COMPUTHERM Q8RF

Multi-zone programmable 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 Q8RF** type switched-mode room thermostat is suitable to regulate the overwhelming majority of boilers and air conditioners. It can easily be connected to any gas boiler having a two-wire thermostat connection point and to any air conditioning apparatus or electrical apparatus, regardless of whether they have a 24 V or 230 V control circuit.

The basic package of the device includes two **COMPUTHERM Q8RF (TX)** thermostats and a receiver unit. If required, the equipment can be extended by two additional **COMPUTHERM Q5RF (TX)** and **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: 230 V AC, max. 2 A (0.5 A 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). To control more than 4 zones at a time we recommend using 2 or more **COMPUTHERM Q8RF** thermostats (1 **Q8RF** thermostat is needed per 4 zones). In this case, the potential-free connection points controlling the boiler (**NO** - **COM**) should be connected to the heater / cooler device in parallel and the zone outputs work separately.

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.*

Thermostats

Boiler

Reciever

230 V AC, 50 Hz   Zone valves   230 V AC, 50 Hz
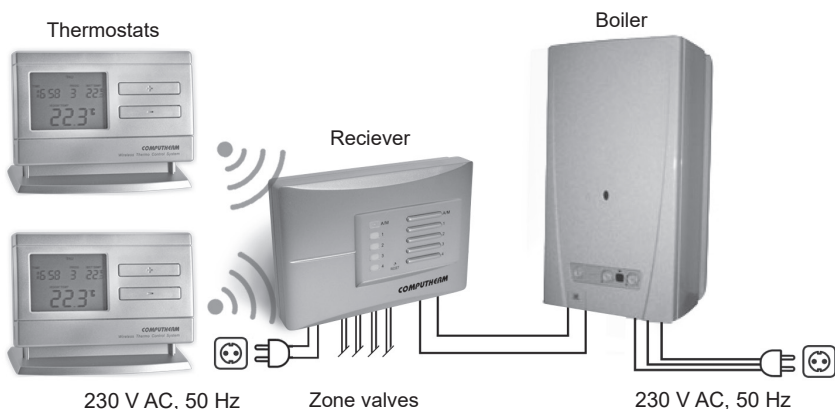
An example of dividing the heating system into zones is shown in the figure below:
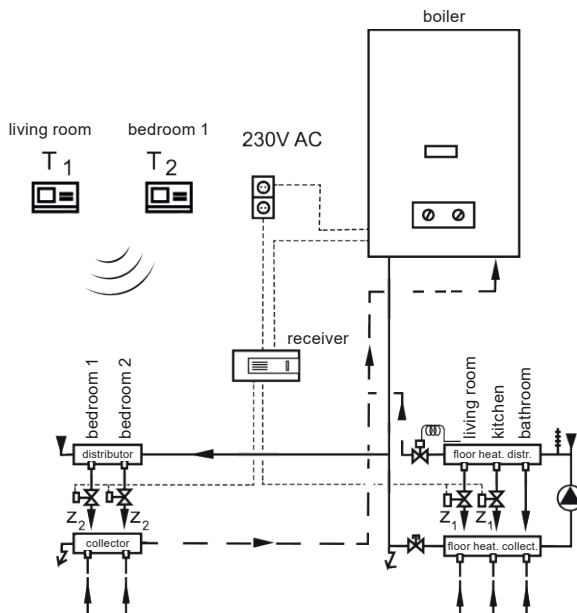
The device can be programmed according to customer-specific requirements so that the heating/cooling system heats/cools your residence or office to the required temperature at the times specified by the customer, to reduce energy costs while maintaining comfort.

Separate temperature programs can be prepared for each day of the week. For each day, beside 1 fixed switching time (**PROG 0**), 6 adjustable switching times (**PROG 1** – **PROG 6**) can be set (at 10-minute intervals) and different temperature (in 0.5 °C increments) can be assigned to all switching times.
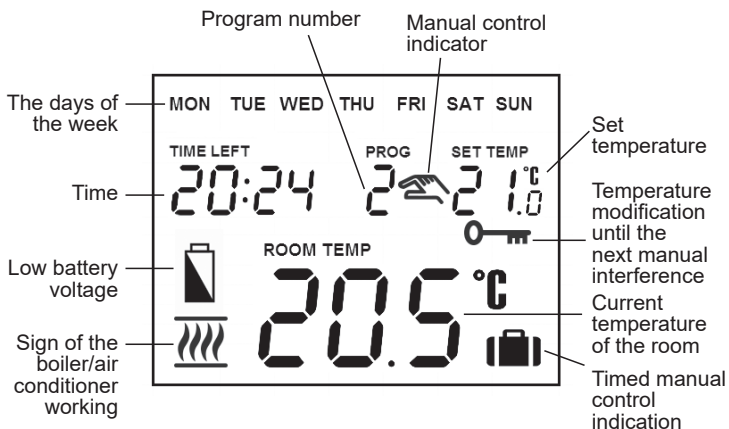
To increase the lifetime of the batteries, the thermostat will not transmit signals continuously. Instead it will repeatedly transmit the actual signal every 8 minutes. Therefore, the regulation of the heating or cooling will continue even after a blackout.

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 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:

Program number

Manual control indicator

The days of the week

MON TUE WED THU FRI SAT SUN

TIME LEFT

PROG

SET TEMP

Set temperature

Time

ROOM TEMP

Low battery voltage

Sign of the boiler/air conditioner working

Temperature modification until the next manual interference

Current temperature of the room

Timed manual control indication

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 230 V (50 Hz; max. 16 A) (e.g. fan heaters, pumps, zone valves, etc.) according to the room temperature.

(More information about the **COMPUTHERM Q1RX** sucket at **www.computherm.info/en** website)

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 0.75 - 1.5 m above floor level. Do not use in wet, chemically aggressive or dusty environment. 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.
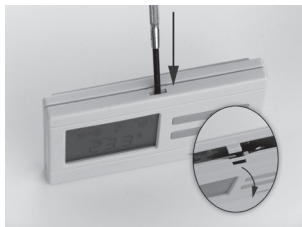
Warning! **Good quality alkaline batteries may only be used** for this appliance. Carbon-zinc batteries known as durable or long life batteries and chargeable accumulators are not suitable for the operation of this appliance. Icon ▯ appearing on the display to indicate low battery voltage warns reliably that the batteries should be replaced only when **good quality alkaline batteries** are used.

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 1st 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-COM** and the zone outputs are turned on below the set temperature in heating mode and above the set temperature in cooling mode. (Taking the switching sensitivity into account).

To switch between the two modes, 1st 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)

There is a possibility to change the switching sensitivity. 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 ±0.1 °C switching sensitivity for heating systems with high thermal inertia (e.g. underfloor heating), the ±0.2 °C (factory default setting) and ±0.3 °C switching sensitivity for heating systems with low thermal inertia (e.g. flat panel radiators).

To change the switching sensitivity, 1st 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 ±0.1 °C, ±0.2 °C and ±0.3 °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. You can read more about switching sensitivity in *Section 3*.

2.5 Activation of the pump protection function

According to the factory default settings, the pump protection function is inactive. In order to activate or deactivate it, 1st 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 by using the large ▬+▬ and ▬−▬ buttons. The notices "HP:ON" and "HP:OF" 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 connected device for one minute period at 12:00 p.m. every day, if no switching has taken place on the given day or the previous day (e.g. during the heating-free period).

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 °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, 1st 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 "⊏𝖱𝖫" appears in place of the time characters, and the correction value appears in place of the measured temperature (𝟢,𝟢 °C by default). Following this, set the desired correction value using the large ⊞ and ⊟ buttons between -3.0 °C and +3.0 °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. 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 at temperatures below 21.8 °C (heating is turned on) and 230 V AC is displayed on the output for that zone. The **NO** and **COM** connections points are 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 relays switch exactly the opposite way.

The closed status of the output relay terminals **NO** and **COM** is indicated by the ⧜ or ⧛ icon in the lower left corner of the display, depending on the selected operating mode.

4. PROGRAMMING THE THERMOSTAT

4.1 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 6**) switching times can be set. For all switching times a different temperature can be assigned between 5 and 40 °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.

- The **PROG 1** – **PROG 6** 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 **4.3.***

- 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 4.4.* 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.

4.2 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

4.3 Programming steps

a. Press the "**SET**" button to go to the main screen.

b. 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.

c. 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.

d. At this point the **temperature of switch PROG 0** 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.

e. 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.

f. 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.

g. 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 0** – **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* **4.4.**

4.4 Using the "COPY" function (Copying the program of a day to other days)

• 1st, 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!*

4.5 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 4.3.*

- 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 *4*.

4.6 Program inspection

- 1st, 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 🮲** and the time and temperature level set for switch **PROG 🮲** 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 🮲**, **PROG 🮲**, 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).

5. 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 5.1 - 5.4.*

To simplify manual temperature modifications, with factory default settings temperatures of ¡8 °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 ¡9 °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.

5.1 Temperature modification until the next program switch

Set the required temperature using the large ⏵+⏴ and ⏵−⏴ buttons on the front panel of the device. After the temperature modification the program number disappears, and 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 in manual control (**TIME LEFT**, 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.

5.2 Temperature modification for 1-99 hours (party program)

Set the required temperature using the large ⬛+⬛ and ⬛−⬛ buttons on the front panel of the device. After the temperature modification the program number disappears, the ✍ icon appears on the display, indicating that the thermostat is operated with manual control. Then press the "**DAY**" button. At this time, the ✍ icon disappears and the the 📧 icon appears on the display, along with $1\,h$ in place of the the exact time, which indicates the duration of modification in hours (the number which indicates the hours flashes, showing that the it can be modified). Adjust this time to the desired length (between 1 and 99) 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 in manual control (**TIME LEFT**, 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.

## 5.3 Temperature modification for 1-99 days (holiday program)

Set the required temperature using the large ⬛+⬛ and ⬛−⬛ buttons on the front panel of the device. After the temperature modification the program number disappears, at this time the ✍ icon appears on the display, indicating that the thermostat is operated with manual control. Then press the "**HOLD**" button and hold it down for at least 2 seconds. At this time, the ✍ icon disappears, for 2 seconds the ⦵ₘ icon appears, then the 📧 icon appears in the place of ⦵ₘ icon. This time the $1\,d$ notice appears in place of the time characters indicating the duration of the manual control in days (this number flashes, showing that the duration can be changed). 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. $3\,d$, 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.

5.4 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 �ける 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 by using the large ⬚ **+** and ⬚ **−** buttons during this temporary modification without exiting it.

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

6. 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. If you would like the light to turn on automatically after a button is pressed, then press the "**LIGHT**" button for 5 seconds. After this the light will automatically turn on after any button is pressed and will turn off 15 seconds after the the last button had been pressed. Turning the automatic light function on is shown on the display after pressing the "**LIGHT**" button for 5 seconds: in the place of the exact time the notice "𝐿:𝐨𝐧" appears for 3 seconds. If you press the "**LIGHT**" button for 5 seconds again, then this automatic light function turns off and the "𝐿:𝐨𝐹" notice is shown on the display for 3 seconds.

7. 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, 1st 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 "𝐿𝐨𝐶" 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 "𝐿𝐨𝐶" 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 "𝑢𝐿𝐨𝐶" appears in place of the time characters for a couple of seconds, whereupon all the buttons can be used normally again.

8. 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 and the settings that has been loaded even without batteries therefore there is no need to reprogram the device.

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.

9. 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. Do not use electrically conductive material to press the button, e.g. graphite pencil. After resetting the device, adjust the basic settings of the thermostat again and create the new program, as described in *Sections 2 and 4*.

10. THE RECEIVER UNIT

10.1 Installation and connection of the receiver unit

WARNING! **The device must be installed and connected by a qualified professional. Before installing, make sure that that neither the thermostat nor the device to be controlled is connected to the 230 V mains voltage. Modifying the thermostat can cause electric shock or product failure.**

Attention! We recommend that you design the heating system you want to control with the **COMPUTHERM Q8RF** thermostat so that the heating medium can circulate in the closed position of all zone valves when a circulating pump is switched on. This can be done with a permanently open heating circuit or by installing a by-pass valve.

Attention! In switched on state 230 V AC voltage appears on the zone outputs, the maximum loadability is 2 A (0,5 A inductive). This information should be considered during installation.

The receiver unit of **COMPUTHERM Q8RF** thermostat should be mounted on the wall in a place protected from dripping water, dusty and chemically aggressive environment, extreme heat and mechanical damage. When choosing the location of the receiving unit you should remember that bulky metal objects (e.g. a boiler, buffer tank, etc.) and metal building structures may have an adverse effect on propagation of radio waves. If it is possible, in order to ensure trouble-free RF connection, we recommend that you install the receiving unit at a height of 1.5 to 2 m and at a distance of 1 to 2 m from the boiler or other bulky metal constructions. We recommend that you check reliability of RF connection at the place selected before installing the receiving unit.

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

230 V 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**. It is not necessary to connect a ground wire because the product is double insulated. We recommend to de-energize the device when heating is continuously not needed (e.g. during summer).

Rear panel of the receiver unit

Heating unit (boiler)

230 V AC 50 Hz

230 V AC 50 Hz

Zone valves
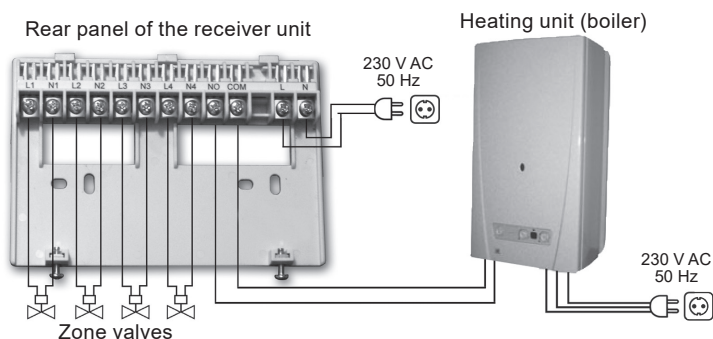
The receiver unit controls the boiler or air conditioner through a potential-free relay whose connection points are: **NO** and **COM**. Connect the two connection points of the heating or cooling equipment to be controlled to terminals **NO** and **COM**, i.e. to the normally open terminals of the relay, as shown in the figure below.

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 (e.g. pump) 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.

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, 230 V AC, 50 Hz 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.

The size of the connection points of the **COMPUTHERM Q8RF** zone controller allow at most 2 or 3 devices to be connected in parallel to any heating zone. If more than this is needed for any of the heating zones (e.g. 4 zone valves), then the wires of the devices should be joined before they are connected to the zone controller.

In case of using electro-thermal zone valves that operate slowly and all the zones are closed when the boiler is inactive, then the boiler should be started with a delay in order to protect the pump of the boiler. In case of using electro-thermal zone valves that operate fast and all the zones are closed when the boiler is inactive, then the valves should close with a delay in order to protect the pump of the boiler. See *Section **10.3*** for more information on the delay funcions.

When the two units of the thermostat can only be located on or outside the boundary of the range due to the layout of the building or the shielding effect of the building structures between the units then, in order to guarantee reliable RF connection, please install a **COMPUTHERM Q2RF** type RF transmitter between the two units.

10.2 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. The thermostats and receiver in the basic package are factory sychronized. If the receiver still does not receive commands from one of the thermostat switches or you want to connect additional thermostats to the receiver, you can synchronize a thermostat with the receiver by following the steps below:

In the automatic mode of the receiver (blue LED is lit), press and hold one of the buttons on the receiver (e.g. for zone number 1) (for about 3 seconds) until the red LED next to the button flashes. If you want a thermostat to control more than one zone, you must perform this step for each such zones. After the red LED for each zone with which you want to synchronize the thermostat flashes, press and hold the thermostat "**SET**", then press and hold the "**DAY**" button (approx. 10 seconds) until the red LED(s) on the receiver stops flashing (they turn off or light up continuously depending on the temperature set on the thermostat). The receiver then "learns" the transmitter's (thermostat's) security code. 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 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.

10.3 Delay of the outputs

When designing the heating zones - in order to protect the pumps - it is advisable to keep at least one heating circuit that is not closed by a zone valve (e.g. bathroom circuit). If there are no such zones, then in order to prevent the heating system from an event in which all heating circuits are closed but a pump is switched on, the zone controller has two types of delay functions.

Turn on delay

If this function is activated and the outputs of the receiver are switched off, then in order to open the valves of the given heating circuit before starting the pump(s), the **NO**-**COM** output of the receiver switches on only after a delay of 4 minutes from the first switch-on signal of the thermostats, while 230 V appears immediately at the output for that zone (e.g. **Z2**). The delay is especially recommended if the zone valves are opened/closed by slow-acting electrothermal actuators, because their opening/closing time is approx. 4 min. If at least 1 zone is already switched on, then the Turn on delay function will not be activated when additional thermostats switch on.

The active state of the Turn on delay function is indicated by the blue LED flashing with 3-second intervals.

If the "**A**/**M**" button is pressed while the Turn on delay is active (blue LED flashes with 3-second intervals), the LED stops flashing and indicates the current operating mode (Automatic/Manual). Then the working mode can be changed by pressing the "**A**/**M**" button again. After 10 seconds, the blue LED continues to flash with 3-second intervals until the delay stops.

Turn off delay

If this function is activated and some outputs of zone controller are switched on, then in order to keep the valves belonging to the given zone open during the recirculation of the pump(s), the 230 V AC voltage disappears on the zone output of the given zone (e.g. **Z2**), only after a delay of 6 minutes from the switch-off signal of the last thermostat, while the **NO**-**COM** output switches off immediately. The delay is especially recommended if the zone valves are opened/closed by quick-acting motorized actuators, as their opening/closing time is only a few seconds. Activating the function in this case ensures that the heating circuits are open during the circulation of the pump and thus protects the pump from overload. This function is only activated when the last thermostat sends the switch-off signal to the receiver.

The active state of the Turn off delay function is indicated by the 3-second interval flashing of the red LED of the last zone switched off.

Activating/deactivating of the delay functions

To activate/deactivate the Turn on and off delay functions, press and hold the **Z1** and **Z2** buttons on the receiver for 5 seconds until the blue LED flashes with one second intervals. You can activate/deactivate the functions by pressing the buttons **Z1** and

Z2. The LED **Z1** shows the Turn on delay status, while the LED **Z2** shows the Turn off delay status. The function is activated when the corresponding red LED is lit.

To save the settings and return to the default state wait 10 seconds. When the blue LED stops flashing the zone controller resumes the normal operation.

The delay functions can be reset to the factory defaults (deactivated state) by pressing the "**RESET**" button!

10.4 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 3 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.

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.

10.5 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 / 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.

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 you 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.

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**" and "**DAY**" buttons (see Section **10.2**).

- **Transmission distance control:** press the "**TEST**" button for more than 3 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 99 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.

PRODUCT INFORMATION DATA SHEET:

- Trademark: **COMPUTHERM**
- Model identifier: **Q8RF**
- 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
- **temperature calibration range:** ±3 °C (in 0.1 °C increments)
- **selectable switching sensitivity:** ±0.1 °C; ±0.2 °C; ±0.3 °C
- **battery voltage:** 2 x 1.5 V **ALKALINE** batteries (LR6 type; AA size)
- **power consumption:** 1.3 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:** 130 x 80 x 23 mm (without holder) (W x H x D)
- **weight:** 112 g
- **temperature sensor type:** NTC 3435 K 10 kΩ ±1% at 25 °C

Technical data of the receiver unit:

- **power supply voltage:** 230 V AC, 50 Hz
- **power consumption:** 0,15 W
- **switchable voltage of the relay that controls the boiler:** max. 30 V DC / 250 V AC
- **switchable current of the relay that controls the boiler:** 8 A (2 A inductive load)
- **voltage of the zone outputs:** 230 V AC, 50 Hz
- **loadability of the zone outputs:** 2 A (0.5 A inductive load)
- **duration of activable Turn on delay function:** 4 minutes
- **duration of activable Turn off delay function:** 6 minutes
- **protection against environmental impacts:** IP30
- **storage temperature:** -10 °C - + 40 °C
- **operating humidity:** 5% — 90% (without condensation)
- **dimensions:** 130 x 90 x 32 mm (W x H x D)
- **weight:** 210 g

Total weight of the device: approx. 551 g
(2 thermostats + 2 holders + 1 receiver)

The **COMPUTHERM Q8RF** type thermostat complies with the requirements of directives RED 2014/53/EU and RoHS 2011/65/EU.

Manufacturer: QUANTRAX Ltd.
Fülemüle u. 34., Szeged, H-6726, Hungary
Phone: +36 62 424 133 • Fax: +36 62 424 672
E-mail: iroda@quantrax.hu
Web: www.quantrax.hu • www.computherm.info
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!