

## GSM DOOR PHONE / GATE OPENER



*GSM DoorPhone* is an intercommunication device which calls to your mobile phone. The device has two relays, controlled using DTMF signals, to control for example door locks and garage doors. The device utilizes separate units for the GSM module and user interface (*GSM DoorPhone* device only). Recommended panel is Acet-Tonna panel Nuance. GSM Unit is compatible with Acet-Tonna 1+n and 4+n-systems. It is connectable to large scale door entry systems, also existent system.

### POWER

The device can be powered through USB port or by using an external 8-24 volts AC or DC power supply. (6-24 VDC, 16-24 VAC.) The power supply should be capable of providing a peak current of 2 A (1A@12VDC/0,5A@24VDC).

### INSTALLING

Do not have the SIM card inserted into the device when setting it up. If your computer is not capable of delivering enough power to the device, malfunctions can occur. Compatible with USB2, but we recommend use USB3. Also we recommend use as short programming cable as possible.

Connect the device to your computer and wait for Windows to find the device. The *GSM DoorPhone* is a HID (Human Interface Device) device, such as mouse or keyboard, so no special drivers are required.

### CONFIGURATION USING THE WINDOWS SOFTWARE

The *GSM DoorPhone* can be configured using the Windows software *DoorPhone.exe*. Before reading the present values or sending any new settings, wait for the red LED of the device to switch off. When the red LED has switched off and the green LED is blinking, the device is initialized and ready for operating. The features of the software are presented in chapter CONFIGURATION SOFTWARE.



## QUICK INSTALLATION STEPS

1. Connect HBG GSM main unit to computer using USB-cable and wait Windows find it. USB cable is micro-USB, typically used in all mobile phones, so user can find cable easy.
2. In first-time programming press "Reset factory default". Existing installs press "Read Values".
3. Set call number #0 "Numbers to call", and "1<sup>st</sup>". Please remember 2<sup>st</sup> and 3<sup>st</sup> are backup numbers. Click "Set", and number(s) are programmed to unit. Call number #0 is RJ-connector signal "Button".
4. Set "Relay functions", "Relay 1", "Activating number". Set any number. This is door open key during gsm conversation. Click "Set" and value(s) are programmed to unit.
5. Click "Rear panel" and set IN1, 2, 3 and I/O. This four are call numbers #1, #2, #3 and #4. Click "Set" and value(s) are programmed to unit.
6. Close program and remove gsm unit.
7. In field install attach antenna to antenna connector, connect steady power supply, connect outdoor panel as separate install schema show.

8.

## CONFIGURATION SOFTWARE

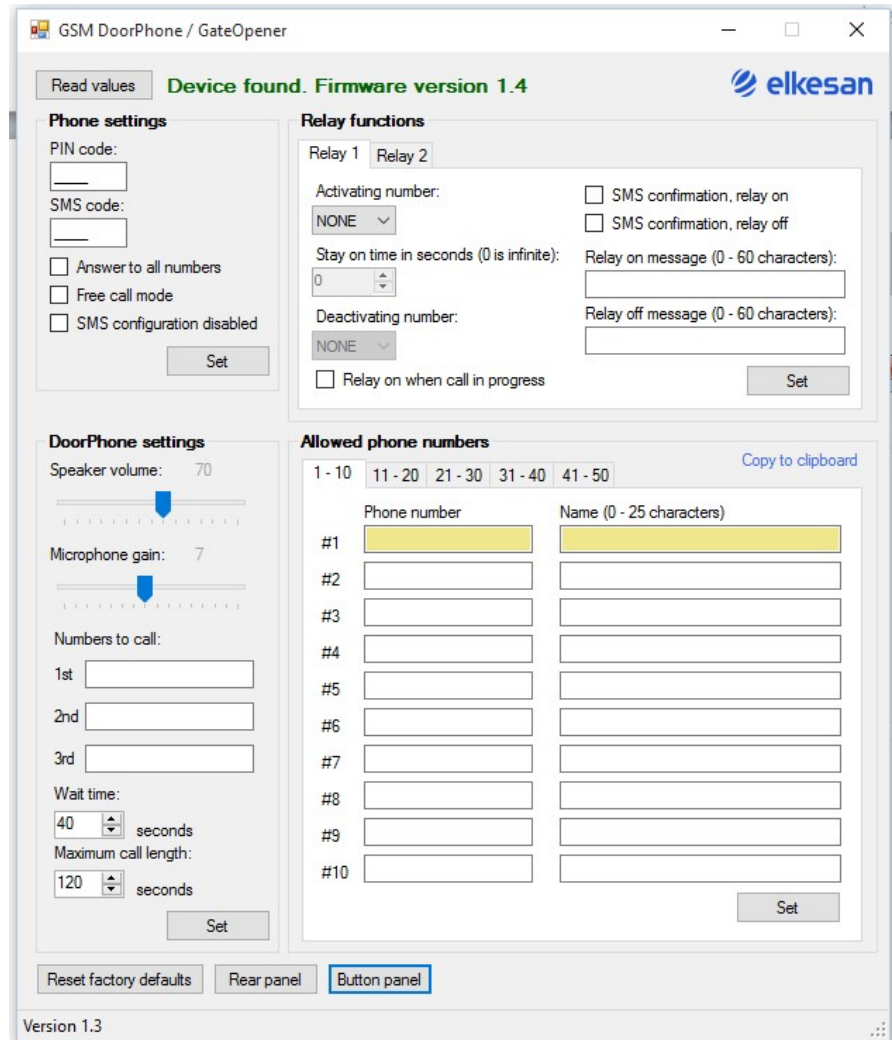


Figure 1: The *DoorPhone.exe* software is used to configure the device.

- Read values:** Read the current configuration parameters from the device. First install please use “reset factory default”, existing install start programming always using “Read Values”.
- Set:** Write the new configuration parameters to the device. **Only the parameters inside the same group box with the “Set” button are send to the device.**
- PIN code:** The PIN code of the inserted SIM card. The factory default pin code in this device is 1234. Please refer your SIM card manual, some operators use also 0000.

Answer to all numbers:	If checked, the <i>DoorPhone</i> will answer to every call received.
Free call mode:	Switch the free call mode on/off. In free call mode the device does not answer to any calls. When a call is received from one of the allowed numbers the device activates the relay 1 for the stay on time and toggles the state of the relay 2.
SMS configuration disabled:	Disable the device configuration through SMS. By default the SMS configuration is enabled.
Speaker volume:	Volume level of the speaker of the outdoor unit. The minimum level is 30 to ensure the operation of DTMF tones controlling the relays.
Microphone gain:	The gain level of the microphone of the outdoor unit.
Numbers to call:	The numbers to call when the button of the outdoor unit is pressed. If the 1 <sup>st</sup> number does not answer or hangs the call, the 2 <sup>nd</sup> number will be tried. If the 2 <sup>nd</sup> number does not answer or hangs the call, the 3 <sup>rd</sup> number will be tried.
Wait time in seconds:	The time to wait for an answer between successive calls.
Rear panel:	Advanced options are used to configure the rear panel connector input and outputs.
Button panel:	Additional button panel call options.
Reset factory defaults:	Load the factory defaults configurations to the device.
Activating number:	Pressing the corresponding number in your mobile phone keypad will activate the relay. The default activation number for the relay 1 is 1. For the relay 2, the default activation number is 2. Symbols # and * are not selectable. Pressing # will activate and pressing * deactivate the audio amplifier of the device.
Stay on time:	The stay on time for the relay. After the stay on time the relay will be switched off. 0 stay on time will keep the relay on until deactivating button is pressed, hanging the call will not deactivate the relay. The maximum stay on time in seconds is 65 535.
Deactivating number:	By pressing the corresponding number in your mobile phone keypad will deactivate the relay. The relay will be switched off after the stay on time has expired or

by pressing the deactivating number in your keypad. The default deactivation number for the relay 1 is 3. For the relay 2, the default activation number is 4. Symbols # and \* are not selectable. Pressing # will activate and pressing \* deactivate the audio amplifier of the device.

**SMS confirmation:** By selecting the SMS confirmation check box, a corresponding confirmation text message will be sent to the allowed phone number #1 (text boxes with khaki background color), when relay status is changed. If you have defined a relay stay on time other than 0 seconds, a relay off confirmation text message will not be sent when the relay is auto switched off.

**Relay on message:** The message which will be sent to the allowed phone number #1, when the relay is switched on. The maximum length for the message is 60 characters.

**Relay off message:** The message which will be sent to the allowed phone number #1, when the relay is switched off. The maximum length for the message is 60 characters.

**Allowed phone numbers:** The *GSM DoorPhone* device will answer to these phone numbers.

## CONFIGURATION USING SMS MESSAGES

The *GSM DoorPhone* can be configured also by sending SMS messages to the device. Below are listed the configuration messages and examples of the use. The configuration message has to be started and terminated with # mark. Please remember, programming commands are case sensitive.

Message	Description	Example
#A1SET#	1 <sup>st</sup> phone number to call	#A1SET#1234#0501234567#
#A2SET#	2 <sup>nd</sup> phone number to call	#A2SET#1234#0501234568#
#A3SET#	3 <sup>rd</sup> phone number to call	#A3SET#1234#0501234569#
#BSET#	Pin code	#BSET#1234#1234#
#CSET#	Volume level between 30-100	#CSET#1234#70#
#DSET#	Relay 1 activating number (0 – 9)	#DSET#1234#1#
#ESET#	Relay 1 stay on time in seconds	#ESET#1234#5#
#FSET#	Relay 1 deactivating number (0 – 9)	#FSET#1234#2#
#GSET#	Relay 1 SMS confirmation, relay on (0 - off, 1 – on)	#GSET#1234#0#
#HSET#	Relay 1 SMS confirmation, relay off (0 - off, 1 – on)	#HSET#1234#0#
#ISET#	Relay 2 activating number	#ISET#1234#3#

(0 – 9)		
#JSET#	Relay 2 stay on time in seconds	#JSET#1234#30#
#KSET#	Relay 2 deactivating number (0 – 9)	#KSET#1234#4#
#LSET#	Relay 2 SMS confirmation, relay on (0 - off, 1 – on)	#LSET#1234#0#
#MSET#	Relay 2 SMS confirmation, relay off (0 - off, 1 – on)	#MSET#1234#0#
#NSET#	Answer mode (0 – answer to allowed numbers only, 1 – free call mode, 2 – answer to all numbers, 3 – free call mode + answer to all numbers)	#NSET#1234#0#
#OSET#	Microphone gain level between 0 - 15	#OSET#1234#7#
#PSET#	Call wait time in seconds (10 – 250 s)	#PSET#1234#40#
#QSET#	SMS configuration code	#QSET#1234#4321#
#RSET#	Maximum call length in seconds (0 – 255 s)	#RSET#1234#120#
#SSET#	Relay 1 call control (0 – no call control, 1 – on when call in progress)	#SSET#1234#1#
#TSET#	Relay 2 call control (0 – no call control, 1 – on when call in progress)	#TSET#1234#1#
#USET#	Enable the optional button panel for up to 255 buttons. (0 – disabled, 1 – enabled)	#USET#1234#1#
#AAxxSET#	White list number and name xx. Example for number and name 12.	#AA12SET#1234#0507654321,Test User#
#AAxxSET#	White list number xx. Example for number 2.	#AA2SET#1234#0507654321#
#OUT1ON#	Set output 1 to 5 V	#OUT1ON#1234#
#OUT1OFF#	Set output 1 to 0 V	#OUT1OFF#1234#
#OUT2ON#	Set output2 to 5 V	#OUT2ON#1234#
#OUT2OFF#	Set output 2 to 0 V	#OUT2OFF#1234#
#RELAY1ON#	Set the relay 1 on	#RELAY1ON#1234#
#RELAY1OFF#	Set the relay 1 off	#RELAY1OFF#1234#
#RELAY2ON#	Set the relay 2 on	#RELAY2ON#1234#
#RELAY2OFF#	Set the relay 2 off	#RELAY2OFF#1234#

## REAR PANEL CONNECTORS

The rear panel connector extends the features of the device.

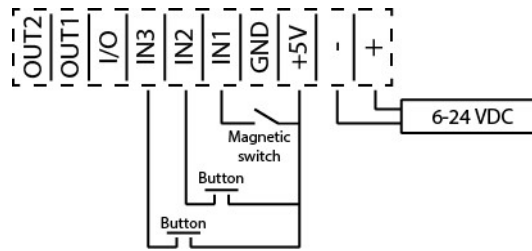


Figure 2. An example rear panel connection to add a magnetic switch, two push buttons, and an external power supply to the device.

The device can be powered using an external 6-24 VDC power supply by connecting the power supply to the plus and minus connectors of the rear panel. The rear panel has also inputs and outputs to add signal sources or to control external devices. The input connectors accept 5 volts logic input signal. The output connectors are open collector outputs, meaning that at low level the outputs are current sinks and at high level they are open collectors.

The “Rear panel” button on the configuration software opens a dialog window to configure the inputs and outputs of the rear panel.

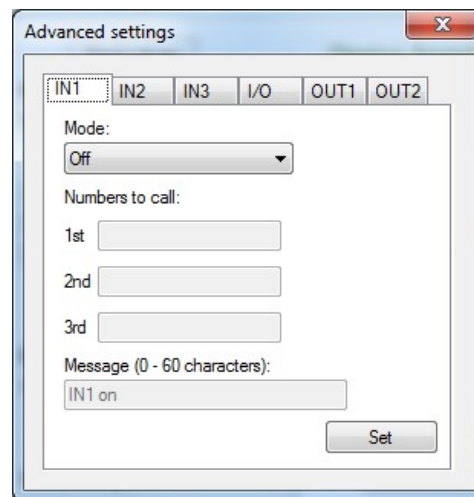


Figure 3. The “Rear panel” settings dialog can be used to configure the inputs and outputs of the rear panel connector.

Four extra buttons similar to the *GSM DoorPhone* outdoor unit button or other signals such as magnetic switches can be connected to the inputs IN1-3 and I/O. The inputs can be activated on the rising or falling edge of the signal. In addition to calling option the inputs can be configured to send an SMS message, when a signal is detected.

The outputs OUT1 and OUT2 can have a steady 0 V or 5 V, or they can be controlled using SMS messages. It is also possible to set the outputs to be 5 V or 0 V only when a call is in progress. The 5 V state of the output has been limited with a 1 kΩ pull-up resistor, so the output is not capable of feeding power. At the 0 V state the output acts as a current sink.

## LEDS

The device has a multicolor LED to indicate the status of the device.

**RED:** The device has not been initialized and is not ready to receive calls.

**GREEN:** The green LED will blink if the device is working properly and ready to receive calls.

**ORANGE:** The orange LED is on when the device is receiving a call or sending/receiving setting commands.

The device has also a blue LED to indicate the status of the network.

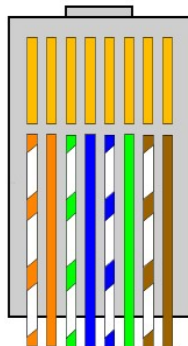
**Off:** Network module is not running

**64ms On/800ms Off:** The device not registered to the network. (Fast blinking)

**64ms On/3000ms Off:** The device registered to the network. (Slow blinking)

## USER INTERFACE INSTALLING (*GSM DOORPHONE ONLY*)

The device uses a normal RJ45 connector and Ethernet cable to connect the GSM unit and the outdoor unit. You can use a normal T568B type Ethernet cable and cut it to the required length to interconnect the indoor and outdoor units. The connection diagrams for T568B Ethernet cable and the outdoor unit are presented below, the clip of the RJ45 connector is pointing down. **Check the order and color of the wires in your cable! The order must be same as in the figure below!**



Color	Terminal	Function
Orange / white	1	Spk +
Orange	2	Spk -
Green / white	4	Mic +
Blue	-	-
Blue / white	7	Button signal
Green	3	Mic -
Brown / white	6	+5 V
Brown	5	Ground

Figure 4: The wire colors and the corresponding signals of T568B type Ethernet cable.



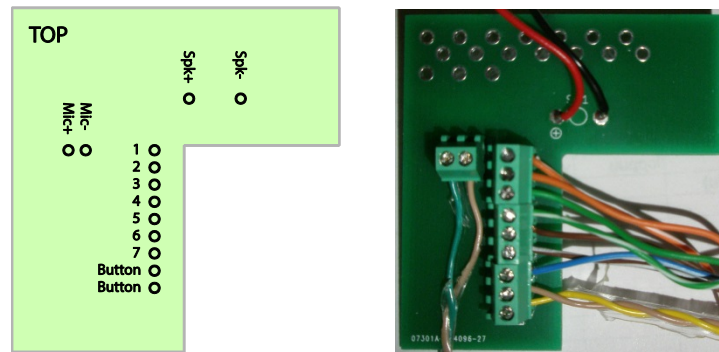


Figure 5: The connections of the outdoor unit.

There are 11 screw terminals in the outdoor unit which need to be connected according to the Figures 4 and 5. In Figure 5 the signals “Mic+” and “Mic-” are for the electret microphone of the outdoor unit, the polarity of the microphone wires has no influence. The signals “Spk+” and “Spk-” are factory soldered wires for the speaker and do not have screw terminals. Screw terminals 1-7 are connected according to the table in Figure 4. “Button” terminals are for the button of the outdoor unit, the polarity of the button wires has no influence.

There are no feed through for the Ethernet cable in the outdoor unit. You can drill a hole to the desired location of the unit depending on your installation.

The length of the cable between the indoor and outdoor units should be less than 5 meters. You can use longer cables, but the sound quality may degenerate.

If you want to install the *GSM DoorPhone* device to a custom place, it is not mandatory to use the outdoor unit. You can customize the installation and use any 4 or 8 ohm speaker, electret microphone, and push button. The audio amplifiers are in the GSM unit, so no active electronics are required at the outdoor side.

The push button works in such a way that when you push the button, +5 volts should be provided to the blue/white wire. If you use your own system and push button (closing type), the blue/white wire and the brown wire connector should be connected to the push button.

## GSM CALL OPTIONS

HBG Gsm call unit have five call numbers:

Call number #0 is RJ-connector “BUTTON”, in configuration software this is main window call number. In this option is possible use one main number and two backup number.

Call number #1...#3 are backpanel connectors IN1, IN2 and IN3. Configuration software “Advanced” “Mode” select function of the input. “Rising edge” is “when call button is pressed”, “Falling edge” when button is released. Also it is possible use input as SMS or CALL.

Call number #4 is bacpanel connector "I/O", and it can be use as IN1-3.

All this call input use common wire +5V. This +5V must be provided to RJ-connector blue/white-wire.

Backpanel connectors OUT1 and OUT2 are important in door entry systems. "ON When call in progress" can be use as activation of panel audio channel (as traditional door entry system handset hook switch").

Specifications	
<b>Input voltage (External)</b>	6-28 VDC/16-24VAC
<b>Maximum input current</b>	1A@12VDC/0,5A@24VDC
<b>Bands</b>	850/900/1800/1900 MHz
<b>Antenna</b>	SMA female, 50 Ω impedance
<b>Operating temperature</b>	0 – 50 °C
<b>Relays</b>	2 x SPST-NO (single-pole, single-throw, normally-open) max 100 V / 1 A
<b>Dimensions, GSM unit</b>	130 mm x 80 mm x 30 mm
<b>Dimensions, outdoor unit</b>	80 mm x 70 mm x 40 mm
<b>Weight, GSM unit</b>	250 g
<b>IP class</b>	21
<b>Supported operating systems</b>	Windows 7 / 8