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### DESCRIPTION

GSM remote switch is used to control lighting, heating, etc., by means of GSM mobile (SMS message and/or incoming mobile call). It is mounted in wall 230 V AC socket and it has the possibility of a remote restart of a connected device (relay status changes according to the adjusted time). The device has a wide range of protections as a list of numbers with permission, access password, etc. Its operation range is limited only by GSM network infrastructure and it is not equipped with operator's lock (SIMLOCK).

### FEATURES

- remote control of electric device operation by means of commands (incoming voice call, SMS messages) send from a mobile phone,
- comfortable control of devices with difficult access (ventilation, heating, other),
- three operation modes (switching on, switching off, restart - contact relay position change for adjusted time),
- easy mounting in 230V AC socket,
- operation is optically signalled (power supply, relay status, GSM modem status),
- low power consumption, possibility of constant work.



**CAUTION!**

The device is designed for single-phase installation and must be installed in accordance with standards valid in a particular country. The device should be connected according to the details included in this operating manual.

Installation, connection and control should be carried out by a qualified electrician staff, who act in accordance with the service manual and the device functions.

In case of casing dismantling an electric shock may occur, and the guarantee is lost then. Before installation make sure the connection cables are not under voltage. The cruciform head screwdriver 3,5 mm should be used to instal the device. Improper transport, storage, and use of the device influence its wrong functioning. It is not advisable to instal the device in the following cases: if any device part is missing or the device is damaged or deformed. In case of improper functioning of the device contact the producer.



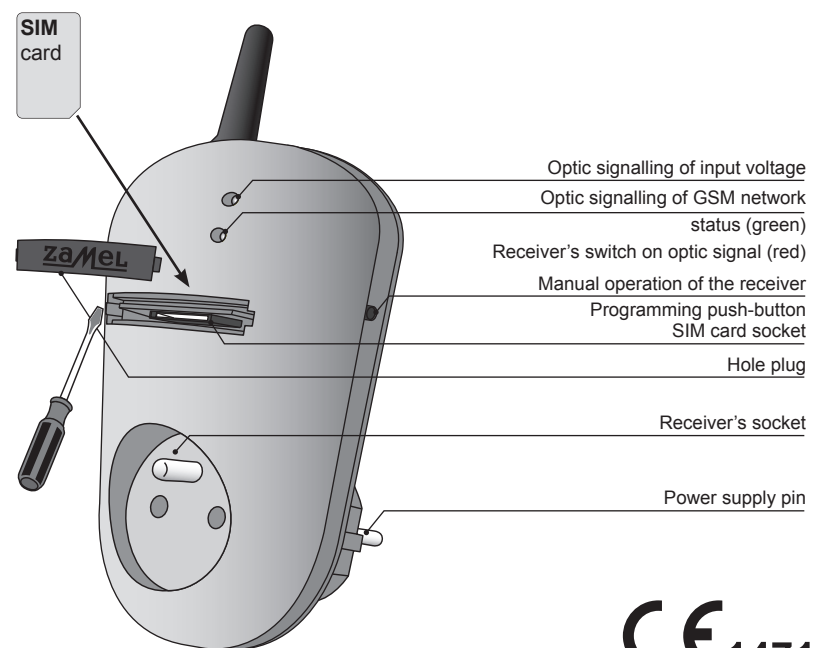
The symbol means selective collecting of electrical and electronic equipment. It is forbidden to put the used equipment together with other waste.

### TECHNICAL DATA

#### GRG-01

Input rated voltage:	230 V AC
Optic signalling of input rated voltage:	LED green diode
Nominal power consumption:	0,5 W / 2,5 W (GSM operation)
GSM frequency:	900/1800/1900 MHz
Operation range:	limited by GSM network structure
Signalling of GSM status:	LED two-coloured diode (green)
Optic signalling of relay status:	LED two-coloured diode (red)
Output contacts' parameters:	1NO 16A / 250V AC AC1 4000 VA
Ambient temperature range:	-10 ÷ +55 °C
Operating position:	free
Casing mounting:	230 V AC socket
Casing protection degree:	IP20 (EN 60529)
Protection level:	II
Overvoltage category:	II
Pollution degree:	2
Surge voltage:	1 kV (EN 61000-4-5)
Dimensions:	160 x 66 x 90 mm
Weight:	0,190 kg
Reference standard:	EN 60950-1:2007 EN 55024:2000 EN 61000-4-4

### APPEARANCE



## OPERATION

GSM remote switch enables remote control of a device connected to mains 230V AC by means of a mobile phone. The control refers to switching on or switching off power supply by means of a relay output with maximum capacity of 16A. Two operating relay output modes are possible:

- ON - relay on (controlled device is switched on, restart is possible),
- OFF - relay off (controlled device is off).

It is possible to control the relay output status by means of an SMS message and a connecting signal. Manual restart is an additional function - by means of a programming push-button. During relay operating mode ON, it is off as long as the push-button is pressed; in OFF mode it is on. Also the connecting signal is used to disconnect the relay for the adjusted time (10 seconds) in ON mode or to connect the relay in OFF mode. During usual operation the relay status can be changed by an SMS message or the controlled device can be restarted.

### Restart by means of an incoming call

After choosing SIM card inserted in GRG-01 device it checks the incoming call number (compulsory CLIP service at GSM operator). Next the device makes sure the incoming call number is on the list of approved numbers and it counts the number of signals.

Achieving adjusted value by a command (ring), GRG-01 device disconnects (mode ON) or connects (mode OFF) the relay output for adjusted time, 't' and rejects the call to inform the user about proper completion of the operation.

### Relay output control by means of an SMS message

The relay output control starts with sending an SMS message (specified syntax message) to the number of a SIM card inserted into GRG-01 device. Password is not required for the SMS messages sent from telephones included in the list of approved numbers. Otherwise the message should start with a password established during configuration phase. Next, the message should include a command. Possible commands:

- *restart* - causes disconnection/connection of the relay output for the adjusted time, 't', and then sends back the command with „ok” message.
- *relay ON* - during operation mode OFF the relay status is changed to mode ON and „ok” message is sent back. If the operation mode is ON - „no change” message is sent back.
- *relay OFF* - during operation mode ON the relay status is changed to mode Off and „ok” message is sent back. If the operation mode is OFF - „no change” message is sent back.
- *read config* - question connected with configuration, (it is also possible in the configuration mode after switching on with pressed push-button) restarter sends back current configuration.
- *relay?* - question connected with relay output status. GRG-01 answer is a message with OFF or ON depending on current operating mode.

In order to activate GRG-01 device it is necessary to prepare SIM card without PIN or with PIN 1111.

In order to instal SIM card it is necessary to remove ZAMEL hole plug by means of a screwdriver. The hole plug must be slightly levered from the left.

## CONFIGURATION

Connect GRG-01 to the mains by pressing programming push-button at the same time. Press the push-button until the LED two-coloured diode (green-red) switches on alternately. Logging of GRG-01 device to GSM network is signalled by a slower switching on of the LED two-coloured diode (green-red) - once per 1 second. Configuration is realised by sending an SMS message from any phone number - the message should be in the form of:

**+XXX <+XXX> <+XXX> <+XXX> <+XXX> ring TTT <relay RRR> <time CCC> <pass PPP>**

An example (capital letters are of no importance):

**+48123456789 +49987654321 ring 4 relay ON time 10 pass password**

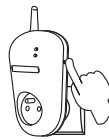
Particular blocks description:

- **+XXX** - telephone number starts with '+' sign and a country number; restart is possible for these numbers by means of an incoming telephone call and a service without a password,
- **ring** - key word - number of signals,
- **TTT** - the number of signals after which the controlled device restart takes place (3 to 5), or in case of signal number bigger than 5 - restart for calling is switched off,
- **relay** - key word - relay,
- **RRR** - relay status (ON - normal-closed NC, OFF - normal-open NO),
- **pass** - key word - password,
- **PPP** - a password to be used in an SMS message for a not authorised telephone (5 to 8 signs),
- **time** - key word - default restart time,
- **CCC** - default restart time from 1 second to 60 seconds,
- **<>** - optional blocks - configuration message does not have to include them.

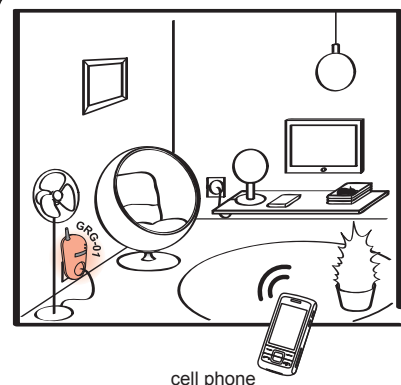
In case of receiving a message including proper configuration command, GRG-01 device sends back a message with the above command and „ok” text. In case of syntax error, GRG-01 device sends back a message with the above command and „error” text. The device saves the values in nonvolatile memory (NVM) just after the configuration is completed. Switch off and switch on the device again without pressing the programming push-button. From that moment new adjustments are applied.

It is possible to adjust default settings in the configuration mode by means of „reset config” message. The „reset config” message causes following configuration adjustment:

- Allowed numbers - none.
- Number of signals until restart - 10 - call restart switched off.
- Relay - OFF.
- Time -10 seconds



## APPLICATION



cell phone

GSM remote switch GRG-01 receives SMS control messages from a mobile.

## CAPACITY

- ☀ 2000 W AC5b
- ⚡ 1000 W AC5a
- ⚡ 750 W AC5a
- ⚡ 500 W AC5a

## WARRANTY CARD

There is 24 months guarantee on the product

1. ZAMEL provides a two-year warranty for its products.
2. The ZAMEL warranty does not cover: a) mechanical defects resulting from transport, loading / unloading or other circumstances b) defects resulting from incorrect installation or operation of ZAMEL products; c) defects resulting from any changes made by CUSTOMERS or third parties, to products sold or equipment necessary for the correct operation of products sold; d) defects resulting from force majeure or other aleatory events for which ZAMEL is not liable; e) power supply (batteries) to be equipped with a device in the moment of sale (if they appear);
3. All complaints in relation to the warranty must be provided by the CUSTOMER in writing to the retailer after discovering a defect.;
4. ZAMEL will review complaints in accordance with existing regulations.;
5. The way a complaint is settled, e.g. replacement of the product, repair or refund, is left to the discretion of ZAMEL.
6. Guarantee does not exclude, does not limit, nor does it suspend the rights of the PURCHASER resulting from the discrepancy between the goods and the contract.

Salesman stamp and signature, date of sale