

QK-G031 GSM REMOTE TEMPERATURE CONTROLLER

EXAMPLE RELAY WIRING AND TEMPERATURE SETTINGS

The G031 is designed primarily for a heating setup but can also be used for cooling. The wiring is different depending on whether you are using the relay for a heating or cooling function.

Heating:

Connect your heating equipment to the G031 in the **normal open** configuration as seen in the table below.

In the Android APP, in the 'OTHER' section : set your temperature ranges to the relevant relays.

Relay ON: the lowest heating activation temperature. (when colder than 'xx', turn on.)

Relay OFF: the highest heater operating temperature. (if warmer than 'xx', turn off.)

(The ON temperature must be at least 1°C lower than the OFF temperature.)

Cooling:

For cooling, reverse the way the relays are wired. Connect your cooling equipment in the **Normal closed** configuration as seen in the table below.

- It is important to understand that relays wired in 'normal closed' position will operate in the opposite way than expected. In this setup off will turn the relay on. This needs to be taken into account during setup.

In the Android APP, in the 'OTHER' section : set your temperature ranges to the relevant relays.

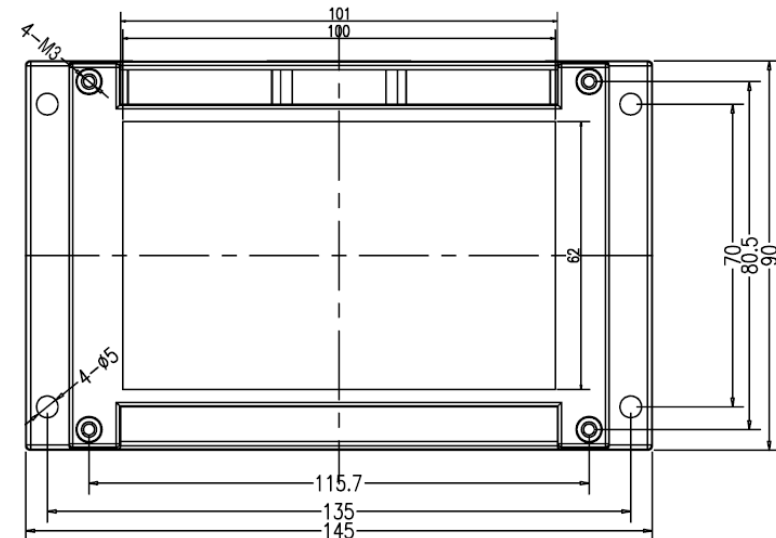
Relay OFF: the highest cooling activation temperature. (when warmer than 'xx', turn on.)

Relay ON: the lowest cooling operating temperature. (if colder than 'xx', turn off.)

(The ON temperature must be at least 1°C lower than the OFF temperature.)

- What You Need
- Installation Overview
- Notes

Example setting and wiring to maintain temperature at 25-40°C		
Connected Device	Heater	Cooler
ON-OFF settings	25°C - 30°C	35°C - 40°C
Relay configuration	<p>Normal open (NO) common</p>	<p>common Normal closed (NC)</p>



All products are CE, RoHS certified
www.quark-elec.com

Disclaimer

It is the user's responsibility to use this product prudently. Neither Quark-elec, nor their distributors or dealers accept responsibility or liability either to the product user or their estate for any accident, loss, injury or damage whatsoever arising out of the use or of liability to use this product.





This is an overview only. Familiarize yourself with the manual and the manuals of any connecting devices before installation. It is always recommended that electronic equipment be installed by an experienced installer.

YOU WILL NEED:

1. SIM card:

- **SIM must operate on the GSM (2G) network for this version.** Check with your SIM supplier.
- **Credit on the SIM (we recommend automatic top-ups)**
- **The SIM is not PIN protected**
- **The SIM is set to disable voicemail**
- **Avoid SIM cards that deactivate automatically if the SIM is not used often.** If your G031 is likely to be unused for long periods of time, you will have to send the G031 an update request periodically to keep the SIM card active. The time limit is often three months.

2. Power supply cable: long enough to reach your device in its final location.

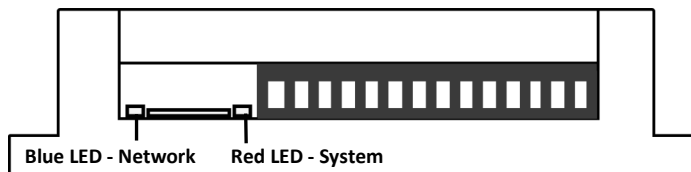
3. Check there is mobile network reception for your SIM card in the location that your device will be installed (you can check the SIM card in a mobile phone).

4. Temperature sensors (included) which come in 1, 2 and 6 metre lengths and can be shortened or extended (we recommend a maximum of 8 metres for best results).

5. Optional liquid cell 12.0V battery: Can be plugged into G031 for back up power.

INSTALLATION

- 1. Download and install the APP** <https://www.quark-elec.com/downloads/APPs/>
- 2. Select G031 location:** location must be indoors and not exposed to water or high humidity.
- 3. Connect the relay outputs** (if required): check relay setup for whether you want relays in normal open (NO) or normal closed (NC) position. See back page .
- 4. Connect alarm inputs** (if required) to the correct terminal: alarm inputs (INT) 1/2 will activate relay 1/2 respectively. The G031 is compatible with inputs that send signals as a switch (by closing the circuit) and alarm inputs that send a low voltage signal.
- 5. Connect temperature sensors** by inserting the connector block into the slots at the back of the G031. Good practice is to label each sensor and its corresponding relay. This will help later on.
- 6. Insert your SIM into the G031 device** (make a note of the SIM number first for reference).
- 7. Connect to power:** Check LEDs are working correctly.



- **Blue Network LED:** LED will flash blue at start up as it is connecting to a network. Once connected, the LED will flash once every 2 to 3 seconds.
- **Red System LED:** will flash at 1 second intervals once the system has finished initialization. The LED will not flash while the G031 is processing a command.

8. Hold down reset button for 10 seconds.

9. Register the main phone number that will control the device within 10 minutes of powering up the G031 by texting '88888888' from your chosen phone to G031 SIM card. If registration is successful, the module will reply with 'Your phone has been registered'. If unsuccessful, the module will reply with 'registered disabled'. If registration is unsuccessful, Hold down reset button for 10 seconds and reattempt registration within 10 minutes. The system LED will flash at one second intervals once the registration is completed. You can add up to three additional control mobile phones (check the manual for full list of text command codes).

OPERATION

You can send commands and receive updates by SMS text or the text generating android APP.

- Remember, the device processes one command at a time. Each command will have a reply to confirm the command has been received and executed. You must wait for a reply message before sending another command. **All SMS text commands must always be sent using CAPITAL letters. Do not add spaces or any other characters.**

Automated relay operating setting for relay 1/ 2 can be changed by adjusting the small jumpers inside the enclosure.

- **Self-lock control:** When activated, the relay will stay on until it receives a different command.
- **Latching control:** When activated, the relay will stay on for a period of seconds, determined by the user (3, 6, 9 or 12 seconds). It will then return to its normal state.



- **When an alarm is triggered, the relay will stay locked ON until you send the command "EXTRT" to reset alarm (even if set to latching mode).**
- **Temperature settings will always override alarm inputs and commands.**

QUICK SMS COMMANDS

- **Set the temperature limit for relays,** text **TEMPnxxxxtoxxxx#'** (replace 'n' with the relay number). Xxxx is a 4 bit signed number ranges from -055 to +125, indicating the setting temperature. The first xxxx is the 'switch on' temperature and the second xxxx is for 'switch off' temperature. ON temperature must be at least 1°C lower than the OFF temperature.
- **To turn relay on,** text **'DKYn'** (replace 'n' with the relay number).
- **To turn relay off,** text **'GBYn'** (replace 'n' with the relay number).
- **To run a relay for a short while,** text **'ONOFFRnxxx#'**. Replace 'n' with the relay number (1 or 2) and replace 'xxx' with the delay times (from 001 to 999 seconds). This is a one off command and will not affect future actions.
- **To disable the external alarm input,** text **'EXTGBn'** (replace 'n' with the relay number). To reset all external alarm inputs, text **'EXTRT'**.
- **To add an additional mobile number,** text **'BDn(mobile number)F'**, replacing 'n' with '1', '2' or '3' according to a number of an additional mobile device.

A full list of SMS commands can be found in the manual.

Daily timer settings: Relays 1 and 2 support a daily timer function. This is useful for turning the relays on and off without having to message the device. The relays will switch ON/OFF daily according to the timer settings.