BY DTMF AND SMS COMMANDS

During speech mode the user can control system by entering relative code in phone keyboard. The command consists of two numbers and it is confirmed by pressing an asterisk. If the command is executed, the user hears three tonal confirmation signals.

The activation of speech mode is possible via call and after waiting until the system answers (3-4 call signals).

The control commands also may be transferred by SMS. The message begins with the password (if enabled), which is followed by the commands. For example, when you need to enable the output P3, disable the output P4, and receive an SMS message with output status details, send the following SMS message:

A	A	A	A	A	A	A	A	3	3	*
---	---	---	---	---	---	---	---	---	---	---

4	0	*
---	---	---

7	7	*
---	---	---

 or

3	3	*
---	---	---

4	0	*
---	---	---

7	7	*
---	---	---

(if SMS password is deactivated).

DTMF or SMS command	Purpose of command
00*	Local zones disarm.
01*	Local zones arm.
11*	Turns on output P1.
10*	Turns off output P1.
22*	Turns on output P2.
20*	Turns off output P2.
33*	Turns on output P3.
30*	Turns off output P3.
44*	Turns on output P4.
40*	Turns off output P4.
77*	Requests to send SMS about state of the system outputs
88*	Requests to send SMS with information about GSM signal strength, power supply voltage and GPRS mode (if GPRS interface is active).
98*	Requests to send SMS with temperature values only.
99*	Requests to send SMS about state of the system and protected zones.
19#	SMS password reset to factory default (AAAAAAA).
79#	Request to send an SMS message with the SMS password.

DTMF and SMS control commands

ATTENTION! When option “Ignore incoming calls” (see Ch.. 5.3.6.5) is selected, DTMF commands are not decoded in the call mode. SMS commands are active in all modes.

SYSTEM CONTROL

Below listed commands are used for system diagnostic and programming by SMS message.

SMS instruction	Description
NRINFO	Request to send SMS message with user numbers ALRNR1 – ALRNR5.
ALRNR1: ALRNR2: ALRNR3: ALRNR4: ALRNR5:	User numbers programming instructions
ZNAMES	Request to send SMS message with alarm system zones names (N01 - N48). The user receives 8 messages (6 zone names in each message).
UNAMES	Request to send SMS message with alarm system user names (U01 - U16). The user receives 3 messages.
PNAMES	Request to send SMS message with alarm system partition names (P01 – P04).
ZPARAM	Request to send SMS message with input Z01-Z08 parameters. User gets 2 SMS messages.
CPARAM	Request to send SMS message with output C1 - C4 parameters.
EVLIST	The request to send SMS with additional CONTACT ID events.
ADDEV:	Command for additional CONTACT ID event programming.
DELEV:	Command for additional CONTACT ID event deletion.
PASSW:	Command to change SMS password.
SCLOCK	System clock control and time setting instruction.
TSINCH	Automatic time synchronization instruction.
STIMER	Request to send SMS message with timer parameters (TMR01-TMR20). User gets 2 SMS messages.
GETIPA	Activation of GPRS connection (server mode) for remote programming with GAprog program, request to send SMS with GSM module IP address and connection port number.
CONNECT	Activation of GPRS connection (client mode) for remote programming with GAprog program, request to send SMS with computer IP address and connection port number.
PORT:	GPRS access port number programming (for remote programming with GAprog program).
APN:	GPRS access point name programming.
APLOG:	Programming of GPRS access point user (login) name.
APPASS:	Programming of GPRS access point password.
VERSION	Requests to send SMS with software version.
MST	Receive SMS with monitoring station server GPRS settings.
MSTID:	User ID programming for monitoring station server (GPRS channel).
MSTIP:	IP address programming for monitoring station server.
MSTPR:	Port programming for monitoring station server.

9. WARRANTY

MANUFACTURER AND DISTRIBUTOR is not responsible for possible theft from GsmAlarm-340 protected premises. GSM service operators are not associated to company “UAB Elektroninės technologijos”, therefore, company takes no responsibility for GSM network services, coverage and functioning.

GsmAlarm-340 system provided with 36 month warranty. Warranty period starts with purchase date. If there are no purchasing documents, period counted starting from system manufacturing date (dated on security system identification label). Warranty is not valid if system: is reconstructed; wrongly assembled; used not on purpose; mechanical, chemical, electric damage and in other cases that are not related with GsmAlarm-340 manufacturing defects are seen.

If security system is not operating properly or breaks down, for guarantee or post-guarantee service, please contact company that performed assembling and installation of the system. Practice shows that main system operating failure reason is incorrectly performed system installation.



Company “Elektroninės technologijos“ declares that device “GsmAlarm-340” corresponds to essential requirements of EU Directive 2006/95EC EN 60950–1:2003 standard.

The declaration of conformity may be consulted at www.eltech.lt

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PARADOX is a registered trademark of Paradox Security Systems Ltd.

DSC is a registered trademark of Dealer Services Corporation.

10. TECHNICAL SPECIFICATIONS

GSM MODULE	
Working frequency	GSM-850 MHz EGSM-900 MHz DCS-1800 MHz PCS-1900 MHz
POWER SUPPLY (attached to clamps “+12V“ and “GND”)	
Power supply voltage	DC 11 – 15 V
Current consumption in idle mode (without additional relays and sensors).	--- 25 mA max
Current consumption in idle mode (without additional relays and sensors), when 48V line voltage mode is activated.	--- 35 mA max
Current consumption when GSM transmitter is in operation (without additional relays and sensors)	--- 300 mA max
TERMINAL AUX (FOR EXTERNAL DEVICES)	
Output voltage	DC 11 – 15 V
Maximum current	--- 500 mA max
Short circuit protection triggering current	--- 1 A max
TERMINAL DIALLER	
Output voltage in idle mode	DC 9 V ± 3 %
Output voltage in idle mode, if 48 V mode is enabled.	DC 48 V ± 10 %
Ring signal amplitude (when 48V mode is activated).	90 Vpp ± 10 %
Ring signal frequency.	25 Hz ± 1 %
Maximal current of ring signal pulse.	8 mA max
TERMINALS P1 - P4	
Output mode	
Maximal commutated voltage	DC 15 V max
Maximal current from a single output	150 mA max
Output ON state	Connected to GND
Output OFF state	Open contact
Input mode	
Maximal input voltage	DC 15 V max
End of line resistors (in EOL or ATZ mode)	2.2 kΩ, ± 5 % 1.0 kΩ, ± 5 %
Temperature measurement range	-40°C...+110°C ± 1°C
OPERATING TEMPERATURE	-30°C...+65°C
DIMENSIONS (without antenna)	89x74x18 mm

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