

1 ADJUSTMENT AND CONTROL ACCESSORIES



Table 1.1 p. 1 shows the control and adjustment devices currently available as optional and shows their use

in relation to gas unit heater series.

Table 1.1 Adjustment and control accessories

Models	Adjustment and control								
	OCDS012 1-key basic control	OCTR000 2-key basic control	OTRG005 thermoregulator	OCDS008 digital chronothermostat	OSWR000 Genius software	012301035 room thermostat	012301025 sealed room thermostat	OCDS005 digital programmable chronothermostat	Digital chronothermostat G and K series
G30	-	-	-	-	-	-	-	-	• (1)
G45	-	-	-	-	-	-	-	-	• (1)
G60	-	-	-	-	-	-	-	-	• (1)
G100	-	-	-	-	-	-	-	-	• (1)
K32	-	-	-	-	-	-	-	-	• (1)
K45	-	-	-	-	-	-	-	-	• (1)
K60	-	-	-	-	-	-	-	-	• (1)
K100	-	-	-	-	-	-	-	-	• (1)
R15	•	•	•	•	•	•	•	•	-
R20	•	•	•	•	•	•	•	•	-
R30	•	•	•	•	•	•	•	•	-
R40	•	•	•	•	•	•	•	•	-
R50	•	•	•	•	•	•	•	•	-
R60	•	•	•	•	•	•	•	•	-
R80	•	•	•	•	•	•	•	•	-
M20	• (1)	•	•	•	•	•	•	•	-
M25	• (1)	•	•	•	•	•	•	•	-
M30	• (1)	•	•	•	•	•	•	•	-
M35	• (1)	•	•	•	•	•	•	•	-
M40	• (1)	•	•	•	•	•	•	•	-
M50	• (1)	•	•	•	•	•	•	•	-
M60	• (1)	•	•	•	•	•	•	•	-




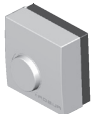


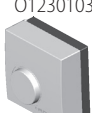
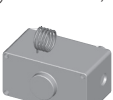
- Applicable
- Not applicable
- 1 Supplied with the appliance.



Some of the control devices described above can be used in combination with each other to achieve more complex functions, while others (such as thermostats) are alternatives.

Refer to Table 1.2 p. 1 below for a summary description of the controls to be used depending on the desired functionality.

Table 1.2 Available features depending on controls

Features	Optional to request	Description
Signalling and reset flame locking	OCDS012 	Light signalling the status of the flame lockout. Reset of the flame lockout.
Signalling and reset flame locking Summer/winter switching	OCTR000 	Light signalling the status of the flame lockout. Reset of the flame lockout. Summer ventilation mode activation.
Signalling and reset flame locking Turning the gas unit heater on/off Room temperature control	OCDS012  012301035 (alternatively 012301025)  (alternatively )	Light signalling the status of the flame lockout. Reset of the flame lockout. Turning the gas unit heater on/off. Space heating setpoint setting.
Signalling and reset flame locking Summer/winter switching Turning the gas unit heater on/off Room temperature control	OCTR000  012301035 (alternatively 012301025)  (alternatively )	Light signalling the status of the flame lockout. Reset of the flame lockout. Summer ventilation mode activation. Turning the gas unit heater on/off. Space heating and summer ventilation setpoint setting.

Features	Optional to request		Description
Signalling and reset flame locking Turning the gas unit heater on/off Multi-level room temperature control Hourly programming	OCDS012 	OCDS005 	Light signalling the status of the flame lockout. Reset of the flame lockout. Turning the gas unit heater on/off. Room temperature measurement. Automatic operation according to the set weekly programming.
Signalling and reset flame locking Summer/winter switching Turning the gas unit heater on/off Multi-level room temperature control Diagnostics		OTRG005 	Turning the gas unit heater on/off. Ambient temperature measurement by NTC probe. Diagnostics. Reset of the flame lockout. Gas unit heater data display and parameters setting. Space heating and summer ventilation setpoint setting. Automatic management of power modulation. Summer ventilation mode activation. Possibility of creating cascaded systems. Modbus interfacing for remote control.
Signalling and reset flame locking Summer/winter switching Turning the gas unit heater on/off Multi-level room temperature control Diagnostics Hourly programming Control of several gas unit heaters (up to 10)	OTRG005 	OCDS008 	Multilingual interface. Gas unit heaters cascade system management (up to 10). Hourly programming on a weekly basis on 3 temperature levels. Diagnostics. Reset. Gas unit heater data display and parameters setting. Space heating and summer ventilation setpoint setting. Automatic management of power modulation. Summer ventilation mode activation.
Signalling and reset flame locking Summer/winter switching Turning the gas unit heater on/off Multi-level room temperature control Diagnostics Hourly programming via PC Control of several gas unit heaters (up to 100) via PC Management of gas unit heaters divided into zones (up to 10) via PC	OTRG005 	OSWR000	Centralized system to control up to 100 gas unit heaters. Division of gas unit heaters into zones, up to 10 different zones. Independent or centralized gas unit heaters control. Remote control of the system from multiple devices. Diagnostics, also by email. Reset. Gas unit heater data display and parameters setting. Space heating and summer ventilation setpoint setting. Automatic management of power modulation. Summer ventilation mode activation.

For further information regarding the functionality of the control and adjustment devices, please refer to the respective Paragraphs below.

1.1 OCDS012 1-KEY BASIC CONTROL

Figure 1.1 OCDS012 1-key basic control



OCDS012 1-key basic control signals the flame lockout and allows its resetting.

Its functions are:

- ▶ Light signalling the status of the flame lockout.
- ▶ Reset of the flame lockout.



How to connect the OCDS012 1-key basic control

1. The control must be installed on the wall in a suitable position, using expansion screws.
2. Use 3x1 mm² cable for connection.

3. Connect the wires to the terminal block as shown in Figure 1.2 p. 2.

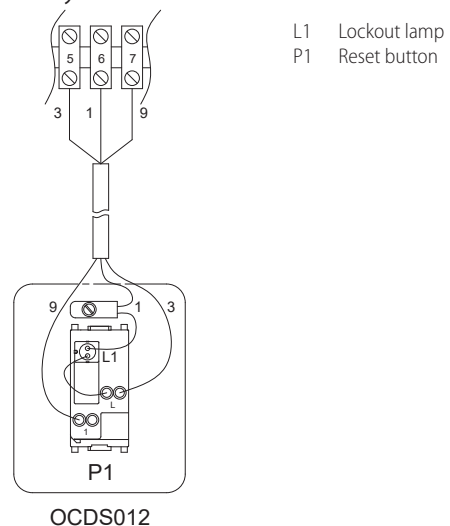


The cable may not be longer than 20 metres.



For further information refer to the instruction sheet supplied with the OCDS012 optional.

Figure 1.2 1-key basic control connection



1.2 OCTR000 2-KEY BASIC CONTROL

Figure 1.3 OCTR000 2-key basic control




OCTR000 2-key basic control signals the flame lockout and allows its resetting. In addition, it allows activating the summer ventilation mode.

Its functions are:

- ▶ Light signalling the status of the flame lockout.
- ▶ Reset of the flame lockout.
- ▶ Summer ventilation mode activation.

How to connect OCTR000 2-key basic control

1. The control must be installed on the wall in a suitable position, using expansion screws.
2. Use FRORR 6x1 mm² cable (available as OCVO015 optional, with 5 m length).
3. Connect the wires to the terminal block as shown in Figure 1.4 p. 3.

 The cable may not be longer than 20 metres.


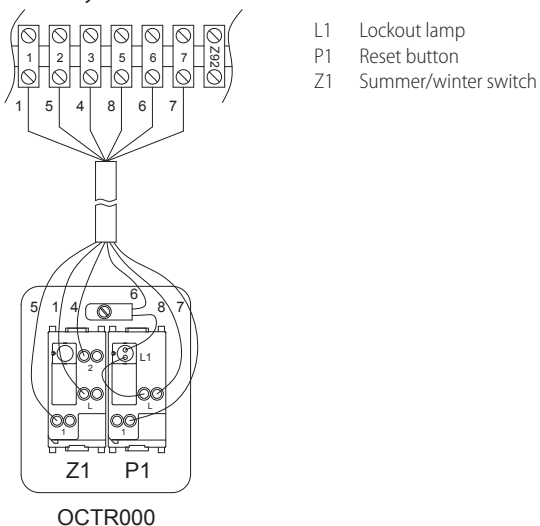
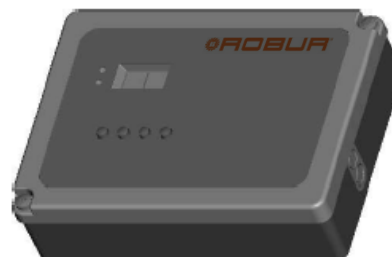
 For further information refer to the instruction sheet supplied with the OCTR000 optional.

Figure 1.4 2-key basic control connection



1.3 OTRG005 THERMOREGULATOR

Figure 1.5 OTRG005 thermoregulator




The thermoregulator is a device that can directly manage gas unit heaters: the simple and intuitive display interface allows the user to change the control parameters, manage the power on/off and change the operating mode (heating or summer ventilation); a serial interface also allows to create cascading systems managed by a single chronothermostat (optional OCDS008, described in Paragraph 1.4 p. 4), with considerable advantages in terms of temperature control, especially in large spaces.

The main functions are:

- ▶ Turning the gas unit heater on/off.
- ▶ Ambient temperature measurement by NTC probe.
- ▶ Diagnostics.
- ▶ Reset of the flame lockout.
- ▶ Gas unit heater data display and parameters setting.
- ▶ Space heating and summer ventilation setpoint setting.
- ▶ Automatic management of power modulation.
- ▶ Summer ventilation mode activation.
- ▶ Possibility of creating cascaded systems.
- ▶ Modbus interfacing for remote control.

How to connect OTRG005 thermoregulator to Next-R series gas unit heaters

1. The thermoregulator must be installed on the wall in a suitable position, using expansion screws.
2. Connection of the thermoregulator is made on the wiring terminal block located in the electrical panel inside the unit.
3. Remove 27 and 28 temporary jumpers on the terminal block.
4. Use FRORR 7x1 mm² cable (available as OCVO015 optional, with 5 m length).
5. Make electrical connections as described in Figure 1.6 p. 4 and in Table 1.3 p. 3.

 The cable may not be longer than 10 metres.


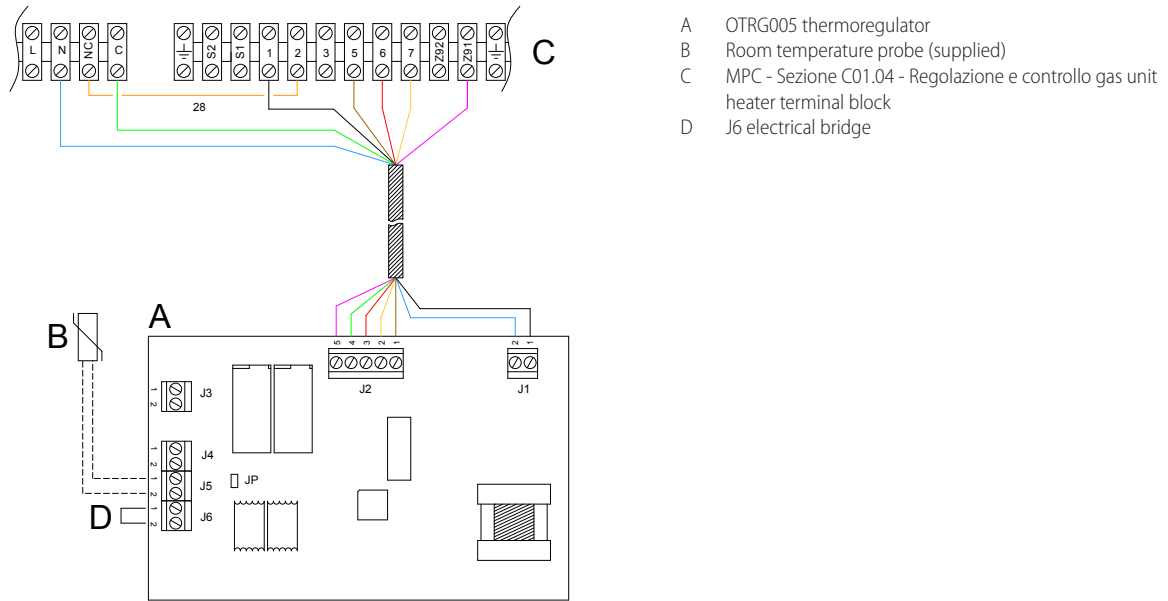
 For further information refer to the instruction sheet supplied with the OTRG005 optional.

Table 1.3 OTRG005 thermoregulator connection

		OTRG005 thermoregulator	Adjustment and control
J1	1	Line	1
	2	Neutral	N
J2	1	OF	5
	2	RES	7
	3	LF	6
	4	FAN	C
	5	REQ	Z91

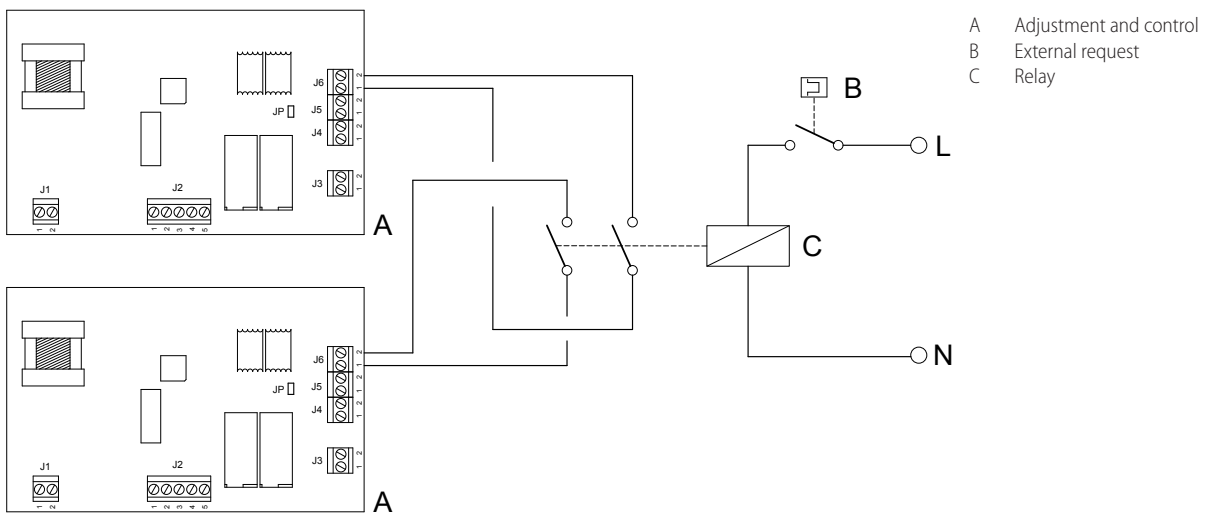
Figure 1.6 OTRG005 thermoregulator connection



- A OTRG005 thermoregulator
- B Room temperature probe (supplied)
- C MPC - Sezione C01.04 - Regolazione e controllo gas unit heater terminal block
- D J6 electrical bridge

1.3.1 Connecting multiple gas unit heaters

Figure 1.7 Example of connection of several OTRG005 thermoregulators to an external request



- A Adjustment and control
- B External request
- C Relay

1.4 OCDS008 DIGITAL CHRONOTHERMOSTAT

Figure 1.8 OCDS008 digital chronothermostat



OCDS008 digital chronothermostat integrates the functions of room temperature control and remote control of the gas unit

heaters heating system in a single interface, specifically designed to make all functions available to the user in a clear and intuitive way.

It may be used only in association with the OTRG005 thermoregulator.

The remote control of the heating system allows managing the operational parameters of more than one gas unit heater with the relative control boards connected in cascade and also resetting any locking.

The weekly programming includes 3 adjustable temperature levels and daily times slots.

The main functions are:

- ▶ Multilingual interface.
- ▶ Gas unit heaters cascade system management (up to 10).
- ▶ Hourly programming on a weekly basis on 3 temperature levels.
- ▶ Diagnostics.
- ▶ Reset.

- ▶ Gas unit heater data display and parameters setting.
- ▶ Space heating and summer ventilation setpoint setting.
- ▶ Automatic management of power modulation.
- ▶ Summer ventilation mode activation.



How to connect the OCDS008 digital chronothermostat to Next-R series gas unit heaters

1. The chronothermostat must be installed on the wall in a suitable position, using expansion screws.
2. Connection of OCDS008 chronothermostat is made on OTRG005 thermoregulator, which is necessary for the use of the chronothermostat.
3. Make electrical connections as described in Figure 1.9 p. 5.

4. OTRG005 thermoregulator is connected as described in Paragraph 1.3 p. 3.
5. To connect OCDS008 chronothermostat to OTRG005 thermoregulator, use a two-pole cable (e.g. H03RR-F or H03VV-F) with a section between 0,5 mm² and 2,5 mm².
6. In rooms with high electromagnetic noise, it is recommended to use shielded cable.



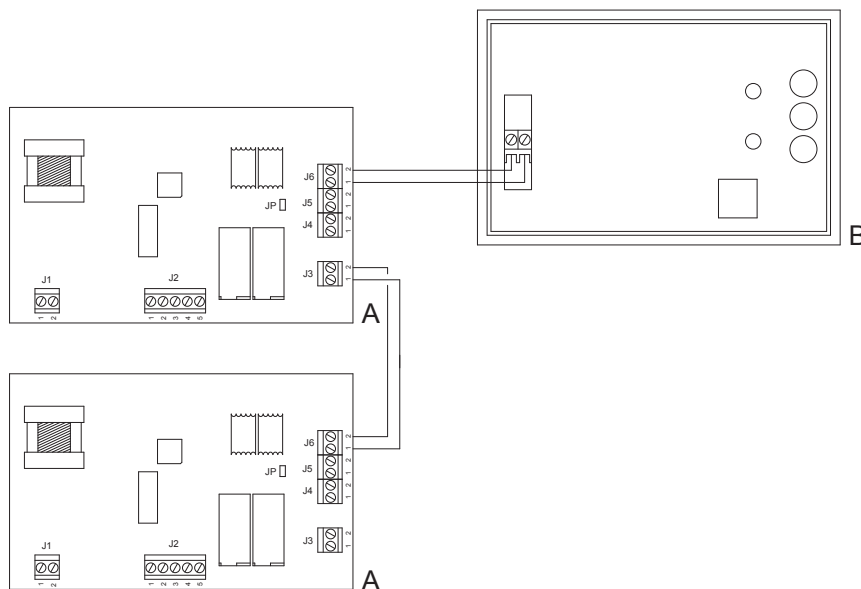
The cable may not be longer than 50 metres.



For further information refer to the instruction sheet supplied with the OCDS008 optional.

1.4.1 Connecting multiple gas unit heaters

Figure 1.9 OCDS008 digital chronothermostat connection



A OTRG005 thermoregulator

B OCDS008 digital chronothermostat

1.5 OSWR000 GENIUS SOFTWARE FOR REMOTE MANAGEMENT OF GAS UNIT HEATERS

This is a software that allows, through the OTRG005 thermoregulators, to centralize the management of up to 100 gas unit heaters, allowing them to be freely divided into zones, for an even more personalized heating management.

If the PC on which the software is installed is accessible remotely, the software allows remote management of the whole heating system from multiple devices, as well as sending emails to report any anomalies to the gas unit heaters or to the heating system. The main functions are:

- ▶ Centralized system to control up to 100 gas unit heaters.
- ▶ Division of gas unit heaters into zones, up to 10 different zones.
- ▶ Independent or centralized gas unit heaters control.
- ▶ Remote control of the system from multiple devices.
- ▶ Diagnostics, also by email.
- ▶ Reset.
- ▶ Gas unit heater data display and parameters setting.
- ▶ Space heating and summer ventilation setpoint setting.

- ▶ Automatic management of power modulation.
- ▶ Summer ventilation mode activation.

OSWR000 Genius software for remote management of gas unit heaters comes with a PC Windows setup package and installation instructions.

The Modbus connection between the PC and OTRG005 thermoregulators must then be made, using the specific USB/RS485 converter, supplied.



How to connect OTRG005 thermoregulator to Next-R series gas unit heaters

OTRG005 thermoregulator is connected as described in Paragraph 1.3 p. 3.



How to make Modbus connection to Next-R series gas unit heaters

1. Access the J4 connection terminal block on OTRG005 thermoregulator.
2. Use unshielded 2x0,5 mm² twisted cable.
3. Connect the wires to the USB/RS485 converter terminal block as shown in Figure 1.10 p. 6.

- Insert the USB converter into the PC. The device drivers will be downloaded and installed automatically if the PC is online.

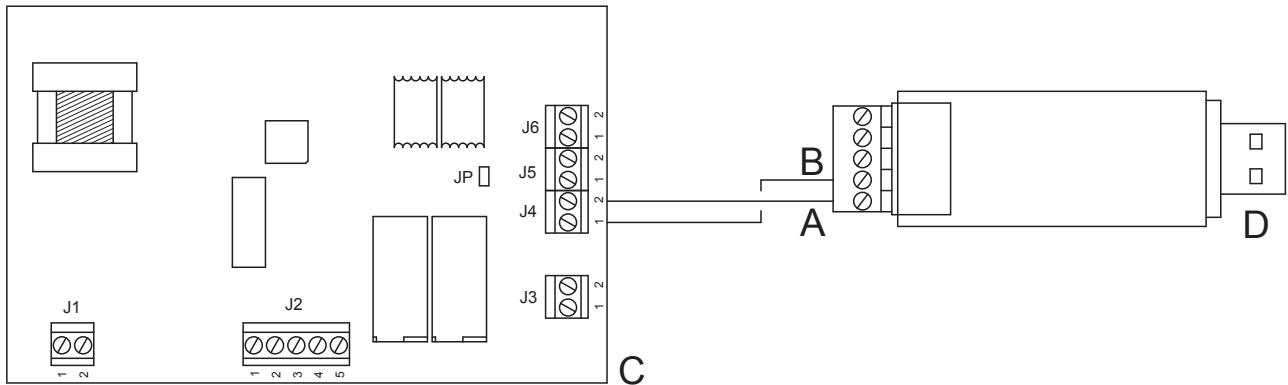


For further details and diagrams see the Genius software instruction sheet for remote control of the OSWR000 generators.



The cable may not be longer than 1100 metres.

Figure 1.10 USB/RS485 converter connection

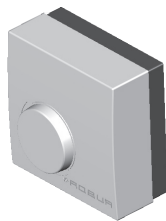


A A signal
B B signal

C OTRG005 thermoregulator
D USB/RS485 converter

1.6 O12301035 ROOM THERMOSTAT

Figure 1.11 O12301035 room thermostat



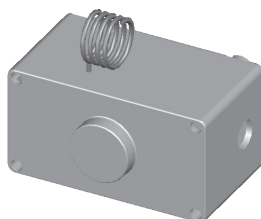
The O12301025 room thermostat is a request device equipped with NO voltage-free contact, for the start/stop of the gas unit heater.

The protection rating is IP 20.

To connect the room thermostat refer to Paragraph 1.7.1 p. 6.

1.7 O12301025 SEALED ROOM THERMOSTAT

Figure 1.12 O12301025 sealed room thermostat



The O12301035 room thermostat is a request device equipped with NO voltage-free contact, for the start/stop of the gas unit heater.

It is particularly suitable for use in environments with high humidity or air acidity, such as greenhouses and livestock farms.

The protection rating is IP55.

To connect the room thermostat refer to Paragraph 1.7.1 p. 6.

1.7.1 How to connect the ambient chronothermostat



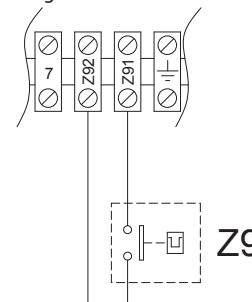
How to connect the external request for gas unit heater start/stop management

- Connect the voltage-free contact of the external request, using a 2x1 mm² cable, to Z9-Z9 terminals of the terminal block, as shown in Figure 1.13 p. 6.



The cable may not be longer than 20 metres.

Figure 1.13 Connection of external request for gas unit heater start/stop management



Z9 External request (e.g. thermostat, timer, switch, ...)

1.8 OCDS005 DIGITAL PROGRAMMABLE CHRONOTHERMOSTAT

Figure 1.14 OCDS005 digital programmable chronothermostat



The digital programmable chronothermostat allows automatic operation according to the programming. Its functions are:

- ▶ Turning the gas unit heater on/off.
- ▶ Room temperature measurement.
- ▶ Automatic operation according to the set weekly programming.
- ▶ Manual operation.
- ▶ Operation in holiday mode.
- ▶ Antifreeze function.

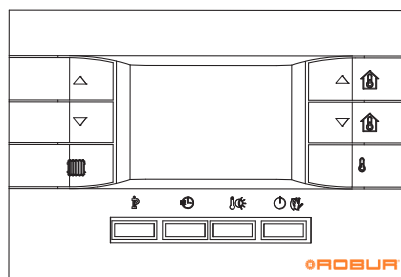
The device is battery powered and therefore requires no external power supply.



For further information refer to the instruction sheet supplied with the OCDS005 programmable chronothermostat.

1.9 DIGITAL CHRONOTHERMOSTAT G AND K SERIES

Figure 1.15 Digital chronothermostat



The digital chronothermostat is supplied with the G and K series gas unit heaters. Its functions are:

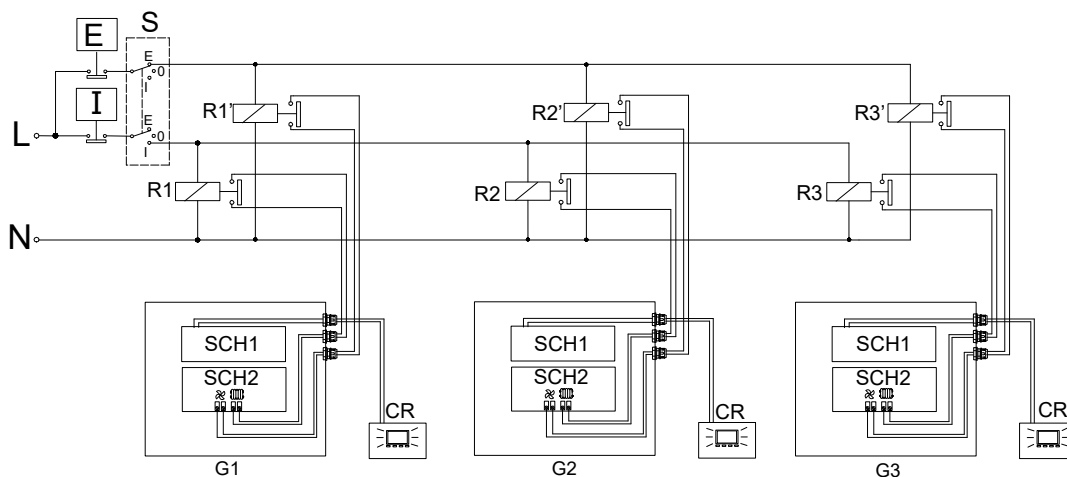
- ▶ Hourly programming on a weekly basis on 3 temperature levels.
- ▶ Diagnostics.
- ▶ Reset.
- ▶ Gas unit heater data display and parameters setting.
- ▶ Space heating and summer ventilation setpoint setting.
- ▶ Automatic management of power modulation.
- ▶ Summer ventilation mode activation.
- ▶ Timed off operation (holiday program).
- ▶ Timed manual operation (party).
- ▶ Keypad lock function.



For further information, refer to the instructions in the installation, use and maintenance manual for the G and K series gas unit heaters.

1.9.1 Connecting multiple gas unit heaters

Figure 1.16 Wiring diagram for controlling multiple gas unit heaters with external enables



- E Gas unit heaters summer operation enable
- I Gas unit heaters winter operation enable
- R1'-3' Relay for the winter operation enable of the gas unit heaters
- R1-3' Relay for the summer operation enable of the gas unit heaters
- S Summer/winter selector switch
- SCH1 Control board

- SCH2 Motor board
- G1-3 Gas unit heater
- CR Chronothermostat
- WARNING: Each gas unit heater must be connected to the respective chronothermostat

1.10 CONTROL OF MULTIPLE GAS UNIT HEATERS WITH A SINGLE EXTERNAL REQUEST

In the case of centralized management of multiple gas unit heaters start/stop, advice given is to use:

- ▶ The OTRG005 thermoregulator (one for each gas unit heater), suitably controlled via relay (Paragraph 1.3.1 p. 4).
- ▶ The OCDS008 digital chronothermostat (Paragraph 1.4.1 p. 5), combined with the OTRG005 thermoregulator (one thermoregulator for each gas unit heater), up to 10 gas unit heaters.
- ▶ OSWR000 Genius software for remote control (Paragraph 1.5 p. 5), combined with the OTRG005 thermoregulator (one thermoregulator for each gas unit heater), up to 100

gas unit heaters.

- ▶ The digital chronothermostat for G and K series (one for each gas unit heater), suitably controlled via relay (Paragraph 1.10 p. 8).

If you do not want to use these devices, or their use is not allowed (Table 1.1 p. 1), the centralized on/off management can be carried out as described in Figure 1.17 p. 8, using a programmable timer and several room thermostats. The room thermostats connected to each gas unit heater allow activating the gas heater itself only when the specific zone has an effective need for heat, avoiding energy waste. The programmable timer allows subordinating the gas heater start-up, even when requested by the room thermostat, to a centralized request.

Figure 1.17 Multiple appliances wiring diagram with one programmable timer and more room thermostats

