GB-050 *LEVEL* GSM AUTODIALER

The GB-050 GSM dialer allows you to protect your premises or vehicle in a modern and highly reliable way. Within 3 seconds after the triggering of any of the dialer's inputs, an attached cellular phone sends an individual SMS message to preprogrammed GSM telephone numbers and/or makes a warning call to any voice phone. Furthermore, you can listen in to the protected premises on demand and/or you can remotely control electrical devices. The GB-050 LEVEL can be used not only for security purposes but for industrial or special applications, too.
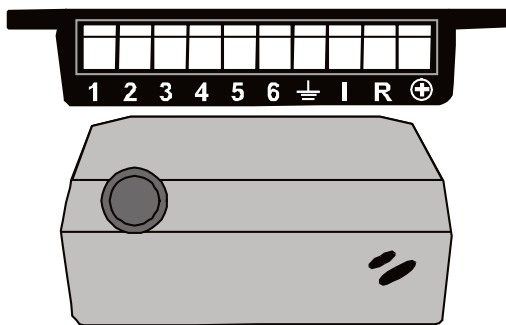
Specification

Power supply	9 - 16 V DC
Standby current	14 mA
Number of inputs/outputs	6
Input 1 to 6:	
Low level	0 - 0.8 V
High level	5 - 12 V
Output 1 to 6:	
Low level	max 0.8 V (I=1 mA)
High level	3.5 - 5 V (I=0.3 mA)
Alarm tone	400 Hz
GMS network	900 MHz / 1800 MHz
Max. charging time	8 hours
Back up time	min. 24 hours
Dimensions	110 x 70 x 30 mm
Weight	190 g
Operating temperature	+5 to +40 °C

Installation

The dialer is designed for indoor use. Do not install it close to any apparatus that emits high frequency radio signals. Make sure that the chosen GSM provider has a sufficient signal in the installation place. If you want to use the GB-050 for security reasons, take care that the premises are protected by a reliable alarm system.
The GB-050 LEVEL is installed in a plastic box, which is attached to an Ericsson A1018 cellular phone battery. The dialer is connected to the phone via a data cable. Note, that the dialer can operate only with an A1018 phone.

Terminal description:

1 – 6	inputs (or outputs) No.1 to No.6
GND	ground terminal
I	initialization input
R	not used (for further applications)
+	+12 V DC input

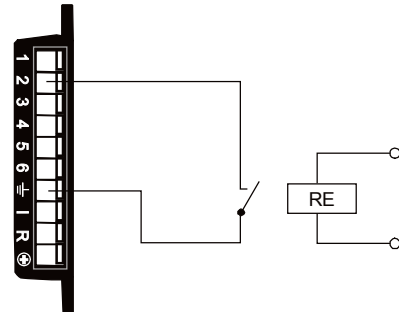## LED indication

LED flashes slowly (regularly)	dialer is ready, powered by an adapter
LED flashes slowly (irregularly)	dialer is ready, powered by a battery
LED flashes quickly	dialer is not ready or no GSM signal
LED flashes quickly 5 times	dialer is performing an operation

Initializing the GSM dialer

1. Insert a valid SIM card into the Ericsson A1018 cellular phone.
2. Attach the battery with the dialer to the phone.
3. Connect the dialer to the phone via the data cable.
4. Insert the provided jumper into the small hole with two pins on the side of the dialer.
5. Attach a terminal connector with an adapter to the dialer.
6. Switch on the phone and enter the original PIN from the SIM card. Confirm the PIN by pressing the *Yes* button.
7. Send the following instructing SMS from another mobile phone: **XX0000PIN_pppp**, where *pppp* is the original PIN from the SIM card. (Do not forget to enter a space before *pppp*.)
8. The GB-050 will automatically send back a confirming SMS message. As soon as you receive it, switch off the A1018 phone.
9. In a few seconds the GB-050 will switch on the phone automatically. The dialer is now initialized and ready (the red LED on the dialer will flash slowly).
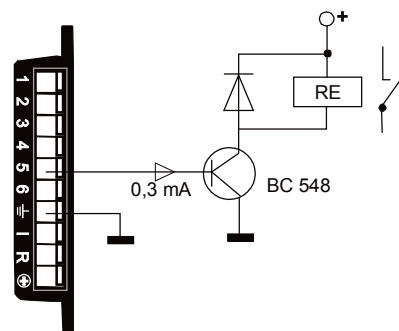
Wiring of inputs and outputs

A. An Alarm SMS and/or an alarm call will be activated if any input of the GB-050 is connected to the ground terminal.
Bellow you can see an example of a circuit, which triggers the input No.2.

B. The dialer's outputs are initially set to a high level (3.5-5 V). You can change their status remotely by sending the appropriate SMS command.
Bellow you can see an example of a circuit, which can switch a relay on output No.5. A relay module **RB-050** is recommended to be used for remote switching.

Reset

If you have forgotten the PIN code, you have to reset the GB-050.
1. Disconnect the power supply.
2. Remove the jumper from the GB-050.
3. Short-circuit the GND and INIT terminals and reconnect the power supply.
4. Disconnect the GND and INIT terminals.
5. Replace the jumper.
6. Initialize the GB-050 as described above.

Programming

A common way for programming the Level is by sending instructions in the form of an SMS messages from another phone. Each SMS should contain only one command. After receipt of a command, the GB-050 will send a confirming SMS to the sender.

Instruction	Sequence	Remarks
INITIALIZATION AND RESET		
Changing the PIN code	**XXppppPIN_nnnn**	*nnnn* – new PIN (Note, PIN cannot be set to 0000.)
Reset	**XXppppINIT**	Reset to the factory default settings.
ALARM CALLS		
Alarm call setting	**XXppppALARMCALL_number**	*number* – a phone number, to which the GB-050 will call and generate a warning sound (400 Hz), if any input is triggered.
Alarm SMS editing	**XXppppSMSTXT1_"text1"**	Edit the *text1,* which will be sent by SMS when input No.1 is triggered.
	XXppppSMSTXT2_"text2"	Edit the *text2,* which will be sent by SMS when input No.2 is triggered.
	XXppppSMSTXT3_"text3"	Edit the *text3,* which will be sent by SMS when input No.3 is triggered.
	XXppppSMSTXT4_"text4"	Edit the *text4,* which will be sent by SMS when input No.4 is triggered.
	XXppppSMSTXT5_"text5"	Edit the *text5,* which will be sent by SMS when input No.5 is triggered.
	XXppppSMSTXT6_"text6"	Edit the *text6,* which will be sent by SMS when input No.6 is triggered.
Programming of alarm SMS phone numbers	**XXppppSMSNOA1_number**	Enter a cellular phone number, to which the *text1* is sent when input No.1 is triggered.
	XXppppSMSNOB1_number	Enter a cellular phone number, to which the *text1* is sent when input No.1 is triggered.
	XXppppSMSNOA2_number	Enter a cellular phone number, to which the *text2* is sent when input No.2 is triggered.
	XXppppSMSNOB2_number	Enter a cellular phone number, to which the *text2* is sent when input No.2 is triggered.
	XXppppSMSNOA3_number	Enter a cellular phone number, to which the *text3* is sent when input No.3 is triggered.
	XXppppSMSNOB3_number	Enter a cellular phone number, to which the *text3* is sent when input No.3 is triggered.
	XXppppSMSNOA4_number	Enter a cellular phone number, to which the *text4* is sent when input No.4 is triggered.
	XXppppSMSNOB4_number	Enter a cellular phone number, to which the *text4* is sent when input No.4 is triggered.
	XXppppSMSNOA5_number	Enter a cellular phone number, to which the *text5* is sent when input No.5 is triggered.
	XXppppSMSNOB5_number	Enter a cellular phone number, to which the *text5* is sent when input No.5 is triggered.
	XXppppSMSNOA6_number	Enter a cellular phone number, to which the *text6* is sent when input No.6 is triggered.
	XXppppSMSNOB6_number	Enter a cellular phone number, to which the *text6* is sent when input No.6 is triggered.
REMOTE CONTROL		
Remote control	**XXppppOUT1_y**	If the parameter y=0, then it sets the output No.1 to 0 V. If y=1, then it sets the output No.1 to 3.5-5 V.
	XXppppOUT2_y	If the parameter y=0, then it sets the output No.2 to 0 V. If y=1, then it sets the output No.2 to 3.5-5 V.
	XXppppOUT3_y	If the parameter y=0, then it sets the output No.3 to 0 V. If y=1, then it sets the output No.3 to 3.5-5 V.
	XXppppOUT4_y	If the parameter y=0, then it sets the output No.4 to 0 V. If y=1, then it sets the output No.4 to 3.5-5 V.
	XXppppOUT5_y	If the parameter y=0, then it sets the output No.5 to 0 V. If y=1, then it sets the output No.5 to 3.5-5 V.
	XXppppOUT6_y	If the parameter y=0, then it sets the output No.6 to 0 V. If y=1, then it sets the output No.6 to 3.5-5 V.
Call back	**XXppppCALLBACK_number**	After reception of this message, the GB-050 will call the programmed number and enables listen-in to the protected area. The call lasts 4 minutes if it is not cancelled sooner.
INFORMATION CALLS		
Information calls	**XXppppICALL_number**	Enter a phone number, to which you want the GB-050 to call every 7 days to confirm proper operating conditions. Phone rings only 5 s and does not wait to be answered. This will allow the call from the GB-050 to be displayed on the called cell phone without any charges unless the called party answers it.
	XXppppICALLINT_h	If you want to change the 7days interval, enter the length of intervals (h) in hours. Value from 1 to 240 hours can be set.
Monthly calls	**XXppppMCALL_number**	Prepaid SIM cards usually require some activity not to be deactivated. Enter a phone number for the dialer to automatically call each month and hang up 10 s after answering (a fax number or time information service is recommended).

Notes:
a) The character _ means space.
b) **pppp** is a current PIN code.
c) **number** is telephone number. Its maximum length is 14 digits.
d) **text** – SMS texts must be surrounded by quotation marks and must be in the range of 4 to 100 characters.
e) To deactivate commands send the instructing SMS without a telephone number.

For more comfortable programming, a computer interface **PC-050** with a special Windows based software can be used.