abbas®

GSM AXEMAX

Installation and user's manual

VERSION 5.0

Contents

1 INTRODUCTION

The GSM AXEMAX security system is a multi-purpose, fully programmable system intended for the protection of private houses, apartments, weekend houses which can also be successfully employed to secure moderately-sized office, warehouse and production buildings. The principal advantage of the product is the integration of a fully-fledged security system with a GSM communicator enabling the system to communicate all the necessary information (alarms, resets, faults, armed/disarmed status, etc). The system is also capable of using outputs from the device to remotely control domestic appliances (lighting, heating, pumps, watering, garage door, etc.). When operated by itself, the system can be used as a powerful device with four inputs and two outputs. Information generated by the system can be sent via SMS text messages or voice messages to pre-defined telephone numbers using GSM mobile networks.
The design of the device provides maximum safety of operation while the in-built monitoring of all operational states ensures a high reliability of the transmission of the desired information (in particular alarms).

The advantages of the GSM AXEMAX communication system and GSM technology are:
• mobility – the message is delivered regardless of the immediate position of the user – message receiver
• operability – the user can immediately respond to the message received – take action to stop the culprit, control the equipment or installation
• independence of the fixed line network (can be installed regardless of wired telephone connections).
• low operating costs – the system design ensures maximum utility at minimum operating cost. The operating costs depend on the number and type of message sent.
The important device parameters are programmable. The parameter settings allow the user to customize the system to best respond to his needs. The settings are stored in an EEPROM memory – cannot be erased by power supply failures.

1.1 Important notices

- The GSM AXEMAX communication module is supplied excluding the SIM card (activation). It is therefore necessary that the SIM card of the operator of your choice is inserted into the device before the module is started. Instructions concerning SIM card installation are below under 3.4.
- **If the device is to be used to control garage doors, gates, etc., it absolutely necessary that the door is fitted with an infrared detection zone or stop bars so that it cannot be lowered when there is an object present in the doorway. The door can only be remotely controlled when it is visible and when there is clearly no object in the doorway.**
- If you plan to use the device as a primary control unit for the garage door you must observe the rules concerning the wiring described under 9.0.

2. Features

- built around the SIEMENS MC39I industrial module
- 4 balanced inputs with multiple functional modes
- 2 relay outputs – controlled by an SMS text message, or by a call from a pre-programmed number
- optional relay output status change by a local push-button
- 2 transistor outputs -sounder, preliminary alarm, status indication
- power supply 12-35V dc or 9-24V ac
- integrated emergency power supply battery charging and its dynamic testing
- simple security system mode with optional control by calling from a pre-programmed number
- information transmission by SMS messages and voice calls up to 8 telephone numbers
- transmission of SMS messages related to the device operation (power supply outage and restore, AKU fault)
- fault messages – power supply outage and restore, emergency power supply battery fault
- operation check calls, remote inquiry on the device status
- listening-in to the monitored area
- with an extension module for video capture transmission
- remote and local programming by PC
- remote programming by SMS

3 Device installation

3.1 Checking the supply contents

The standard GSM AXEMAX system supply contains the following:
- GSM AXEMAX device
- external antenna with GSC connector
- set of balancing resistors (4x10K, 4x2K)
- installation and user's manual

3.2 Finding a location

- The system must be situated away from heat sources to prevent excessive heat gain.
- The module should be protected against direct sunlight to prevent its heating
- When installing the device in a damp environment (garage door control) be sure to install waterproof cable bushings and if necessary use a suitable sealing compound.
- Fix the device in the housing by means of the enclosed distance pieces using either stick-on squares or drill holes in the bottom of the housing. Mark the hole positions using the template appended at the end of the manual.
- The magnetic antenna should be placed at a sheet metal part, such as the control panel (CIE) case, etc.

3.3 Providing a power supply

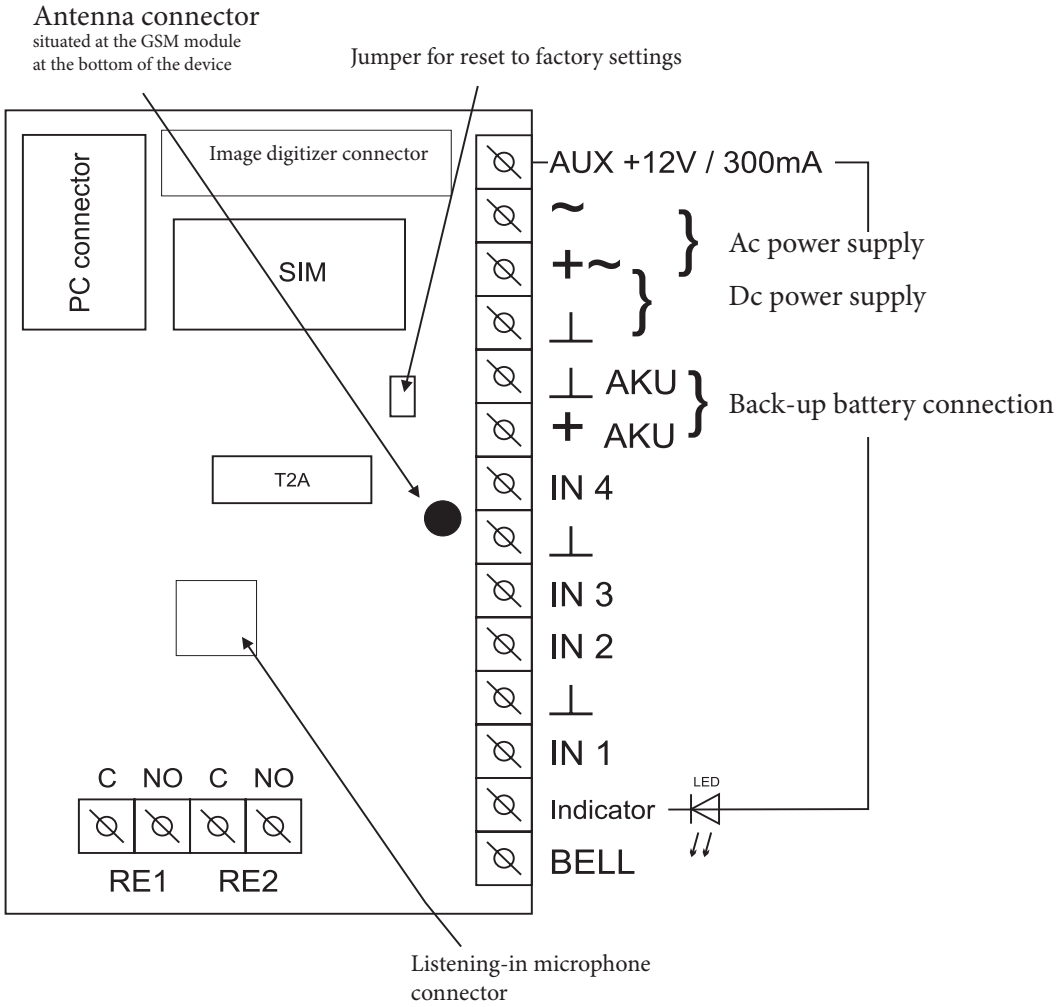
- The device can be powered both by **direct and alternating current**, for voltage levels see the specifications
- The power supply must be designed for the current levels given in the specifications.
- If the device is to be used as a security system or in applications requiring an emergency power supply battery the voltage must not be lower than 16V dc or 14V ac. If the application does not require an emergency battery (either not necessary or the power supply source is already backed up), it need not be installed.
- The sensors are supplied with power from the AUX 12V output designed for loads up to 300mA, if the conditions above are to be met the output will be backed up.
- The system monitors the main power supply level. Whenever it drops below 11.5V dc or is lost completely (when the emergency AKU is being used) a pre-defined SMS message is automatically sent informing of the power outage. In a similar way, a message is sent when the power supply is restored.. This applies to situations when the power outage or drop **exceeds 10 minutes**, the time interval is defined to eliminate oscillation around the monitored value of 11.5V.
- The emergency battery is dynamically tested after every 24 hours. If the system detects an AKU fault, an SMS message can be sent, when required.

3.4 Inserting the SIM card

- Before inserting the SIM card in the module, it must be set as follows

1) insert the SIM card intended for the device into another telephone outside the device
2) disable the prompt to enter the PIN code (consult your mobile phone manual), if the operator does not allow switching off the PIN code (applies to some operators abroad) set the PIN code to 1234.
3) delete all the SMS messages on the SIM card, i.e. incoming, sent, to be sent … (to prevent any possible problems when starting the device)
4) check the SMS centre number setting – obtained by the operator
5) remove the SIM card from the telephone and insert it into the device (before removing the SIM card switch off the telephone in the standard manner, not by removing the battery!)

3.5 Feeder connections and locations of system elements



Description and use of system elements

- Antenna connector – to connect the antenna (part of the supply)

NOTE : when handling the GSC connector of the antenna cable never hold the cable, use an appropriate tool to grab the connector body.

- PC connector – to link to a PC for configuration and system history downloads. Use a suitable linking cable such as the 1:1 extension cable (canon 9F/M) for the canon 9PIN serial cable (with 2,3,4,5 terminals wired).
- **Jumper for reset to factory settings**

Factory settings reset procedure: Switch off power and disconnect AKU, insert JUMPER, switch on the device, the LED is on, once the factory settings reset is complete – the LED flashes switch off power, remove JUMPER and restore power supply.

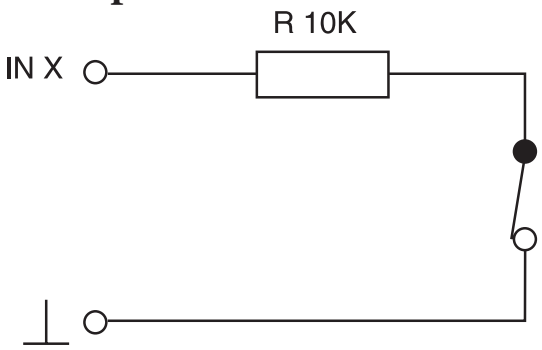
Description of terminals

- RE1, RE2 - NO contacts of relay 1,2

NOTE: if you connect relays controlling mains voltage you must use good quality relays (such as FINDER 40.51 or 40.61) and fit the switching contacts with a good quality quenching capacitor for ac mains voltage with a capacity of 10nF. To control larger installations the relay should have a separate power supply -

- AUX – emergency output of 12V/300mA power supply voltage
- ~ - terminals to connect ac power supply
- +~ - terminal to connect the positive pole of dc power supply
- ⊥ - terminal to connect the negative pole of dc power supply
- AKU – terminals to connect emergency battery 12V / 1.3 to 7Ah
- IN1 - IN4 – input terminals (example wiring diagrams shown below)
- BELL - transistor output (switching to earth) 200mA for the sounder or preliminary alarm indicator (to be used only against the AUX +12V terminal)
- **Indicator – terminal to connect the system status LED indicator (disarmed - off, armed - on and the number of flashes shows the number of the activated input – walk-through test.)** (to be used only against the AUX +12V terminal)

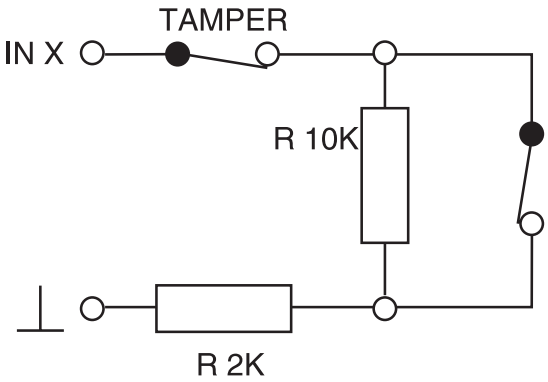
3.6 Example input wiring diagrams for different applications and input mode descriptions



Example wiring diagram for mode 1 – single balanced input

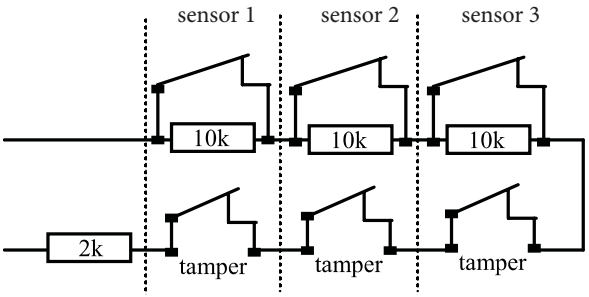
suitable for connecting the alarm CIE, fire-alarm system ...
Each outbalancing or balancing of the input causes a message to be sent as programmed

outbalancing the input does not cause the alarm contact to close,

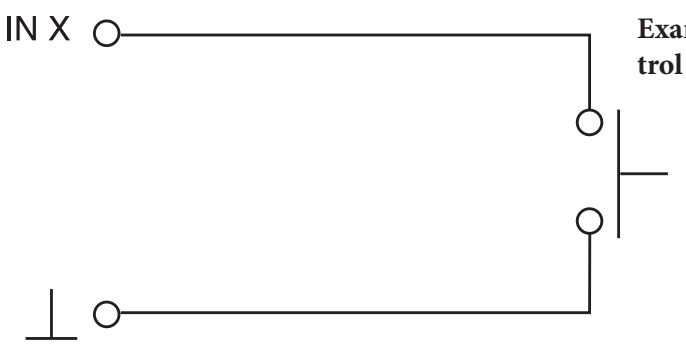


Example wiring diagram for mode 2,3,4,5 – double balanced input

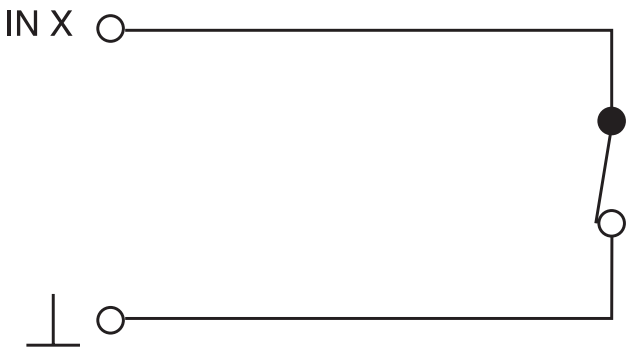
this mode is used as a standard double balanced input for connecting sensors to TAMPER contact
- mode 2: alarm loop 24H not activating an alarm output, suitable for panic buttons
- mode 3: alarm loop 24H activating an alarm output
- mode 4: alarm loop - immediate
- mode 5: alarm loop - delayed



Example wiring diagram for up to 3 sensors connected to a single loop

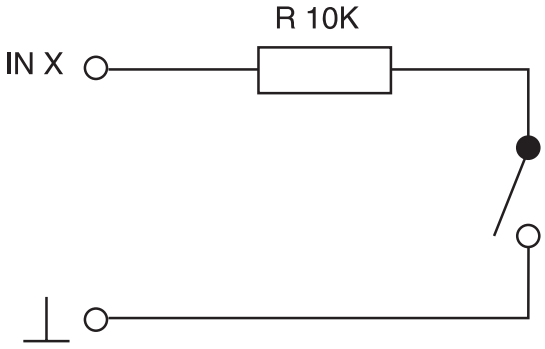


Example wiring diagram for mode 6 - external RELAY 2 control button of in flip flop mode



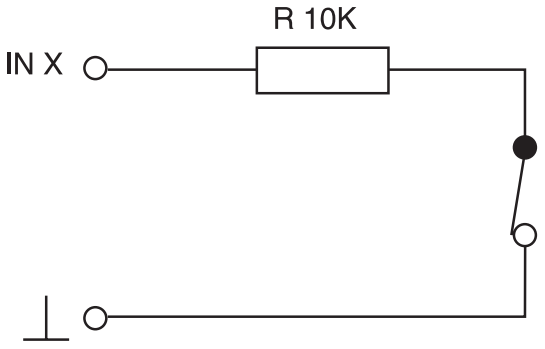
Example wiring diagram for mode 7 – input function inhibiting output response to a ring-through

the relay contact may stand for an infrared detection zone contact guarding the garage doorway. Closed contact means doorway clear.



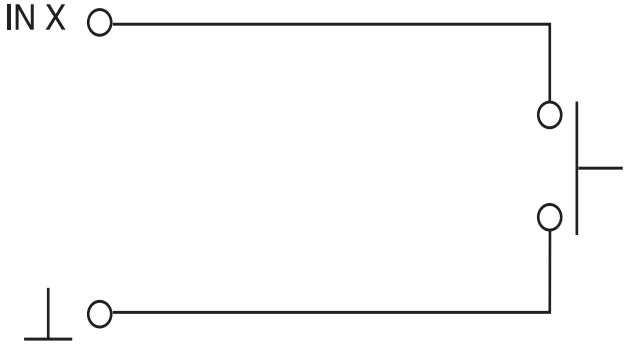
Example wiring diagram for mode 8 – control pulse input

the contact represents a relay switching contact in the control keyboards, in the remote control receiver or a hidden button



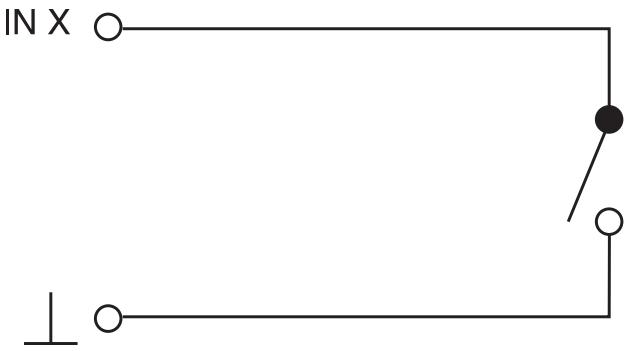
Example wiring diagram for mode 9 – switching control input

contact closed – system disarmed
contact open – system armed



Example wiring diagram for mode 10,11 – control button of remotely controlled relays

- mode 10: pressing the button causes RELAY 1 to transfer from its current status
- mode 11: pressing the button causes RELAY 2 to transfer from its current status



Example wiring diagram for mode 12, 13 – monitoring device status for relay control

This mode is used to synchronize the status of the remotely controlled device and the GSM AXEMAX device for pulse control. Closed contact of the remotely controlled device signals the device is on and vice versa. Closed contact signifies application on.
- mode 12: establishes RELAY 1 status
- mode 13: establishes RELAY 2 status

NOTE: Mode 12 or 13 can be assigned to a single input only.

This mode makes sense only when an output in the "free pulse control" mode is used to control a device. The status detected by the input will be displayed in the status message for the given relay so that the displayed information on the device status will always be valid, however it will not be the relay status but the device status. If you send a switch-on command to a device that is already switched on no pulse will be generated which is desirable.

4 Description of functions and customized parameters

The device can be programmed by SMS messages (in the same way as GSM AM-MINI and GSM AM-COMPACT)

System parameters require that a user code is used.
Command Y 51 sent to the device with the syntax **4444 Y 51**, (where 4444 is the factory user code, the separator – comma- is required) will cause the device to return the **parameter values** separated by commas in the following order:
Y 2, Y 3, Y 4, Y 5, Y 8, Y 11, Y 12, Y 15, Y 16, Y 32, Y 33, Y 37, Y 38, Y 45, Y 46, Y 47, Y 48, Y 49

Brief description of customized parameters

An overview in the form of a diagram can be found under 8.0

4.1 Change user code (Y 1)

The user code is used for programming customized parameters

4.2 Test call – test message transmission (Y 2, Y 3, Y 4, Y 76 (system parameter – careful))

Used to regularly check whether the function works correctly. Based on the parameter settings the device automatically sends a message to pre-set users. The device can send the user a test call either in the form of an unanswered call (rings 1x or 2x) or in the form of a direct call when after pick-up the user hears a pre-defined number of tone marks (blips). The device calls 3x, if you pick up the call the cycle is terminated. The required settings are the test call interval in days (Y 2), parameter Y 3 specifying in hours when the 1st call is made. Parameter Y 4 specifies the number of tone marks, if the value is set to 1, an unanswered call will be made, if set to 0 the test call is not initiated at all. If parameter Y 76 is set to 1, there will be no test calls but an SMS messages with device status information will be sent at pre-set intervals. Those alarm message receivers who are and who are not to be sent the test message are specified in the transmission item definition, see under 5.x

4.3 Control SMS message for device status (Y 5)

The GSM AXEMAX device allows the user to enquire, at any time, about device status. The term device status incorporates the status of inputs, outputs, power supply and signal. The device status is sent to the user at the number from which the control SMS message was sent. The control message simultaneously functions as a password.

4.4 System real time clock setting (Y 6)

The system uses its own real time clock when storing the event history which needs to be set.

4.5 Control SMS message for pre-paid SIM card credit (Y 8)

After sending this command the device will return, at any moment, the amount of its pre-paid SIM card credit. It is necessary that the parameter Y 69 setting is accurate.

4.6 Output control setting and output status description (Y 11 - Y 18)

These parameters specify a command to switch on/off relays and the way their description will be interpreted in the status message.

4.7 Control SMS message to set off alarm (Y 29)

This parameter defines the command to set off the alarm over a pre-set period (see Y80)

4.8 Control SMS message to arm/disarm (Y 32, Y 33)

Commands to control the system

4.9 Control SMS message to switch on/off listening-in (Y 37, Y 38)

These commands permit or prohibit the system to pick up voice calls. If pick up is enabled, and listening in is switched on, the device will pick up each voice call and link up the listening-in microphone.

4.10 Control SMS message to bypass and unbypass loops (Y 45, Y 46)

As any CIE, the GSM AXEMAX system can be set to bypass any of the loops in use (when a sensor is faulty, etc.)

4.11 Parameter settings to control lighting by ring-through (Y 47, Y 48, Y 49)

Using this function is assumed in connection with garage door and gate control whereby the system makes it possible to switch on garden lighting for a period given by parameter Y 49 simultaneously with opening the gate. To prevent the lighting from going on during daylight the user can set from (Y 47) and until when (Y 48) the lighting is to be switched on. If the lighting is to go on always the same value parameters Y 47 and Y 48 must be set. The same conditions apply to lighting (tel. number, etc.) as for opening the gate or system status changes. See below.

4.12 Telephone number definition for control by ring-through (Y 101 to Y 164)

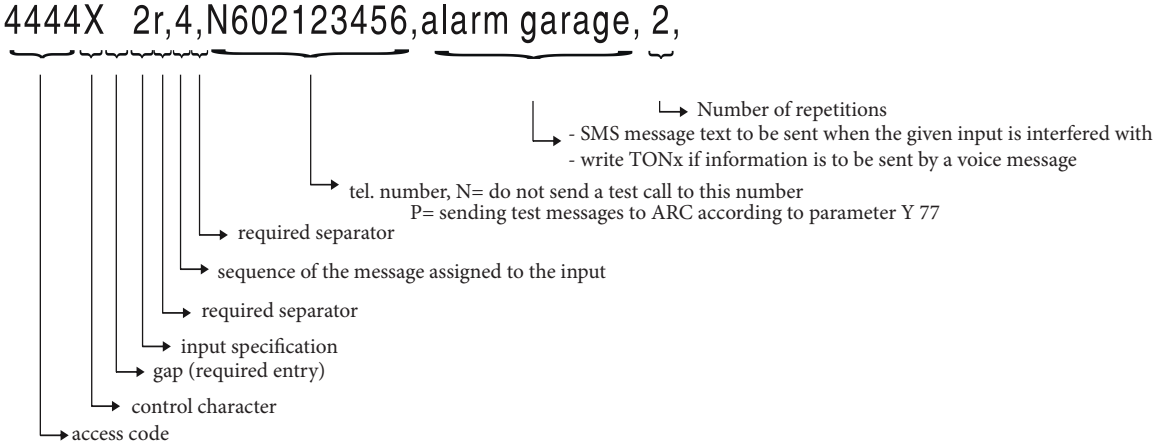
These parameters can only be programmed using PC software. They specify the telephone numbers to which the device responds. A detailed description including time zones is available in the program (GSMAXEMAX.exe)

5 Programming transmissions of system generated information

5.1 transmission item definition

Each information item generated by a change of status (close - balance, open - unbalance) of any of the inputs can be assigned a transmission. These definitions are made using a separate programming block starting, apart from the user code, with the control character X,

Under the standard definition method the complete programming block of transmission consists of the following items, separated by a comma.



- **X** – control character
- - gap is a required character
- **1R** – defines for which input the transmission is programmed (1R means input 1 outbalance). This item can take the following values: 1R, 1S, 2R, 2S, 3R, 3S, 4R, 4S, TR, TS, UV, UO, AR, DA, BA, RI

- **1** – message sequence for the given input, up to 8 messages can be entered for each input (only 2 for input RI)
- **tel. number** – entering the telephone number to which the SMS or voice call is to be delivered

If preceded by N, it is a command for the device not to forward test calls to that number, without the N character test calls will be sent. When the P character is entered, test messages will be sent to this number, see parameter Y 77.

- **message** – specify text to be sent to the given number, maximum length of the text is 46 characters. The text is free without any restrictions, except the comma character " , ". If **TONx** is entered in the text item the transmission will take place as a call with the voice message x=1 or x=2 (the voice messages are pre-recorded).
- repetition – if the transmission is to take place several times (up to 3x), enter the value 2 or 3. No entry is needed for the value 1.

6 Description of system functions and parameters

The system code is required to work with system parameters.
Command Y 81 sent to the device with the syntax **4444 Y 81**, (where 4444 is the factory system code, the separator – comma – is a required character) will cause **the device to return the parameter values** separated by a comma in the following order:
Y 62, Y 63, Y 64, Y 69, Y 70, Y 71, Y 72, Y 73, Y 74, Y 76, Y 77, Y 78, Y 79, Y 80, Y 82, Y 83, Y 86, Y 87,
Y 93, Y 94, Y 99, firmware version, GSM signal intensity valued 0-31

6.1 System code change (Y 61)

The system is used for programming system parameters.

6.2 Operative number (Y 62)

This is an important telephone number with a high probability that the call will be picked up (e.g. the exact time). The device calls this number when it has failed to establish a connection with any telephone number during a test call. It is used to fulfil the requirement of the operator to make a call within a prescribed time limit for pre-paid SIM cards.

6.3 Redirect from number (Y 63)

The telephone number from which the operator sends information SMS messages, e.g. on the validity of pre-paid SIM cards. Messages from this number will be redirected to all of the call receivers programmed at least 1x in alarm transmissions. The number depends on the GSM operator used.

6.4 Unbypass of bypassed loops on disarm (Y 64)

This parameter specifies whether the bypassed loops will be unbypassed when the system is disarmed.

6.5 Credit request number (Y 69)

The number used to obtain credit for pre-paid SIM cards, depends on the operator.

6.6 Input mode definition 1-4 (Y 70 - Y 73)

Specify depending on the use of the given input, for a detailed description see the programming logic diagram.
Note: for mode 8 to function properly you must correctly set parameter Y 74.

6.7 Arm/disarm control mode (Y 74)

This parameter specifies the optimum variety of system control. Related to pulse control of one of the 4 inputs set to mode 8.

6.8 Test call method selection (Y 76)

As required, specify either a test call or a test SMS message. The test calls or messages will be initiated at an interval set in parameter Y2, Y3, Y4

6.9 SMS to CMS format selection (Y 77)

The system offers a facility for sending regular test messages to CMS. The messages are initiated at an interval specified in test calls (see above) and can have the following format.

1, standard status message
2, string for CMS (max 15 characters) + standard status message
3, string for CMS (max 15 characters)
Note the format of the message is determined by the 1st character which takes on the value 1, 2 or 3.

6.10 Outgoing delay (Y 78)
Defines the outgoing message delay in seconds.

6.11 Incoming delay (Y 79)
Defines the incoming message delay in seconds.

6.12 Alarm output activity duration (Y 80)
Defines the alarm output activity duration in seconds

6.13 Relay 1 and Relay 2 function definition (Y 82, Y 83)
Defined depending on the intended use of the relay, for a detailed description see logic diagram for programming.

6.14 Pulse duration on Relay 2 by ring-through (Y 86)
Defines the pulse duration on Relay 2 in seconds in the pulse by ring-through mode

6.15 Close Relay 1 in complementary function mode to Relay 2 (Y 87)
Defines the duration of closing Relay 1 in seconds in the complementary function mode to Relay 2 in the flip-flop mode. This function is intended for controlling a garage door without its own control unit.

6.16 Alarm number restriction (Y 93)
This parameter defines the maximum number of alarms in one loop within a single armed cycle.

6.17 BELL transistor output (Y 94)
Defines using the BELL transistor output as an alarm output or preliminary alarm output.

7 Description of the system LED and JUMPER for factory settings

7.1 LED

LED status	Indicated status
off	no power, fault
0.2s on, 4.8s off	no signal (antenna disconnected, SIM card fault, no signal received)
0.2s on, 3s off	weak signal but sufficient for proper operation
0.2s on, 1s off	full signal
LED flashes on receiving SMS	service function display
1s on, 1.25s off	device accepted ring-through conditions

7.2 JUMPER for factory settings
To return to the factory settings, isolate the device from power supply and battery, insert JUMPER, restore power supply, LED is on, when it starts flashing (approx. 30 s) disconnect from power supply and remove JUMPER.

8 System control information overview

(the installer is kindly requested to accurately fill in this sheet)

The communicator telephone number is:

8.1 Arming the system

To arm the system:

initiate a ring-through		
enter a code on the keyboard		
press the button		
send an SMS :		Y 32

note: the command in the SMS message must be preceded and followed by an asterisk

8.2 Disarming the system

To disarm the system

initiate a ring-through		
enter a code on the keyboard		
press the button		
send an SMS :		Y 33

note: the command in the SMS message must be preceded and followed by an asterisk

8.3 Indication lamp (connected to the Indicator output)

Indication lamp status	Indicated status
off	system armed
on, the number of flashes indicates the number of the disrupted loop (a walk-through test)	system disarmed
on arming flashes 4 times, the following number of flashes indicates the number of the bypassed loop	indicates the bypassed loop

8.4 Device request for status report

command	execution:	
	sends device status to the number from which the command was sent	Y 5
*k	sends device status to the number from which the command was sent followed by another SMS with credit status	Y 5
	sends device status to the number appended to the command and terminated by an asterisk (example: *status*123456*)	Y 5
	sends credit status to the number from which the command was sent	Y 8

note: the command in the SMS message must be preceded and followed by an asterisk

8.5 Loop bypass

to bypass a loop

command	execution	
1	loop 1 is bypassed	Y 45
2	loop 2 is bypassed	Y 45
3	loop 3 is bypassed	Y 45
4	loop 4 is bypassed	Y 45

example: *bypass*1* will bypass loop 1

8.6 Loop unbypass

to unbypass loops do the following

command	execution	
1	loop 1 is unbypassed	Y 46
2	loop 2 is unbypassed	Y 46
3	loop 3 is unbypassed	Y 46
4	loop 4 is unbypassed	Y 46

example: *unbypass*1* will unbypass loop 1

8.7 Remote control

command	execution	appliance	
	on		Y 11
	off		Y 12
	on		Y 15
	off		Y 16

note: the command in the SMS message must be preceded and followed by an asterisk

8.8 Listening-in microphone control

command	execution	
	enables voice call pick up	Y 37
	disables voice call pick up	Y 38

note: the command in the SMS message must be preceded and followed by an asterisk

8.9 Lighting up garden lighting and opening garage door

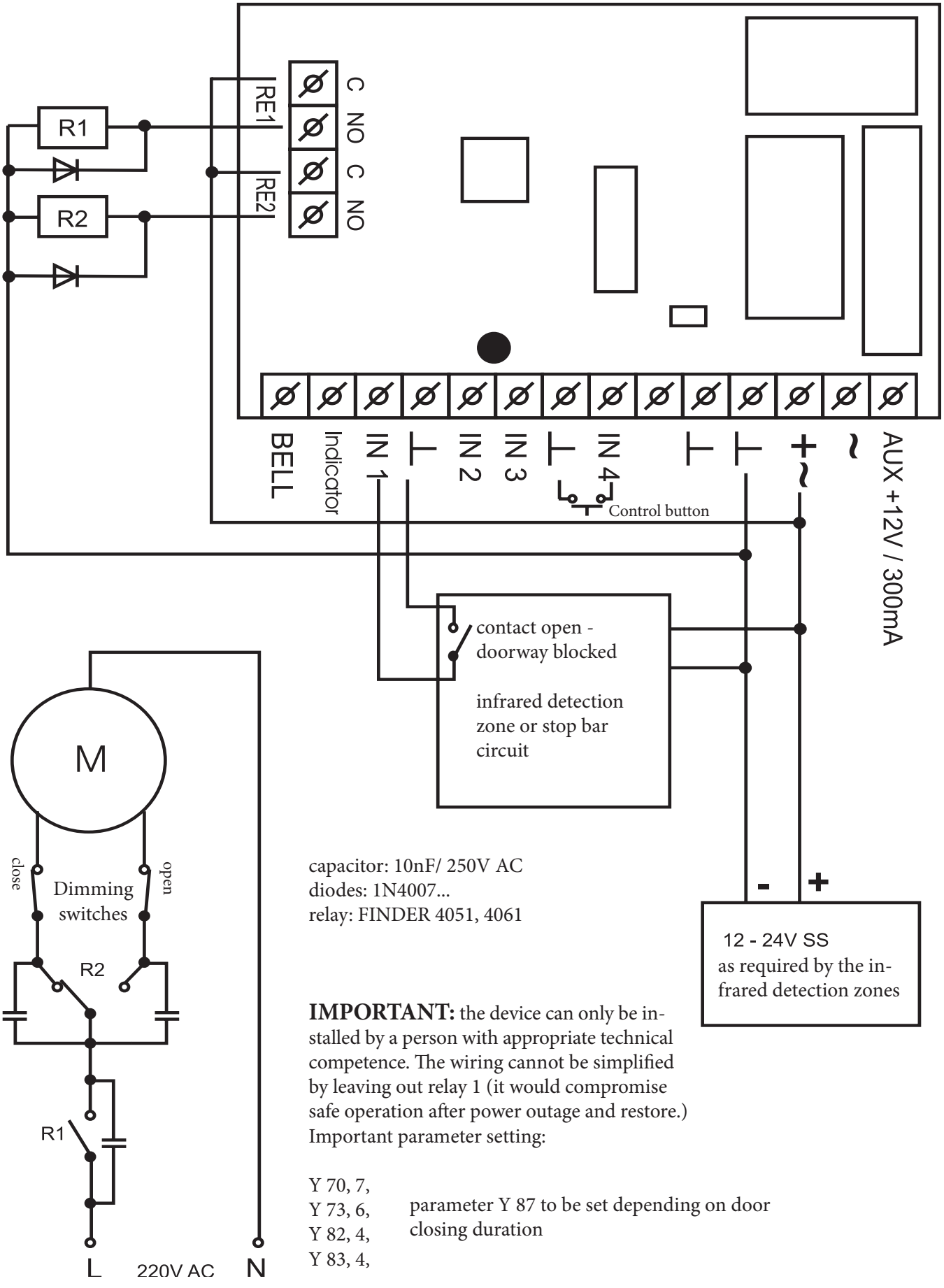
requirement		
light up garden lighting	ring the device	
open/close garage door	ring the device	

9 Example wiring diagrams

9.1 Device application as the garage door primary control unit

This application absolutely requires that the door is equipped with infrared detection zones or stop bars so that the door cannot be lowered when there is an object in the doorway. The door can only be remotely controlled when it is visible and when there is clearly no object in the doorway.

Example wiring diagram to control a garage door or roller shutter without its own control unit.



IMPORTANT: the device can only be installed by a person with appropriate technical competence. The wiring cannot be simplified by leaving out relay 1 (it would compromise safe operation after power outage and restore.)
Important parameter setting:

Y 70, 7,
Y 73, 6,
Y 82, 4,
Y 83, 4,

parameter Y 87 to be set depending on door closing duration

Given that some components are not supplied by the manufacturer (infrared detection zones, drive, etc.), the manufacturer assumes no liability for the safe operation of the device.

10. Programming by PC

The device configuration is facilitated by the AXEMAXSET.EXE program and history download by the AXEMAXHISTORY.EXE program. The software is available for download at www.bestgsm.cz (go to download).

The device can be configured locally, using a Canon 9F/M cable connected to the serial port of the PC, or remotely by any GSM modem connected to the PC.

Program settings

In the program, select the COM to which the device is connected or to which the modem for remote programming is connected (if you have a modem linked to a virtual COM x, choose the virtual COM in the program). Do not forget to enter the proper user and system code and the telephone number of the communicator. Entering only one of the codes will result in the programming of parameters for the entered code only.

Note: If the device is currently reporting an alarm or making test calls it cannot be configured.

11. Frequently asked questions

- The device receives no signal:
You may have forgotten to switch off PIN?
Have you deleted all the SMS on the SIM card?
Are you sure you have connected the antenna?
Is the area covered by signal from your GSM operator?

- The device does not respond to command Y 51, or Y 81,
Do you use the proper code? (user code for Y 51, system code for Y 81)
Is the command syntax correct? (capital Y, a single gap between Y and 51 (81), a comma after 51)

- The device does not respond to status requests, does not control the relay
Is the command sent preceded and terminated by an asterisk? (see Chapter 8)
Is the command sent in the pre-programmed format? (no extra gaps, observing small and capital letters)
Is the command sent to the correct telephone number?
Are the output relay type settings correct? (see parameter Y 82, Y83 or Y 70, Y71, Y 72, Y73)

12 GSM AXEMAX programming logic diagram

Customized parameter settings

Gap between Y and parameter number must be observed

		SMS message syntax
User access code change	1	4444Y 1, user acces code 4-8 character @4444
Test message transmission interval	2	4444Y 2,x, numerically time indays for transimition of a message 1-80days@80
1st transmission of test message after …	3	4444Y 3,x, number of hours 1 - 255 @random
Test call code	4	4444Y 4,x, test call code 0-9 @1
SMS request for device status	5	4444Y 5,command to send the unit status immediately max 16char @not
Internal clock set command	6	4444Y 6,YY/DD/MM HH:MM,
SMS request for credit	8	4444Y 8,definition of command for getting credit max 16 char @not
relay 1 on by SMS	11	4444Y 11,command to switch output No.1 on max 16 char. @not
relay 1 off by SMS	12	4444Y 12,command to switch output No.1 off max 16 char. @not
Description of relay 1 on	13	4444Y 13,Chain in a statue SMS describing switching the output No.1 on @RELAY
Description of relay 1 off	14	4444Y 14,Chain in a statue SMS describing switching the output No.1 off @RELAY
relay 2 on by SMS	15	4444Y 15,command to switch output No.2 on max 16 char.
relay 2 off by SMS	16	4444Y 16,command to switch output No.2 off max 16 char. @not
Description of relay 2 on	17	4444Y 17,Chain in a statue SMS describing switching the output No.2 on @RELAY
Description of relay 2 off	18	4444Y 18,Chain in a statue SMS describing switching the output No.2 off @RELAY

Intruder system armed by SMS	32	4444Y 32,command to switch the security system arming on max 16char. @not
Intruder system armed by SMS	33	4444Y 33,command to switch the security system arming off max 16char. @not
Microphone on by SMS	37	4444Y 37,command to switch micro-phone on max 16 char. @not
Microphone off by SMS	38	4444Y 38,command to switch micro-phone off max 16 char. @not
Loop bypass	45	4444Y 45,command to omit some zones from arming max 16 char. @not
Loop unbypass	46	4444Y 46,command to cancel omiting some zones from arming max 16 char. @not
Lights on from	47	4444Y 47,x, enter hour fro with light up 0-23 @0
Lights on to	48	4444Y 48,x, enter hour till to light up 0-23 @0
Lights on duration	49	4444Y 49,x, enter time in minutes for how long to light up 1-30 @5

@ indicates factory settings
4444 indicates the factory user password

GSM AXEMAX programming logic diagram

System parameter programming

Gap between Y and parameter number must be observed.

SMS message syntax

System code change	61	4444Y 61,system access code 4-8 char, @4444
Operative number	62	4444Y 62,operation number for a test call ma 16char @14112
Redirect from number	63	4444Y 63,up to 16-digit tel. number, @999280
Unbypass loops on disarm	64	4444Y 64,x, omited zones retun at the end of arming (1 - yes, 0 - no) @1
Credit request number	69	4444Y 69,number for a requst credit @*101#
Input no. 1 mode	70	4444Y 70,x, select inputmode No1@1
Input no. 2 mode	71	44444Y 71,x, select inputmode No2@1
Input no. 3 mode	72	4444Y 72,x, select inputmode No3@1
Input no. 4 mode	73	4444Y 73,x, select inputmode No4@1

x=
1 – single balanced output
2 – 24H alarm loop
3 – 24H alarm loop activating alarm output
4 – immediate alarm loop
5 – delayed alarm loop
6 - EXT relay 2 control in FLIP – FLOP mode
7 – inhibiting output response to ring-through
8 – pulse arm/disarm control
9 – switch arm/disarm control
10 – relay 1 status switch
11 – relay 2 status switch
12 – device status monitoring for relay 1 control
13 – device status monitoring for relay 2 control
14 – N/S

Arm/disarm control mode	74	4444Y 74,x, select method of arming status control (1 - N/S 2 - arm/disarm by input 3 - arm by input / disarm by call 4 - arm/disarm by call @1 note: mode 2 and 3 is relevant for pulse control only see mode 8 (Y 70 to Y 73)
Test call method selection	76	4444Y 76,x, defines the test call method(0 - call,1 - send) @0
SMS to CMS format selection	77	4444Y 77,x, selection of SMS form for CMS max 16 char.(x see text) @1

Outgoing delay	78	4444Y 78,x, exit delay in range (x= 1 - 255s) @50
Incoming delay	79	4444Y 79,x, entry delay range (x= 1 - 255s) @25
Alarm output activity duration	80	4444Y 80,x, time of alarm output activity (x= 1 - 255s)
Relay 1 function definition	82	4444Y 82,x,whether output No 1 @3 x= 1 – free control 2 – free pulse control 3 - sounder 4 – complementary function to relay 2 FLIP FLOP mode
Relay 2 function definition	83	4444Y 83,x,wheter output No 2@3 x= 1 – free control 2 – free pulse control 3 – pulse by ring-through 4 - FLIP FLOP mode 5 – lighting after ring-through 6 – pulse during GSM breakdown
Pulse duration on relay 2 by ring-through	86	4444Y 86,x, time of pulse duration on relay 2 (x= 1 - 60s) @1
Close relay 1 in complementary function mode to relay 2	87	4444Y 87,x, time of the relay 1 close in mode of optional function for relay 2 sec. (x= 1 s)
Alarm number restriction	93	4444Y 93,x,number i the range (x= 0 - 99, 0=unlimited)
BELL transistor alarm	94	4444Y 94,x, defines wheter the bell (x= 1 sounder, 2 preliminary alarm)
Language selection	99	4444Y 99,x, select language (x= 0 Czech, 1 English) @0

@ indicates factory settings
4444 indicates the factory user password

Assign entry 1 open (outbalanced)

INPUT	ASSIGN-MENT SEQ.	ENABLE TEST CALL	TEL. NUMBER	MESSAGE	NUMBER OF REPETITIONS
1R	1				
1R	2				
1R	3				
1R	4				
1R	5				
1R	6				
1R	7				
1R	8				

Assign entry 1 closed (balanced)

INPUT	ASSIGN-MENT SEQ.	ENABLE TEST CALL	TEL. NUMBER	MESSAGE	NUMBER OF REPETITIONS
1S	1				
1S	2				
1S	3				
1S	4				
1S	5				
1S	6				
1S	7				
1S	8				

Assign entry 2 open (outbalanced)

INPUT	ASSIGN-MENT SEQ.	ENABLE TEST CALL	TEL. NUMBER	MESSAGE	NUMBER OF REPETITIONS
2R	1				
2R	2				
2R	3				
2R	4				
2R	5				
2R	6				
2R	7				
2R	8				

Assign entry 2 closed (balanced)

INPUT	ASSIGN-MENT SEQ.	ENABLE TEST CALL	TEL. NUMBER	MESSAGE	NUMBER OF REPETITIONS
2S	1				
2S	2				
2S	3				
2S	4				
2S	5				
2S	6				
2S	7				
2S	8				

Assign entry 3 open (outbalanced)

INPUT	ASSIGN-MENT SEQ.	ENABLE TEST CALL	TEL. NUMBER	MESSAGE	NUMBER OF REPETITIONS
3R	1				
3R	2				
3R	3				
3R	4				
3R	5				
3R	6				
3R	7				
3R	8				

Assign entry 3 closed (balanced)

INPUT	ASSIGN-MENT SEQ.	ENABLE TEST CALL	TEL. NUMBER	MESSAGE	NUMBER OF REPETITIONS
3S	1				
3S	2				
3S	3				
3S	4				
3S	5				
3S	6				
3S	7				
3S	8				

Assign entry 4 open (outbalanced)

INPUT	ASSIGN-MENT SEQ.	ENABLE TEST CALL	TEL. NUMBER	MESSAGE	NUMBER OF REPETITIONS
4R	1				
4R	2				
4R	3				
4R	4				
4R	5				
4R	6				
4R	7				
4R	8				

Assign entry 4 closed (balanced)

INPUT	ASSIGN-MENT SEQ.	ENABLE TEST CALL	TEL. NUMBER	MESSAGE	NUMBER OF REPETITIONS
4S	1				
4S	2				
4S	3				
4S	4				
4S	5				
4S	6				
4S	7				
4S	8				

ASSIGN TR (tamper open, outbalanced)

INPUT	ASSIGN-MENT SEQ.	ENABLE TEST CALL	TEL. NUMBER	MESSAGE	NUMBER OF REPETITI-ONS
TR	1				
TR	2				
TR	3				
TR	4				
TR	5				
TR	6				
TR	7				
TR	8				

ASSIGN TS (tamper closed, balanced)

INPUT	ASSIGN-MENT SEQ.	ENABLE TEST CALL	TEL. NUMBER	MESSAGE	NUMBER OF REPETI-TIONS
TS	1				
TS	2				
TS	3				
TS	4				
TS	5				
TS	6				
TS	7				
TS	8				

ASSIGN UV INPUT (power outage)

INPUT	ASSIGN-MENT SEQ.	ENABLE TEST CALL	TEL. NUMBER	MESSAGE	NUMBER OF REPETITIONS
UV	1				
UV	2				
UV	3				
UV	4				
UV	5				
UV	6				
UV	7				
UV	8				

ASSIGN UO INPUT (power restore)

INPUT	ASSIGN-MENT SEQ.	ENABLE TEST CALL	TEL. NUMBER	MESSAGE	NUMBER OF REPETITIONS
UO	1				
UO	2				
UO	3				
UO	4				
UO	5				
UO	6				
UO	7				
UO	8				

ASSIGN BA INPUT (emergency battery fault)

INPUT	ASSIGN-MENT SEQ.	ENABLE TEST CALL	TEL. NUMBER	MESSAGE	NUMBER OF REPETITIONS
BA	1				
BA	2				
BA	3				
BA	4				
BA	5				
BA	6				
BA	7				
BA	8				

ASSIGN DISARM

INPUT	ASSIGN-MENT SEQ.	ENABLE TEST CALL	TEL. NUMBER	MESSAGE	NUMBER OF REPETITIONS
DA	1				
DA	2				
DA	3				
DA	4				
DA	5				
DA	6				
DA	7				
DA	8				

ASSIGN ARM

INPUT	ASSIGN-MENT SEQ.	ENABLE TEST CALL	TEL. NUMBER	MESSAGE	NUMBER OF REPETITIONS
AR	1				
AR	2				
AR	3				
AR	4				
AR	5				
AR	6				
AR	7				
AR	8				

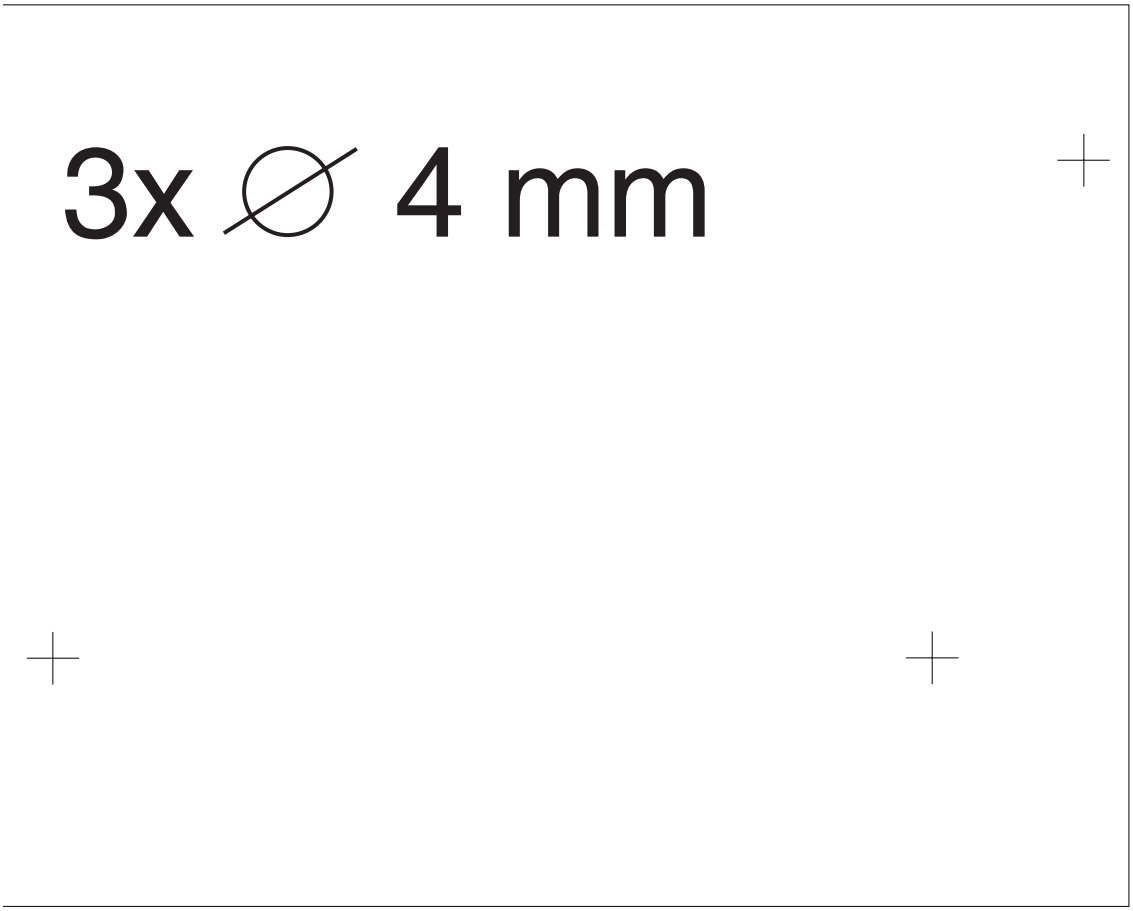
ASSIGN ACTIVATION BY RING-THROUGH

INPUT	ASSIGN-MENT SEQ.	ENABLE TEST CALL	TEL. NUMBER	MESSAGE	NUMBER OF REPETITIONS
RI	1				
RI	2				

13. Specifications

Power supply	
Voltage	12 - 35V dc, 9 - 24V ac
Current demand at rest	20 -40 mA (depending on voltage)
Max. current demand during transmission and battery recharging	400 mA
Inputs	
	4 double balanced loops 2 virtual inputs (power supply and battery check)
Outputs	
	2 relays (rating 2A/24V) 1 transistor for indication (max 20mA) 1 transistor for alarm (max 180mA)
Indication elements	
	1 LED for GSM signal indication
System history	
	PC-based, up to 4096 items clearly organized with date and time

Environment	
operating temperature	-20 to +60 °C
storage temperature	-30 to +70 °C



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