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GSM Key HOME 2

User Guide

CONTENTS

SAFETY INSTRUCTIONS

- While using the Device be sure to observe law regulations and locally applied restrictions.
- Refrain from using the Device in hospitals as it can interfere with operation of medical instrumentation; e.g. in vicinity of cardiac pacemakers or hearing aid devices.
- Prior to installing, starting and operating the Device be sure to study carefully this Guide.
- Do not use the Device aboard an airplane.
- Do not use the Device nearby refueling stations, chemical equipment or in areas where explosives are being used or handled, as well as in areas with explosion hazard The Device can interfere with operation of some instruments.
- When in vicinity of TV sets, radios and PCs the Device can cause interference.
- Be sure to use only recommended accessories (see section RECOMMENDED ACCESSORIES) to avoid contingent damage caused to your Device or damage to property, health and breaching pertinent provisions. These recommended accessories have been tested and they cooperate reliably with the Device. Unfortunately, these accessories are not covered by the warranty terms.
- We recommend as a useful practice to make a copy or backup of all important settings as stored in the Device memory.
- The Device shall not be opened. Only replacing SIM card is allowed. The procedure of SIM card replacement is described in this User's Guide.
- Caution! Keep out of reach of small children, who could swallow the SIM card.
- Do not expose the Device to extreme ambient conditions. Keep it protected against dust, moisture and extreme temperatures.
- Supply voltage value as specified on the supply jack should not be by any means exceeded.
- Improper use of the Device invalidates the warranty!

CONTENT OF PACKAGING

1. 1 pc. GSM Key HOME 2

2. 1 pc. power supply source, 12 V, 1250 mA, jack RJ12

3. 1 pc. antenna GSM, gain 3 dB

4. 2 pcs. installation supports for strip DIN 35 mm

5. 1 pc. clamp (MRT9 connector)

6. 1 pc. CD (User's Guide)

7. 1 pc. Quick user Guide

GENERAL DESCRIPTION

GSM Key HOME is an application to actuate electric drive of gate openers, doors and barriers via a mobile phone. The opening and closing operations are FREE as they are reduced to mere ringing signals (i.e. ringing the address and hanging up) to the phone number of SIM card installed in the actuating device. The Device interface is formed by two output ports equipped with relays and four optically isolated input ports. Authorization of the competent user is made automatically using call list in the GSM Key. GSM Key is produced in two versions: GSM Key HOME and GSM Key PRO 2.

The version **GSM Key HOME 2** is suitable to be used for needs of a family house or of minor companies – up to 20 users. User administration and the Device settings are made via a mobile phone by SMS messages.

The version **GSM Key PRO 2** is suitable to be used for needs of medium sized and major companies, complexes of offices, hotels, boarding houses – i.e. application under conditions of a denser movement of persons (> 20 users). User administration and the Device settings are made either via a mobile phone or using SW of GSM Key ADMIN (the application under Windows).

Table 1: Technical parameters of GSM Key HOME 2

GSM module	Siemens Wireless Module TC65
Frequency bands	EGSM850/900/1800/1900 MHz
User's interface	2 relay outputs (for starting motor, connected in parallel) 4 optically isolated inputs (additional function) RS232-RJ45 connector (service interface)
Operating temperature range	-20^0C up to $+55^0$C
Storage temperature range	-40^0C up to $+85^0$C
Supply voltage	11 – 16, 22 – 30 V DC
Power consumption	1 W / 3.5 W (receiving / transmitting)
Antenna jack	FME (50 W)
Dimensions	30 x 90 x 102 mm
Support	DIN fixing strip 35 mm
Weight	150 g

EXAMPLES OF USE

FAMILY HOUSE WITH GARAGE

Suitable to control one garage of a family house is GSM Key HOME 2, having connected one output (see section INSTALLATION AND STARTING OPERATION). To ease control, we recommend the Device to set using operating mode Continual evaluation, while setting the switching response to be triggered by the first ringing; the second ringing signal is followed by hanging up (see the section ADMINISTRATION). This configuration means the entrance will start opening after ca. 5* seconds of pressing the key. We recommend entering the ID of GSM Key in the phone in the form of a shortened dialing – one touch command. Adding / canceling an authorized user is made by sending an SMS message (see the section ADMINISTRATION).

FAMILY HOUSE WITH GARAGE AND GATE

Where control of two entrances is required (e.g. entrance gate and garage gate, GSM Key HOME 2 is a suitable solution while connected are two outputs (see the section INSTALLATION AND STARTING OPERATION). We recommend installing the equipment in the garage or other part of house; the best option would be the installation in a switchboard used to supply electrical drives. If one GSM Key controls two entrances, the operating mode is to be set subject to custom practice of using individual entrances by the user, as well as his needs.

Provided the user will open both entrances simultaneously or eventually only one entrance control will be connected to No. 1 output (entrance gate), we recommend setting the Device in operating mode Continual evaluation. In this mode the entrance No. 1 will start opening after ca. 5* seconds. Provided the ringing signal has not been stopped, the entrance No. 2 will start opening after ca. 9* seconds. Then the incoming call will be automatically cancelled and ended.

Provided the user is opening both entrances more frequently mutually independently, then we recommend setting the Device in operating mode Late evaluation. When using this setting, the user can select, according to number of ringing signals, which entrance has to open (entrance No. 1 or No. 2).

PARKING IN HOTELS, BOARDING HOUSES, APARTMENT HOUSES

A suitable version of the Device to control entrances of hotels and boarding houses is GSM Key PRO 2. The guests when checking in simply disclose the respective number of their mobile phones that they are going to use to control the entrances. The administrator will then enter the data in SIM card of GSM Key via computer. After the guest's departure the number is deleted from call list of the SIM card of GSM Key. The use of GSM Key avoids the risk of damage or loss of remote controls having been rent to guests. The PRO 2 version enables administering via mobile phone or via computer using special SW GSM Key ADMIN. This SW offers the opportunity of an easy and well-arranged simultaneous administration of several items of equipment, while providing the user perfect information of the Device setting and of users of individual entrances. The SW is saved in SIM card of GSM Key.

ENTRANCE TO COMPANY TERRITORY

A suitable tool to meet the needs of controlling company entrances in hotels and boarding houses is GSM Key PRO 2. For you it will be easy, quick and convenient, as you can utilize the system of remote control to allow your business partners to drive in, disregarding if it is a single visit or regular meetings. Using SW of GSM Key ADMIN you will maintain perfect overview of setting of individual entrances and their users and overview of admittance.

**The above-specified time data are of information value, since they are subject to serviceability of the particular mobile operator's network.*

TECHNICAL DESCRIPTION

FRONT PANEL

(Picture 1)

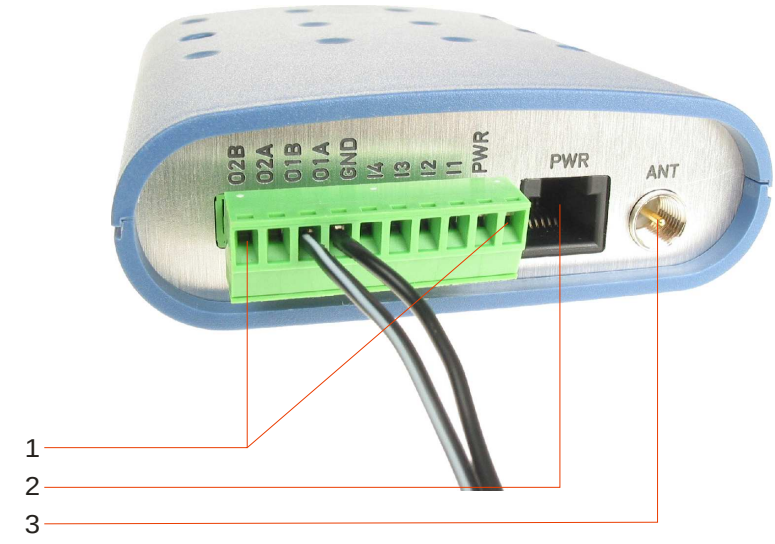
1. SIM: plug-in scanner of SIM card and a slot to open the scanner.
2. LEDs: (P, G, I1,I2,I3, I4, O1, O2 - see INFORMATION OF THE DEVICE STATUS)
3. COM: service connector intended for needs of configuration to be made mostly by servicing centre
4. USB: unplugged connector for version GSM Key HOME 2

Picture 1: Front Panel

REAR PANEL

(Picture 2)

1. MRT9 pin terminal (O2B, O2A, O1B, O1A, GND, I4, I3, I2, I1, PWR)
2. PWR: pin terminal to connect power supply adaptor
3. ANT: FME jack to connect GSM antenna
4.



Picture 2: Rear Panel

DESCRIPTIONS OF INTERFACE

Input/Output

See Table 2

Table 2: INPUT / OUTPUT: Description of user's interface (MRT 9 connector)

Pin No.	Type of signal	Description
1	PWR	Output 12 V to connect other circuits (connected directly to modem power supply)
2	I1	Optically isolated input
3	I2	Optically isolated input
4	I3	Optically isolated input
5	I4	Optically isolated input
6	GND	Grounding for both supply net and signaling circuits
7	01 A	Relay output
8	01 B	Relay output
9	02 A	Relay output
10	02 B	Relay output

COM Interface

See Table 3

Table 3: Description of servicing interface (RJ45 connector)

Pin No.	Type of signal	Description	Direction of data flow
1	RTS	Requirement to send off	Input
2	CTS	Clear To Send	Output
3	NC	Signal not connected	
4	NC	Signal not connected	
5	GND	Ground – grounding for signaling circuits	
6	RXD	Receive Data	Output
7	CD	Carrier Detect	Output
8	TXD	Transmit Data	Input

PWR Interface

Power supply interface PWR is used to connect the source of power supply via jack RJ12. The Device requires supply voltage 11 – 16 V, 22 – 30 V. When receiving, it consumes 1 W. During data transmission peak consumption can reach 3.5 W. To guarantee proper operation of the Device, its power supply source must absorb the peak current intensity of 500 mA.

CAUTION! To ensure proper operation, the pins of pin terminal connecting power supply source RJ12 must be connected in a special manner. Recommended accessories meet this requirement (see Table No. 4 - DESCRIPTION OF POWER SUPPLY INTERFACE).

Table 4: Description of power supply interface (RJ 12 connector).

Pin No.	Type of signal	Description
1	+UN	+ Terminal of DC power supply voltage (11-16, 22-30 V)
2	NC	Signal not connected
3	INAC	Check of voltage presence (range 0-16 V)
4	+UN	+ Terminal of DC power supply voltage (11-16, 22-30 V)
5	GND	- Terminal of DC power supply voltage
6	GND	- Terminal of DC power supply voltage

ANT Interface

ANT designated radio frequency interface is used to connect two-band antenna GSM 900/1800 equipped with FME jack. The connection is attained using 50 Ω FME male jack.

SIM Interface

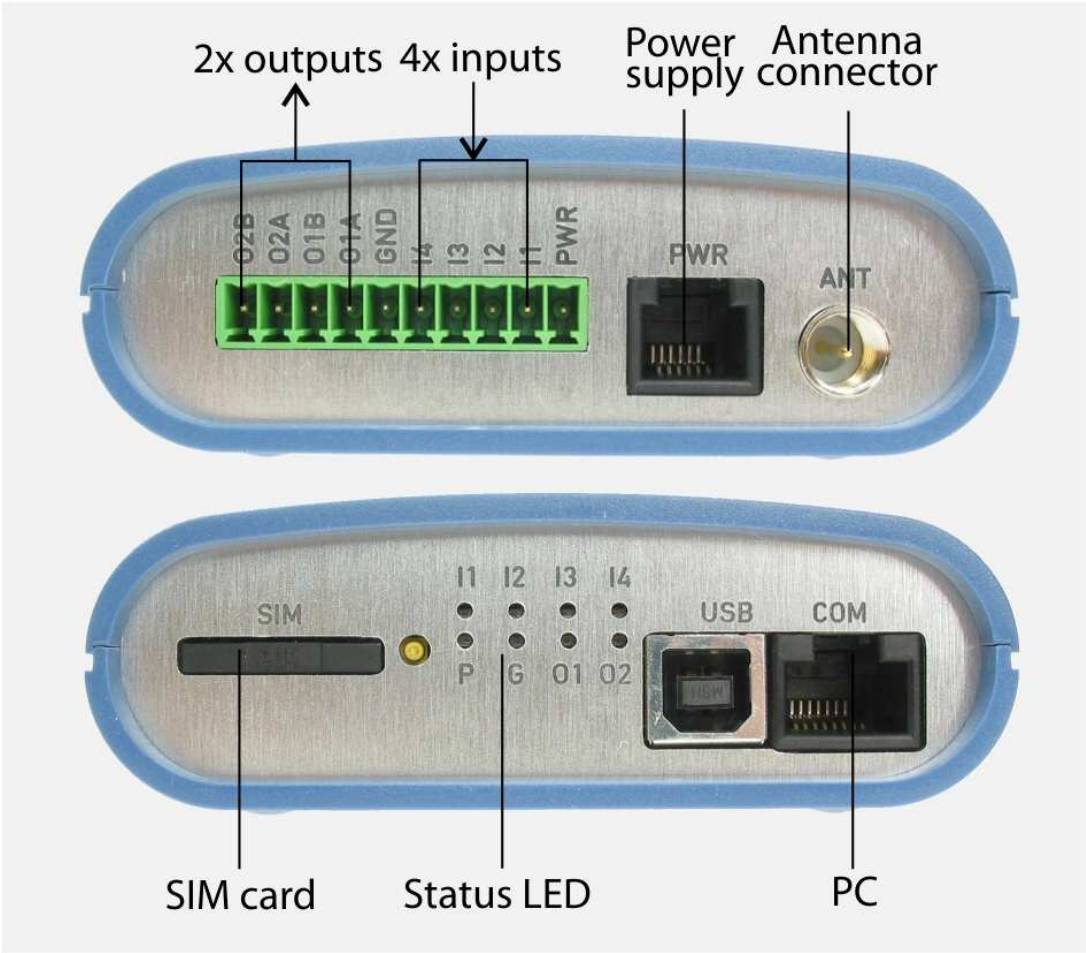
SIM Interface is intended for SIM card scanner with slide-out holder of SIM card. When inserting the SIM card, you should observe the required procedure (see section INSTALLATION AND STARTING OPERATION).

INSTALLATION AND STARTING OPERATION

Prior to starting operation of the Device it is necessary to check construction setup of the installation site, get ready SIM card and connect cables and accessories.

During the installation pay increased attention to the issue of work safety. We recommend you to have the installation made by persons duly trained for the stint.

Interfaces of GSM Key HOME 2



Picture 3: Interfaces of GSM Key HOME 2

Work safety during installation

1. Only skilled and duly trained personnel should install the Device.
2. Ahead of starting the installation stint and starting operation of the Device, be sure to study carefully this manual.
3. Should the Device be power supplied via power supply source, it will have to meet requirements to add SELV circuits and be compliant with the standard EN 60950. The power supply source enclosed as a part of the delivery is compliant with this requirement (see section RECOMMENDED ACCESSORIES). Should batteries or accumulator batteries be used, these will have to meet provisions of relevant standards as well (see section RECOMMENDED ACCESSORIES).
4. Maximum admissible cable length between terminal station and power supply source is 3 m.
5. In case you may meet any unclear issues, do not hesitate to contact the authorized service company or your distributor. Personnel of all these contact points will be pleased to inform you or provide needed technical assistance

Installation site setup

Ahead of starting installation of the Device it is necessary to get ready the installation site and to ensure the following:

1. Select the installation site to be in compliance with operating conditions of the Device (see the table 1: Technical Parameters). Install GSM Key at the place of restricted access of unauthorized persons; preferably indoor. In this manner you can avoid both stealing the Device and its unauthorized tampering (e.g. unauthorized adding or changing phone number of administrator). The ideal solution is installing the Device in a lockable switchboard that is also power supply source for electrical drives.
2. Install the Device on a horizontal, non-conductive base plate or on a DIN strip 35 mm.
3. Get ready a supply socket outlet 230 V.
4. Ensure drawing of control cable between the gate drive and the place of GSM Key installation (for doorbell pushbutton we refer to the recommendation of the gate drive manufacturer). Choose the type of a multiple core cable regarding accessories of the gate drive to be connected to the Device. Make allowance for contingent cases of breaking the cable by adding reserve cores.

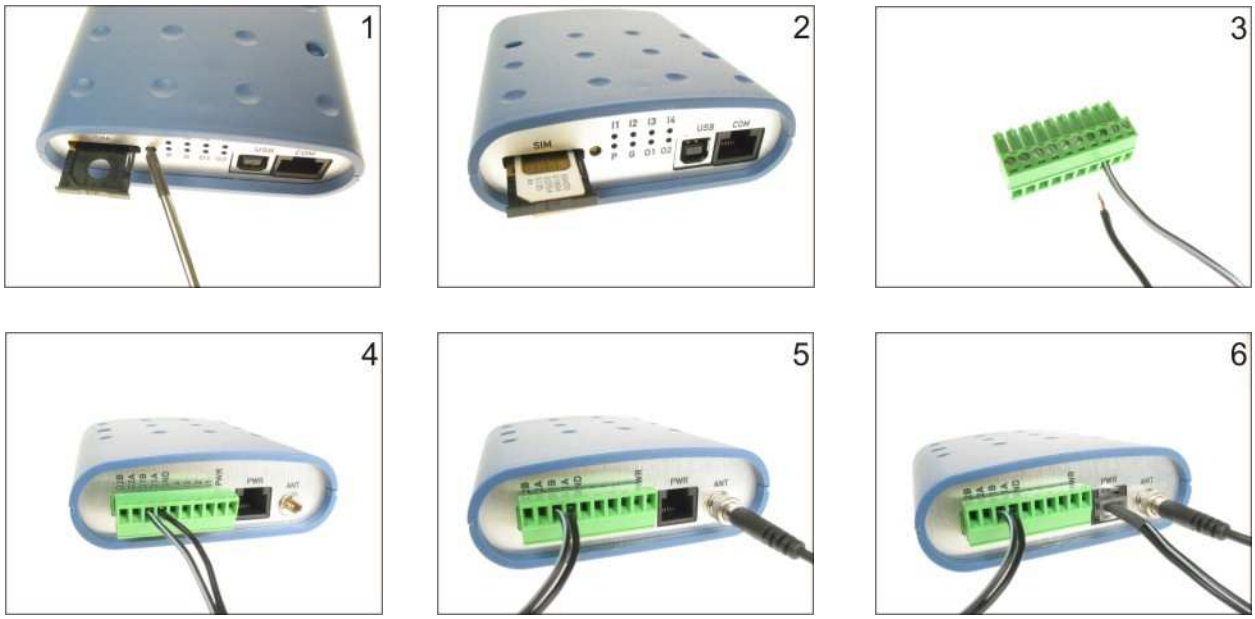
Getting ready of the SIM card

1. Insert SIM card in a mobile phone and switch on.
2. According to mobile phone user guide deactivate a PIN of the SIM card.
3. Activate SIM card by outgoing call to hotline of operator.
4. Delete all records from SIM card (contacts, SMS), switch off voice box.
5. If you use a pre-paid card then inform yourself about operation conditions for pre-paid card by your operator.

Starting operation

1. Unwrap GSM Key HOME 2 and all accessories from the package.
2. Pull out the SIM card holder by pressing a small yellow pushbutton (see picture 4/1), slide SIM card into holder and carefully insert into the device. (see picture 4/2)
3. Connect cables to the clamp (se picture 4/3) and plug clamp into the device (see picture 4/4)
4. Connect antenna (see picture 4/5)

Picture 4: Starting operation



5. Connect the power supply to the supply socket (230 V AC, 50Hz).
6. Connect the jack of the power supply to the device. (See picture 4/6). The device having been connected to the power supply is immediately activated and starts searching and registration to the mobile operator network.
7. Wait a minute for discontinuous signal of LED marked P (green color) which reports standby mode.

Information of the device status (LEDs)

On the front panel you will notice 8 control / signaling lights (LEDs), signaling the Device status.

Table 5: Information of the device status

LED	Description
P (power)	Permanently being out - no power supply
	Permanently luminous – application uploading
	Short blinking – properly functioning
G (signal)	Permanently luminous - malfunctioning
	Slightly blinking - transmitting via rf channel
O1 (output 1)	Switched off - open contacts O1A and O1B
	Switched on - closed contacts O1A and O1B
O2 (output 2)	Switched off - open contacts O2A and O2B
	Switched on - closed contacts O2A and O2B
I1 (input 1)	Switched off - voltage 0 – 2 V between I1 and GND
	Switched on - voltage 4,5 – 20 V between I1 and GND
I2 (input 2)	Switched off - voltage 0 – 2 V between I2 and GND
	Switched on - voltage 4,5 – 20 V between I2 and GND
I3 (input 3)	Switched off - voltage 0 – 2 V between I3 and GND
	Switched on - voltage 4,5 – 20 V between I3 and GND
I4 (input 4)	Switched off - voltage 0 – 2 V between I4 and GND
	Switched on - voltage 4,5 – 20 V between I4 and GND

CONTROL

Control tasks – control via mobile phone of GSM Key connected to the gate electric drive - drive for closing / opening gate doors, gateways and pikes – is quite easy. The Device is operating in one of two Operating modes (Continual evaluation / Late evaluation). The selected operating mode affects slightly the procedure of GSM Key control. The operating mode has been one-shot set by administrator, reflecting the particular mode features and its suitability to be used for given conditions (see section ADMINISTRATION).

In which way the operation modes differ?

*In the mode **Continual evaluation** you can open by a single call both entrances in the sequence they have been entered, without the necessity to break your calling. Initial setting of the Device will close the output No. 1 after the first ringing signal and do the same for the output No. 2 after receiving the 3rd ringing signal. If you end the call between the 1st and 3rd ringing signal, only entrance No. 1 will open. If you end the call after the 3rd ringing signal, both entrances will open.*

*In the mode **Late evaluation** you can open the entrance as saved in the output No. 1, without opening during one call also the entrance of the output No. 2. To open both entrances you will need two calls to GSM Key. Provided the call is ended between the 1st an 3rd ringing signal, only the entrance of the output No. 1 will open. Provided the call is ended after the 3rd ringing signal, only the entrance of the output No. 2 will open. To open both entrances you will have to end the call between the 1st and 3rd ringing signal (closing output relay of the output No. 1) and make another call with more than 3 ringing signals (closing output relay of the output No. 2).*

CONTROL IN OPERATING MODE CONTINUAL EVALUATION

1. Store in call list of your mobile the phone call No. of SIM card having been installed in GSM Key and name it in a suitable manner (e.g. GSM Key). Provided your mobile phone will allow it, select the function of accelerated dialing – by pressing and holding one of selected keys you will activate GSM Key.
2. To open / close the gate, select in your call list the name GSM Key and pushing the key you will select the call. Provided you have set the function of speedy dialing, you can select the call (i.e. order to open / close the gate given) by a mere pushing and holding (ca. 1 sec.) the selected key.
3. Following the first ringing signal the relay of output 1 will close, giving signal to electric drive to open / close the entrance No. 1
4. Following the 3rd ringing signal the relay of output 2 will close, giving signal to electric drive to open / close the entrance No. 2.
5. Following the 5th ringing signal the call will be cancelled and ended. The above-specified number of ringing signals is the initial setting that can be changed and set to meet your own needs.

CONTROL IN OPERATING MODE LATE EVALUATION

1. Store in call list of your mobile phone the call No. of SIM card having been installed in GSM Key and name it in a suitable manner (e.g. GSM Key). Provided your mobile phone will allow it, select the function of accelerated dialing – by pressing and holding one of selected keys you will activate GSM Key.
2. To open / close the gate, select in your call list the name GSM Key and pressing the key you will select the call. Provided you have set the function of speedy dialing, you can

select the call (i.e. order to open / close the gate given) by a mere pushing and holding (ca. 1 sec.) the selected key.

3. Provided you wish to open / close the entrance No. 1, hang up before the end of the 3rd ringing signal. Following end of the call, the relay of output 1 will close, giving signal to electric drive to open / close the entrance No 1.
4. Provided you wish to open / close the entrance on output No. 2, hang up after the end of the 3rd ringing signal. Following end of the call, the relay of output 2 will close, giving signal to electric drive to open / close the entrance No. 2.

Permanent change of output status

By sending the order you will switch permanently status of binary output, switching from log. 0 to logical 1 or vice versa (open/closed or switched on/switched off). Connected to the binary output is electrical drive, controlling the entrance gate; you are free to connect another equipment to be remotely controlled (e.g. pump. electric drive of window-blinds, heat source). The order Change of binary output status (by SMS) has principally the same effect like ringing signal of GSM Key; the only difference is duration of the ordered effect. While ordering via ringing signal switches the state of logical state for the set time period (1 second – see parameter ImpulseRings), the SMS ordering will make the status switch permanent. The ringing signal and ensuing short change of logical state are suitable for devices that are triggered by a short signal (e.g. starting electric drives), use of SMS message and ensuing permanent change of logical state are suitable for, e.g. turning on pump or heating.

Write SMS like the following one:

SET OUT[1-2]=value

and mail it.

Example: SET OUT[1-2]=0

Value: 0 = switch off
1 = switch on

Status of input

By sending the message you will obtain information of the binary inputs status. The Device GSM Key contains two binary inputs and makes it possible to mail SMS massage on the Device status or the information provided by sensor as connected to the input. (Connected to the input can be devices operating on the principle of a potential less switch. E.g. in cases of electrical drives equipped with position identification it is possible to transfer to mobile phone the information if the gate is open or closed.)

Write SMS like the following one

GET IN[1-4]

and mail it.

Example: GET IN1

Table 6: Summary of basic control – mobile phone

Meaning	R/W/WR**	Order	Values description	Initial value
Permanent change Output Status	**W**	**SET OUT[1-2]=0**	**0 = switch off 1 = switch on**	**-**
Status of binary input	**R**	**GET IN[1-4]**	**-**	**-**

ADMINISTRATION

Administration of GSM Key HOME is remotely performed using mobile phone by mailing SMS messages including orders in the below-specified form. The authorization to administer in GSM Key is restricted solely to the representative of administrator. In practice it means the call number as saved in SIM card in GSM Key with the name starting with key word Master (the number of administrator is SIM card number in administrator mobile phone.

Text of SMS message must comply with the specified form (exact formulation of orders, the text spacing, etc.). The orders mailed as SMS messages consist of the order, parameter (if included in the order) and the value (if required by the order). One single SMS message can contain more orders that must be mutually separated by semicolons ";".

Orders setting and entering will be performed immediately after SMS message has been received, while respecting its original sequence of information as received. Some orders are responded back 1 or more SMS messages, either confirmative or containing the required information. To simplify the routine of SMS correspondence, we recommend to save in your mobile phone the templates of more frequented orders. SMS message is mailed to the call number of SIM card having been saved in the call list of GSM Key.

Basic administration – mobile phone

Basic administration contains a set of orders to change basic configurations of GSM Key and administration of users.

Adding a new user

By mailing your order you will add to the call list in SIM card of GSM Key another user entitled to control the entrance. Will you write SMS in the following form.

ADD name number

and mail it to the call number of GSM Key.

Example: ADD Novak +420606123456

Deleting user out of call list

By mailing your order you will delete out the user of the call list in SIM card of GSM Key.
Will you write SMS message in the following form.

DEL name

and mail it off.

Example: DEL Novak

Current list of users

By mailing off the order LIST you will obtain currently valid call list in SIM card of GSM Key.
Will you write SMS message in the following form

LIST

and mail it off.

In response you will receive a corresponding number of SMS messages in the form name1:number1 name2:number2, etc. The number of incoming SMS is subject to extent of the call list and names length. One SMS message contains at least 6 users.

Deleting call list

By mailing off the order CLEAR you will delete all the content of call list in SIM card. Make sure you have the call list backed up or that you will not need it any more.

Will you write SMS message in the following form

CLEAR

and mail it off.

Using the order CLEAR you will delete all items of the call list, including those of administrator's MASTER. Having deleted the call list you lose the control of the situation – of the persons who are authorized to use GSM Key.

Number of items of call list as saved in SIM card

By mailing off the order GET you will obtain the information of number of call list items in SIM card.

Will you write SMS message in the following form

GET PBS

and mail it off.

Initial setting

By mailing off the order DEFAULTS you will restore the initial setting of GSM Key. Content of the call list in SIM card will remain there.

Will you write SMS message in the following form

DEFAULTS

and mail it off.

Operational mode

The device GMS Key can run in one of the operation modes – Continual evaluation or Late evaluation. The operation mode decides of the manner to evaluate number of ringing signals. The mode selection influences the procedure in which the user should proceed to open/close the entrance.

Will you write SMS message in the following form

SET OUTLateEval=value

and mail it off.

Example: SET OUTLateEval=0

Value: 0 = Continual evaluation
1 = Late evaluation

Initial setting: 0

Verifying of Operation mode value

By mailing off the order you will receive its current value.

Will you write SMS message in the following form

GET OUTLateEval

and mail it off.

Number of ringing signals

By mailing off the order you will specify number of ringing signals, after which the relay of particular output will close. Settings for both operation modes are identical. However, the respective GSM Key functions will differ, subject to the selected operation mode (see *In which way the operation modes differ*?).

Number of ringing signals in operation mode Continual evaluation

Will you write SMS message in the following form

SET OUT[1-2]ImpulseRings=value

and mail it off.

Example: SET OUT1ImpulseRings=2

Value: 0 = closing of the given output immediately after the link has been gained.
1 to x = closing the given output, subject to number of received ringing signals

Initial settings: output No. 1 = 1
output No. 2 = 3

Number of ringing signals in operation mode Late evaluation

Will you write SMS message in the following form

SET OUT[1-2]ImpluseRings=value

and mail it off.

Example: SET OUT1ImpulseRings=2

Value: 0 = closing of the given output immediately after the link has been gained
1 to x = closing the given output, subject to number of received ringing signals

Initial settings: output No. 1 = 1
output No. 2 = 3

Verifying the value of Number of ringing signals

By mailing off the order you will obtain the current value.

Will you write SMS message in the following form

GET OUT[1-2]ImpulseRings

and mail it off.

Example: GET OUT1ImpulseRings

In which way the operation modes differ?

*In the mode **Continual evaluation** you can open by a single call both entrances in the sequence they have been entered, without the necessity to break your calling. Initial setting of the Device will close the output No. 1 after the first ringing signal and do the same for the output No. 2 after receiving the 3rd ringing signal. If you end the call between the 1st and 3rd ringing signal, only entrance No. 1 will open. If you end the call after the 3rd ringing signal, both entrances will open.*

*In the mode **Late evaluation** you can open the entrance as saved in the output No. 1, without opening during one call also the entrance of the output No. 2. To open both entrances you will need two calls to GSM Key. Provided the call is ended between the 1st an 3rd ringing signal, only the entrance of the output No. 1 will open. Provided the call is ended after the 3rd ringing signal, only the entrance of the output No. 2 will open. To open both entrances you will have to end the call between the 1st and 3rd ringing signal (closing output relay of the output No. 1) and make another call with more than 3 ringing signals (closing output relay of the output No. 2).*

Canceling incoming call

By mailing off the order you will specify number of received ringing signals, after which the incoming call will be automatically cancelled.

Will you write SMS message in the following form

SET CallHangUpRings=value

and mail it off.

Example: SET CallHangUpRings=4

Value: 0 = switched off
1 to x = number of received ringing signals

Initial setting: 5

Verifying the current value of Canceling incoming call

By mailing off the order you will obtain the current value.

Will you write SMS message in the following form

GET CallHangUpRings

and mail it off.

Firmware version

By mailing off the order you will obtain the information of the firmware version as stored in GSM Key. This information can be important to solve technical problems and to communicate with the line of technical support.

Will you write SMS message in the following form

GET FW

and mail it off.

Table 7: Summary of basic administration – mobile phone

Meaning	R/ W/ WR **	Order	Values description	Initial value
Adding a new user	W	ADD name number	User's name and number	-
Deleting user	W	DEL name	User's name	-
Current list of users	R	LIST	-	-
Deleting call list	W	CLEAR	-	-
Number of items in call list	R	GET PBS	-	-
Initial settings	W	DEFAULTS	-	-
Operational mode	W R WR	SET OUTLateEval=value** GET OUTLateEval SETC OUTLateEval=value**	0 = Continual evaluation 1 = Late evaluation	0
Number of ringing signals /Continual evaluation	W R WR	SET OUT[1-2]ImpulseRings=value** GET OUT[1-2]ImpulseRings SETC OUT[1-2]ImpulseRings=value**	0 = switched off 1 to x = number of received ringing signals	OUT1= 1 OUT2= 3
Number of ringing signals /Late evaluation	W R WR	SET OUT[1-2]ImpulseRings=value** GET OUT[1-2]ImpulseRings SETC OUT[1-2]ImpulseRings=value**	0 = switched off 1 to x = number of received ringing signals	OUT1= 1 OUT2= 3
Canceling call	W R WR	SET CallHangUpRings=value GET CallHangUpRings SETC CallHangUpRings=value	0 = switched off 1 to x = number of received ringing signals	5
Firmware version	R	GET FW	-	-
*R/W/RW:	W – Ordering (Out coming SMS) R – Verifying (Out coming and incoming SMS) WR – Ordering & verifying (Out coming and incoming SMS)			
**[1-2]	[1-2] – to select No. of input/output, e.g. GET IN2 for order GET IN[1-2]			

Advanced administration – mobile phone

Function of Advanced administration enables adjusting GSM Key behavior in such a manner so that it can be suitable for and communicate with control units of all available and known types of electric drive. Moreover, to enable automatic sending of required data, following its evaluation of status of individual inputs.

Pulse length

By sending off the order you will specify the length of pulse as generated at the output. The pulse length is an important parameter and is set, subject to the type of control unit of electrical drive. Will you select the value following recommendation of manufacturer of electrical drive, regarding time span needed to press the pushbutton. The initially set value (1 second) is sufficient for most of electrical drives.

Will you write SMS message in the following form

SET OUT[1-2]ImpulseLength=value

and send it off.

Example: SET OUT1ImpulseLength=2
Value: integer, in seconds
Initial setting: Output No. 1 = 1 second
Output No. 2 = 1 second

Verifying the value Pulse length

By sending off the order you will obtain the current value.

Will you write SMS message in the following form

GET OUT[1-2]ImpulseLength

and send it off.

Example: GET OUT1ImpulseLength

Table 8: Summary of advanced administration

Meaning	R/W/ WR**	Order	Values description	Initial value
Pulse length	W R WR	SET OUT[1-2]ImpulseLength=value GET OUT[1-2]ImpulseLength= value SETC OUT[1-2]ImpulseLength= value	Integer in seconds	OUT1=1 OUT2=2

Advanced administration, automatic sending information – mobile phone

Automatic sending information

Both versions of GSM Key (HOME / PRO) offer the possibility of connecting and switching other equipment (e.g. heat source or a pump) via mobile phone, as well as sending back verification information (e.g. security system EZS or pump switched on or sensor information); these activities can be performed by means of SMS or by ringing signal of your mobile phone. Some applications require automatic mode of conveying (e.g. activation of security alarm, turning on pump as a result of exceeding specified level, exceeding minimum temperature, etc.). In such cases it is necessary so that the equipment itself, after the specified condition has been met, will send SMS of give ringing signal to the user's mobile phone.

Setting the function of automatic sending information

The following instructions are used to set the function of automatic sending information; they are intended for the user advanced in programming. The prerequisite to attain proper operation of automatic sending information is to specify a few "variables" – type of action (calling, sending SMS) to be performed after specified conditions have been met at inputs and outputs, selecting group of receiving users, the addressees/recipients of the action, activation conditions for particular situation during the Device running (change of input electrical signal) and when switching on the Device, texts of SMS messages to be sent to users, etc.

Action

By sending off the order you will specify the Action (sending SMS, calling), which should be performed at the moment of meeting the activation condition for a given input.

Will you write SMS message in the following form

SET IN[1..4]Action=value

and send it off.

Example: SET IN1Action=1

Value: 0 = to send SMS
1 = to call
2 = to send SMS and to call

Initial setting: 0

Verifying the value of Action

By sending off the order you will obtain the current value.

Will you write SMS message in the following form

GET IN[1..4]Action

and send it off.

Example: GET IN1Action

User – Action recipient

By sending off the order you will specify the group of users, who will be receivers of Action, having been activated at the given input.

Will you write SMS message in the following form

SET IN[1..4]UserName=value

and send it off.

Example: SET IN1UserName=1

Value: Key part of name as included in the call list

Initial setting: -

Verifying the value User – Action recipient

By sending off the order you will obtain the current value.
Will you write SMS message in the following form

GET IN[1..4]UserName

and send it off.

Example: GET IN1UserName

Text SMS – input log. 1

By sending off the order you will specify text of SMS message that will be sent if the input signal reaches state of log. 1. The value of text must not be spaced (e.g. correct is: PumpSwitchedOn, while incorrect is: Pump Switched on)

Will you write SMS message in the following form

SET IN[1..4]SMS1=value

and send it off.

Example: SET IN1SMS1=HeatingSwitchedOn
Value: text SMS
Initial setting: -

Verifying the value Text SMS – input log. 1

By sending off the order you will obtain the current value.
Will you write SMS message in the following form

GET IN[1..4]SMS1

and send it off.

Example: GET IN1SMS1

Text SMS – input log. 0

By sending off the order you will specify text of SMS message that will be sent if the input signal reaches state of log. 0. The value of text must not be spaced (e.g. correct is: PumpSwitchedOn, while incorrect is: Pump Switched on)

Will you write SMS message in the following form

SET IN[1..4]SMS0=value

and send it off.

Example: SET IN1SMS0=HeatingTurnedOff
Value: text SMS
Initial setting: -

Verifying the value Text SMS – input log. 0

By sending off the order you will obtain the current value.
Will you write SMS message in the following form

GET IN[1..4]SMS0

and send it off.

Example: GET IN1SMS0

Number of attempts to send off SMS

By sending off the order you will specify maximum number of sending off attempts. Failure to send off the SMS during these attempts will mean canceling the failed SMS.

Will you write SMS message in the following form

SET SendRetry=value

and send it off.

Example: SET SendRetry=3
Value: 0 = switched off
1 to x = number of attempts to send off SMS
Initial setting: **1**

Verifying the value Number of attempts to send off SMS

By sending off the order you will obtain the current value.
Will you write SMS message in the following form

GET SendRetry

and send it off.

Activation condition on run

By sending off the order you will specify activation condition that must be met to trigger the Action. The Device will monitor continuously both binary inputs. In case the value of condition is fulfilled (e.g. the change is detected), the Action will be performed.

Will you write SMS message in the following form

SET IN[1..4]TriggerRun=value

and send it off.

Example: SET_IN1TriggerRun=1

Value: **0 =** switched off – if 0-value is specified, the Device will not evaluate fulfilling the activation condition. It implies the latter will be never met, thus no Action will be performed

1 = ascending border – the Device will respond to input change from the level log. 0 to log. 1

2 = descending border – the Device will respond to input change from the level log. 1 to log. 0

3 = any border – the Device will respond to any input change

Initial setting: output No. 1 = 0
output No. 2 = 0

Verifying the value Activation condition on run

By sending off the order you will obtain the current value.

Will you write SMS message in the following form

GET IN[1..4]TriggerRun

and send it off.

Example: GET IN1TriggerRun

Power up Activation condition

By sending off the order you will specify activation condition that must be met during switching on, to trigger the Action. Following its switching on the Device will check both binary inputs. Provided the specified condition has been fulfilled, the Device will perform the Action.

Will you write SMS message in the following form

SET IN[1..4]TriggerStart=value

and send it off.

Example: SET IN1TriggerStart=1

Value: **0 =** switched off – if 0-value is specified, the Device will not evaluate fulfilling of the activation condition. It implies the latter will be never met, thus no Action will be performed

1 = log. 1 level – the Device will respond provided during switching on the level of log. 1 has been found at the given input

2 = log. 0 level – the Device will respond provided during switching on the level of log. 0 has been found at the given input

3 = any logical level – the Device will respond provided during switching on the level of log. 1 or log. 0 has been found at the given input

Initial setting: input No. 1 = 0
input No. 2 = 0

Verifying the value Power up Activation condition

By sending off the order you will obtain the current value.

Will you write SMS message in the following form

GET IN[1..4]TriggerStart

and send it off.

Example: GET IN1TriggerStart

Activation condition on run / Power up Activation condition
At the input sensor status change the Device actuates action (SMS sending, call ringing) according to activation condition. At common working ***an Activation condition on run*** *is applied.*
After power failure the input sensors status are verified and ***Power up activation condition*** *is evaluated.*

Time span of evaluation of input level – log. 1

By sending off the order you will specify time, for which the input signal of the given input must remain at the level of log. 1, to fulfill the activation condition and start the Action.

Will you write SMS message in the following form

SET IN[1..4]AttackTime=value

and send it off.

Example: SET IN1AttackTime=4
Value: time interval in seconds
Initial setting: input No. 1 = 0 seconds
input No. 2 = 0 seconds

Verifying the value Time span of evaluation of input level – log. 1

By sending off the order you will obtain the current value.

Will you write SMS message in the following form

GET IN[1..4]AttackTime

and send it off.

Example: GET IN1AttackTime

Time span of evaluation of input level – log. 0

By sending off the order you will specify time, for which the input signal of the given input must remain at the level of log. 0, to fulfill the activation condition and start the Action.

Will you write SMS message in the following form

SET IN[1..4]ReleaseTime=value

and send it off.

Example: SET IN1ReleaseTime=4
Value: time length in seconds
Initial setting: input No. 1 = 0 seconds
input No. 2 = 0 seconds

Verifying the value Time span of evaluation of input level – log. 0

By sending off the order you will obtain the current value.

Will you write SMS message in the following form

GET IN[1..4]ReleaseTime

and send it off.

Example: GET IN1ReleaseTime

Table 9: Summary of automatic sending information – mobile phone

Meaning	R/ W/ WR **	Order	Values description	Initial value
ACTION	W R WR	SET IN[1..4]Action=value** GET IN[1..4]Action SETC IN[1..4]Action=value	0 = send SMS 1 = call 2 = call and send SMS	-
User – the Action receiver	W R WR	SET IN[1..4]UserName=value GET IN[1..4]UserName SETC IN[1..4]UserName=value	Key part of name in call list	-
Text SMS – input log. 1	W R WR	SET IN[1..4]SMS1=value GET IN[1..4]SMS1 SETC IN[1..4]SMS1=value	-	-
Text SMS – input log. 0	W R WR	SET IN[1..4]SMS0=value GET IN[1..4]SMS0 SETC IN[1..4]SMS0=value	-	-
Number of attempts of sending off SMS	W R WR	SET INSendRetry=value GET INSendRetry SETC INSendRetry=value	0 = switched off 1 to x = number of attempts to send off SMS	1
Activation condition while Device running	W R WR	SET IN[1..4]TriggerRun=value GET IN[1..4]TriggerRun SETC IN[1..4]TriggerRun=value	0 = switched off 1 = ascending border 2=descending border 3 = any border	IN1=0 IN2=0
Activation condition while Device switched on	W R WR	SET IN[1..4]TriggerStart=value GET IN[1..4]TriggerStart SETC IN[1..4]TriggerStart=value	0 = switched off 1 = level log. 1 2 = level log.0 3 = any level	IN1=0 IN2=0
Time of evaluation of input level – log. 1	W R WR	SET IN[1..4]AttackTime=value GET IN[1..4]AttackTime SETC IN[1..4]AttackTime=value	integer in seconds	IN1=0 IN2=0
Time of evaluation of input level – log. 0	W R WR	SET IN[1..4]ReleaseTime=value GET IN[1..4]ReleaseTime SETC IN[1..4]ReleaseTime=value	integer in seconds	IN1=0 IN2=0
*R/W/RW:	W – Specification (Go-SMS) R – Verification (Incoming and Go- SMS) WR – Specification and verification (Incoming and Go- SMS)			
**[1..4]	[1..4] – to select No. of input/output, e.g. GET IN2Action for order GET IN[1..4]Action			

RECOMMENDED ACCESSORIES

For properly functioning of GSM Key is recommended to use this accessories:

Antenna GSM Stick 180°, Dual-band, 2 dB, FME
Order code: AO-AGSM-FMEV

Antenna GSM Adhesiv 25, Dual-band, 2,5 dB, FME
Order code: AO-AGSM-SA1F

Antenna GSM Magnetic 30, Dual-band, 3 dB, FME
Order code: AO-AGSM-MG3F

Antenna GSM Magnetic 50, Dual-band, 5 dB, FME
Order code: AO-AGSM-MG5F

Antenna GSM Magnetic 90, Dual-band, 9 dB, FME
Order code: AO-AGSM-MG9F

Power supply 12 V / 1250 mA, connector RJ12
Order code: AM-67-POWR

Telecommunication distribution box Q50
Order code: AO-TECO-Q50

Backup inteligent battery BP
Order code: AM-35T-BPACK

Picture register

Table register