

COMPUTHERM Q5RF (TX)

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



Operating Instructions

You can watch the most important aspects of the usage of this thermostat on our video presentation at www.computherm.info.

GENERAL DESCRIPTION OF THE THERMOSTAT

The **COMPUTHERM Q5RF (TX)** type switched-mode room thermostat is suitable to regulate the overwhelming majority of boilers and air conditioners. It can be used together with the **COMPUTHERM Q5RF** or **Q8RF** multi-zone thermostats to complement the two thermostats in the basic package, to increase the number of zones regulated and to control the **COMPUTHERM Q1RX** wireless (radio-frequency) thermostat-controlled socket.

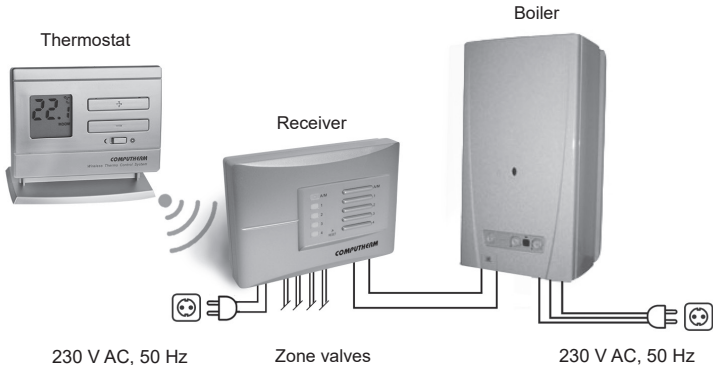
(You can find detailed information and recommended usage of the **COMPUTHERM Q1RX** socket and **COMPUTHERM Q5RF/Q8RF** thermostats on our website: www.computherm.info)

Because there is a wireless (radio-frequency) connection between the **COMPUTHERM Q5RF (TX)** thermostat and the receiver unit of the **COMPUTHERM Q5RF/Q8RF** thermostat and/or the **COMPUTHERM Q1RX** socket, no cable is required between the thermostat and the receiver and/or the socket.

Temperature can be measured and set more precisely as compared to simple, conventional thermostats. In heating mode, in accordance with the selected switching sensitivity, the thermostat switches 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. In cooling mode it switches exactly the opposite way.

To increase the lifetime of the batteries, the thermostat will not transmit signals continuously. Instead it will repeatedly transmit the actual signal every 5 minutes. Therefore, the regulation of the heating or cooling will continue even after a blackout.

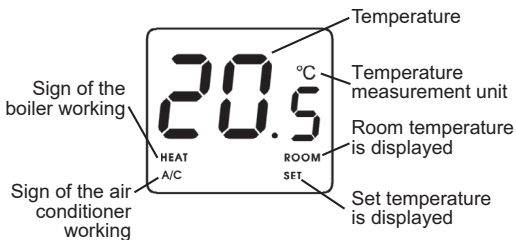


The portability of the thermostat offers the following advantages:

- no need to lay a cable, which is especially advantageous when old buildings are being modernized,
- the 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, reinforced concrete or adobe wall stands in the way of radio waves.

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



1. LOCATION OF THE DEVICE

The thermostat of the **COMPUTHERM Q5RF (TX)** 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 0.75 - 1.5 m above floor level. Do not use in wet, chemically aggressive or dusty environment. It can be placed on its own stand or can be mounted on a wall.

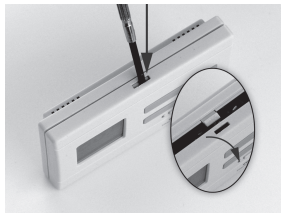
IMPORTANT WARNING! If the radiator valves in your flat are equipped with a thermostatic head, adjust it to maximum temperature or replace the thermostatic head of the radiator valve with a manual control knob in the room where the room thermostat is to be located, otherwise the thermostatic head may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

2. PUTTING THE THERMOSTAT INTO OPERATION

Warning! The device must be installed and connected by a qualified professional.

To put the thermostat into operation, detach the rear panel of the thermostat from the front panel by pressing the lock on the upper side of the housing of the thermostat, 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.

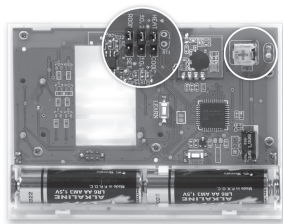


Warning! Good quality alkaline batteries may only be used for this appliance. Carbon-zinc batteries known as durable or long life batteries and chargeable accumulators are not suitable for the operation of this appliance. Icon *bA* appearing on the display to indicate low battery voltage warns reliably that the batteries should be replaced only when **good quality alkaline batteries** are used.

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 located on the main panel of the thermostat.

3. BASIC SETTINGS

After removing the rear panel of the device, the following factory default settings can be modified by relocating the jumpers (black plugs) and/or changing the position of the orange-colored potentiometer located on the main panel.



3.1 Selecting the Displayed Temperature

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

With factory default settings the jumper is located on the central and uppermost pins, in which case the display shows the currently measured room temperature value, while the notice “**ROOM**” appears in the bottom right corner of the display. In this case, the adjusted temperature is visible only during the adjustment process, for approximately 6 seconds after the last button has been pushed. By relocating the plug onto the bottommost and central pins the displayed temperature can be modified so that the display alternately shows the current room temperature and the adjusted temperature for 3-3 seconds, respectively. In this mode, the 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.

3.2 Selecting the Switching Sensitivity (Accuracy)

The switching sensitivity of the thermostat can be selected or adjusted by the central jumper which determines how much the thermostat switches the connected appliance on / off below / above the set temperature.

With factory default settings the jumper is located on the central and uppermost pins, resulting in a switching sensitivity of ± 0.2 °C. It can be modified to ± 0.1 °C by relocating the jumper onto the

bottommost and central pins. A smaller switching sensitivity results in steadier room temperature and therefore in higher comfort. The heat loss of the room (building) does not depend on the switching sensitivity.

If higher comfort is needed, the switching sensitivity should be set so that it provides a steadier room temperature. On the other hand, please also take into account that the boiler should not switch on and off multiple times in an hour's time except at low outside temperatures (e.g. $-10\text{ }^{\circ}\text{C}$), since the frequent on and off switches of the boiler reduce its efficiency and hence increases the gas consumption. We recommend using the $\pm 0.1\text{ }^{\circ}\text{C}$ switching sensitivity for heating systems with high thermal inertia (e.g. underfloor heating), and the $\pm 0.2\text{ }^{\circ}\text{C}$ switching sensitivity (factory default setting) for heating systems with low thermal inertia (e.g. flat panel radiators).

You can read more about switching sensitivity in Chapter 5.

3.3 Switching between the Heating and Cooling Mode

The heating or the cooling mode of the thermostat can be selected by the right jumper. With factory default settings the jumper is located on the central and uppermost pins, which selects the heating mode. By relocating the jumper onto the

bottommost and central pins, the cooling mode can be selected. The output terminals of the receiver unit **NO - COM** and the zone outputs **are turned on below the set temperature in heating mode, and they are turned off above the set temperature in cooling mode** (taking the switching sensitivity into account).

3.4. Calibration of the thermometer of the thermostat

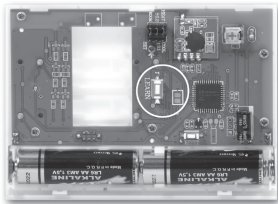
You can calibrate the thermometer of the appliance (to correct measured temperature). To this end all you have to do is change the position of the orange-colored potentiometer by a Phillips screwdriver. When you adjust the potentiometer clockwise then the displayed temperature will be lower than that measured initially, and when you adjust it anticlockwise the displayed temperature will be higher than that. The displayed temperature can be adjusted within a range of approx. ± 4 °C.

Correction of the displayed temperature takes place a few seconds after the adjustment.

ATTENTION! If the modification of the basic settings was done after inserting the batteries and the modifications did not take effect, please press the “**RESET**” button located on the main panel of the thermostat.

3.5 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 located on the main panel 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*.



4. SETTING THE DESIRED TEMPERATURE

After putting the thermostat into operation and adjusting the basic settings the thermostat is ready for operation and the adjustment of the temperature can be started.

Below the temperature adjustment buttons (+ and -) a switch is located. For both the economy (☾) and the comfort (☼) positions of the switch a different temperature can be set between 5 °C and 40 °C, in steps of 0.5 °C.





For energy efficiency it is recommended that the comfort temperature is only used those times, when the room or building is in use, because every 1 °C decrease of temperature saves approximately 6% energy during a heating season.

The factory default temperature is 18 °C for the economy (☾) position and 20 °C for the comfort (☼) position. These default temperatures can be changed as follows:

- Move the switch according to the temperature you would like to change (economy (☾) or comfort (☼)).
- Press the + or - button, after which the notice “ROOM” disappears, the notice “SET” (adjusted value) appears in the bottom right corner of the display. Meanwhile, the temperature value shown on the display switches from room temperature to the default temperature (18.0 °C/20.0 °C) or to the last set temperature (this temperature is blinking on the display). By pressing the buttons repeatedly or continuously (the change in values is accelerated), the de-

sired temperature to be maintained at the place where the thermostat has been installed can be set in steps of 0.5 °C.

- Approximately 6 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 and the notice “**ROOM**” are displayed.
- The previously set temperature can be freely changed any time using the  and  buttons. Always the last set temperatures are in effect.

5. OPERATION OF THE INSTALLED THERMOSTAT

The thermostat controls the device connected to it (e.g. gas boiler or pump) based on the temperature measured by it and the currently set temperature, taking into account the switching sensitivity of the thermostat (factory default ± 0.2 °C). This means that if the thermostat is set to heating mode and 22 °C, then with a switching sensitivity of ± 0.2 °C the connection points **NO** and **COM** of the receiver output relay are closed below 21.8 °C (heating is turned on) and 230 V AC is displayed on the output for that zone and **NO** and **COM** opened at temperatures above 22.2 °C (heating is turned off)

and the 230 V AC voltage at its output for that zone is turned off. In cooling mode, the relay switches exactly the opposite way.

The status of the zone outputs is indicated by the “**HEAT**” (heating) or “**A/C**” (cooling) icon in the lower left corner of the devices display, depending on the selected operating mode.

After setting the economy and comfort temperatures, the temperature desired at the moment can be selected using the switch.



5.1 Economy Mode (☾) (left hand position of the switch)


In the left hand position of the switch, the thermostat provides the set economy temperature (e.g. night temperature) to be maintained at the place where the thermostat has been installed.

5.2 Comfort Mode (☀) (right hand position of the switch)

In the right hand position of the switch, the thermostat provides the set comfort temperature (e.g. daytime temperature) to be maintained at the place where the thermostat has been installed.

6. BATTERY REPLACEMENT

The average lifetime of the batteries is 1 year. The icon  alternately replacing the temperature value on the display indicates low battery voltage. Replace the batteries whenever the icon  indicating low battery voltage appears on the display (see *Section 2*). After battery replacement, the desired temperature should be adjusted again, because during the battery replacement the thermostat is reset to factory default settings.

Warning! Good quality alkaline batteries may only be used for this appliance. Carbon-zinc batteries known as durable or long life batteries and chargeable accumulators are not suitable for the operation of this appliance. Icon  appearing on the display to indicate low battery voltage warns reliably that the batteries should be replaced only when **good quality alkaline batteries** are used.

7. USE AND SYNCHRONIZATION OF THERMOSTAT *COMPUTHERM Q5RF (TX)* AND THE RECEIVER OF *COMPUTHERM Q5RF / Q8RF* AND/OR *COMPUTHERM Q1RX* PLUG

7.1 *COMPUTHERM Q5RF (TX)* - *COMPUTHERM Q5RF / Q8RF*

If you would like to use the ***COMPUTHERM Q5RF (TX)*** thermostat to complement the ***COMPUTHERM Q5RF*** multi-zone thermostat, then follow the tuning steps described in *Section 7.2* of the manual of the ***COMPUTHERM Q5RF*** thermostat or to complement the ***COMPUTHERM Q8RF*** multi-zone thermostat, then follow the tuning steps described in *Section 10.2* of the manual of the ***COMPUTHERM Q8RF*** thermostat.

7.2 *COMPUTHERM Q5RF (TX)* - *COMPUTHERM Q1RX*



When you want to use thermostat ***COMPUTHERM Q5RF (TX)*** with one or more ***COMPUTHERM Q1RX*** plug(s) that can be controlled by an RF thermostat, carry out the synchronization of the two units in the following way:

Press the "ON/OFF" button of the ***COMPUTHERM Q1RX*** socket

and keep it depressed (for approximately 10 seconds) until the green LED starts flashing. After this, press the “**LEARN**” button of the thermostat (approx. 10 seconds) until the green LED on the socket/sockets stops flashing. After the two units have been synchronized, the thermostat controls the plug according to the temperature setting. When the thermostat is switched on, 230 V, 50 Hz mains voltage appears on the output socket of the plug.

For more information of tuning, refer to the operating instruction of the **COMPUTHERM Q1RX** socket.

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 the room temperature by more than 0.2 °C. When detecting the ON and OFF control signals, the red LED on the receiver unit or the **COMPUTHERM Q1RX** plug switches on and off, respectively. When the receiver unit / plug fails to receive signals sent by the thermostat, then the receiver unit / plug is outside the transmission distance of the wireless

(radio-frequency) transmitter, thus they have to be placed closer to each other.

ATTENTION! If the two parts of the device can only be placed on the edge of the wireless (radio-frequency) range or out of it (due to the floor-plan of the house or the shading effect of its structure), to guarantee the safe wireless connection, place a **COMPUTHERM Q2RF** wireless repeater between the two parts.

FREQUENTLY ASKED QUESTIONS

When you think that your appliance is operating incorrectly or encounter any problem while the appliance is being used then we recommend that you read Frequently Asked Questions (FAQ) available on our website, where we collected the problems and questions that most frequently occur while our appliances are being used, along with the solutions thereto:

www.computherm.info/en/faq



The vast majority of the problems encountered can be solved easily by using the hints available on our website, without seeking professional help. If you have not found a solution to your problem, please pay a visit to our qualified service.

Warning! The manufacturer does not assume responsibility for any direct or indirect damages and loss of income occurring while the appliance is being used.

PRODUCT INFORMATION DATA SHEET:

- Trademark: **COMPUTHERM**
- Model identifier: **Q5RF (TX)**
- Temperature control class: **I. class**
- Contribution to the efficiency of seasonal space heating: **1%**

Remark:

In addition to using modern temperature regulators, the following up-to-date regulation methods also contribute significantly to the improvement of the comfort provided by the heating network, the energy efficiency of the heating network and the coefficient of performance:

- By dividing the heating network into sections or zones and with their separate regulation we can ensure that every room (zone) is heated only when it is necessary. (You can obtain information on the establishment of the heating network and apparatuses and fittings needed for division into zones in our publication titled “**Energy Savings and Comfort**” which is also available on our website www.computherm.info).
- Using programmable thermostats you can ensure that every room (zone) is just heated according to a timetable preset in accordance with the demands. (You can obtain information on the services provided by **COMPUTHERM Q7; Q7RF** and **Q8RF** programmable room thermostats on our website).

- Using modern modular heating devices equipped with an external temperature sensor the boiler can be operated at a higher efficiency.
- Using low temperature heating networks (e.g. 60/40 °C) and condensing boilers the temperature of the flue gas leaving the boiler can be reduced, and this way fuel efficiency can be improved significantly.

TECHNICAL DATA

Technical data of the thermostats (transmitters):

- temperature measurement range: 3 to 45 °C (in 0.1 °C increments)
- adjustable temperature range: 5 to 40 °C (in 0.5 °C increments)
- temperature measurement accuracy: ± 0.5 °C
- selectable switching sensitivity: ± 0.1 °C; ± 0.2 °C
- temperature calibration range: approx. ± 4 °C
- battery voltage: 2 x 1.5 V **ALKALINE** batteries (LR6 type; AA size)
- power consumption: 1.5 mW
- battery lifetime: approx. 1 year
- protection against environmental impacts: IP30
- operating frequency: 868.35 MHz
- transmission distance: approx. 50 m in open terrain
- storage temperature: -10 °C to +40 °C
- operating humidity: 5% - 90% (without condensation)
- dimensions: 100 x 80 x 23 mm (whitout holder)
- temperature sensor type: NTC 3435 K 10 k Ω $\pm 1\%$ at 25 °C

The **COMPUTHERM Q5RF (TX)** type thermostat complies with the requirements of directives RED 2014/53/EU and RoHS 2011/65/EU.



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Origin: designed in the EU, made in China

Please watch our video presentation of the most important aspects of the usage of this thermostat at our websites!



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