

# **GSM GATE PROFESSIONAL**

Set GB 200 with Built-in GSM Module  
Two-way Converter of Phone Line on GSM

**USER GUIDE**

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**LEVEL**

## **Dear customers,**

we would like to congratulate you on buying our product – GSM Gate GB 200. This way you obtained high-class and technically highly modern product.

GSM Gate by LEVEL allows significant phone costs savings as well as installation of phone line even in place where it otherwise would not be possible. At the same time GB 200 allows use of highly modern way of communication by SMS messages, which can be advantageously used for first-class protection of properties, remote control of household appliances, etc.

In addition it offers number of parameters, which can be programmed in order to achieve easy handling during operation.

Before connection of GB 200 and its setting into operation, please, read carefully this instructions manual. It will not only introduce you correct installation and handling of this product but at the same time will help you fully utilise all its technical potentialities.

### **Allowed use**

GSM Gate GB 200 171 allows connection of extension exchange input (free position for direct line) or phone device to phone line connector.

**ATTENTION:** GB 200 171 is source of phone line therefore never connect either direct or extension phone lines to connector. GSM Gate 200 271 is, on the contrary, end device of phone line and is intended for extension lines of phone exchanges. GB 200 271 can be used only on extension exchanges, where engaged or dial tone certainly occurs after hang-up of phone of opposite extension line or exchange disconnects line voltage for a short time.

**ATTENTION:** GSM Gates are not subject of homologation by ČTÚ (Czech Telecommunication Office). Entrepreneur is therefore obliged to ensure that calls from public network JTS are not connected through them (only internal – extension – calls are allowed).

Power supply of the product can be carried out by network adapter delivered with product or by backup source 12 V ss. Product can be used only in closed rooms, not outside. It is necessary to avoid all contacts of device with moisture. Another than above stated use can cause incorrect function or damage of product. This is combined with danger – e.g. short circuit, fire or injury by electric current.

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## **1. Description and Usage of Product.**

GSM Gate GB 200 is two-way converter of classic phone line for calls to cell phone GSM network. At the same time device allows dispatch of prepared SMS messages on the basis of changes in voltage on inputs and evaluation of incoming SMS messages for set-up of outputs.

### **1.1. Content of Delivery.**

- 1 x GSM Gate GB 200.
- 1 x Network adapter 12 V ss.
- 1 x Serial cable for PC 2m.
- 1 x Floppy disc with programs GB200cfg, GBserver and GBsms.
- 1 x Phone cable for trial connection of phone or exchange.
- 1 x External aerial mast with cable 3m.
- 1 x Fixation set – fasteners, screws and drilling template.
- 1 x Instructions manual.

### **1.2. Equipment, which can be bought additionally**

- Connector CANNON15 with cover.
- Connector CANNON15 with built-in micro-relay for separation of circuits.

## **2. Safety Instructions.**

GSM Gates by LEVEL are conformable with technical standards for operation in our mains. Power source with voltage 10.6 – 16 V ss fitted with connector with positive central contact shall be used for power supply. Dimension for current 600mA – maximum power take-off during call, securing – safety-fuse T 1A.

Device must be disconnected from all power sources before maintenance or exchange of parts or filled boards.

No fluids must enter the device. Danger of fire or injury by electric current impend. Do not place device into rooms with high temperatures, strong vibrations or high humidity.

In case you moved device from cool to warm room do not set it into operation immediately. Let device warm up to temperature of room. Wait until condensed water evaporates.

## **3. Installation.**

### **3.1. GSM Gate Assembly.**

GSM Gates by LEVEL are designed for operation in dry places. During assembly avoid hot places and places where device would be exposed to direct solar radiation or places close to heating elements.

Do not place GSM Gate or aerial mast close to phone exchange or other electronic device or line. Due to high-frequency electromagnetic field these devices could be interfered.

Choose such a place where interference is minimal. Due to interference it is also not advisable to operate the device close to other power or high-frequency devices. Before assembly prove if there is sufficient level of signal required by GSM network in selected place.

When using for protection of property, it is convenient to arrange protection of installation area against break-in and destruction of function of GB 200.

### 3.2. Connection of Cables and Aerial.

Phone cable with end US RJ shall be used for connection of phone line. Length of connecting cable for installation should not be shorter than 5 meters so that it is possible to place GSM Gate and aerial in sufficient distance from exchange. However, phone cable should not be longer than 200 m.

Connection cables for signals, which operate SMS messages, shall be connected to connector CANNON15 according to recommended connections – see chapter 5.22.

Serial cable CB 110 030, which is delivered with product, or other serial „CROSS“ cable with maximum length of 10 meters shall be used for connection of PC.

External aerial, which is a part of equipment, shall be screwed into connector for aerial. In case signal is weak use more sensitive aerial.

Network adapter shall be connected at first with GSM Gate - into connector marked 12VDC - and then plugged into socket. Supply from backup battery can be connected to connector marked 12V BAT. This supply will be automatically switched on if voltage of main supply drops under level of voltage of backup source.

### 3.3. Insertion of SIM Cards.

Each SIM card includes PIN set by producer. It is four-figure-number which is required by SIM card at start-up of communication with GSM module if blocking of SIM card by PIN is active.

SIM card shall be inserted under sliding lid on left down corner of GB 200. Gently press the lid inside and down at its upper end.

If call is just not carried out supply of contacts in SIM card connectors is disconnected by removal of the lid and manipulation with SIM card is possible without danger of damage. When inserting SIM card place contact field facing down and notch in the direction of symbol, which is drawn in bezel. After insertion of SIM card push in the lid. Don't manipulate with SIM cards while calling!

If you insert only one card it does not matter, in which bezel you insert it. It is only substantial to set-up correct position in consecutive configuration.

So as GSM gate co-operates with SIM cards it is necessary to ensure that PIN SIM1 and PIN SIM2 set in configuration of GB 200 really correspond to PINs of inserted SIM cards or blocking of SIM cards by PIN must not be active.

### 3.4. Indication by LED

Indication LEDs on GB 200 indicate basic operational states:

#### **PWR**

permanently alight - signalises connected power supply  
flashing - hardware initialisation in process

#### **GSM1 and GSM2**

permanently alight - signalises login in GSM network  
flashing - login in network in process  
simultaneous flashing - removed lid

## STATUS

copies state of phone line

permanently alight - line picked up

quick flashing - dial of number

slow flashing - ringing

2 flashes - programming regime

## 4. Programming.

Number of functions and parameters, which allow maximum adjustment of gate GB 200 to environment and user's requirements, can be set by programming. At the same time it is possible to set values of 8 output signals by programming.

### Set-up of all parameters can be carried out in three equivalent ways.

Through serial line from PC.

Remote from cell phone or Internet by SMS messages.

Through phone line from classic phone.

### 4.1. Programming from PC

- 1) Install program GB200cfg for WIN95, 98 from floppy disc, which is part of delivery, in your PC.
- 2) Connect GB 200 to serial port of PC by delivered cable and run program GB200cfg.
- 3) You can read actual configuration from GB 200, edit all parameters and save configurations on disc.
- 4) Configuration becomes valid immediately after dispatching into GB 200. If change of PIN was part of configuration prove login of GB 200 in network by switching-off and on.

### 4.2. Programming through Phone Line.

It is carried out by dialling of numbers on phone line by phone with frequency dialling.

- 1) Pick up receiver. If you have GB 200 271, dial extension number, on which gate is installed. You will hear dialling tone of GSM gate.
- 2) Dial #pppp#, where pppp are four figures of PIN for SIM1. PIN 0000 is set from production for SIM1. After entering correct PIN you will hear tone "programming".
- 3) Enter particular setting parameters. Dial 4 figures of instruction followed by value of parameter for particular instruction.
- 4) End entering of instruction by dialling #. Time control is 1 minute after last dial. After entering correct instruction you will hear tone "programming" again and another instruction can be entered.
- 5) Programming regime will be exited by hang-up of receiver.

If you enter incorrect programming code you will hear engaged tone. In this case dial # again and carry on programming or exit programming regime by hang-up of receiver. If correct programming codes were already entered set-up, which was programmed by them, will be saved. If \* is set as programming symbol instead of # use \* in all programming instructions.

### 4.3. Programming and Operating by SMS Messages.

SMS messages coming to phone number of SIM card, which is active in GB 200 are decoded. Control messages are immediately realised, others are dispatched through serial line to PC – if this is set in configuration. If you send control message to phone number of SIM card, which is not active, this message will be realised after activation of card from GB 200 – at switch-over to the other SIM card – if validity of SMS message in network does not expire sooner.

General format of control SMS message is following:

|                    |                     |                   |                     |                   |   |
|--------------------|---------------------|-------------------|---------------------|-------------------|---|
| <b>XXpppp</b>      | <b>INSTRUCTION1</b> | <b>parameter1</b> | <b>INSTRUCTION2</b> | <b>parameter2</b> | <b>Instruction3 ...</b>   |
| <b>XX</b>          |                     |                   |                     |                   | Opening figures – two capital letters X.  |
| <b>pppp</b>        |                     |                   |                     |                   | Actual PIN of gate for SIM1.  |
| <b>INSTRUCTION</b> |                     |                   |                     |                   | Key word of instruction in SMS message – capital or small letters do not matter. <b>Space</b> or = follows.                     |
| <b>Parameter1</b>  |                     |                   |                     |                   | Set-up value of instruction No.1.<br>End of instruction sequence shall be carried out either by ending of SMS message or space. |

Space or enter in SMS message can be followed by other key words of instructions and their parameters up to maximum length of SMS message, tm. up to 160 characters.

Programming can be carried out by dispatch of SMS message from another cell phone, eventually from Internet by the means of services on www pages of operators.

Message about fulfilment of instruction is always sent back to sender's cell phone. No reply is dispatched to instructions sent from Internet.

If parameter INFOSMS is set messages about changes in set-up, messages about reset and information about time of operation are sent to this number.

Deleting of numeral or text data is carried out by substitution of parameter value by point . or quotes "".

## 5. Control Instructions.

All parameters of GB 200 can be set from PC through serial line, by phone in programming regime or by texts of instructions in SMS messages, which follow after XXpppp.

### 5.1. PIN in GSM Gate GB 200.

So as GSM Gate co-operates with SIM cards it is necessary to ensure that PIN SIM1 and PIN SIM2 set in configuration of GB 200 really correspond to PINs of inserted SIM cards. It is eventually possible deactivate blocking of SIM cards by PIN but this means that blocking must be also switched off in configuration of GB 200.

At the same time PIN SIM1 is used as access code for programming by SMS messages or by phone. **PIN SIM1 = pppp.**

| Instruction by Phone | SMS Instruction | Pre-set |                    |
|----------------------|-----------------|---------|--------------------|
| 0001nnnn#            | PIN1 nnnn       | 0000    | Change of PIN SIM1 |
| 0002nnnn#            | PIN2 nnnn       | 0000    | Change of PIN SIM2 |

Where **nnnn** are four figures of new PINs

#### Example:

Original PIN of GSM gate is 0000. PIN of SIM card, which will be used in GSM gate on position 2, is 1234.

- Pick up receiver and wait for dialling tone.
- Enter programming regime by dialling #0000#.
- After hearing of programming tone dial 00021234#.
- Hang up and wait for approx. 20 seconds – green LED on phone starts to flash.

If you do not know PIN of GSM gate carry out hardware initialisation – see chapter 4.17.

*It is not possible to program gate by SMS messages if PIN SIM in gate is not conformable to PIN of SIM card. Login of gate in GSM network is then not carried out. This is e.g. state after initialisation. For conformity of PINs choose another way of programming.*

GSM gate confirms reception of instruction by sending of SMS message, which includes new set value of PIN, back to sender.

In case you forget current PIN of GSM gate you can carry out reading of actual configuration of gate in PC by means of program GB200cfg or hardware initialisation of parameters to original set-up from production. This shall be realised by interconnection of outputs No. 9 and 10 on connector CANNON 15 and simultaneous connection of supply adapter to network.

### 5.2. Set-up of Direction Adding.

Some exchanges do not repeat pre-selection of number dialled before interconnection when connecting call to transmitter with GSM gate. This function allows reconstruction of originally dialled number by adding of removed pre-selection.

| Instruction by Phone | SMS Instruction | Pre-set                      |
|----------------------|-----------------|------------------------------|
| 0100n#               | PDIR n          | Not activated in production. |

Where **n** is 0 to 7 figures, which shall be added

Removal of values by phone is carried out by instruction 0100# or by SMS message PDIR . (point represents data) or PDIR ""

**Example:** Exchange removes pre-selection 0 from dialled number 0606-445566 and transmits only number 606-445566 down the line.

- Enter programming regime with #pppp# (see paragraph 4.2.)
- Dial 01000#.
- Hang up.

From this moment GSM gate puts pre-selection 0 in front of each phone number read on phone line. This means that number 606-445566 will be reconstructed to number 0606-445566.

### 5.3. Set-up of Allowed Directions.

If you want to avoid connection of useless calls (which would have higher tariffs than when connected through fixed line) through GSM gate set required values of pre-selections as allowed directions. Other calls, e.g. calls into fixed local or toll phone network, will not be connected through GSM gate.

n is 1 to 7-figure-number of pre-selection

Removal of values is carried out by instruction 0201#, 0202#, etc. or by SMS message ADIR1 . (point represents data) or ADIR ""



| Instruction by Phone | SMS Instruction | Pre-set              |
|----------------------|-----------------|----------------------|
| 0201n#               | ADIR1 n         | 0601 Eurotel         |
| 0202n#               | ADIR2 n         | 0602 Eurotel         |
| 0203n#               | ADIR3 n         | 0603 Paegas          |
| 0204n#               | ADIR4 n         | 0604 Paegas          |
| 0205n#               | ADIR5 n         | 0605 Paegas          |
| 0206n#               | ADIR6 n         | 0606 Eurotel         |
| 0207n#               | ADIR7 n         | 0607 Eurotel         |
| 0208n#               | ADIR8 n         | 0608 Oskar           |
| 0209n#               | ADIR9 n         | 0723 Eurotel         |
| 0210n#               | ADIR10 n        | 4 Internet call      |
| 0211n#               | ADIR11 n        | 5 Internet call      |
| 0212n#               | ADIR12 n        | 0 Everything allowed |
| 0213n#               | ADIR13 n        | Backup               |
| 0214n#               | ADIR14 n        | Backup               |
| 0215n#               | ADIR15 n        | Backup               |
| 0216n#               | ADIR16 n        | Backup               |

### ATTENTION!

- If you remove all values GSM gate will not connect any calls except numbers, which begin with code for unblocking, if it is set. After end of dialling of number you will hear engaged tone.
- If you also allow connection of calls to fixed phone network change parameter "number of figures" so that longer numbers can be connected, too.
- If you want to allow calls to all directions – tm. to fixed phone network either – set number "0" as one of allowed numbers.
- If you use function of automatic switch-over to second SIM card according to dialled number (parameter No. 19 – SIMDIR), set numbers of pre-selections from longest to shortest. Priority of evaluation goes from above.

### Example:

You want to disallow usage of gate for Paegas and fixed phone lines, and allow usage of number with pre-selection 072 instead:

- Enter programming regime with #pppp# (see paragraph 4.2.)
- Dial 0203#0204#0212#02140724# and hang up or send SMS message XXpppp ADIR3 . ADIR4 . ADIR12 . ADIR14 072 (see chapter 4.3.)

From this moment numbers beginning with 0601, 0602, 072, 0606, 0607, 0608, 4 a 5 will be allowed. Other calls will not be accepted by gate.

### 5.4. Code for Disallowed Directions.

Code for disallowed directions, dialled in front of phone number, allows dialling of numbers, which are not in list of allowed directions. When dialling number into gate, calling is allowed by dialling of correct code in front of phone number. Gate then removes code and sends only phone number in GSM. We recommend to use in applications where gate is accessible from public network after pre-selection.

| Instruction by Phone | SMS Instruction | Pre-set                      |
|----------------------|-----------------|------------------------------|
| 0300n#...            | CDIR n ...      | Not activated in production. |

Where **n** is 0 to 7 figures, which shall be removed

Removal of values is carried out by instruction 0300# or by SMS message CDIR . (point represents parameter)

**Example:** You want to enter code for unblocking of disallowed directions 1234.

- Enter programming regime by dialling #pppp# (see chapter 4.2.)
- Dial 03001234# and hang up or send SMS message XXpppp CDIR 1234 (see chapter 4.3.)

From this moment GSM gate connects also phone numbers beginning with 1234 in addition to allowed directions. This code will be removed and rest of dial will be sent into GSM.

### 5.5. Set-up of Fixed Pre-set to Extension.

Parameter is accessible only for gate GB 200 271. During incoming call pre-set by frequency dialling from cell phone is awaited for set time (see 5.14.). If pre-set is not carried out and line still has dialling tone gate carries out dial pulse of pre-set number of extension after expiry of set time. This means that if no frequency pre-set is received from cell phone incoming call is connected to set extension.

| Instruction by Phone | SMS Instruction | Pre-set                     |
|----------------------|-----------------|-----------------------------|
| 0400n#...            | IDIR n ...      | Not activated in production |

Where **n** is 0 to 7 figures – number of extension, to which incoming calls shall be connected if no pre-set is received

Removal of values is carried out by instruction 0400# or by SMS message IDIR . (point represents parameter) or IDIR ""

### 5.6. Ringing after Connection.

Some exchanges require ringing after initial connection of line onto input transmitter. This function allows setting of switch-on of control ringing for required time. Function is not accessible in GB 200 271.

| Instruction by Phone | SMS Instruction | Pre-set                         |
|----------------------|-----------------|---------------------------------|
| 0500xx#...           | IRING xx ...    | 8, tm. 0.8s set from production |

Where **xx** is number in range from 00 to 20 and means time in tenths of seconds, tm. 0.0 – 2.0s

### 5.7. Set-up of Delay before Dial.

After occupation of transmitter some exchanges cause glimmer of line, which could be evaluated as number by GSM gate. This function allows setting of delay after moment of pick-up. During this delay situation on line will be ignored. Function only for GB 200 171.

| Instruction by Phone | SMS Instruction | Pre-set                         |
|----------------------|-----------------|---------------------------------|
| 0600xx#...           | DELAY xx ...    | 3, tm. 0.3s set from production |

Where **xx** is number in range from 00 to 99 and means time in tenths of seconds, tm. 0.0 – 9.9 s

### 5.8. Set-up of Waiting Time for Dial.

After picking up GSM gate gives you dialling tone, which notifies you about possibility of dialling of number. After set time dialling tone changes to engaged tone and reading of dialled phone number is terminated.

| Instruction by Phone | SMS Instruction | Pre-set                         |
|----------------------|-----------------|---------------------------------|
| 0700ss#...           | TLINE ss ...    | 60, tm. 60s set from production |

Where **ss** is number in range from 10 to 120 and means time in seconds, tm. 10 - 120s

### 5.9. Set-up of Number Control.

After dialling of last figure of number GSM gate waits for set time in case further number is dialled. After expiry of this time reading of dial is terminated and dial is sent to GSM.

| Instruction by Phone | SMS Instruction | Pre-set                       |
|----------------------|-----------------|-------------------------------|
| 0800ss#...           | TDIAL ss ...    | 4, tm. 4s set from production |

Where **ss** is number in range from 01 to 20 and means time in tenths of seconds, tm. 1-20s

### 5.10. Set-up of Number of Figures after which Number Is Dispatched.

If set allowed directions of GSM gate are only cell phone numbers, which always have maximum number of 10 figures, it is sensible to set 10 as maximum number of figures. After setting of 10<sup>th</sup> figure dialling of number starts immediately without necessity of waiting for control.

| Instruction by Phone | SMS Instruction | Pre-set                |
|----------------------|-----------------|------------------------|
| 0900nn#...           | LDIAL nn ...    | 10 set from production |

Where **nn** is number in range from 03 to 24 and means maximum number of figures

### 5.11. Set-up of Dial Tone Type.

It is possible to set up different type of dial tone of GSM gate for each SIM card in order to control that call is made through correct connection route.

| Instruction by Phone | SMS Instruction | Pre-set               |          |
|----------------------|-----------------|-----------------------|----------|
| 1001t#...            | TONE1 t ...     | 2 set from production | for SIM1 |
| 1002t#...            | TONE2 t ...     | 3 set from production | for SIM2 |

Where **t** is number from 0 to 4 and specifies type of dial tone (see chapter 6.1.)

### 5.12. Set-up of Programming Symbol # / \*.

If symbol # is used by extension exchange for any service concurrent with functions of GSM gate it is possible to set that symbol \* is used exclusively in all instructions instead of symbol #.

| Instruction by Phone | SMS Instruction | Pre-set                         |
|----------------------|-----------------|---------------------------------|
| 1100z#...            | FLAG z ...      | 0, tm. # is set from production |

Where **z** is 0 or 1 where 0 means usage of # and 1 means usage of \*

### 5.13. Set-up of Tariffs.

Parameter allows optimal setting of way of transmission of information about start-up and length of GSM call to extension exchange.

| Instruction by Phone | SMS Instruction | Pre-set                              |
|----------------------|-----------------|--------------------------------------|
| 1200k#...            | TARIF k ...     | 0, tm. no tariff set from production |

Where **k** is 0 to 63

**0** No transmission

**1-60** Periodical impulse 16 kHz in interval from 1 to 60s

**61** Change of polarity when picked up by called party (for GB 200 171)

**62** Flash impulse when picked up by called party (for GB 200 271)

**63** 16 kHz impulse when picked up by called party

### 5.14. Termination of Call when Line Is Silent.

Parameter only for GB 200 271. If exchange terminates phone call between extensions for any reason and engaged or dial tone is not emitted and in addition opposite GSM participant does not hang up it can happen that call in GSM stays uncollected. For this case it is possible to activate monitoring of silence on line. If silence on line is longer than one minute, call shall be disconnected if this function is activated.

| Instruction by Phone | SMS Instruction | Pre-set  |
|----------------------|-----------------|--|
| 1300z#...            | SPEECH z ...    | 1, tm. function activated, set from production |

### 5.15. Time for Pre-set.

During incoming call from GSM gate GB 200 271 picks up extension line and awaits pre-set by frequency dialling from cell phone for set time. If pre-set is not carried out set number of extension is automatically dialled by pulse dial (see chapter 5.4.).

| Instruction by Phone | SMS Instruction | Pre-set                       |
|----------------------|-----------------|-------------------------------|
| 1400ss#...           | WAIT ss ...     | 5, tm. 5s set from production |

Where **ss** is 1 to 25 s

Transit of frequency pre-set from GSM into phone exchange is not reliable in some cases. This problem can be solved by reinforcement of sensitivity of frequency dial receiver of particular extension line in exchange.

### 5.16. Transmission of SMS Messages into PC.

If you want to use function of reception of SMS messages by connected PC through RS232 it is necessary to activate dispatch by this function. If function is active and SMS messages are though not read from GB 200 by PC it can mean that SMS memory in GB 200 is full. Further SMS messages are then not accepted and it might therefore happen, that control instruction included in SMS message is not carried out. If function is switched off all eventual instructions included in incoming SMS messages are carried out and all SMS messages are deleted.

| Instruction by Phone | SMS Instruction | Pre-set   |
|----------------------|-----------------|---|
| 1500z#...            | HOSTSMS z ...   | 0, tm. function switched off, set from production |

Where **z** is 0 or 1 - 0 off, 1 on

### 5.17. Switch-on of SIM Card.

All function related to particular SIM card can be switched off by this parameter regardless of other set-up. GB 200 will never try to switch over to switched-off SIM card.

| Instruction by Phone | SMS Instruction | Pre-set                      |
|----------------------|-----------------|------------------------------|
| 1601z#...            | SIMON1 z ...    | SIM1 – 1 set from production |
| 1602z#...            | SIMON2 z ...    | SIM2 – 1 set from production |

Where **z** is number 0 or 1 - 0 = SIM off, 1 = SIM on

### 5.18. Set-up of Base SIM Card.

If both SIM cards are switched on by function 5.16 SIM card, which was used as last one (on which last call was automatically connected according to pre-set of number and function 5.19 SIMDIR.), will be activated.

Since inactive SIM card does not accept either incoming calls or SMS messages it is recommended to choose one of the SIM cards as base.

If automatic switch-over to other SIM card is carried out 1 minute after termination of call on this SIM card GSM will be switched back to set base SIM card.

| Instruction by Phone | SMS Instruction | Pre-set                      |
|----------------------|-----------------|------------------------------|
| 1701z#...            | SIMPRIM1 z ...  | SIM1 – 1 set from production |
| 1702z#...            | SIMPRIM2 z ...  | SIM2 – 0 set from production |

Where **z** is number 0 or 1 - 0 = SIM is not base, 1 – SIM is base

### 5.19. Blocking of SIM Card by PIN.

If your SIM card is blocked by PIN for safety reasons it is necessary to ensure that this PIN is entered at each switch-on of GSM module. Activation of this function for SIM1 or SIM2 ensures automatic entering of PIN SIM1 and PIN SIM2 (see chapter 5.0).

| Instruction by Phone | SMS Instruction | Pre-set                      |
|----------------------|-----------------|------------------------------|
| 1801z#...            | SIMBLOK1 z ...  | SIM1 – 1 set from production |
| 1802z#...            | SIMBLOK2 z ...  | SIM2 – 1 set from production |

Where **z** is number 0 or 1 - 0 = SIM is not blocked, 1 = SIM is blocked

### 5.20. Assignment of SIM Cards to Allowed Pre-selections.

It is possible to add parameter, which SIM card to use for connection, eventually if it is possible to use both cards, to each allowed pre-selection (see chapter 5.2). If dialled pre-selection of number is assigned to other SIM card than to the one, which is just registered in GSM network, automatic switch-over to other card is carried out. If both cards are allowed the one, which is just registered in network, is used.

| Instruction by Phone | SMS Instruction | Pre-set               |
|----------------------|-----------------|-----------------------|
| 1901m#               | SIMDIR1 m       | 0, tm. both SIM cards |
| 1902m#               | SIMDIR2 m       | 0, tm. both SIM cards |
| 1903m#               | SIMDIR3 m       | 0, tm. both SIM cards |
| 1904m#               | SIMDIR4 m       | 0, tm. both SIM cards |
| 1905m#               | SIMDIR5 m       | 0, tm. both SIM cards |
| 1906m#               | SIMDIR6 m       | 0, tm. both SIM cards |
| 1907m#               | SIMDIR7 m       | 0, tm. both SIM cards |
| 1908m#               | SIMDIR8 m       | 0, tm. both SIM cards |
| 1909m#               | SIMDIR9 m       | 0, tm. both SIM cards |
| 1910m#               | SIMDIR10 m      | 0, tm. both SIM cards |
| 1911m#               | SIMDIR11 m      | 0, tm. both SIM cards |
| 1912m#               | SIMDIR12 m      | 0, tm. both SIM cards |
| 1913m#               | SIMDIR13 m      | 0, tm. both SIM cards |
| 1914m#               | SIMDIR14 m      | 0, tm. both SIM cards |
| 1915m#               | SIMDIR15 m      | 0, tm. both SIM cards |
| 1916m#               | SIMDIR16 m      | 0, tm. both SIM cards |

Where **m** is 0, 1 or 2 - **0** = both SIM cards, **1** = only SIM1, **2** = only SIM2

### ATTENTION!

Switch-over to other SIM card lasts approx. 25s therefore it is not recommended to use this function in applications with high density of phone service.

So as pre-selections are correctly evaluated numbers of pre-selections must be set from longest to shortest. Priority of evaluation goes from above.

#### 5.21. Number for Information SMS Messages.

GB 200 allows automatic dispatch of information about changes in configuration, operation time and about RESET. Information is sent as SMS message to set cell phone number if this number is entered in following way:

| Instruction by Phone | SMS Instruction | Pre-set                     |
|----------------------|-----------------|-----------------------------|
| 2000n#...            | INFOSMS n ...   | Not activated in production |

Where **n** is 1 to 15 figures of cell phone number

Removal of values is carried out by instruction 2000# or by SMS message INFOSMS . (point represents data)

#### 5.22. Set-up of Number for Monthly Upkeep Calling.

Not to forfeit credit of GO card, EUROTEL requires to carry out at least one paid phone connection in 3 months from this card. So that user, which uses GB 200 for protection of properties, does not have to think of this matter it is possible to enter number, which gate automatically calls each month of operation, in GB 200.

| Instruction by Phone | SMS Instruction | Pre-set                     |
|----------------------|-----------------|-----------------------------|
| 2100n#...            | MCALL a ...     | Not activated in production |

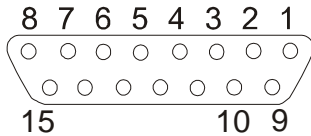
Where **n** is 1 to 5 figures of number

Removal of values is carried out by instruction 2100# or by SMS message MCALL . (point represents data)

If you want to use this service it is recommended to set number of your fax or number 0214112 (time information). It is not recommended to set your cell phone number because GB 200 does not use real time and call can come during night.

### 5.23. ALARM SMS Messages and Set-up of A-numbers for SMS Despatch.

8 input/output signals are taken out on connector CANNON 15 of GB 200 (outlets No.1 - 8)



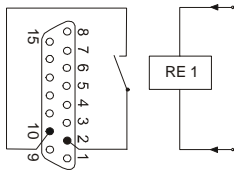
One of eight prepared texts can be dispatched in form of SMS message to two cell phone numbers or to service centre of operator by activation of each input (by decrease of voltage under limit of 0.8V for at least 0.5s). It is possible to enter A- and B-numbers for dispatch of SMS message to each of inputs No. 1 – 8.

| Instruction by Phone | SMS Instruction | Pre-set                     |
|----------------------|-----------------|-----------------------------|
| 220vn#...            | SMSNOAv n ...   | Not activated in production |

Where **v** is number of input from 1 to 8

Where **n** is 1 to 15 figures of cell phone number or number of service centre of operator. Numbers can be entered both in national and international format (0606445566 or +420606445566).

Recommended linkage of input, example for input No. 2



Connector CANNON15  
Description of linkage of outlets:  
1-8 input / output No. 1 - 8  
9 input INIT  
10-14 GROUND  
15 +5V max./ 400mA

Since output works at the same time also as input set-up of logical level 0 on output avoids activation of dispatch of SMS message from particular input (see chapter 5.26 function OUTv h). Counterpart of connector CANNON15 including plastic cover can be ordered additionally as accessories.

If you want to dispatch message about activation of SMS input to e-mail or fax it is necessary to set number of service centre of operator as SMS number: Eurotel: 999111 or Paegas: 4616. Prepared SMS texts (see chapter 5.25) shall be filled in according to operators' directions.

In case call is just made through GB 200 it is terminated immediately and all alarm actions are carried out.

### 5.24. Set-up of numbers for ALARM SMS Messages – SMS B-number.

Second number of each input for dispatch of prepared text of SMS message No. 1 - 8:

| Instruction by Phone | SMS Instruction | Pre-set                     |
|----------------------|-----------------|-----------------------------|
| 230vn#...            | SMSNOBv n ...   | Not activated in production |

Where **v** is number of input No. 1 - 8

Where **n** is 1 to 15 figures of cell phone number or number of service centre of operator

### 5.25. Set-up of Numbers for ALARM Calling.

Particular set phone number will be dialled simultaneously to activation of input No. 1 to 8 and called party will hear warning tone from GB 200 after pick-up.

| Instruction by Phone | SMS Instruction | Pre-set                     |
|----------------------|-----------------|-----------------------------|
| 240vn#...            | ALARMCALLv n    | Not activated in production |

Where **v** is number of input No. 1 - 8

Where **n** is 1 to 15 figures of number to any phone

### 5.26. Set-up of Text of ALARM SMS Messages.

Set text of message, which is dispatched in case of input activation, is assigned to particular input No. 1 - 8. Text can be changed by following instruction:

| Instruction by Phone | SMS Instruction | Pre-set                     |
|----------------------|-----------------|-----------------------------|
| 250vtext#...         | SMSTXTv "text"  | Set from production: ALARMv |

Where **v** is number of input No. 1 - 8

Where **text** is entered as numeric values according to ASCII table through phone line, in SMS message text is closed into quotes

### 5.27. Set-up of Logical Level of Outputs.

Each input No. 1 - 8 is also output at the same time.

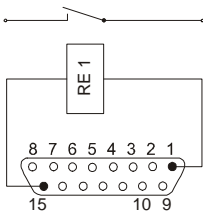
Value of logical level of particular output can be changed in following way:

| Instruction by Phone | SMS Instruction | Pre-set                                    |
|----------------------|-----------------|--|
| 260vh#...            | OUTv h          | log. 1 for all outputs set from production |

Where **v** is number of input No. 1 - 8

Where **h** is required logical level of 0 or 1

**Recommended linkage of outputs with galvanic detachment, example for output No. 1:**



### 5.28. Statement of All Set-up Parameters.

Complete statement of configuration can be required by SMS message from cell phone. This statement comes in the form of minimum 6 SMS messages to cell phone of sender of instruction.

| Instruction by Phone | SMS Instruction | Pre-set |
|----------------------|-----------------|---------|
|                      | LIST            |         |

Form of statement of parameters:

Instruction1=parameter1

Instruction2=parameter2 ... see chapter 4.2



You can add XXpppp in front of each SMS message, which you received this way, change values of required parameters and send the message back as new values of configuration.

### 5.29. RESET of Gate and Time Counters.

It is possible to carry out remote RESET of GB 200 by means of SMS message. Action is equivalent to switch-on of charging tm. start-up of program, switch-off and on of GSM module and login in network. However, in this case counters of time in operation are cleared either.

| Instruction by Phone | SMS Instruction | Pre-set |
|----------------------|-----------------|---------|
|                      | RESET           |         |

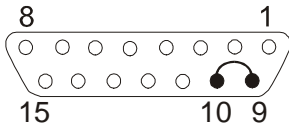
### 5.30. Initialisation of Gate to Initial Set-up from Production.

Remote initialisation of GB 200 can be carried out by means of SMS message. All adjustable parameters except PINs and blocking of SIM card are set to initial values set from production. At the same time RESET is carried out (for range of reset see chapter 5.28).

| Instruction by Phone | SMS Instruction | Pre-set |
|----------------------|-----------------|---------|
|                      | INIT            |         |

SMS message as well as all other SMS instructions requires entering of heading with actual PIN of SIM card XXpppp in front of instruction (see chapter 4.2). If you do not know this PIN it is necessary to carry out configuration from PC or hardware initialisation in following way:

Interconnect PINs No. 9 and 10 of connector CANNON15 and simultaneously connect GB 200 to power supply. Greed LED flashes quickly and gate is in initial set-up.



## 6. Operation.

### 6.1. Outline of Tones.

- Without dialling tone
- Dialling tone of dial No. 1
- Dialling tone of dial No. 2
- Dialling tone of dial No. 3
- Tone "programming"
- Tone "engaged"
- Ringling and tone of ringling
- Warning tone

### 6.2. Operation during Current Outage.

It is not possible to make calls during current outage. Therefore we recommend connecting of network supply from backed up power supply UPS or connecting of backup power supply from battery 12V. Programmed configuration will be saved in memory - type EEPROM – for arbitrarily long time during current outage.

## 7. List of Programming Instructions.

Switch-over into programming regime is carried out by dialling **#pppp#** on phone line.  
Code **XXpppp** must forgo instructions in each control SMS message.  
pppp is PIN of GSM Gate.

| Instruction                              | By phone #pppp# ... | SMS instruction XXpppp ... | Range   | Initial values |
|--|---------------------|----------------------------|---|----------------|
| PIN for SIM1 – main PIN                  | 0001pppp#           | PIN1 pppp                  | 4 figures of PIN  | 0000           |
| PIN pro SIM2                             | 0002pppp#           | PIN2 pppp                  | 4 figures of PIN  | 0000           |
| Adding of direction                      | 0100n #             | PDIR n                     | n = . or 1-7 figures  | -              |
| Allowed directions                       | 0201n #             | ADIR1 n                    | n = 1-7 figures<br>or<br>n = . clears out<br>parameter value                              | 1              |
|  | 0202n #             | ADIR2 n                    |   | 2              |
|  | 0203n #             | ADIR3 n                    |   | 3              |
|  | 0204n #             | ADIR4 n                    |   | 4              |
|  | 0205n #             | ADIR5 n                    |   | 5              |
|  | 0206n #             | ADIR6 n                    |   | 6              |
|  | 0207n #             | ADIR7 n                    |   | 7              |
|  | 0208n #             | ADIR8 n                    |   | 8              |
|  | 0209n #             | ADIR9 n                    |   | 9              |
|  | 0210n #             | ADIR10 n                   |   | 0              |
|  | 0211n #             | ADIR11 n                   |   | -              |
| 0212n #                                  | ADIR12 n            | -                          |   |                |
| 0213n #                                  | ADIR13 n            | -                          |   |                |
| 0214n #                                  | ADIR14 n            | -                          |   |                |
| 0215n #                                  | ADIR15 n            | -                          |   |                |
| 0216n #                                  | ADIR16 n            | -                          |   |                |
| Code for disallowed directions           | 0300n #             | CDIR n                     | n = . or 1-7 figures  | -              |
| Fixed pre-set * <sup>2</sup>             | 0400n #             | IDIR n                     | n = . or 1-7 figures  | -              |
| Ringing after switch-on * <sup>1</sup>   | 0500xx #            | IRING xx                   | xx = 00-20 s/10   | 8s /10         |
| Delay before dial * <sup>1</sup>         | 0600xx #            | DELAY xx                   | xx = 00-20 s/10   | 3s /10         |
| Waiting for dial                         | 0700ss #            | TLINE ss                   | ss = 10-99 s  | 60s            |
| Time of number control                   | 0800ss #            | TDIAL ss                   | ss = 01-20 s  | 4s             |
| Number of figures                        | 0900nn #            | LDIAL nn                   | nn = 03-24 figures  | 10             |
| Dialling tone of SIM1                    | 1001t #             | TONE1 t                    | t = 0-4 see tones   | 2              |
| Dialling tone of SIM2                    | 1002t #             | TONE2 t                    | t = 0-4 see tones   | 3              |
| Programming symbol                       | 1100z #             | FLAG z                     | z = 0..#, z = 1.. *   | 0              |
| Set-up of tariffs                        | 1200k #             | TARIFF k                   | 0 - switched-off<br>1-60 pulse 16kHz<br>61 - polarity<br>62 - flash<br>63 - 1 pulse 16kHz | 0              |
| Instruction                              | By phone #pppp# ... | SMS instruction XXpppp ... | Range   | Initial values |
| Termination at silent line* <sup>2</sup> | 1300z #             | SPEECH z                   | z = 0 off, 1 on   | 1              |
| Time for pre-set * <sup>2</sup>          | 1400ss #            | WAIT ss                    | ss = 00 -25s  | 5s             |

| <b>Instruction</b>                            | <b>By phone<br/>#pppp# ...</b> | <b>SMS instruction<br/>XXpppp ...</b> | <b>Range</b>   | <b>Initial<br/>values</b> |
|---|--------------------------------|---------------------------------------|--|---------------------------|
| SMS message into PC through RS 232            | 1500z #                        | HOSTSMS z                             | z = 0 off, 1 on  | 0                         |
| Switch-on of SIM1                             | 1601z #                        | SIMON1 z                              | z = 0 off, 1 on  | 1                         |
| Switch-on of SIM2                             | 1602z #                        | SIMON2 z                              | z = 0 off, 1 on  | 1                         |
| Initial SIM1                                  | 1701z #                        | SIMPRIM1 z                            | z = 0 off, 1 on  | 1                         |
| Initial SIM2                                  | 1702z #                        | SIMPRIM2 z                            | z = 0 off, 1 on  | 0                         |
| Blocking of SIM1 by PIN                       | 1801z #                        | SIMBLOK1 z                            | z = 0 off, 1 on  | 1                         |
| Blocking of SIM2 by PIN                       | 1802z #                        | SIMBLOK2 z                            | z = 0 off, 1 on  | 1                         |
| Assignment of SIM cards to allowed directions | 19ppm #                        | SIMDIRpp m                            | pp – allowed directions 1 – 16<br>m = 0 both SIM<br>m = 1 SIM1<br>m = 2 SIM2 | all 0                     |
| Number for info. SMS                          | 2000n #                        | INFOSMS n                             | n =. or 1-15 figures   | -                         |
| Number for monthly calling                    | 2100n #                        | MCALL n                               | n =. or 1-15 figures   | -                         |
| Number SMS ALARM A                            | 220vn #                        | SMSNOAv n                             | v = input 1-8<br>n =. or 1-15 figures  | -                         |
| Number SMS ALARM B                            | 230vn #                        | SMSNOBv n                             | v = input 1-8<br>n =. or 1-15 figures  | -                         |
| Numbers for ALARM calling                     | 240vn #                        | ALARMCALLv n                          | v = input 1-8<br>n =. or 1-15 figures  | -                         |
| Set-up of SMS message texts                   | 250vtext #                     | SMSTXTv "text"                        | v = input 1-8<br>text – ASCII<br>"text" – SMS text v<br>" " max. 160 fig.    | Alarmv                    |
| Set-up of outputs                             | 260vh #                        | OUTv h                                | v = input 1-8<br>h = 0 or 1  | all 1                     |
| Statement of set-up                           |                                | LIST                                  |  | -                         |
| RESET   |                                | RESET                                 |  | -                         |
| Initialisation                                |                                | INIT                                  |  | -                         |

Numbers can be entered in national format – e.g. 0606445566 but also in international format – e.g. 420606445566. Numbers in international format cannot be entered through phone line.

## **8. Subsidiary Programs for PC.**

Installation floppy disc 3.5" is a part of equipment delivered with product and contains installation file for subsidiary programs for GB 200. Minimum required configuration: Windows95, 98, PC 486, 16MB RAM, 3.5" drive

### **8.1. Installation.**

Insert installation floppy disc into drive A: or B:  
Start installation by command A:\SETUP or B:\SETUP  
Follow instructions from installation guide

### **8.2. GB200cfg - Program for Configuration of GB 200 from PC.**

Program answers the purpose of comfortable and transparent configuration of GB 200 and allows following functions:

Edit of all parameters of GB 200.  
Opening/ saving of configuration from file / in file and from GB 200 / into GB 200.  
Set-up of communication port for GB 200.  
Display of level of GSM signal.

### **8.3. GBserver – Program for Distribution of SMS Messages between GB200 and Network Client.**

Program running on PC, to which GB 200 is connected, allows distribution of incoming and outgoing SMS messages between GB 200 and clients of computer LAN net.

Basic functions of program are:  
Set-up of communication port of GB 200.  
Set-up of port of TCP network protocol on LAN net.

Pre-set communication port of TCP network protocol is 5010, in case this port is engaged in your network choose another port number.

### **8.4. GBsms – Program for Reception and Dispatch of SMS Messages.**

Program running on PC of LAN net client, on which program GBserver runs, allows reception and despatch of SMS messages through GB 200.

Set-up of TCP protocol port on LAN net: set the value identical to setting on GBserver  
Set-up of IP address: set IP address of PC, on which GB server runs. This can be found by start-up of command on command prompt in Windows WINIPCFG.

## 9. Basic Technical Parameters.

| <b>Line GB 200 171</b>        |   |
|-------------------------------|---|
| Dialling of number            | Dial pulse or tone dialling                             |
| Line voltage                  | 48 V  |
| Ringing                       | 35 Vef. 50Hz - 1s / 4s                                  |
| Tones                         | 425 Hz  |
| Impulse 16 kHz                | 16000Hz $\pm 0,1\%$ , 35 ms, min. 150mV                 |
| Connecting connector          | RJ 12   |
| <b>Line GB 200 271</b>        |   |
| Reading of number dialling    | Tone dialling   |
| Ringing detection             | 20 - 60 Hz  |
| Transmission of fixed pre-set | Dial pulse  |
| Line voltage                  | 24 - 60 V   |
| Tones                         | 425 Hz  |
| <b>SMS inputs</b>             |   |
| CANNON15 No. 1 - 8            | log. 0      0 - 0.8 V                                   |
|                               | log. 1      3.8 - 12 V                                  |
| <b>SMS outputs</b>            |   |
| CANNON15 No. 1 - 8            | log. 0      max. 0.4 V      max. I <sub>z</sub> = 300mA |
|                               | log. 1      3.5 - 5 V      at I <sub>z</sub> = 0,3mA    |
| CANNON15 No. 15               | +5V max. load 200 mA                                    |
| <b>GSM network</b>            |   |
| GSM                           | 900 MHz / 1800 MHz                                      |
| SIM card                      | Plug-in   |
| <b>Device</b>                 |   |
| Power supply voltage          | 10.5 - 16V ss (network adapter 12 V / 500mA)            |
| Power take-off                | Max. 6 W, at rest 1,5 W                                 |
| Size                          | 230 x 160 x 47 mm                                       |
| Weight                        | 450 g   |
| Operational temperatures      | from +5 to +40 °C                                       |

## GUARANTEE CERTIFICATE

|                    |               |            |
|--------------------|---------------|------------|
| Product name:      |               | Type :     |
| Production number: | Date of sale: | Signature: |

**Selling organisation:**  
**Address, phone No., stamp:**

| Date of receipt | Date of dispatch | Description of defect |
|-----------------|------------------|-----------------------|
|                 |                  |                       |
|                 |                  |                       |
|                 |                  |                       |
|                 |                  |                       |

## GUARANTEE CONDITIONS

Length of guarantee period is 12 months from date of sale. Guarantee applies only to goods registered or identified by company LEVEL.

Guarantee repair will be carried out at latest within 10 working days after receipt of defective goods by company LEVEL provided that spare part is disposable in store. If it is not possible alternative solution will be offered to user for the time of repair.

Guarantee repairs will be carried out in company seat and guarantee period shall be lengthened by the time of repair. Technician is solely responsible for choosing the way of transport.

Guarantee is not provided in case of loss or replacement of Guarantee Certificate, damage of product caused by natural disaster, during transport, by unsuitable positioning, unsuitable handling, operation of device in unsuitable conditions, or in case of damage or removal of sealing labels.

Guarantee does not apply to expendable property – dyeing ribbons, floppy discs, etc. It does not apply to malfunction caused by installed software or interference, too. Company is not responsible for possible losses, which originate from device failure either.

Guarantee does not apply to malfunction caused by change of external conditions as change in legislation, change of phone network, change of supply network, etc.

Guarantee is applied at presentation of completely filled-in Guarantee Certificate and device intended for repair including accessories.

Duplicate of Guarantee Certificate is not issued, customer guarantees its correctness and originality.

