

COMPUTHERM Q8RF

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



**NEW
design!**

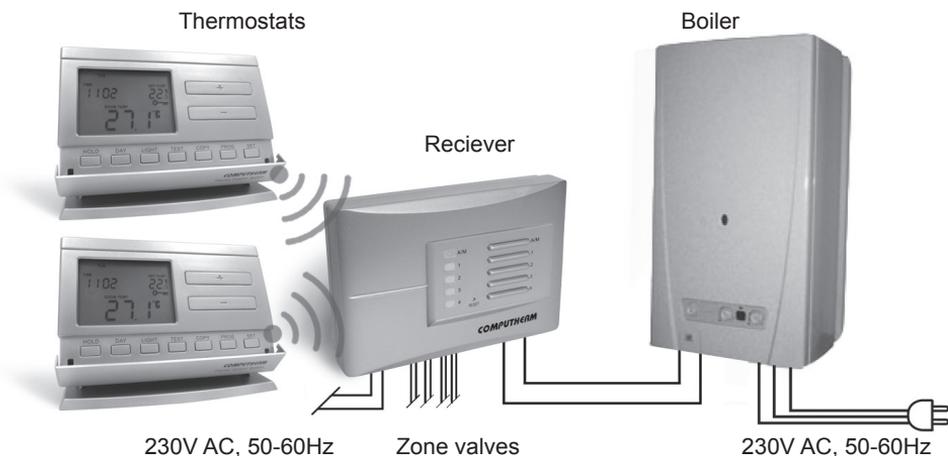
Operating Instructions

You can watch the most important aspects of the usage of this thermostat on our video presentation at www.quantrax.hu or www.computherm-hungary.hu.

GENERAL DESCRIPTION OF THE THERMOSTAT

The **COMPUTHERM Q8RF** type switched-mode room thermostat is suitable to regulate the overwhelming majority of boilers and air conditioners 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 24V or 230V control circuit.

The basic package of the device includes two thermostats and a receiver unit. If required, the equipment can be extended by two additional **COMPUTHERM Q8RF (TX)** thermostats. The receiver unit receives switching signals from the thermostats, controls the boiler (or air conditioner) and gives commands to open/close the heating zone valves (max. 4 zones, loadability of the zone outputs: 230V AC, max. 1A (0.5A inductive load)) associated with the thermostats. The zones can operate independently from each other or, in case of need, all zones can operate at the same time. This way only those rooms are heated at a given time, where it is required (e.g. the living room and the bathroom during the day, and the bedroom during the night). Because there is a wireless (radio-frequency) connection between the thermostats and the receiver, no cable is required between the thermostats and the boiler. The installation and connection of the receiver unit is described in *Section 9*.



The device can be programmed according to customer-specific requirements so that the heating/cooling system heats/cools your residence or office to the required temperature at the dates and times specified by you, to reduce energy costs while maintaining comfort. Separate temperature programs can be prepared for each day of the week. For each day, beside 1 fixed switching time (**PROG D**), 6 adjustable switching times (**PROG 1 – PROG 5**) can be set (at 10-minute intervals) and a different temperature (in 0.5°C increments) can be assigned to all 7 switching times.

To increase the lifetime of the batteries, the thermostat will not transmit signals continuously. Instead it will repeatedly transmit the actual signal every 8 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).

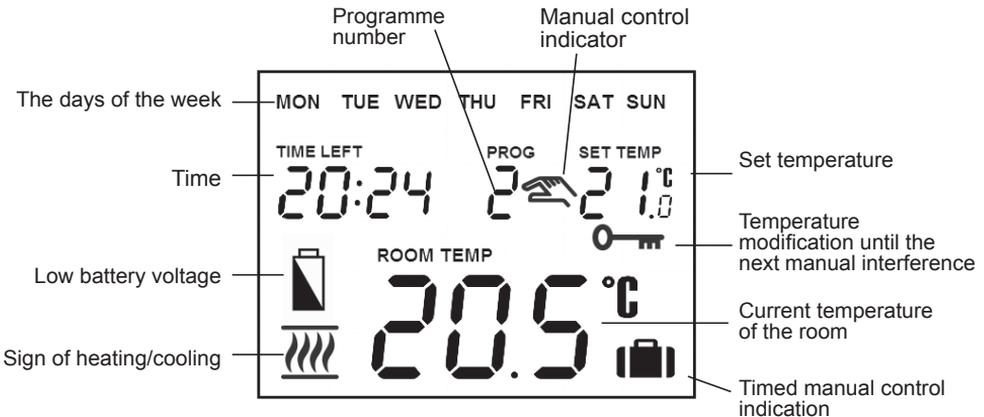
The effective range of the transmitter incorporated in the thermostat is approximately 50m in open terrain. This distance may become considerably shorter within a building, especially when a metal structure, reinforced concrete or adobe wall stands in the way of radio waves.

The switching sensitivity of the thermostat can be set to $\pm 0.1^{\circ}\text{C}$, $\pm 0.2^{\circ}\text{C}$ (default setting) or $\pm 0.3^{\circ}\text{C}$. This figure means the temperature difference between the adjusted value and the actual temperature measured during the switching process. In case of the $\pm 0.2^{\circ}\text{C}$ switching sensitivity and heating mode for example, if the set temperature is 20°C , then the device switches the boiler on at 19.8°C or below, and switches it off at 20.2°C or above. Please refer to Section 2.4 for the modification of the factory default switching sensitivity of $\pm 0.2^{\circ}\text{C}$.

The thermostat is equipped with a pump protection function, which, to prevent the pump from sticking, switches on the boiler for a one minute period at 12:00 p.m. every day if the pump has not been switched on in a programmed manner for more than 24 hours (e.g. outside the heating season). See the activation of the pump protection function in *Section 2.5*.

This wireless (radio-frequency) thermostat can also be easily extended with the **COMPUTHERM Q1RX** socket if needed, with which the thermostat is able to control boilers or any other electrical devices operating on 230V (50Hz; max. 10A) (e.g. fan heaters, pumps, zone valves, etc.) according to the room temperature.

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



1. LOCATION OF THE DEVICE

The thermostats of the **COMPUTHERM Q8RF** type device can be freely moved in your residence. It is reasonable to locate them in rooms used regularly or for many hours per day so that they are in the direction of natural ventilation in the room but protected from drought or extreme heat (e.g. direct sunlight, refrigerator, chimney, etc). Their optimal location is 1.5 m above floor level. They can be placed on their 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 rooms where the room thermostats are to be located, otherwise the thermostatic head may disturb the temperature control of the flat.*

2. PUTTING THE THERMOSTAT INTO OPERATION, BASIC SETTINGS

2.1 Inserting batteries

Pressing the lock on the upper side of the housing of the thermostat, remove the back cover of the thermostat as shown in the figure below.



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 day, time and program number as well as the adjusted and measured temperatures. (If this information fails to appear on the display, press the **“RESET”** button located on the main panel of the thermostat. After the batteries have been inserted, snap the front panel of the device into the rear panel and press the **“SET”** button. After the **“SET”** button is pressed, the display stops flashing, the thermostat goes to the main screen and the setting process can be started.

2.2 Setting the current day and time

Press the **“SET”** button to go to the main screen, then press the **“DAY”** button. At this time only the first three letters of the current day will flash on the display of the thermostat and the hour and minute values can be seen.

Using the large **+** and **-** buttons on the front panel of the device, set the the current day (Monday **MON**; Tuesday **TUE**; Wednesday **WED**, etc.). Press the **“DAY”** button again. At this time the contraction indicating the day stops flashing and becomes visible continuously while the numbers indicating the hour will flash on the display. Using the large **+** and **-** buttons on the front panel of the device, set the hour value of the current time. Press the **“DAY”** button again. At this time the numbers that indicate the hour stop flashing and become visible continuously, while the numbers indicating the minute will begin flashing. Using the large **+** and **-** buttons on the front panel of the device, set the minute value of the current time.

When you wish to continue modifying the settings, please press the **“DAY”** button again. If you wish to finish settings, confirm them by pressing the **“SET”** button. At this point adjusted data are recorded and the device goes back to the main screen (if no buttons are pressed for at least 15 seconds, the settings are automatically confirmed and the device goes back to the main screen).

2.3 Switching between the heating and cooling mode

There is a possibility to easily switch between the heating and cooling mode of the thermostat. The output terminals of the receiver unit **No.1 (NO)** and **No.2 (COM)** are closed below the set temperature in heating mode, and they are closed above the set temperature in cooling mode (taking the switching sensitivity into account). Following the heating/cooling command of the thermostat, 230V AC, 50Hz voltage appears on the zone outputs associated with the thermostats (**L1-N1**; **L2-N2**; etc.). The thermostat indicates the heating command with the icon  and the cooling command with the  in the bottom left corner of the display.

To switch between the two modes, first press the **“SET”** button to go to the main screen. Then press the **“SET”** button again and hold it down and press the **“COPY”** button, too. After this, the notice „**HEAT**“ or „**COOL**“ appears in place of the time characters, according to the selected mode. Following this, switch between the modes using the large **+** and **-** buttons, then confirm it by pressing the **“SET”** button (if no buttons are pressed for at least 15 seconds, the setting is automatically confirmed). After this confirmation, the device goes back to the main screen.

2.4 Setting the switching sensitivity (accuracy)

The switching sensitivity means the temperature difference between the adjusted value and the actual temperature measured during the switching process. 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°C), since the frequent on and off switches of the boiler reduce its efficiency and hence increases the gas consumption. We recommend using the $\pm 0.1^{\circ}\text{C}$ switching sensitivity for heating systems with high thermal inertia (e.g. underfloor heating), the $\pm 0.2^{\circ}\text{C}$ (factory default setting) and $\pm 0.3^{\circ}\text{C}$ switching sensitivity for heating systems with low thermal inertia (e.g. flat panel radiators).

To change the switching sensitivity, first press the **“SET”** button to go to the main screen. Then press the **“DAY”** and **“COPY”** buttons one after the other. Following this, select the desired switching sensitivity using the large **+** and **-** buttons. The notices „S:1“, „S:2“ and „S:3“ indicate $\pm 0.1^{\circ}\text{C}$, $\pm 0.2^{\circ}\text{C}$ and $\pm 0.3^{\circ}\text{C}$, respectively. Finally, confirm the setting by pressing the **“SET”** button (if no buttons are pressed for at least 15 seconds, the setting is automatically confirmed). After this confirmation, the device goes back to the main screen.

2.5 Activation of the pump protection function

Under the factory default settings, the pump protection function is inactive. In order to activate or deactivate it, first press the **“SET”** button to go to the main screen. Then press the **“DAY”** and **“PROG”** buttons one after the other. Following this, activate or deactivate this function using the large **+** and **-** buttons. The notices „HP:ON“ and „HP:OFF“ indicate activated and deactivated state, respectively. Finally, confirm the setting by pressing the **“SET”** button (if no buttons are pressed for at least 15 seconds, the setting is automatically confirmed). After this confirmation, the device goes back to the main screen.

To prevent the pump from sticking, the activated pump protection function switches on the boiler for a one minute period at 12:00 p.m. every day outside the heating season. (The pump protection function can accomplish its task only if the boiler is in working order in the summer, too. It is reasonable to set a low temperature level, e.g. $+10^{\circ}\text{C}$, on the thermostat for this period, to prevent the boiler from unnecessary start-ups when the weather turns cold temporarily).

2.6 Calibrating the thermometer of the thermostat

There is a possibility to calibrate the thermometer of the thermostat (to correct the measured temperature). In order to do this, first press the **“SET”** button to go to the main screen. Then press the **“DAY”** and **“HOLD”** buttons one after the other. After this, the notice „CAL“ appears in place of the time characters, and the correction value appears in place of the measured temperature (0,0 $^{\circ}\text{C}$ by default). Following this, set the desired correction value using the large **+** and **-** buttons between -3.0°C and $+3.0^{\circ}\text{C}$, in 0.1°C increments. Finally, confirm the setting by pressing the **“SET”** button (if no buttons are pressed for at least 15 seconds, the setting is automatically confirmed). After this confirmation, the device goes back to the main screen. The correction of the measured temperature takes effect a couple of seconds after the confirmation.

3. PROGRAMMING THE THERMOSTAT

3.1 A brief introduction to programming

- Programming means the setting of switching times and selection of accompanying temperature levels. The device can be programmed for a one-week period. Its operation is automatic, and it will cyclically repeat the programs that have been keyed in. For each day, beside 1 fixed (PROG 0) switching time, 6 adjustable (PROG 1 – PROG 5) switching times can be set. For all switching times a different temperature can be assigned between 5 and 35°C, in 0.5°C increments. The temperature set for a given switch will remain valid until the start time of the next switch. Accordingly, the thermostat will keep the temperature set for switching time PROG 0 until switching time PROG 1 is reached. After switching time PROG 1 the temperature selected to switch PROG 1 will be valid until the time of the next switch (PROG 2).
- The start time of switch PROG 0 is 00:00, which cannot be changed, only its temperature can be adjusted. So under the factory default settings, the thermostat performs only one switch (PROG 0) every day, which is in effect from 00:00 until 00:00 the next day.

***Note:** Setting just one switch for a day (factory default setting) is reasonable only if a constant temperature is needed all day. (For example, if for every weekday a constant 16°C, and for every weekend a constant 22°C is needed.) Otherwise, from both a comfort and an energy-efficiency point of view, it is recommended to activate more than one switch for each day. Furthermore, it is advised that a comfort temperature is used only those times, when the room or building is in use, since every 1°C decrease of temperature saves approximately 6% energy during a heating season. As opposed to common belief, keeping a flat warm requires more energy than heating it up. (When using a stove, more gas is needed to keep a pan of water boiling than to just keep it warm.)*

- The PROG 1 – PROG 5 switches are deactivated by factory default (their start time is --:--), but they can be activated at need. Their start time can be freely set between 00:10 and 23:50 at 10-minute intervals given the constraint, that their start time should be in increasing order and a difference of at least 10 minutes should be between them. This minimum 10-minute difference is going to be preserved even if a previously activated switch is modified, in order to avoid co-occurring or overlapping switches. In such a case, the device automatically increases the start time of the affected switches until a difference of at least 10 minutes between them is reached. If the start time of a switch would be later than 23:50 because of this automatic modification, then that switch is deactivated instead.
- In order to enter the programming mode, press the “SET” button and hold it down and press the “PROG” button, too. **During the programming the values being adjusted are flashing on the display. The modification of these values can always be done using the large + and – buttons.** The confirmation of a value is always done by pressing the “PROG” button, after which the next value can be adjusted. The program

can be saved by pressing the “**SET**” button. A more detailed description of the programming steps can be found in Section 3.3.

- If there are days, for which the same program is needed, than it is sufficient to create that program only once, since it can be easily copied to another day using the “**COPY**” button as described in Section 3.4. If the same program is needed for every day, then there is also a possibility to create the program of all the days together (by selecting **MON TUE WED THU FRI SAT SUN** together during the selection of days). But be aware: if the program of all the days are created together, than their program can only be modified together. Therefore, if a different program is needed for at least one day, then the program of the days should be created separately, and the repeated programs should be copied using the “**COPY**” button.
- A separate program can be created for the heating and cooling mode, and these programs are preserved when switching between the modes. Therefore, if the thermostat is used for both heating and cooling, then there is no need to modify the program of the thermostat every time a switch between these modes is performed.

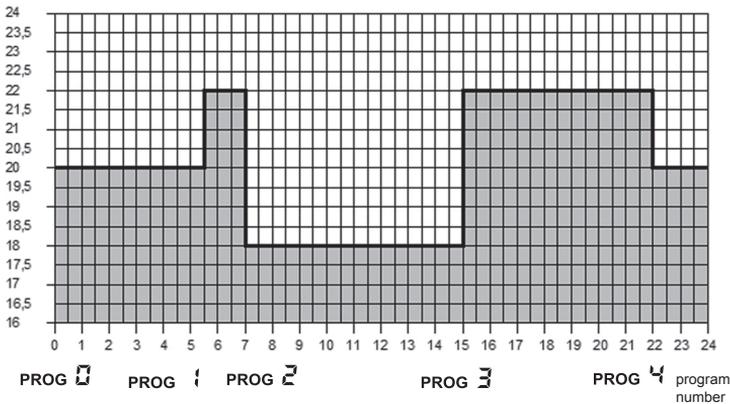
3.2 Recommendations for creating a heating program

The average comfort needs of a person can usually be satisfied by a temperature of 19-21°C during the night, and a temperature of 22-23°C during the day. During that time of the day, when the family is at work or school, only a lower temperature is needed. As heating up and cooling down usually takes a long time, it is reasonable to set the start time of the switches 0.5-1 hour before the desired time of the modified temperature. The programmability of the thermostat provides a perfect solution for this.

For an average working family, a program similar to the one below is recommended:

PROG 0	00:00	20°C
PROG 1	05:30	22°C
PROG 2	07:00	18°C
PROG 3	15:00	22°C
PROG 4	22:00	20°C

Temperature



3.3 Programming steps

- Press the “**SET**” button to go to the main screen.
- Press the “**SET**” button again and hold it down and press the “**PROG**” button, too. At this point the device gets into programming mode and the abbreviations indicating the days of the week (**MON TUE WED THU FRI SAT SUN**) are flashing on the display.
- Select the day to be programmed using the large **+** and **-** buttons on the front panel of the device (**MON** indicating Monday, **TUE** indicating Tuesday etc.). If you wish to create the same program for each day of the week, it is reasonable to choose all days of the week simultaneously (by selecting **MON TUE WED THU FRI SAT SUN** together), this way there is no need to perform separate programming of the days. After selecting the desired day(s), press the “**PROG**” button.
- At this point the temperature of switch **PROG 1** should be set, which is indicated on the display of the device by flashing the temperature value to be set (20°C by default). Set the desired temperature using the large **+** and **-** buttons, then press the “**PROG**” button.
- Then, **the start time of switch PROG 1 should be adjusted**, which is indicated on the display of the device by flashing the time value to be adjusted (--:-- by default). Set the desired time using the large **+** and **-** buttons, then press the “**PROG**” button.
- Following this, the temperature of switch **PROG 1** should be set, which is indicated on the display of the device by flashing the temperature value to be set (20°C by default). Set this temperature level of switch **PROG 1** using the large **+** and **-** buttons, then press the “**PROG**” button.
- The next step in programming is the adjustment of the start time of switch **PROG 2**, which is indicated on the display of the device by flashing the time value to be adjusted (--:-- by default). The adjustment process of switches **PROG 2 – PROG 5** can be done (the same way as switch **PROG 1** is adjusted) by repeating the “**e**”-“**f**” steps.

If you do not want to activate any more switches for the selected day(s), then press the **“PROG”** button without changing the start time of the next switch from the default --:--. This way the programming of the selected day(s) is finished, the thermostat offers another day to be programmed and the programming can be continued from step “c”.

If all the switches (PROG 4 – PROG 5) are activated for the selected day(s), then after setting the temperature value of PROG 5, the programming of the selected day(s) is finished, the thermostat offers another day to be programmed and the programming can be continued from step “c”.

- h. The adjusted program can be saved by pressing the **“SET”** button. After approximately 1 minute, the adjusted program is automatically saved. Afterwards, the device goes back to the main screen.

If you wish to copy the program of the day(s) selected in step “c” to other days, you can easily do so using the **“COPY”** button as described in *Section 3.4*.

3.4 Using the **“COPY”** function (Copying the program of a day to other days)

- First, press the **“SET”** button to go to the main screen. Then press the **“COPY”** button for approximately 3 seconds to activate the **“COPY”** function. The notice “COPY” appearing in place of the time characters and the flashing abbreviation **MON** indicating Monday shows that conditions are ready for copying a program.
- Select the day whose program you wish to copy to another day or other days using the large **+** and **-** buttons on the front panel of the device.
- Press the **“COPY”** button to copy the program of the selected day. After this, the flashing of the abbreviation indicating the day that has been copied stops and it will be visible continuously hereafter.
- Select the day to which you wish to copy the program of the day copied beforehand using the large **+** and **-** buttons. The number of the active day is flashing during this selection process.
- After selecting the abbreviation that indicates the day to which you wish to copy the program, press the **“COPY”** button to copy the program. Hereafter, the abbreviation indicating the day to which the program was copied will be visible continuously. Following this, you can select further days using the large **+** and **-** buttons and copy the program to those days too by pressing the **“COPY”** button.
- Finally, press the **“SET”** button to save the modifications (if no buttons are pressed for at least 15 seconds, the modifications will be automatically saved). Afterwards, the device goes back to the main screen. If required, the program of further days can be freely copied by repeating the above steps.

ATTENTION! The **“COPY”** function is only available, if the days of the week were programmed separately!

3.5 Modifying the program

- The previously set program can be modified any time by repeating the steps of programming.
- The number of activated switches can be increased at will as described in *Section 3.3*.
- A previously activated switch can be deactivated by setting its start time to --:-- using the large **+** and **-** buttons (or by pressing the “**DAY**” button once), and then pressing the “**PROG**” button. After this, if the deactivated switch was an intermediate one, then the serial numbers of the remaining switches will be updated.
- If you wish to finish modifying the program of the selected day, then press the “**PROG**” button and hold it down for at least 3 seconds. After this, the modification can be continued by selecting another day. When finished with all the modifications, press the “**SET**” button to save them. After approximately 1 minute, they are automatically saved. Afterwards, the device goes back to the main screen.
- If a completely different program is needed, then press the “**RESET**” button located on the main panel of the thermostat to reset the device (it deletes both the program and the basic settings). Following this, adjust the basic settings of the thermostat again and create the new program, as described in *Sections 2 and 3*.

3.6 Program inspection

- First, press the “**SET**” button to go to the main screen, then press the “**PROG**” button. At this point, the abbreviation indicating the day(s), the symbol of switch **PROG** \square and the time and temperature level set for switch **PROG** \square of the selected day(s) will appear on the display (none of the values is flashing).
- Repeatedly press the “**PROG**” button to check the values of switch **PROG** 1, **PROG** 2, etc. Use the large **+** and **-** buttons to change the day(s). If all the days were programmed together (**MON TUE WED THU FRI SAT SUN**), then their common program can only be viewed together.
- After checking the program, press the “**SET**” button to go back to the main screen (if no buttons are pressed for at least 15 seconds, the thermostat will automatically go back to the main screen).

4. TEMPORARY MODIFICATION OF THE TEMPERATURE CORRESPONDING TO THE PROGRAM

If you wish to operate your device in a way that differs temporarily from the program that has been set (e.g. on bank holidays or the winter holidays), you can choose among the options described in *Sections 4.1-4.4*.

To simplify manual temperature modifications, with factory default settings temperatures of 18°C and 22°C are assigned to the large **+** and **-** buttons, respectively. When modifying the temperature manually, pressing the **+** and **-** button once, the temperature will immediately jump to the

factory value of the button. For example, if the current switch **PROG 3** ensures a temperature of **19°C**, it can be modified to a standard temperature that ensures **22°C** when needed by pressing the **+** button only once, without having to press the **+** button several times in increments of 0.5°C. Following this, using the large **+** and **-** buttons, the temperature can be further modified in increments of 0.5°C, in accordance with current requirements.

The economy and comfort temperature values assigned to buttons **+** and **-** can be modified as follows:

- **To set the economy temperature**, press the “**SET**” button and keep it depressed and press the **-** button, too. Following this, with the help of the **+** and **-** buttons, set the economy temperature selected by you. After the temperature has been set, press the “**SET**” button to save the modification (after approximately 15 seconds, it is automatically saved). Afterwards, the device goes back to the main screen.
- **To set the comfort temperature**, press the “**SET**” button and keep it depressed and press the **+** button, too. Following this, with the help of the **+** and **-** buttons, set the comfort temperature selected by you. After the temperature has been set, press the “**SET**” button to save the modification (after approximately 15 seconds, it is automatically saved). Afterwards, the device goes back to the main screen.

4.1 Temperature modification until the next program switch

Set the required temperature using the large **+** and **-** buttons on the front panel of the device. At this time, the  icon appears on the display, indicating that the thermostat is operated with manual control. The device will control the boiler according to the set value until the time of the next switch specified in the program is reached.

During this temporary modification, the segments indicating the time on the display alternately show the exact time (**TIME**) and the time remaining (**TIME LEFT**) in manual control (for example **4:02**, that is, 4 hours and 2 minutes). After this time has elapsed, the  icon disappears and the device resumes the program that has been set. If you wish to return to the set program before the time of the next switch is reached, please press the “**SET**” button.

4.2 Temperature modification for 1-9 hours (party program)

Set the required temperature using the large **+** and **-** buttons on the front panel of the device, and then press the “**DAY**” button. At this time, the  icon appears on the display, along with number 1 in place of the switch number, which indicates the duration of modification in hours. Adjust this time to the desired length (between 1 and 9) using the large **+** and **-** buttons. The party program will start approximately 10 seconds after the adjustment. Following this, the device will keep the modified temperature for the given period of time. The adjusted temperature can be freely changed during the party program without exiting it.

During this temporary modification, the segments indicating the time on the

display alternately show the exact time (**TIME**) and the time remaining (**TIME LEFT**) in manual control (for example 3:20, that is, 3 hours and 20 minutes). After this time has elapsed, the  icon disappears and the device resumes the program that has been set. If you wish to return to the set program before the time set for temperature modification has expired, please press the “**SET**” button.

4.3 Temperature modification for 1-99 days (holiday program)

Set the required temperature using the large  and  buttons on the front panel of the device, and then press the “**HOLD**” button and hold it down for at least 2 seconds. At this time, the  icon appears on the display, along with the *1d* notice in place of the time characters, which indicates the duration of modification in days. Adjust this time to the desired length (between 1 and 99) using the large  and  buttons (1 day means 24 hours). The holiday program will start approximately 10 seconds after the adjustment. Following this, the device will keep the modified temperature for the given period of time. The adjusted temperature can be freely changed during the holiday program without exiting it.

During this temporary modification, the segments indicating the time on the display alternately show the exact time (**TIME**) and the days remaining (**TIME LEFT**) in manual control (e.g. 3d, that is, 3 days). After this time has elapsed, the  icon disappears and the device resumes the program that has been set. If you wish to return to the set program before the time set for temperature modification has expired, please press the “**SET**” button.

4.4 Temperature modification until the next manual interference

Set the required temperature using the large  and  buttons on the front panel of the device. At this time, the  icon appears on the display, indicating that the thermostat is operated with manual control. Then, press the “**HOLD**” button briefly, after which the  icon appears and the  icon disappears. The device will then control the boiler according to the set value until the next manual interference. During this time, the thermostat acts exactly the same way as a non-programmable thermostat. The adjusted temperature can be freely changed during this temporary modification without exiting it.

If you wish to return to the set program, please press the “**SET**” button.

5. TURNING ON THE BACKGROUND LIGHT

When you press the “**LIGHT**” button, the background light of the display will turn on for 15 seconds. When you press another button while the display is illuminated, the background light will turn off only after 15 seconds have elapsed since the last button had been pushed.

6. LOCKING THE CONTROL BUTTONS

The thermostat enables you to lock its control buttons. With this function, you can prevent unauthorised modification of the program or the set temperature.

To activate the lock, first press the “**SET**” button to go to the main screen, then press the **+** and **-** buttons together and hold them down for at least 5 seconds. After the control buttons have successfully been locked, the notice “**⌘ ⏸**” appears in place of the time characters for a couple of seconds. Until the control buttons are locked, their normal function do not work; if any button is pressed, then only the notice “**⌘ ⏸**” appears and nothing else happens. To unlock press the **+** and **-** buttons together and hold them down for at least 5 seconds. After unlocking the buttons, the notice “**⌘ ⏸**” appears in place of the time characters for a couple of seconds, whereupon all the buttons can be used normally again.

7. CHANGING THE BATTERY

The average lifetime of the batteries is 1 year, but frequent use of the background light may shorten this time considerably. If the  icon indicating low battery voltage appears on the display, the batteries should be replaced (see Section 2.1). The exact time should be set again after the batteries have been replaced, but the device saves the program that has been loaded even without batteries therefore there is no need to reprogram the device.

8. RESETTING THE THERMOSTAT TO ITS FACTORY DEFAULT SETTINGS

By pressing the “**RESET**” button located on the main panel of the thermostat, the thermostat can be reset to its factory default settings. This results in deleting the day, exact time, basic settings and the set program. After resetting the device, adjust the basic settings of the thermostat again and create the new program, as described in Sections 2 and 3.

9. THE RECEIVER UNIT

9.1 Installation and connection of the receiver unit

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

ATTENTION! Do not install the receiver unit under the housing of the boiler or near hot pipes because it may damage the parts of the device or 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 located above the connection points:

L1 N1 L2 N2 L3 N3 L4 N4 NO COM L N

230V mains voltage should be supplied to the receiver unit. This provides

the power supply for the device, but this voltage does not appear on the connection points of the relay that controls the boiler (**NO** and **COM**). We propose to connect the neutral wire of the network to point **N**, while the phase conductor to point **L**. We recommend using a fork type connection including a switch for mains connection. Please de-energize the device when heating is continuously not needed (e.g. summer).

The receiver unit controls the boiler or air conditioner through a potential-free relay whose connection points are: **NO** and **COM**. Connect the two connection points of the heating or cooling equipment to be controlled to terminals **NO** and **COM**, i.e. to the normally open terminals of the relay. These connection points become closed following the heating/cooling command of any thermostat.

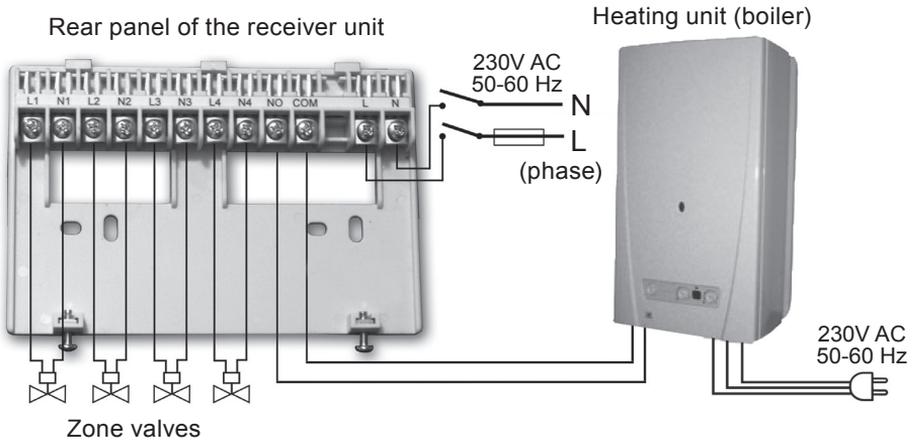
If you would like to operate an old boiler or any other device that has no connection points for thermostats, then the connection points **NO** and **COM** of the thermostat should be connected to the mains cable of the device, similarly as a switch would be connected.

ATTENTION! Always consider the loadability of the receiver unit and follow the manufacturer's instructions of the heating or cooling equipment. The device must be installed and connected by a qualified professional!

The voltage appearing at terminals **NO** and **COM** depends only on the system being controlled, therefore the dimensions of the wire are 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, but do not install it under the housing of the boiler.

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.

Beside controlling the boiler, the receiver unit can also open/close the valves of maximum 4 heating zones. Following the heating/cooling command of one of the thermostat, 230V AC, 50Hz voltage appears on the connection points of the zone valves associated with the thermostat. The zone valves should be connected to the connection points **L1 N1; L2 N2; L3 N3** and **L4 N4** of the receiver.



Cut or break out the outlets to the required connection points at the bottom of the receiver unit, in order to be able to connect wires to them.



9.2 Putting the receiver unit into operation

Turn on the power supply to the receiver unit. A few seconds after the LED lights flash once, the receiver unit becomes ready for operation. This state is indicated by the blue LED light with the "A/M" sign. After this, you can start tuning the receiver and the thermostats together. For this purpose press a button on the receiver associated with one of the heating zones and keep it depressed (for approximately 3 seconds) until the red LED light next to it starts flashing. After this, press the "SET" button of the thermostat and keep it depressed then press the "DAY" button of the thermostat and keep it depressed too (for approximately 10 seconds) until the notice "U!" appears on the display. Next, select the same number as the number of the heating zone selected on the receiver unit using the large **+** and **-** buttons. Following this, press the "COPY" button and keep it depressed (for approximately 3 seconds) until the red LED light on the receiver stops flashing (it remains switched on or off depending on the set and measured temperatures). Finally, press the "SET" button, 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 device memorizes it automatically.

After tuned together, the receiver unit receives switching signals from the thermostats, controls the boiler (or air conditioner) and gives commands to open/close the heating zone valves (max. 4 zones, loadability of the zone outputs: 230V AC, max. 1A (0.5A inductive load)) associated with the thermostats. The receipt of switching signals is indicated by the switched on or off state of the red LED light associated with the thermostat on the receiver. By repeating the above steps, tune all of the thermostats and the receiver together.

ATTENTION! Pressing the "SET" and "DAY" buttons simultaneously for 10 seconds and then pressing the "COPY" button 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 repeat the tuning steps without any reason after the units have been tuned successfully.

9.3 Activating the delayed start of the boiler function

When designing the heating zones, in order to protect the pump of the boiler, it is reasonable to leave at least one heating circuit without a zone valve (e.g. the bathroom circuit). In such a heating system, after the boiler is started, the heating water can freely circulate through the circuit(s) without a zone valve until the zone valves are opened (the opening time of an electro-thermal actuator is approximately 4 minutes).



If the heating system was not designed as described above, it is reasonable to activate the delayed start of the boiler function in order to protect the pump of the boiler. If this function is activated, then the boiler starts only 4 minutes after the receipt of the heating command, when the zone valves are already opened. Under the factory default settings, this function is inactive. It can be activated at the back side of the receiver unit, by relocating the jumper (black plug) with the “**DELAY**” sign. It is inactive in the “**OFF**” position and active in the “**ON**” position of the jumper.

9.4 Transmission distance inspection

With the help of the “**TEST**” button of the thermostats you can check whether the selected thermostat and the receiver unit are within the transmission distance of the radio-frequency connection. To perform the test, press the “**TEST**” button for approximately 2 seconds. Following this, the thermostat will send, alternating every 5 seconds, switch-on and switch-off control signals to the receiver for 2 minutes (the  signal appears and disappears alternately on the display). When detecting the **ON** and **OFF** control signals, the red LED light associated with the thermostat on the receiver unit switches on and off, respectively. When the receiver unit fails to receive signals sent by the thermostat, then the receiver unit is outside the transmission distance of the wireless (radio-frequency) transmitter, thus they have to be placed closer to each other.

9.5 Manual control of the receiver unit

Pressing the “**A/M**” button separates the thermostats from the receiver unit. In this case, the boiler or air conditioner connected to the receiver unit can only be turned on and off manually, without any temperature inspection. The continuously illuminated blue LED indicates automatic (thermostat-controlled) mode, while its switched off state indicates manual mode. In manual mode, pressing the **1**, **2**, **3**, and/or **4** buttons of the receiver unit turns on or off the boiler (or air conditioner) and opens/closes the zone valves associated with the heating zones. The operation of a heating zone is indicated by the illuminated red LED light associated with it. By pressing the “**A/M**” button again, the device quits manual control and resumes automatic (thermostat-controlled) operation, which is indicated by the illuminated blue LED light.

TECHNICAL DATA

Technical data of the thermostats (transmitters):

— temperature measurement range:	5 to 35°C (in 0.1°C increments)
— adjustable temperature range:	5 to 35°C (in 0.5°C increments)
— temperature measurement accuracy:	±0.5°C
— temperature calibration range:	±3°C (in 0.1°C increments)
— selectable switching sensitivity:	±0.1°C; ±0.2°C; ±0.3°C
— storage temperature:	-10°C to +40°C
— battery voltage:	2 x 1.5V ALKALINE batteries (LR6 type; AA size)
— power consumption:	1.3mW
— battery lifetime:	approx. 1 year
— operating frequency:	868.35MHz
— dimensions:	130 x 80 x 22mm (without holder)
— weight:	112g
— temperature sensor type:	NTC 10kΩ ±1% at 25°C

Technical data of the receiver unit:

— power supply voltage:	230V AC, 50Hz
— power consumption:	0.3W
— loadability of the relay that controls the boiler:	24V AC/DC to 230V AC, 50Hz, 6A (1A inductive load)
— voltage of the zone outputs:	230V AC, 50Hz
— loadability of the zone outputs:	1A (0.5A inductive load)
— transmission distance:	approx. 50m in open terrain
— weight:	210g

Total weight of the device: approx. 550g (2 thermostats+2 holders+1 receiver)

A BRIEF DESCRIPTION OF PROGRAMMING

- **Setting the date and time:** press the "DAY" button, then adjust values using the "DAY",  and  buttons.
- **Programming:** press and hold down the "SET" button, while pressing the "PROG" button too, then adjust values with the "PROG",  and  buttons; use the "COPY" button to copy repeated programmes.
- **Program inspection:** using the "PROG",  and  buttons.
- **Retuning:** using the "1", "2", "3", "4", "SET", "DAY" and "COPY" buttons (see Section 9.2).
- **Transmission distance control:** press the "TEST" button for more than 2 seconds.
- **Temporary modification of the temperature set in the program:**
 - **until the next switch in the program:** set the temperature using the  and  buttons.
 - **for a period of 1 to 9 hours:** set the temperature using the  and  buttons, then press the "DAY" button, and finally set the duration using the  and  buttons.
 - **for a period of 1 to 99 days:** set the temperature using the  and  buttons, then press the "HOLD" button and hold it down for 2 seconds, and finally set the duration using the  and  buttons.
 - **until the next interference:** set the temperature using the  and  buttons, then press the "HOLD" button briefly.

The **COMPUTHERM Q8RF** type thermostat complies with the requirements of standards EU EMC 2004/108/EC; LVD 2006/95/EC; and R&TTE 1999/5/EC



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