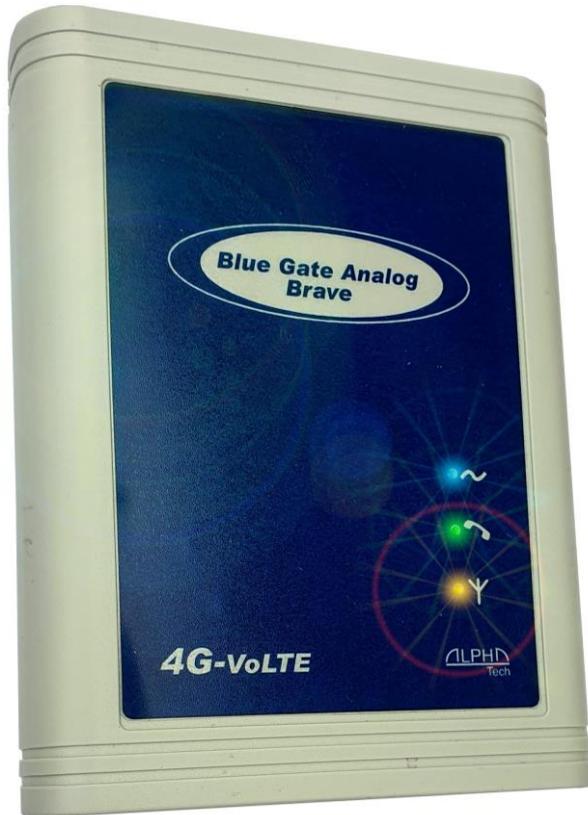


G S M G A T E

**Blue Gate A** *Brave 4G-VolTE*



**Installation and programming manual V 1. 2**

## Basic features:

BlueGate Analog Brave 4G VoLTE is a GSM gateway with Telit LE910C1 module, equipped with a large number of functions, that increase operator comfort. The gateway is designed for European 2G and 4G LTE networks.

- by connecting to your PBX, it allows all branches to make calls over the GSM network, incoming calls can use the DISA dialing;
- changing the polarity of the telephone line during a call allows the PBX to detect precisely the connection and termination of the connection.
- CLIP supporting the most wide-used standard;
- pseudotarification makes it possible to monitor the actual length of the call (1. tariff impulse up to the call collection by the counterparty);
- the signal at minute intervals in the call allows to distinguish the GSM connection from the normal call;
- USB 2.0 full speed interface for use as an LTE modem
- Simultaneous data transfer and voice connection on the LTE network
- Direct Call – automatically dial a number stored on the SIM as soon as the handset is picked up on the phone connected to the gateway
- SMS DTMF - possibility of sending DTMF codes via SMS (for setting up connected devices)

## Add-ons:

- USB port with supplied SMS-mail software allows sending SMS as e-mails, internet connection, etc.;
- Backup battery for up to 10 h of operation in the event of a power failure;



Insert the SIM card oriented as shown on the previous page and press to secure it in the working position. **We recommend that you check its status on any GSM phone before inserting the SIM card (switching on with PIN, or without PIN, PIN, etc.) and set them on without PIN. If you want to use PIN on, you must set this PIN when programming the gateway (see programming table). Without this setting, the gateway will not be in operation!**

**DON'T FORGET TO CONNECT THE ANTENNA!** Attach the gate to a suitable location. A suitable place for the gate should be selected according to several aspects:

- distance from the PBX – possibility of interference of other lines on the PBX by GSM radiation, but also the maximum possible length of the line from GSM gate to PBX (approx. 200 m)
- 230 V network availability to power GSM gateway
- GSM signal quality at the gate location (see below)

### **GSM signal quality required**

The sound quality of the connection depends very much on the BTS settings to which you are connected with your GSM gateway and on the phase shifts of the signal on the antenna, resulting from reflections from the surroundings. This phenomenon is known from the normal use of mobile phones, and especially from traffic in cars. It is recommended to try a different antenna location (due to the very small wavelength can help according to practice experience and displacement by only a decimeter). Since the device does not have a display with a signal strength indicator, you can use a mobile phone, flashing yellow LED on the panel (see table at the end of the instructions) or a computer connected to USB gateways and setting sw (see program manual). When searching for a suitable place, the strength of the signal does not matter so much as its "quality" (similar to "ghosts" in TV antennas). In case of failure, we recommend using a directional antenna for GSM, which largely eliminates reflections. The signal strength to function reliably is

usually sufficient yellow LED on the gate flashes at least 3 (see table at the end of the manual). But even here it depends on the BTS settings to which you are connected. We also encountered places where, with this signal strength, incoming calls were connected without any problem, but outgoing calls were rejected by BTS – BTS apparently "chose" requests with a stronger signal during busier traffic.

### **Connection of the "magnetic" (antennas with magnetic foot)**

When connecting the "magnetic" antenna to the gate, make sure that it is placed on a larger iron object. That object creates a so-called counterweight, the size of which depends, in particular, on the size of the radiant power.

If you have a SIM card inserted and all cables are connected (remember that the GSM gateway connects at the PBX to the state line entrance and not to the branch office), connect the device to the network. The blue „power“ LED lights up (see LED table) and the yellow GSM LED flashes in the beat of the busy tone. After about 30 sec. yellow LED starts flashing according to the strength of the GSM signal (see LED table again) - the device is ready for operation. When you lift the headphone on the connected analog phone or call the GSM gate from the PBX, the analog line light (green LED) lights up and you hear the GSM gateway dial tone in the headset. You can make phone calls.

### **Possible commissioning defects**

- None of the lights are on. Error in the power supply. Check the mains connection and the connection of the mains adapter to the gateway.
- The "power" LED account lights up, when the phone connected to the GSM gateway is picked up, the green LED lights up and there is a busy tone in the handset.

Malfunctioning communication between the module and the system processor — a faulty fixed communication speed for the GSM module may have been set when working with USB.

- The yellow LED flashes in the rhythm "cannot read the SIM", after calling the GSM gate, a busy tone is heard. The card requires a PIN, that is not programmed or is programmed another.
- The "GSM communication" light blinks briefly every two seconds, and when you call the GSM gate, a busy tone is heard. The gateway is not logged into the GSM network - there is not enough signal.
- The yellow LED flashes according to the signal strength, the green LED does not light up after picked up phone on GSM gate, there is silence in the hand set. Broken analog line supply or too much resistance in the loop (e.g. too long cable between the PBX and the gate).
- The yellow LED flashes according to the signal strength, but the green LED is on. The PBX holds the "picked up" GSM gate line. By calling this line, you will usually be able to fix the fault. Otherwise, follow the instructions for your PBX.
- The device is working, but the call is tinged with a growl. Improper placement of the antenna against one of the telephone lines into which the GSM broadcast is induced (e.g. car radios). It is necessary to test the mutual position or completely relocate.
- The device is working, but you can hear an "echo" in the call. The sound effect arises when the BTS channel to which you are connected is not completely correct impedance.

Notes.

To set all gateway parameters to factory, command 99 in programming mode (see table on page 11).

All variants of LEDs light and tones are in the appropriate tables at the end of the manual.

## **Voice connection on 4G - VoLTE**

In 4G networks, voice connection (telephony) is only possible with VoLTE (Voice over LTE) technology. The gateway automatically uses the highest possible available network, ie also VoLTE, if the operator allows it access. Some operators allow access automatically, for some it is unfortunately necessary to set access manually. In the case of manual settings, it is necessary to set the correct access point (APN) according to your network provider (for more details, see parameter programming). Settings are possible with GGset or remotely via SMS.

In which type of GSM network (2G / 4G) the gateway is registered is indicated by a change in character of flashing the yellow LED (at the antenna symbol) - see. table on page 26.

## **USB**

BlueGate A Brave 4G VoLTE can have up to 2(3) independent USB ports.

1) Built-in USB port is independent of other gateway activities. It is designed primarily for use as a USB LTE modem for data transmission, internet or SMS messaging. It can also be used for GGset, for setting up the gateway

To install an LTE modem for Windows 10:

- a) Connect the turned on gateway (logged into the GSM network) with the PC using a MiniUSB cable. Your PC must be connected to the Internet. Windows detects the connection of the new USB device and automatically installs the basic drivers.
- b) Install TelitModuleDriversx64 or TelitModuleDriversx86 (64bit or 32bit depending on your system) from the packaged CD or [alphatechtechnologies.cz](http://alphatechtechnologies.cz) pages. Windows creates (Settings, Network, and Internet) a mobile network to connect to the Internet (if SIM allows). In Device Manager, you can find 3 new serial ports in the Ports (COM and LPT) section: Telit Serial Diagnostics Interface, Telit NMEA Interface and Telit Serial SAP Interface. In the Modems section, 2 important Telit LE Family USB modem ports are added.
- c) If you need to set up serial ports for GGset or SMS messaging, go to one of the newly created modems in the Modems section of device manager, double-click to select it, and then set the com port and communication speed of 19200 Bd in the Properties.
- d) If you want to use the LTE gateway for your Internet connection, in Settings, Network and Internet, select Mobile Network and set up an access point (APN) according to your GSM connection provider.

2) The gateway can be equipped with a USB port, which is connected from the outside by a special cable to the path of the telephone line (see fig.). It is then possible to control directly the GSM module via the virtual COM port and monitor the operation of the gateway (log files for possible detection of problems). The gateway can thus be used as a regular GSM modem for data transmission, internet connection or SMS messages. This port is designed primarily for setting gateway parameters by GGset. It can also be used for sending SMS, checking the activity of the gateway (e.g., CLIP recording, incoming call times, signal strength ...), etc.

If the PC is operating with this port (after connecting to the computer), the gateway voice functions are blocked (unlike the USB ports from point1) during data transfers. After picking up the line, a busy tone is heard. The data transfers may not be continuous, so the gateway remains in data mode for 10 sec after the data flow ends.

On the other hand, the data connection is not blocked during telephony. The utility software must deal with this situation to avoid a collision between voice connection control and data.

It is therefore advisable to use the kind of utility software that copes with these rules (some types of software, for example, are still trying to communicate with the GSM module, thus completely preventing telephony). In such cases, it is preferable to use USB ports from point 1).

## PROGRAMMING parameters

There are 3 ways to program a gateway. From the connected phone, GGset setup program and via SMS messages.

### Programming with your phone:

The programming mode is set after dialing the confirmation character itself into the GSM gateway. There is a waiting tone in the handset. When you enter a password, the tone changes to the programming tone. Then you can program the individual parameters of the GSM gateway (see table on page 11)

Programming procedure:

- Enter the two-digit number of the programmed parameter.
- Enter one to four digits of the parameter value.
- Wait for the tone of the confirmation request (3 short tons).
- Confirm the parameter by inserting a confirmation character.
- Wait for the confirmation tone.
- The programming tone will be heard again.
- Hang up to exit programming mode.

### For example, program the next allowed prefix (02) into memory 9:

Dial the confirmation character (if you have factory-set parameters, look in the programming table to see that the character is "#"). In the handset you will hear (■—■—■—■—) Enter the password (factory set 0000). The tone in the handset changes to (■—■—■—). Dial 1902. Wait for the tone of the confirmation request (3 short tons). Confirm the parameter by entering a confirmation character (#). Wait for the confirmation tone (one long tone). Hang up to exit programming mode.

## Notes on individual parameters:

11-19 If you have a prefix set, the GSM gateway will only release numbers starting with those digits. For others, you will receive a busy tone. In this way, you can limit calls only to the necessary networks or directions and disable calls e.g., to the local telephone network (if you then have only one prefix set, and this does not exist - e.g. 0000 - all outgoing calls will actually be blocked and the gateway accepts only incoming calls). If all memory is empty, the numbers passing through the GSM gateway will not be limited in any way (factory preset). Prefix memories may not contain the full number of digits. If you enter only one digit (minimum), wait for the confirmation request, and confirm, the GSM gateway will check only that first digit. Others in the order can no longer be arbitrary.

Overwriting memory: Saving a new number to memory erases the old prefix.

Delete memory: Delete memory by saving "nothing". Enter only the memory number you want to delete, wait for the confirmation request, and confirm.

22 An important function is to set the confirmation character (the character that confirms the specified parameter speeds up the choice, switches to prog. mode...). From the factory, this character is preset to „#“. If the PBX uses this character in conjunction with its functions, you can change this character to "\*" (you may need to make a change without the PBX, with the phone connected directly to the gateway input).

32, 35 GSM phones require a command to connect to the inserted number. The GSM gateway sends this command either immediately after entering the confirmation character ("#") after the dialed number, or after the time set by parameter 32 (this is actually the time that the gateway waits for the next digit to dial). You can also set the number of digits (parameter 35) after

which the command is sent immediately. However, even in this case, you can call a shorter number (both the confirmation sign and the time limit are still in effect).

33 **Direct Call** - If 01 (the shortest time to wait for an option) is set, the "Baby Call" function is activated. You do not need to dial a phone number after collection. The phone number stored on the SIM card under the name DCALL is automatically dialed. You can save the number on the SIM either by directly entering the SIM into any mobile phone, by the GGset program (the "Phone Book list" tab) or remotely by SMS "WRITE DCALL xxxxxxxx" (xxxxxxx is a phone number) – see table

37 This parameter can be inserted (if necessary) immediately after switching on the gateway (Go to the programming mode in the capture tone – see note 3 below). Without programming it, a SIM card (PIN) might not be available.

Note:

1. The inserted parameter change is applied only after the suspension (end of programming mode). This is especially important for changing the confirmation character – until the confirmation is suspended, the old confirmation character must be used, not the newly set one.
2. After dialing the digits, you must always wait for the tone of the confirmation request, enter a confirmation character, and wait for the confirmation tone. If you enter a confirmation character earlier, it will not be accepted. When you then re-enter it on the tone of the confirmation request, the parameter will not be programmed.
3. You can also switch to programming mode in the cast tone (see parameter 37)
4. some parameters can only be programmed using the setting software on PC

# Programming table

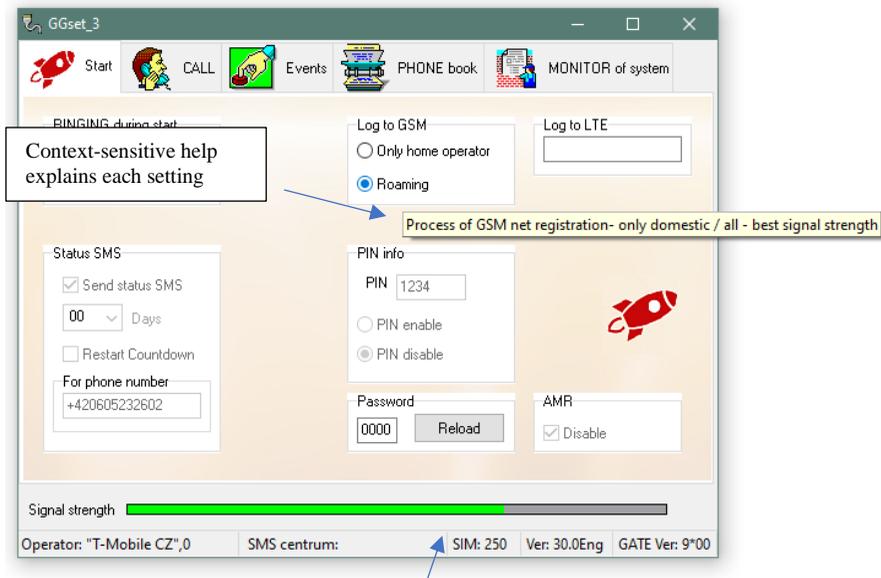
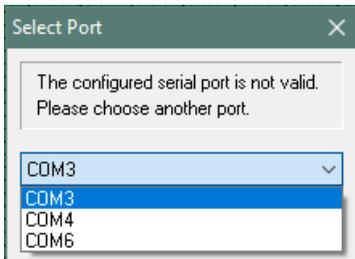
dialed nums.					function	default		
0	0	n	n	n	password nnnn to access programming	0	0	0
1	1	n	n	n	memory x for enabled nnnn prefix (1 to 4 digits)			
1	2	n	n	n				
1	3	n	n	n				
1	4	n	n	n				
1	5	n	n	n				
1	6	n	n	n				
1	7	n	n	n				
1	8	n	n	n				
1	9	n	n	n				
2	1	n			Change the polarity of a phone line when you make and end a call n = 0 - off function n = 1 - function on	0		
2	2	n			setting the "confirmation character" n = 0 - "#" n = 1 - "*"	0		
2	3	n			dial tone type n n = 0 - continuous tone n = 1 - dial tone according to tone table ("R") n = 2 - JTS dial tone ("A") n = 3 Silence	0		
2	5	n			call signaling - short tone in minute interval n = 0 - tone off n = 1 - tone on	0		
2	6	n			limiting call time n = 0 - no call time limit n = 1 - talk time limited to 10 minutes	0		
2	8	n			Outgoing DTMF INBAND/OUTBAND n = 0 - INBAND DTMF n = 1 - OUTBAND DTMF	0		
3	2	n	n		waiting for the last number of nn seconds (01 to 15) (at the end of the choice with the confirmation sign is broadcast immediately)	0	6	
3	3	n	n		waiting for the choice after picking up nn seconds (01 to 99) (at 00 unlimited wait) (at 01 Direct Call)	0	0	
3	5	n	n		number of digits dialed nn, after which immediately without waiting the option is sent to the module (length of phone number) nn = 00 - function disabled nn = 01-19 - number of digits phone number	0	0	
3	7	n	n	n	writing a PIN			
3	8	n			amplifying the call in the out-of-walk direction (1 to 4)	1		
3	9	n			CLIR – turn off phone number identification on an out-of-call call n = 0 - identification enabled n = 1 - identification disabled	0		
7	1	x	x	y	xx = 00 no tariffication xx = 12 tariff pulses 12 kHz xx = 16 tariff pulses 16 kHz	0	0	0

					yy = 00 only 1 pulse after connection yy = 01 - 99 - pulses every 01 to 99 seconds				
7	2	n			amplifying the call in the incoming direction (1 to 4)	1			
7	3	n			n = 0 CLIP is off n = 1 FSK CLIP Bell	1			
7	4	n			Call Progress Ton n = 0 nozzles off n = 1 trill on	0			
7	5	n			Roaming n = 0 roaming disabled n = 1 roaming allowed	1			
9	9				overwriting the current setting with preset values				

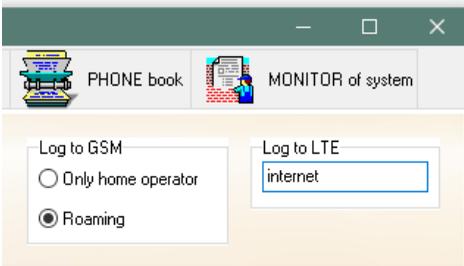
## Programming with GGset:

Connect the gateway to your PC using a MiniUSB cable. The gateway must be logged into the GSM network (flashing yellow LED - see table). Download Ggset.exe program from the attached CD or alphatechtechnologies.cz pages to a separate directory and .ini file with the appropriate language mutation. The program is of type "portable" - it does not need to be installed.

After you start the program, select the appropriate COM port (see USB installation). GGset starts with the start page, connects to the connected gateway within about 30 seconds, according to the detected variant of gsm gateway adjusts display or availability of individual setting elements and retrieves the parameters stored in the gateway (no need to use „Load “ - see next).



## Access Point (APN) settings for VoLTE



The figure shows an example of inserting an APN for Vodafone. To save to the gateway, see the "CALL" tab.

At the top of the program there are tabs ("tabs") to access individual pages of parameters and functions.



The setting of parameters for calls is on the "CALL" tab

Mark subfolders it set dialing parameters and calls inbound and outbound directions.

Retrieve parameters from the gateway.

Save the set parameters to the gateway.

## "Events" tab

allows you to set up SMS sending with a report of

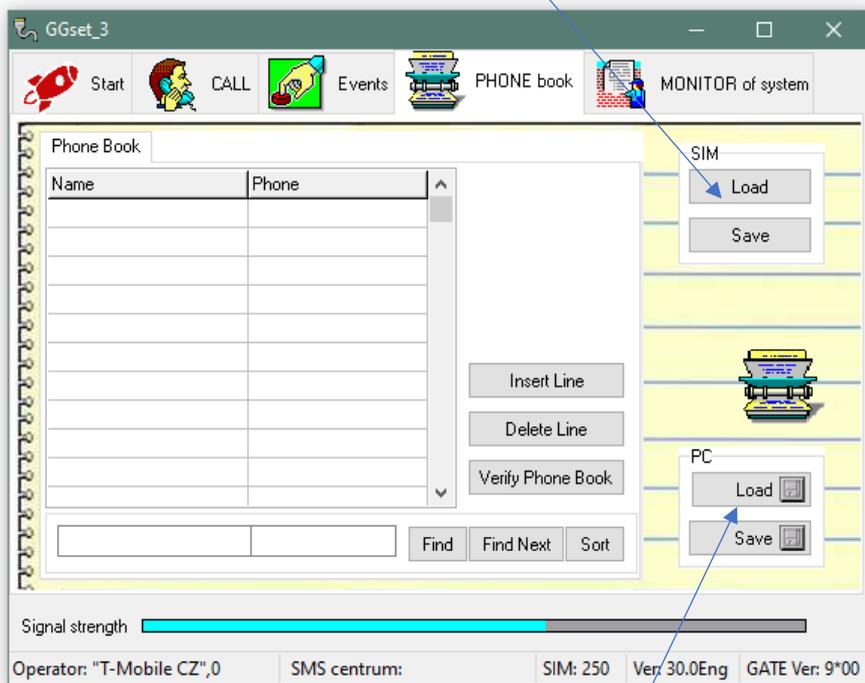
- lowering the power to below the set level for longer than the set time (convenient when using a backup battery and power failure) – "Voltage" tab
- logging the device into the GSM network (e.g. after a power failure reporting re-functionality) - tab "LogIn"
- not picked up when ringing after a set number of rings (connected device or operator does not respond - "does not answer the phone") - tab "Ring"

The screenshot displays the GGset\_3 software interface. The top menu bar includes icons for Start, CALL, Events (selected), PHONE book, and MONITOR of system. The main window is titled "Event Monitor" and has three sub-tabs: Voltage, LogIn, and Ring. The "Voltage" tab is active, showing a voltage field set to "00 . 00 V" and a "wait" field set to "00 s". Below these fields, it displays "Voltage on board: 10.19". There are two input fields for "SMS phone" and "SMS". A red switch icon is located at the bottom right of the main configuration area. A callout box points to this switch with the text: "Clicking the switch switches it Top position - event is activated Bottom Position - The event is inactive". To the right of the main configuration area, there are two sections: "GATE" with "Load" and "Save" buttons, and "PC" with "Load" and "Save" buttons. A callout box points to the "PC" section with the text: "Save and retrieve parameters from the selected file on your PC". At the bottom of the window, there is a "Signal strength" bar and a status bar with the following information: "Operator: 'T-Mobile CZ',0", "SMS centrum:", "SIM: 250", "Ver: 30.0Eng", and "GATE Ver: 9\*00".

## "PHONE book" tab

Load and store phone numbers on the SIM inserted in the gateway. With this list it is possible to save the DCALL number for "baby call" or telephone numbers for remote programming via SMS (with any name – suitable to use e.g. ADMINx, etc.)

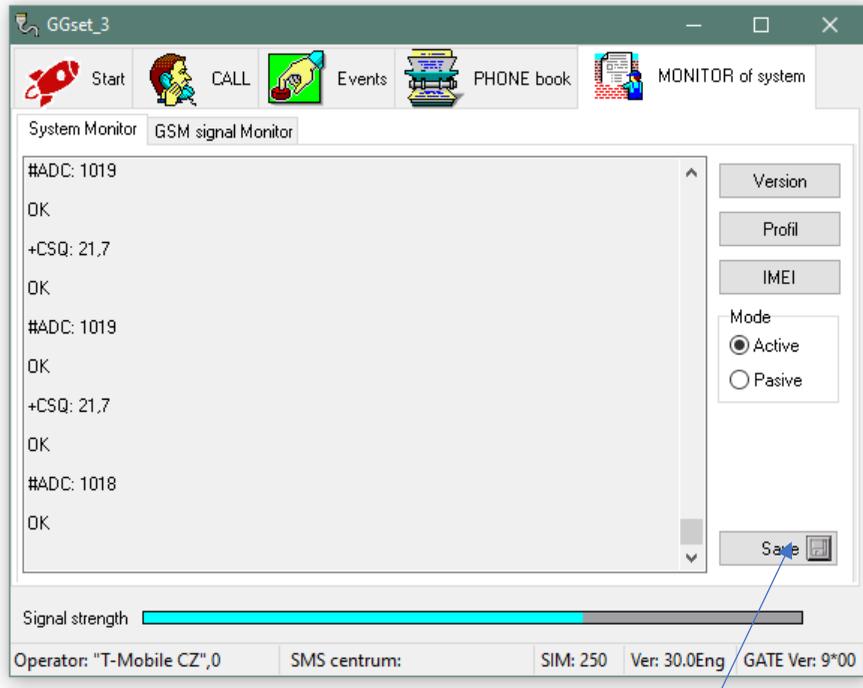
Save and retrieve a phone book from a SIM



Save and retrieve a phone book from a selected file on your PC

Tab for monitoring the gateway system "MONITOR of system".

In the event of any problems or confusion in operation, it is used to record the log file to identify the problem by the manufacturer or vendor.



Save traffic to a selected file on your PC

**Warning:**

If you use one of the gateway's internal USB ports for programming, you must restart the gateway after programming. Otherwise, the programmed parameters will not be used.

## **Programming via SMS:**

Only SMS sent from the numbers stored on the SIM card of the device are accepted. SMSs from other numbers are received, but they are ignored and deleted immediately. You can save the first phone number on the SIM with the INIT command (see the table of commands and examples) or with the GGset program (phonebook folder) or by writing directly to the SIM after inserting the SIM into the mobile phone. If you program the gateway parameters via SMS, in conclusion you need to restart the gateway using SMS "RESET BGB".

**Attention! If you use SMS to delete phone numbers, you must have at least 1 remote programming phone number left in the system – otherwise it can no longer be programmed remotely – you will need to reuse GGset to write the number (see above).**

SMS are **ALWAYS WRITTEN IN CAPITAL LETTERS.**

The SMS body is composed of words separated by spaces. The first word always expresses what will be done. E.g.:  
READ - read (name/phone number or parameter)  
WRITE - write (name/phone number or parameter)

In addition to parameters, it is also possible to program telephone numbers for DCALL or other numbers for remote programming.

## **Programming a connected device via SMS with DTMF**

If a device that is programmable using DTMF is connected to the gateway, it can also be programmed by SMS. You can use this option with the advantage of:

- If the GSM operator does not support compliant and listen transmission of DTMF codes in the voice channel
- If you need to make a remote bulk change of a parameter (e.g. dial-up number), send a DTMF SMS at once to multiple phone numbers – a list (depending on the mobile phone used or the device from which you send the SMS).

SMS consists of 2 or 3 words:

**DTMF nnnnnnnnnnn ?**

nnnnnnn is a string of DTMF characters (0,1,2,3,4,5,6,7,8,9,\*,#,). The part can also be the character "," which inserts a 7-second pause into the transmitted DTMF string. Another (optional) word in SMS may be "?". The gateway then waits 7 seconds for the DTMF device response. The wait time is extended by 7 seconds with each additional character that the gateway receives from the device.

When the SMS is received, the gateway rings to the connected device. If the device picks up, the gateway sends a series of nnnnn DTMF tones to the device. If there is no third word ("?"), the gate after about 1 sec. sends a busy tone. The connected device hangs up either on the basis of the code at the end of the DTMF string or by detecting the busy tone. If the third word ("?"), the gateway listens for the DTMF response furnished. 7 seconds after the last DTMF code sent by the device again begins to broadcast the busy tone.

The gateway returns SMS in the form OK, OK 1234 (device response), ERROR RING (does not pick up the terminal device) or ERROR TONE (wrong character - letter - in DTMF string)

## SMS command table

Command ( SMS)	Function		
<b>INIT</b> xxxx	It saves the phone number from which the SMS is sent on the SIM under the name ADMIN. If the phone number on the SIM is already under a different name, the SMS is ignored.  xxxx – 4-digit password for access to programming - see programming table on page 11		
<b>READ PARAMx</b>	Read the parameter file from position x (x=1-8). The blocks described in square brackets [00] indicate the individual parameters from the table on page 11		
	X	Example of a response from the gateway	Meaning (parameters from page 11)
	1	9*00#0000#800000000	version fw#[00]#800000000
	2	0000#0000#0000#1#0#1	0000#[71]#[37]#[73]#[39]#[72]
	3	****#****#****	[11]#[12]#[13]
	4	****#****#****	[14]#[15]#[16]
	5	****#****#****	[17]#[18]#[19]
	6	0#0#0#0#0#0#0#0#1#0	[21]#[22]#[23]#0#[25]#[26]#0#[28]#[38]#[74]
	7	00#06#00#00#00#00#1	00#[32]#[33]#00#[35]#00#[75]
8	nnnnnnnn	nnnnnnnn = number to which the SMS with the battery status change is sent (option)	
<b>READ NAME</b>	The gateway returns the phone number stored on the SIM under the name (READ NAME: nnnnnnnn)		
<b>WRITE NAME</b> nnn	write phone number nnn for NAME		
<b>WRITE PARAMx</b>	Write a parameter file for x [x=1-7] The parameters are in the form of "Example response from the gateway" - see above or examples after table		
<b>WRITE APN</b> aaaaa	APN entry for LTE, aaaaa=APN name		
<b>WRITE NAME</b>	If the name is not followed by a phone number and the phone number under the name NAME is stored on the SIM, it will be deleted. WATCH OUT! Do not use for PARAMx without discretion- see examples after table		

<b>RESET BGB</b>	restarting the gateway
<b>DTMF xxxx,xxxx ?</b>	Broadcast DTMF tones to a device connected to a gateway x=1, 2...,9,0,*, # - insertion "," causes a pause of 7 sec in the broadcast of characters ? - optional parameter, reading of received DTMF tones for 7 sec., each received tone will prolong the wait to 7 sec. The gateway returns sms with confirmation and possibly with received tones

Examples:

(SMS sent to the gateway in **bold**, SMS replies of the gateway *in italics*)

Initialization of the SIM in the gateway to accept the SMS for setting from the mobile phone with the telephone number 123456789. The password for programming the gateway is the default (0000).

**INIT 0000**

*WRITE ADMIN: 123456789*

The name ADMIN with the telephone number 123456789 is stored on the SIM

The registration next phone number 987654321 under the name SERVICE, from which they will also be accepted setting by SMS.

**WRITE SERVICE 987654321**

*WRITE SERVICE: 987654321*

Remote setting of the DCALL number.

**WRITE DCALL 12345678**

*WRITE DCALL: 12345678*

Sets the number for baby call (DirectCall) to 12345678

Remote setting of DCALL with error

**WRITE DCALL 123ABC45678**

*ERROR DCALL*

Remote setting of tariff pulses to 16kHz, pulse every 10 sec.

**READ PARAM2**

*READ PARAM2: 0000#0000#0000#1#0#0#1*

**WRITE PARAM2 0000#1610#0000#1#0#1**

*WRITE PARAM2: 0000#1610#0000#1#0#1*

**RESTART BGB**

From the parameter table on page 11, we find, that the required parameter has a code of 71 and 4 places (12/16kHz and the number of pulses). In the table on page 21 we find its location – PARAM2. It is a good idea to load the PARAM2 parameter file from the gateway first. In the received SMS we will then only overwrite READ to WRITE, delete ":" and change the desired parameter. This reduces the possibility of an error when writing the entire string and ensures that the other parameters are retained at the value set in the gateway. Of course, it is possible, if necessary, to change the entire string at once.

Programming ends with a remote restart of the gateway.

Remote setting of gateway parameters to factory settings.

**WRITE PARAM1**

*WRITE PARAM1:*

**RESTART BGB**

SMS "WRITE PARAM1" without parameter causes deletion of PARAM1 parameter block. SMS "RESTART BGB" restarts the gateway. If the gateway does not find the PARAM1 in SIM on restart, it restores all parameters to factory settings. Other phone numbers (DCALL, numbers from which the gateway can be remotely programmed) remain unchanged.

Delete a non-existent DCALL number

**WRITE DCALL**

*ERROR DCALL*

Remotely change the phone number for the first number called in the Brave Link Lift Watch or Lift Call Line to 12345678

**DTMF #0000,11012345678,9**

*DTMF OK:*

Remote change of phone number for the first button of the Brave NUDV analog line doorman to 12345678

**DTMF #0000.10112345678,9**

*DTMF OK:*

Remote identification number of emergency communicator for Brave Link Lift Watch or Lift Call Line

**DTMF \*66 ?**

*DTMF OK: 12345*

Remote settings using DTMF, the called device does not answer

**DTMF #0000.10112345678,9**

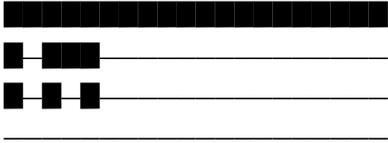
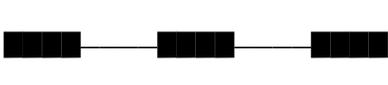
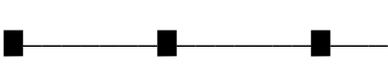
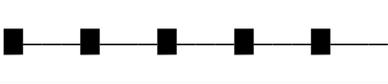
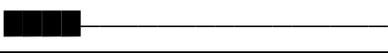
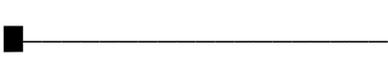
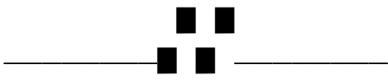
*ERROR RING*

Remote settings using DTMF, error in DTMF string

**DTMF #0000,Y10112345678,9**

*ERROR TONE*

## Tones on the GSM gateway analog line

	<p><b>Dial tone (type according to settings)</b> The GSM gateway is ready for dialing reception</p>
	<p><b>Busy Tone - Short Tone Repeatedly</b> The called number is busy, does not exist, is not allowed or the service is rejected, the other party hung up.</p>
	<p><b>Ring tone - long tone and space repeatedly</b> The called number is ringing.</p>
	<p><b>Waiting tone - short tone repeatedly with fast cadence.</b> The GSM gateway is waiting for the password to be entered.</p>
	<p><b>Programming - short tone with fast repetition cadence</b> Programming mode of gate operating parameters.</p>
	<p><b>Request for confirmation - 3 short tones</b> Request to confirm a programmed parameter.</p>
	<p><b>Long Tone Confirmation Tone</b> Parameter setting accepted and confirmed.</p>
	<p><b>Minute tone - short tone with a period of 1 minute</b> The GSM gateway alerts you to the length of the call.</p>
	<p><b>Call Progress Tone - short ton 3 s after sending the number to gsm network</b> Searching for a called station in the GSM network.</p>

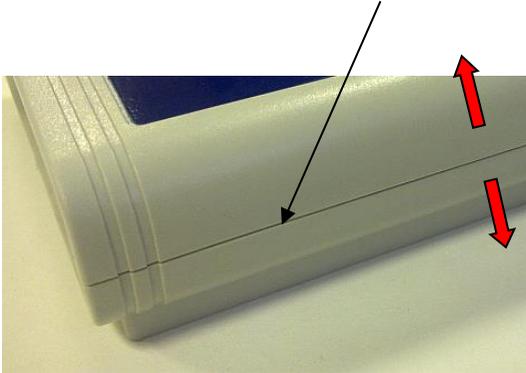
# LED signalling

		<p><b>Continuous light</b>            (lights up when the power is connected)            Power supply of the GSM module switched on</p>
		<p><b>Continuous light</b>            Picked up telephone line</p>
		<p><b>Nesvítí</b>            Hanging-uped telephone line</p> <p><b>Flickering in the rhythm of the cast tone</b>            Mode of programming or communication with a computer</p>
		<p><b>Flickering in the rhythm of the cast tone</b>            Initialization mode after power on, restart after programming, etc.</p>
		<p><b>1-5 blinks with a period of 4 sec.</b>            Idle state, gateway connected to the GSM network            number of flashes = signal strength</p>
		<p><b>1- 5 light off with a period of 4 sec.</b>            Idle state, gateway connected to the GSM network            number of light off = signal strength</p>
		<p><b>Continuous light</b>            GSM connection in progress (call)</p>
		<p><b>Short extinguishing with period 2s</b>            The GSM module does not communicate with the gateway CPU</p>
		<p><b>Flashing with 2s period</b>            does not read SIM</p>
	<p><b>Short flashing with a period of 2 sec.</b>            The gateway is not logged on to the GSM network</p>	

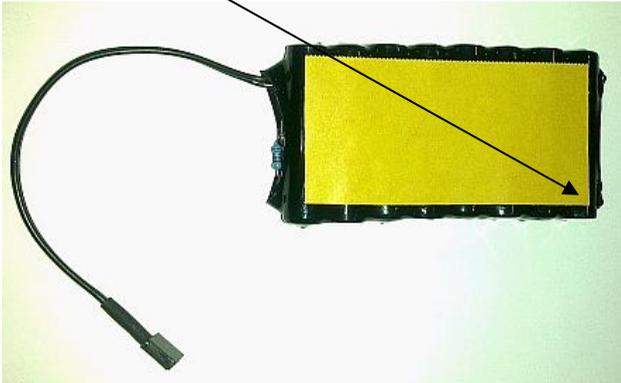
## Battery installation

9.6V/800mAh backup battery

1. Open the gate box



2. Remove the crimping film from the double-sided self-adhesive tape on the akupack.



3. Glue the akupack to the lid of the box. **WARNING** about the holes for the signaling LED! **DON'T COVER UP!**



4. Batteries may not be supplied in a charged state. Turn on the gateway first, wait until it logs into the GSM network. Then connect the cable from the akupack to the connector.



5. Close the gate box and let the batteries charge for at least 2 hours without turning off the power.

## Technical parameters:

Dimensions	100 mm x 130 mm × 37 mm
Working position	arbitrary
Working conditions	-20 °C ÷ +40 °C Humidity: 10% ÷ 80% at 30°C
Power supply part	
Power supply	8-12 V AC/DC, 1000 mA
Insurance	protection on adapter
Safety class	according to CSN EN 60950 class 2
Analog phone line	
telephone interface	2-wire
phone jack	RJ 11
Impedance	600 Ω ± 20%
Dialing	- tone DTMF t> 30 ms outgoing INBAND/OUTBAND FSK Bell
CLIP	
Tariffication	12/16 kHz
Connection detection	change the polarity of the line
Voltage of phone line	24 V
Current of line loop	max. 29 mA
Resistance of the line	max. 500 Ω
Ringling	55 Vef / 50 Hz
Signaling	425 Hz ±20 Hz
Gsm:	
mobile networks	2G band B3, B8 4G bands B1, B3, B7, B8, B20, B28A
SIM	3V, 1.8V
USB:	
built-in USB port	USB 2.0 full speed interface
option USB port	version 1.1, virtual COM

## Services

- waiting for the option after picking up 1-99 s or unlimited - when setting 1 direct call service (Baby Call)
- waiting for the last digit of the 1-15 s
- selecting 1-19 digits after a set number of digits
- send the option immediately according to the settings "#“ or “\*“
- checking dialed numbers (table of allowed directions - 9 memories for 4-digit numbers)
- avoidance of caller identification (CLIR)
- displaying caller number (CLIP)
- tariffication
- outgoing DTMF INBAND/OUTBAND
- change of polarity on the phone line at the beginning/end of the call
- possibility to log on only to your home GSM network (disable roaming)
- Limit the length of a call
- Time stamps in a call
- Limited call directions
- Indication of GSM signal strength
- 2G/4G VoLTE
- LTE USB modem to connect one or more computers to an Internet network.
- Simultaneous data transfer and voice connection on the LTE network



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