# COMPUTHERM Q3 RF

wireless (radio-frequency) digital
**room thermostat**

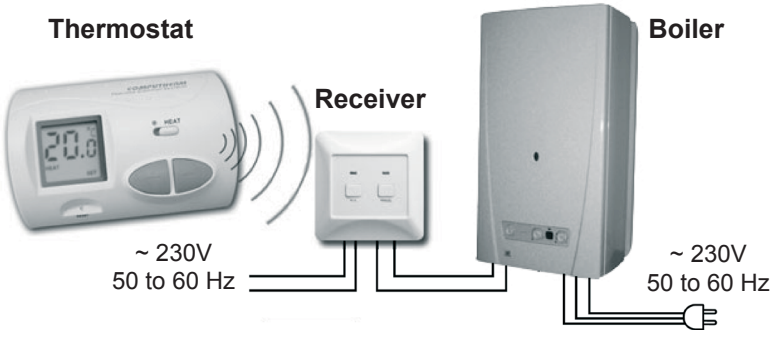

*Operating Instructions*

## GENERAL DESCRIPTION OF THE THERMOSTAT

The ***COMPUTHERM Q3 RF*** type switched-mode room thermostat is suitable to regulate the overwhelming majority of boilers available in Hungary. It can easily be connected to any gas boiler or air conditioning device that has a double wire connector for a room thermostat, regardless of whether it has a 24 V or 230 V control circuit.

Temperature can be measured more precisely as compared to simple, conventional thermostats. In accordance with the selected switching sensitivity, the thermostat will switch the boiler or any other appliances on and off below and above the adjusted temperature, respectively, and contributes to reduce energy costs while maintaining comfort.

The device consists of two units. One of them is the portable control unit (thermostat), while the other unit is the receiver that controls the boiler. Because there is a wireless (radio-frequency) connection between the two units, no cable is required between the thermostat and the boiler. The two units have been tuned in the factory so that they operate at the same frequency. The trouble-free operation is ensured by its own security code.




To increase the lifetime of the batteries, the thermostat will not transmit signals continuously. It will only send signals to the receiver whenever it should perform a switch.

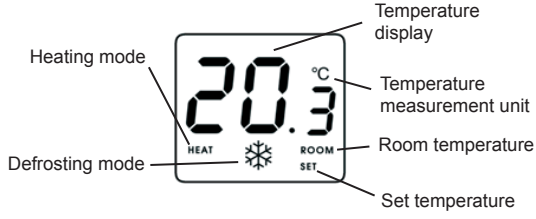
**The portability of the thermostat offers the following advantages:**

- no need to lay a cable, which is especially advantageous when old buildings are being modernized
- optimal location of the device can be selected during operation
- it is also advantageous when you intend to locate the thermostat in different rooms in the course of the day (e.g. in the living room during the day but in the bedroom at night)

The effective range of the transmitter incorporated in the thermostat is approximately 50 m in open terrain. This distance may become considerably shorter within a building, especially when a metal structure or a reinforced concrete wall stands in the way of radio waves.

The switching sensitivity of the thermostat is ± 0.2°C (± 0.3°C). This means the difference between the adjusted temperature and the actual temperature measured during the switching process. For example, if the factory default setting is 20°C on the thermostat, then the device switches the boiler on at 19.8°C or below, and switches it off at 20.2°C or above.

**The information shown on the liquid crystal display of the thermostat includes the following:**




This wireless (radio-frequency) thermostat can also be extended with the ***COMPUTHERM Q1 RX*** socket if needed, with which the thermostat is able to control boilers or any other electrical devices operating on 230 V (50Hz; max. 10A) (e.g. fan heaters, pumps, zone valves, etc.) according to the room temperature. (For more information please consult our website).

# 1. LOCATION OF THE DEVICE

The thermostat of the ***COMPUTHERM Q3 RF*** type device can be freely moved in your residence. It is reasonable to locate it in a room used regularly or for many hours per day so that it is in the direction of natural ventilation in the room but protected from drought or extreme heat (e.g. direct sunlight, refrigerator, chimney, etc). Its optimal location is 1.5 m above floor level. It can be placed on its own stand or can be mounted on a wall.

***IMPORTANT WARNING!*** *If the radiator valves in your flat are equipped with a thermostatic head, replace the thermostatic head of the radiator valve with manual control knob or adjust it to maximum temperature in the room where the room thermostat is to be located, otherwise the thermostatic head may disturb the temperature control of the flat.*

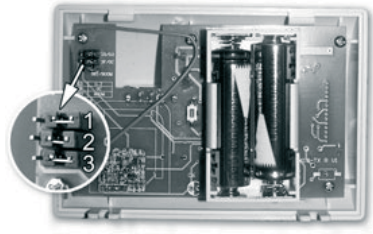
# 2. PUTTING THE THERMOSTAT INTO OPERATION, BASIC SETTINGS

To put the thermostat into operation, detach the rear panel of the thermostat from the front panel by loosening the screws at the bottom of the cover as shown in the figure.

The battery compartment is in the inner side of the front panel of the housing. Insert 2 AA alkaline batteries (LR6 type) in accordance with the diagram in the battery compartment. After the batteries have been inserted, the display flashes the measured room temperature. (If this information fails to appear on the display, press the „**RESET**" button with a wooden or plastic stick. To press the button, do not use any electrically conductive materials or graphite pencil).

## 3. DEFAULT SETTINGS

After removing the rear panel of the device, the following factory default settings can be modified by relocating the jumpers (black plugs) located on the base panel.




### 3.1 Modifying the Switching Sensitivity

The switching sensitivity of the thermostat can be selected or adjusted by the uppermost jumper.

The factory default switching sensitivity (the difference between the adjusted temperature and the temperature measured when the device is switched on or off) is ± 0.2°C that can be modified to ± 0.3°C by relocating the plug onto the left and central pins.

### 3.2 Changing the Unit of Measurement of the Displayed Temperature

The unit of measurement of the temperature shown on the LCD display can be selected and set by the central jumper.

With factory default settings the display shows the temperature in °C (Celsius) which can be modified to °F (Fahrenheit) by relocating the plug onto the left and central pins.

### 3.3 Changing the Displayed Temperature

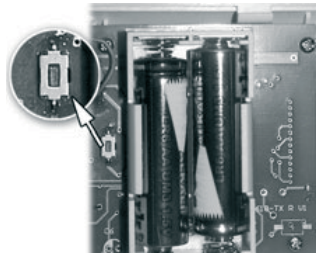
The temperature(s) to be shown on the LCD display can be selected and set by the bottommost jumper.

With factory default settings the display shows the currently measured room temperature value, while the notice "**ROOM**" appears in the bottom right corner of the display. The adjusted temperature is visible only during the adjustment process (for approximately 15 seconds). By relocating the plug onto the left and central pins the displayed temperature

can be modified so that the display alternately shows the current room temperature and the adjusted temperature for 4 seconds, respectively. In this mode, notices "**ROOM**" and "**SET**" are alternately shown under the currently displayed temperature in the bottom right corner of the display, indicating whether the display shows the room temperature or the adjusted temperature value.

***Attention!*** *To modify the factory default settings after inserting the batteries, press the "Reset" button with a small wooden or plastic stick to activate them.*

### 3.4 Synchronising the Thermostat and the Receiver Unit



In order to have a safe, reliable and trouble-free wireless (radio-frequency) connection, both the thermostat and the receiver unit have their own safety codes. After installing the receiver unit, the two units should be synchronised by pressing the "**LEARN**" button next to the battery compartment of the thermostat. Therefore do not replace the rear panel of the thermostat onto the front panel before synchronisation. The process of synchronisation is described in Section 7.2.

## 4. SETTING THE DESIRED TEMPERATURE

The factory default temperature was set to 20°C and in case of the default switching sensitivity (± 0.2°C), the thermostat switches on and off the connected heating appliance below 19.8°C and above 20.2°C, respectively. This default temperature can be freely changed in steps of 0.5 between 10°C and 30°C as follows:

- Press the – or + button and the notice „**SET**" (adjusted

value) appears in the bottom right corner of the display, while the temperature value shown on the display switches from room temperature to the default temperature (20.0°C) or to the last set temperature (the set temperature is blinking on the display). Pressing the buttons repeatedly or continuously (the change in values is accelerated), the desired temperature to be maintained at the place where the thermostat has been installed can be set in steps of 0.5°C.

- Approximately 15 seconds after setting the room temperature to be maintained, the device automatically switches to normal mode. The notice „**SET**" disappears from the bottom right corner of the display, and once again the current room temperature is displayed.

## 5. OPERATION OF THE INSTALLED THERMOSTAT


After connecting, commissioning and performing basic settings and setting the temperature, the thermostat is ready for operation and controls the connected devices according to the position, i.e. **HEAT** or Defrosting ( ) of the operating mode switch located above the push buttons for temperature adjustment.

### 5.1 Heating Mode (right hand position of the switch)

According to the change in room temperature and temperature setting, the device controls (switches on or off) the boiler or any other heating equipment connected to the appliance. When activated, the normally open contact pairs, i.e. No. **1** (NO) and No. **2** (COM), of the relay of the device clamp shut, and, as a consequence, the appliance connected to the thermostat is switched on. The appearance of the notice "**HEAT**" in the bottom left corner of the display indicates that the device is activated.

### 5.2 Defrosting Mode (left hand position of the switch)

In the left hand position of the operating mode switch the thermostat provides defrosting in the vicinity of the installation, and, in order to avoid the possibility of freezing, it switches the boiler or any other heating appliances connected to the thermostat on and off below and above +7.0°C, respectively. During defrosting the normally open contact pairs, i.e. No. **1** (NO) and No. **2** (COM) of the relay of the receiver unit clamp shut and, as a consequence, the device connected to the receiver unit is switched on. The activated state is indicated by the appearance of a ❄ (snowflake) icon on the LCD display. During defrosting the temperature adjustment buttons are inactive.

## 6. BATTERY REPLACEMENT

The average lifetime of the batteries is 1 year. The "bA" icon alternately replacing the temperature value on the LCD display indicates low battery voltage. Replace the batteries whenever the "bA" icon indicating low battery voltage appears on the display (see Section 3). After battery replacement, the desired temperature should be adjusted again, because during the battery replacement the thermostat is reset to factory default settings.

## 7. THE RECEIVER UNIT

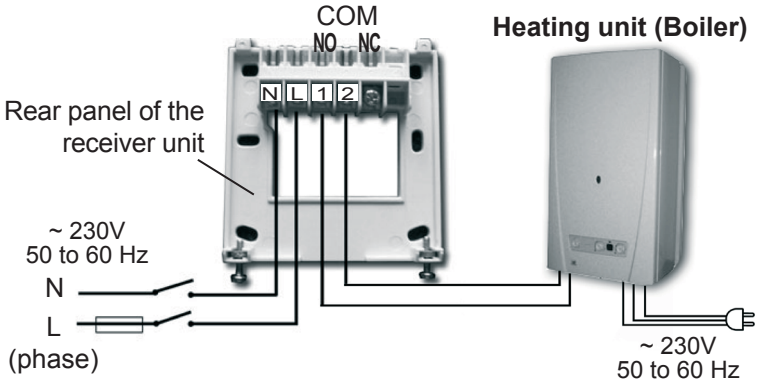
### 7.1 Installation and connection of the receiver unit

The receiver unit should be mounted on the wall in a place protected against moisture in the vicinity of the boiler.

***ATTENTION!*** *Do not install the receiver unit under the housing of the boiler because it may shield radio signals and compromise wireless (radio-frequency) connection. To avoid electric shock, entrust a specialist with connecting the receiver unit to the boiler.*

Unscrew the two screws at the bottom of the receiver unit without removing them. Following this, remove the front panel of the receiver

unit then fix the back panel to the wall in the vicinity of the boiler with the screws provided. Remove the protective carton from the contacts to ensure perfect contact. The marks of the connections are pressed into plastic above the sensors: **N**, **L**, **1**, **2** and **3**.




230 V mains voltage should be supplied to the receiver unit. We recommend using a fixed cable instead of a fork type connection for mains connection to avoid any unintentional de-energization of the device. We propose to connect the neutral wire of the network to point **N**, while the phase conductor to point **L**. We propose to interpose a switch so that the receiver unit can be de-energized if required.

The receiver unit controls the boiler through a potential-free alternating relay whose connection points are: **1** (NO); **2** (COM); **3** (NC). The connection wires of the boiler should be connected to terminals **1** (NO) and **2** (COM) to control a heating equipment, while the connection wires of the cooling equipment should be connected to terminals **2** (COM) and **3** (NC) to control a cooling unit.

***ATTENTION!*** *The instructions of the manufacturer of the heating (cooling) equipment should always be followed!*

The voltage appearing on terminals **1**, **2** or **3** depends only on the system to be controlled, therefore the dimension of the wire to be used is determined by the type of the device to be controlled. The length of the wire is of no significance, the receiver unit may be installed either near the boiler or far away from it.

If the distance between the transmitter and receiver units is too large due to local circumstances and it makes the wireless (radio-frequency) connection unreliable, install the receiver unit nearer to the place of thermostat.

## 7.2 Putting the receiver unit into operation

Turn on the power supply to the receiver unit. After a few seconds have elapsed, the wireless (radio-frequency) system (thermostat and receiver unit) tunes itself to the specified frequency. On trial press the + button of the thermostat several times, until the set temperature is 2-3°C higher than the temperature of the room. Following this, the "**HEAT**" icon indicating that the heating is turned on should appear on the display of the thermostat within a few seconds.

At the same time, the red LED light on the receiver unit should switch on to indicate that the receiver unit has received the command of the transmitter (thermostat).

If it does not happen, the system should be retuned. For this purpose press the "M/A" button of the receiver unit and keep it depressed (for approximately 10 seconds) until the green LED starts flashing. Then press the "**LEARN**" button of the thermostat located near the battery compartment and keep it depressed (for approximately 10 seconds) until the green LED stops flashing and goes out, so that the receiver unit "learns" the safety code of the transmitter (thermostat). The safety code will not be lost even during a power outage, the system memorizes it automatically.

**ATTENTION:** Pressing the "**LEARN**" button for 10 seconds generates a new safety code for the thermostat, and the receiver will recognize it only after a repeated tuning. With this in mind, do

not keep the “**LEARN**” button of the thermostat or the “**M/A**” button of the receiver unit depressed without any reason after the two units have been tuned successfully.

## 7.3 Transmission distance inspection

With the help of the  and  buttons you can check whether the two units are within the transmission distance of the wireless (radio-frequency) connection. In order to do so, set the desired temperature above room temperature by more than 0.2°C, then reduce it below room temperature by more than 0.2°C. When detecting the ON and OFF control signals, the red LED light on the receiver unit switches on and off, respectively. When the receiver unit fails to receive signals sent by the thermostat, then the two units are outside the transmission distance of the wireless (radio-frequency) transmitter, thus they have to be placed closer to each other.

## 7.4 Manual control of the receiver unit

Pressing the “**MANUAL**” button separates the thermostat from the receiver unit, and the boiler connected to the receiver unit can only be turned on and off manually, without any temperature inspection. The continuously illuminated green LED indicates “**MANUAL**” mode. Pressing the “**M/A**” button turns on or off the boiler. (The red LED is illuminated when the boiler is turned on). By pressing the “**MANUAL**” button again, the thermostat resumes normal (automatic) operation (the green LED goes out).

## 7.5 Avoiding external impacts

Virtually no external devices (a radio, cell phone, etc.) will exert any influence on the operation of the device. Should you experience any operating trouble, please retune the system as described in Section 7.2.

# TECHNICAL DATA

### Technical data of the thermostat (transmitter):

| | |
|---|---|
| — temperature measurement range: | 5 to 35°C (in 0.1°C increments) |
| — adjustable temperature range: | 10 to 30°C (in 0.5°C increments) |
| — temperature measurement accuracy: | ±0.5°C |
| — selectable switching sensitivity: | ±0.2/±0.3°C |
| — defrosting temperature: | +7°C |
| — storage temperature: | -10°C to +60°C |
| — power supply voltage: | 2x1.5 V AA alkaline batteries (LR6 type) |
| — operating frequency: | 868.35 MHz |
| — power consumption: | 1.5 mW |
| — battery lifetime: | approx. 1 year |
| — dimensions: | 112 x 75 x 45 mm |
| — weight: | 154 g |
| — temperature sensor type: | NTC 10 KΩ ±1% at 25°C |

### Technical data of the receiver unit:

| | |
|---|---|
| — power consumption: | 6W |
| — power supply voltage: | 230V AC, 50Hz |
| — switchable voltage: | 24V AC / DC, ÷ 250V AC; 50Hz |
| — switchable current : | 6A (2A inductive load) |
| — transmission distance: | approx. 50 m in open terrain |
| — weight: | 150g |

Total weight of the device: approx. 350 g
(thermostat+receiver+holder)

The COMPUTHERM Q3 RF type thermostat complies with the requirements of standards EU EMC89/336/EEC; LVD 73/23/EEC; 93/68/EEC and R&TTE 1999/5/EC.

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