2G/3G Multifunctional security control panel *CG17*

Short installation manual

With *CG17* you can install a simple intruder alarm system. You can remotely control gates, heating or ventilation systems and other equipment, and control the temperature.

You can monitor and control the system with *Protegus* application, phone call or SMS.

CG17 can call and inform about events with a recorded voice message, as well as send SMS and notifications in *Protegus* application.

This manual describes how to install *CG17* without configuring it via USB. If needed, using *TrikdisConfig* program or SMS commands you can:

- Add and delete users (8 users);
- Set dual purpose contacts to operate in input or output mode;
- Set the input type (NC, NO, EOL) and output type (pulse, level);
- Set automatic output control algorithm, so that if the temperature rises to a certain level, the relay status is changed;
- Connect iO expanders, iButton electronic key reader TM17;
- Turn on event reporting to security company receiver;
- Customize what SMS text will be sent after an input or output is activated or restored;
- Etc.

The list of SMS commands is at the end of this manual.

Find *TrikdisConfig* configuration program, product specifications and instruction at *www.trikdis.com.*

I. **Installation and wiring**

1. Remove the upper cover, pull out the terminal block connectors.
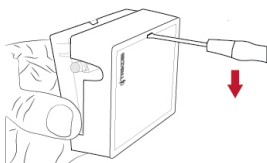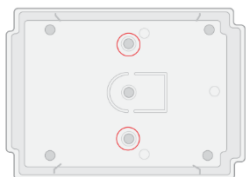
2. Take out the PCB board from the casing. Fix the casing to desired place with self-tapping screws.
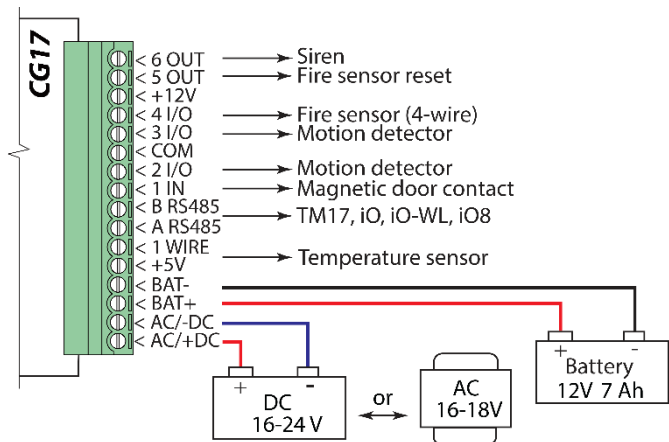
3. Place the PCB board back into the casing. Insert the terminal blocks.

4. Screw the GSM antenna to the antenna connector.

5. Place a Nano size SIM card to the SIM card slot.

6. Following the connection scheme, connect the wires. Then connect the power supply:

6.1. Connect the sensors (motion, fire, magnetic contact or other) to inputs following these schemes:

Normally open (NO)
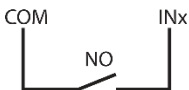
Normally closed (NC)
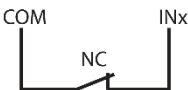
Normally closed circuit with 10k end of line resistor (EOL 10k)
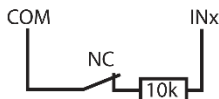
Input/ Output No.	Purpose	Type	Bypass	SMS
Default input settings				
1IN	Input - Delay	EOL	Yes	Yes
2I/O	Input - Interior	EOL	Yes	Yes
3 I/O	Input- Instant	EOL	Yes	Yes
4 I/O	Input - Fire	EOL	Yes	Yes

6.2. You can connect 1-Wire® (DS18S20, DS18B20) temperature sensor:
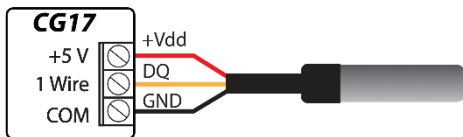
6.3. You can connect a siren:
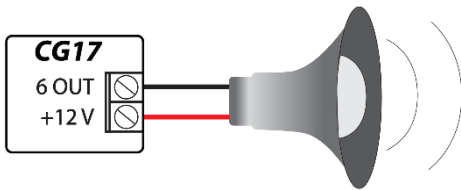
Nominal current for 5 OUT and 6 OUT outputs is up to 1A; nominal current for 2 I/O, 3 I/O, 4 I/O outputs – up to 0,1A.

If you want to connect the siren to other output than 6 OUT, go to *TrikdisConfig*, assign function **Siren** to that output and specify the alarm area.

6.4. Connect iButton electronic key reader *TM17*. In order to enable the key reader, you have to add it in *TrikdisConfig* window **Modules,** in card **RS485 modules**. You have to assign an alarm area to *TM17* and enter *TM17* serial number. Add iButton keys in window **Users and Notifications,** in card **iButton keys.**
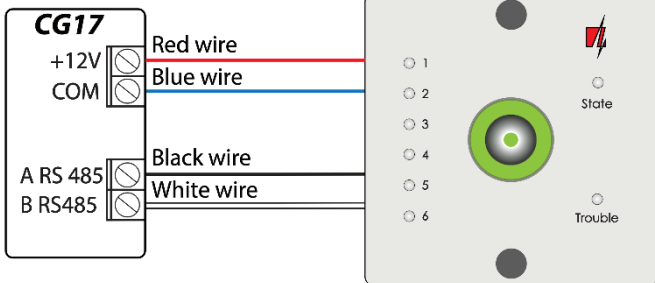
6.5. You can also connect electronic key reader from other manufacturer:
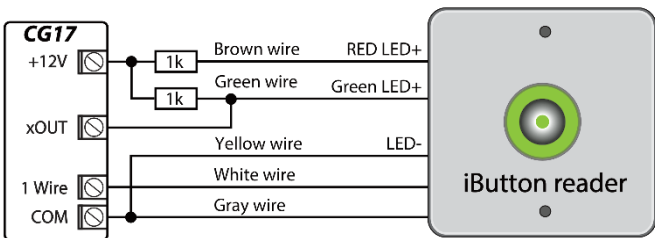
The output xOUT must be set to the "System State" type.
Security alarm is on - the iButton reader light is red.
The security alarm is off - the iButton reader light is yellow.

6.6. You can connect the fire sensor following one of these schemes:

6.7. You can connect devices to outputs OUT or I/O, so that they could be controlled remotely. Assign function "Remote control" to the output in *TrikdisConfig*. You can see some examples below:

Automatic output control algorithm is described in the full *CG17* installation manual.

7. Turn on the power supply. This LED indication must show:
   - "POWER" - LED is blinking green;
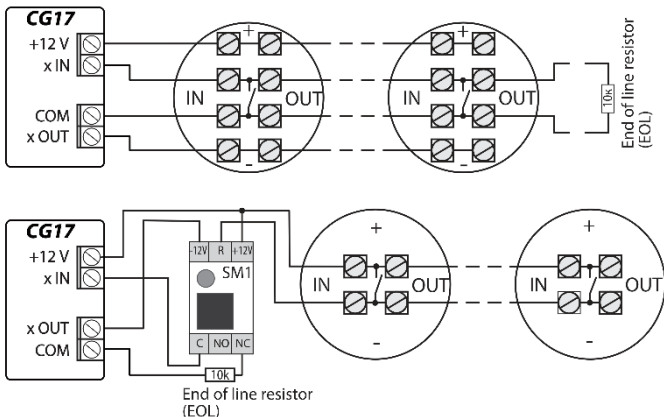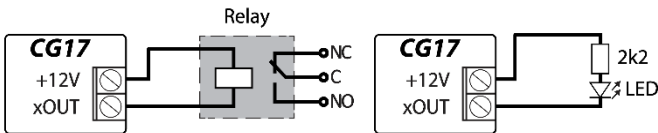   - "NETWORK" - LED is solid green for 3-4 seconds and blinks yellow 1 to 5 times depending on GSM signal strength.

8. You successfully connected *CG17* and it is ready for operation.

Purpose of terminals

Contact	Description
AC/+DC	Power supply source contacts
AC/ -DC	(DC 16-24V or AC 16-18V)
BAT+	12V lead – acid battery terminals
BAT-	
+5V	1-wire devices power supply contact
1 WIRE	1-wire data circuit contact (connect temperature sensors, up to 8 devices, up to 10 meters)
A RS485	RS485 bus contact (up to 100 meters, up to 8 devices)
B RS485	
IN	Input contact (NC, NO or EOL = 10kΩ)
I/O	Input/output contacts (NC, NO or EOL = 10kΩ/up to 100mA)
COM	Common (negative)
+12V	Power supply for external devices (DC 12V, up to 1A)
OUT	Open-collector (OC) output contacts (up to 1A)

LED indication

Indicator	Light status	Description
NETWORK	Green solid	Connected to GSM network
	Blinking yellow	GSM signal strength from 0 to 5. Sufficient is 3
DATA	Green solid	Sending message
	Yellow solid	Unsent event messages in buffer memory
POWER	Blinking green	Power supply is sufficient
	Blinking yellow	Low power supply voltage
	Blinking green and yellow	Configuration mode
TROUBLE	Not solid and not blinking	No trouble
	1 blink	No SIM card
	2 blinks	Incorrect SIM card PIN code
	3 blinks	Cannot connect to GSM network
	4 blinks	Cannot connect to IP receiver via primary channel
	5 blinks	Cannot connect to IP receiver via backup channel
	6 blinks	Internal clock is not set
	7 blinks	Backup power supply voltage is insufficient
	8 blinks	AC fault
	9 blinks	RS485 module malfunction

If the LED indication is completely off, check the power supply and connections.

II. Remote control with *Protegus* app

You can remotely control *CG17* using *Protegus* application, see system status and receive notifications about system events.

Also connect to *Protegus* if you want to remotely configure *CG17* via *TrikdisConfig*.

Internet connection is necessary for communication with *Protegus*. Make sure that internet access is enabled for the inserted SIM card.

1. Turn on the internet access for *CG17*

To enable connection with *Protegus*, send an SMS in such format to the telephone number of SIM card inserted in the *CG17*:

CONNECT xxxxxx PROTEGUS=ON,APN=INTERNET

xxxxxx	6-digit administrator password (default password – 123456)
PROTEGUS=ON	Command to start communication with *Protegus*
INTERNET	SIM card provider's wireless internet APN value (often *"internet"* is suitable)

Connecting *CG17* to internet and *Protegus* takes around one minute.

You can also turn on *Protegus* via *TrikdisConfig*: in window "IP reporting" tick the checkbox "*Protegus Cloud*".

2. Connect and add *CG17* to *Protegus*

1. Download and run the *Protegus* application or use the version online www.protegus.eu/login:

2. Log in with your user name. If you haven't used the app before, register as a new user.

3. Click on **Add new system** and type in *CG17* "*Unique ID"* number. "IMEI/Unique ID" is on the device and the packaging sticker.

If *CG17* is not connected to the internet when you add a new system, the system will be added with limited functionality. When you connect *CG17* to the internet, go to system settings and in window "System information" click "Re-read system config".

3. Control the system via *Protegus* application

1. Go to *Protegus* application and in system window press the "lock" button.

2. In the menu, select the mode you wish to turn on and enter the user code (default – 1234).

3. When the system changes the mode, the "lock" icon will change too.

4. Add other users

1. In the *Protegus* application, in the system window, go to menu **Settings** and then go to **System users**.

2. Press editing button at the available user row.

3. In the window that opens enter the user information:
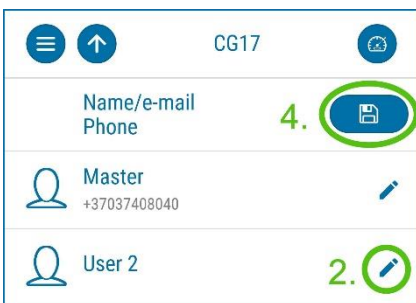
- After entering the user's email address, the user will get access to *Protegus*;

- After entering phone number, the user will be able to control the system via phone calls or SMS;

- After entering user code, the user will get a separate password to control the system. Without this code, the user will be able to control the system with Master or other user's password.

4. When you enter all users, press button to save the changes.

III. Remote control via phone call

1. Make a call to the number of the inserted SIM card.
2. Follow voice instructions (press 1 to change system status, 2 – to control the outputs).

If there are no added users, the first one to call to *CG17* will become the system administrator and will be the only one able to control *CG17* via phone calls and SMS commands.

If you want other users to control the system via phone call, add them via *TrikdisConfig* or SMS commands.

You can find the detailed command list in the full *CG17* instruction.

IV. Remote control and configuration via SMS

1. Turn on and off the security system via SMS

ARM xxxxxx SYS:x

DISARM xxxxxx SYS:x

xxxxxx	6-digit administrator password (default password – 123456)
x	Alarm area number (1-8)

2. Change the administrator password

To ensure safety, change the default administrator password. Send an SMS in this format:

PSW 123456 xxxxxx

123456	Default administrator password
xxxxxx	The new 6-digit administrator password

3. Give control rights to other users

Only phone numbers added to the user list can control the system via SMS or phone call. Send an SMS from the administrator's phone with new users' phone numbers and names so that they could control the system:

SETN xxxxxx PHONEx=+PHONENR#NAME

xxxxxx	6-digit administrator password
x	User's number on the list
PHONENR	User's phone number
NAME	User's name

If you enter "1" in the SMS, you will transfer the administrator's rights to another user.

4. Reset the smoke detectors

Reset the smoke detectors remotely via SMS:

FRS xxxxxx

xxxxxx	6-digit administrator password

The output, that the smoke sensors are connected to, has to have an assigned type "Restore fire sensors". By default settings it is 5OUT output.

Full SMS command list

Command	Data	Description
INFO		Request information about the device. The response will include: device type, IMEI number, serial number and software version. E.g.: *INFO 123456*
RESET		Reset the device. E.g.: *RESET 123456*
OUTPUTx	ON	Turn on the output, where "x" is output number. E.g.: *OUTPUT1 123456 ON*
	OFF	Turn off the output, where "x" is output number. E.g.: *OUTPUT5 123456 OFF*
	PULSE=ttt	Turn on the output for a number of seconds - "x" represents output number (1) and "ttt" - a three digit number, representing pulse duration in seconds. E.g.: *OUTPUT1 123456 PULSE=002*
PSW	New password	Setting new password. E.g.: *PSW 123456 654123*
TIME	YYYY/MM/DD, 12:00:00	Setting internal clock. E.g.: *TIME 123456 2018/01/03,12:23:00*
TXTA	Object name	Setting object name. E.g.: *TXTA 123456 House*
TXTE	Z1=<Text> .... Z12=<Text>	Customizing SMS with alarm test: Z1...Z12 – input number. E.g.: *TXTE 123456 Z1=ALARM in Zone 1*
TXTR	Z1=<Text> .... Z12=<Text>	Customizing SMS restore text: Z1...Z12 – input number. E.g.: *TXTR 123456 Z1=Restore Zone 1*
RDR	PhoneNR# SMStext	Readdress SMS messages to specified number. Phone number must contain "+" and country code. E.g.: *RDR 123456 +37061234567#readdressed text*
ASKI		Send SMS about input IN statuses. E.g.: *ASKI 123456*
ASKO		Send SMS about output statuses. E.g.: *ASKO 123456*
ASKT		Send SMS with all temperature sensors values. E.g.: *ASKT 123456*
DISARM	SYS:x	Disarm system, where "x" – area number (1-8). E.g.: *DISARM 123456 SYS:1*
ARM	SYS:x	Arm system, where x – area number (1-8). E.g.: *ARM 123456 SYS:1*
FRS		Resets fire sensor output, if the output has an assigned function "Restore fire sensors". E.g.: *FRS 123456*
SETN	PhoneX=Phon eNR#Name	Add phone number and user name and assign it to user "x". "x" - represents phone number queue number on the list. Phone number must contain "+" and country

Command	Data	Description
		code. Phone number must be separated from the user name with "#". E.g.: *SETN 123456 PHONE5= +37061234567#John*
	PhoneX=DEL	Delete phone number and user name. E.g.: *SETN 123456 PHONE5=DEL*
UUSD	*Uusd code*	Sends UUSD code to the network operator. E.g.: *UUSD 123456 *6789#*
CONNECT	*Protegus=ON*	Connect to *Protegus* cloud service. E.g.: *CONNECT 123456 PROTEGUS=ON*
	Protegus=OFF	Disconnect from *Protegus* cloud service. E.g.: *CONNECT 123456 PROTEGUS=OFF*
	Code=123456	*Protegus* cloud service code. E.g.: *CONNECT 123456 CODE=123456*
	IP=0.0.0.0:8000	Main server connection channel TCP IP and Port. E.g.: *CONNECT 123456 IP=0.0.0.0:8000*
	IP=0	If you wish to disable the main channel E.g.: *CONNECT 123456 IP=0*
	ENC=123456	TRK encryption key E.g.: *CONNECT 123456 ENC=123456*
	APN=Internet	APN name E.g.: *CONNECT 123456 APN=INTERNET*
	USER= user	APN user E.g.: *CONNECT 123456 USER=Peter*
	PSW= password	APN password E.g.: *CONNECT 123456 PSW= 987654*

V. Remote configuration via *TrikdisConfig*

If needed, you can configure *CG17* with program *TrikdisConfig* via USB or remotely.

1. Download *TrikdisConfig* from www.trikdis.com.
2. Make sure that *CG17* is connected to the internet and communication with *Protegus* is enabled (see part **II. Remote control via *Protegus* application**).
3. After opening the program, enter "*IMEI/Unique ID*" number to "*Unique ID"* field and click **Configure**:

	Unique ID	System Name			
Choose module			▾ ⓘ	Configure	Control

In the program, every field is explained with hints that appear after holding the mouse pointer on the required field.

4. Click **Read [F4]** to read the parameters already set in *CG17*.
5. Set the needed settings and after the job is finished click **Save [F5].**