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 - Timer/receiver:
 - Characteristics
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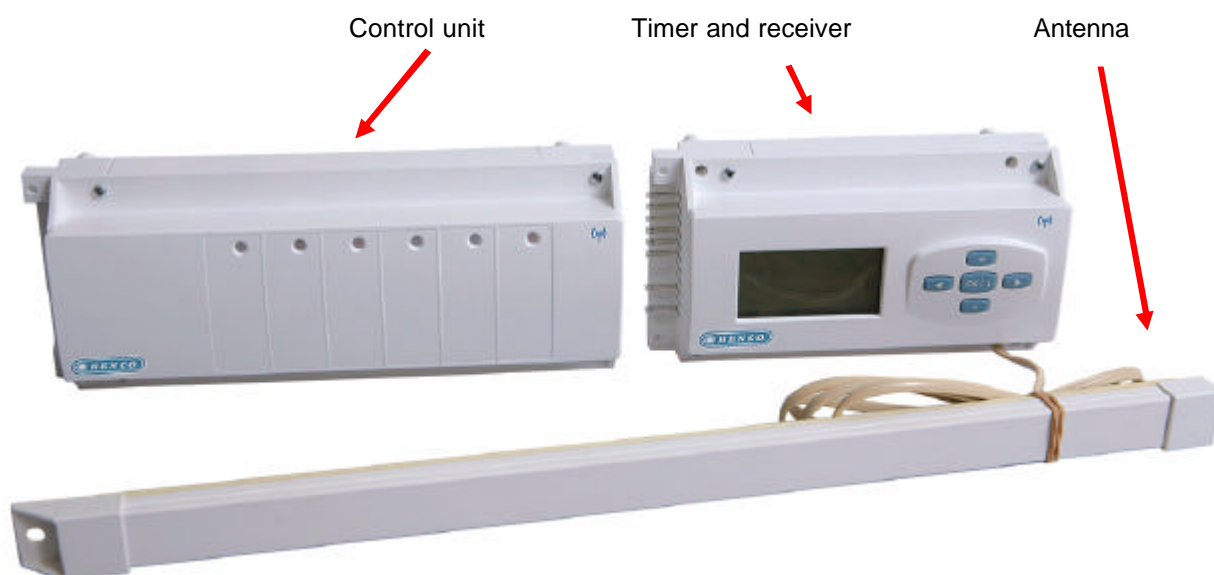
 - Electrothermal motors
 - UFH-ACT230NC2
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 - UFH-ACT24NC2

UFH-ZONE-R

This control unit enables you to receive signals from 6 radio-controlled room thermostats, by which all areas may be controlled.

Besides, this module can also serve as “timer” for more (max. 10) non-programmable room thermostats.

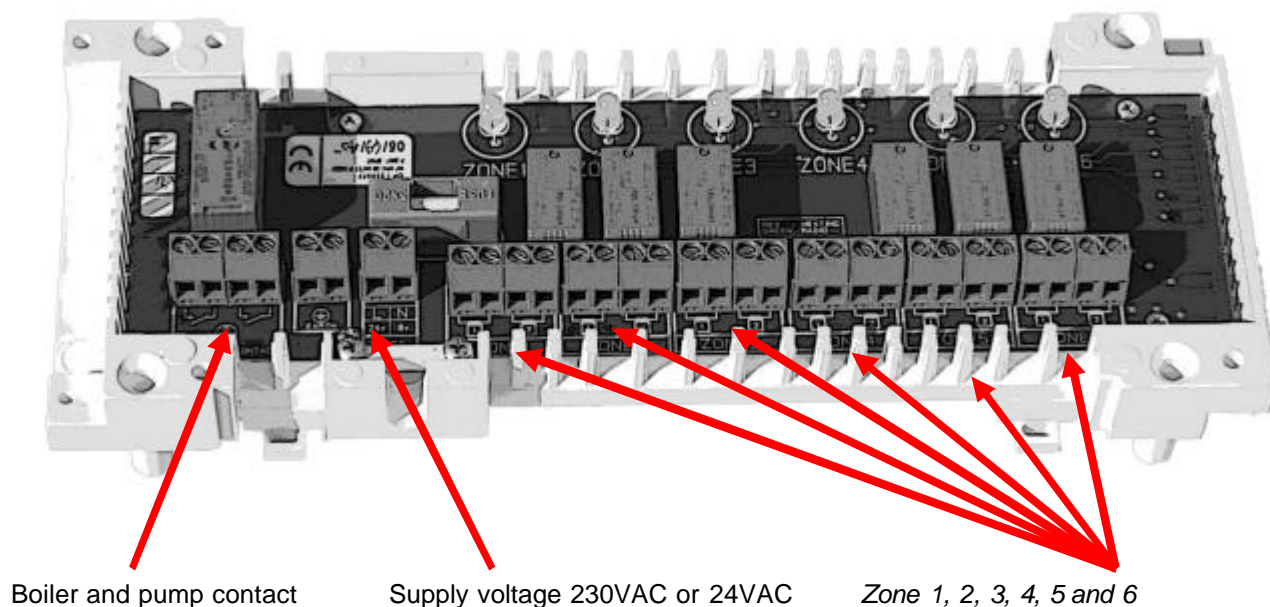
The programming of the “timer” and communication setting-up between sender and receiver proceeds in a very simple way.



As soon as 1 room thermostat detects a heat request, a built-in relay activates the pump and boiler.

Extension possibility for 4 extra room thermostats, by using the optional extension module **UFH-EXTRAZONE-R**

Picture: UFH-ZONE-R



Supply voltage 230VAC or 24VAC

The unit has to be connected to the mains voltage (being 230VAC or 24VAC 50-60Hz). Because of electrocution danger, it is recommended not to do this until all thermostats and electrothermal motors have been connected.

If you choose for a mains voltage of 24VAC, you can only connect electrothermal motors of the UFH-ACT24NC2 type to it.

If you choose for a mains voltage of 230VAC, both types UFH-ACT230NC2 and UFH-ACT230NC4 can be connected.

Zone 1, 2, 3, 4, 5 and 6:

Each zone is provided with 2 pairs of terminals for the connection of electrothermal motors.

Attention: only 2 motors maximally may be connected per pair (so: 4 motors per room thermostat).

Boiler and pump contact:

2 pairs of dead terminals to control the boiler and pump.

Attention: both contacts open and close at the same moment.

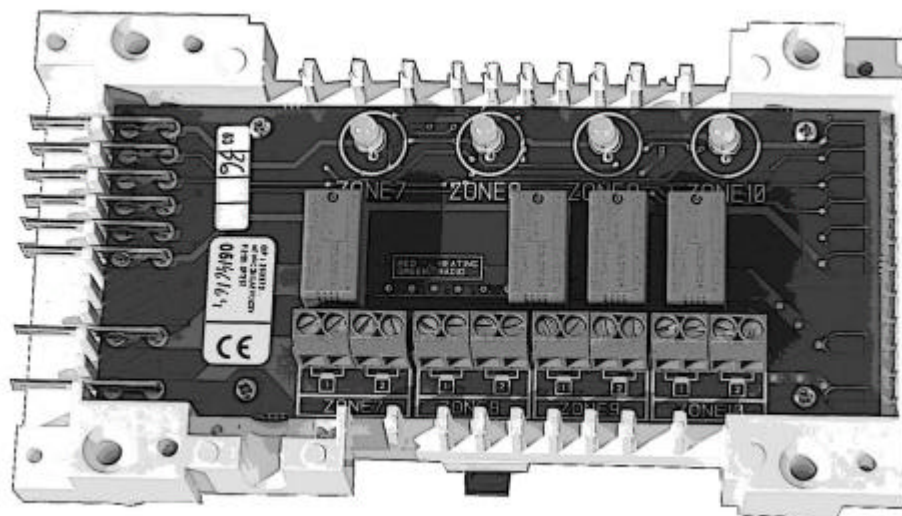
Extension for extra zones:

The control unit can be extended with an optional module **UFH-EXTRAZONE-R**.

This module enables you to install 4 extra room thermostats and their accompanying electrothermal motors.

The **UFH-EXTRAZONE-R** doesn't have to be separately provided with supply voltage. The supply voltage for the **UFH-EXTRAZONE-R** is provided by the **UFH-ZONE-R**.

Picture: UFH-EXTRAZONE-R:



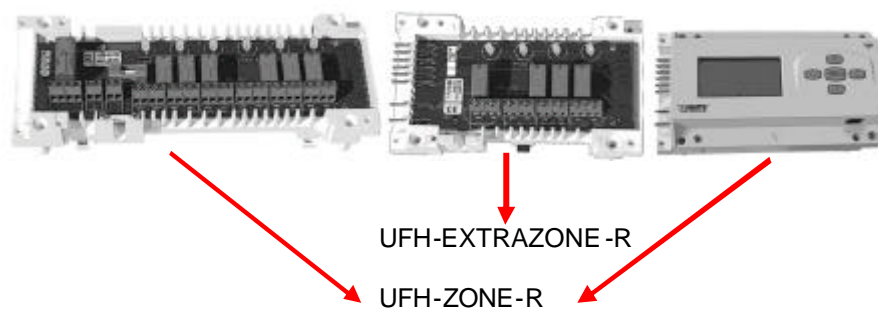
Connection between UFH-ZONE-R and UFH-EXTRAZONE-R:

The black surfaces on the UFH-zone-R have to be linked with the “forked” terminals of the UFH-EXTRAZONE-R. This can be done by pushing the terminals through the white housing over the printed-circuit board.

Because of electrocution danger, it is recommended to do this before connecting the UFH-ZONE-R to the mains supply.


Attention: the UFH-EXTRAZONE-R has to be installed between the control unit and the timer/receiver. See picture below.

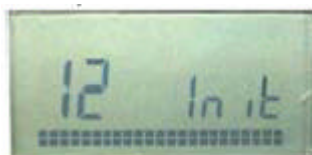
Picture: UFH-ZONE-R and UFH-EXTRAZONE-R



Connection of a radio-controlled room thermostat (UFH-THERM-R):



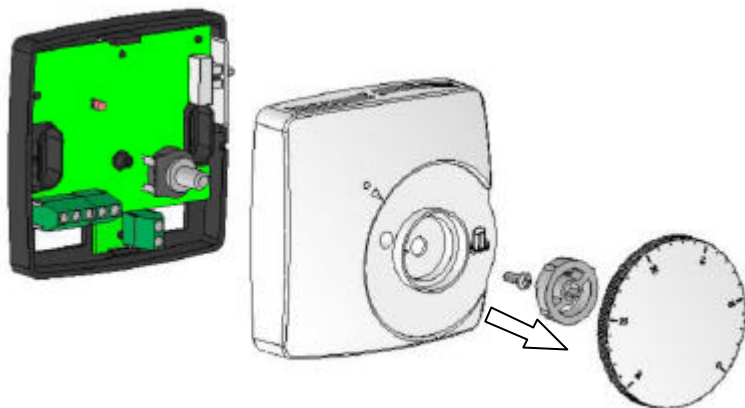
1. Put the thermostatic switch in the centre position.
2. Put the timer - by using the < and > keys - in the comfort mode ()
3. Push the "OK" button then; keep pushing the "OK" while pushing the "<" at the same time. (You have reached the installer's menu now)
4. Push on "-" once now; you have reached the RF initialisation menu now. The utmost left LED is blinking.



5. By using the "+" and "-" keys, you can select and deselect respectively a zone.
If you select a zone with the "+" key", the LED of the concerned zone keeps lighting up and the LED of the next zone starts blinking.
If you deselect a zone with the "-" key", the LED of the concerned zone turns out and the LED of the next zone starts blinking.
(You can select several zones for 1 room thermostat)
6. If you have selected the zones you want to connect with the room thermostat, put the thermostat switch in the "comfort mode" position. At this moment, a radio link is created between the thermostat and the receiver. On the LCD display of the timer, a double bar appears below and the LEDs of the selected zones turn out.
7. Repeat the above mentioned steps until you have connected all room thermostats with the desired zones.
8. Push on the "OK key" of the timer during 5 seconds now in order to leave the installer's menu.
9. Put the timer in the "AUTO mode" in order to activate the programmes.

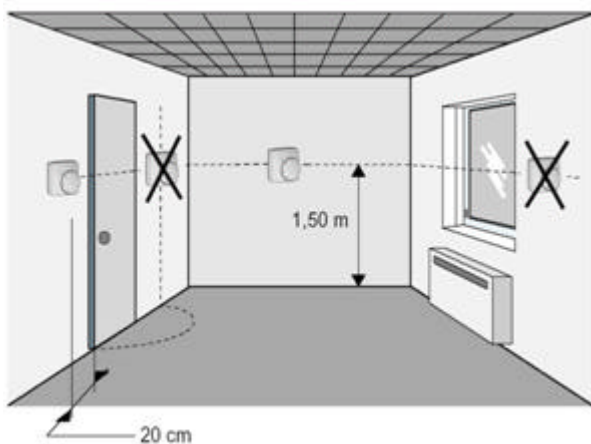
How to connect a room thermostat:

Open the thermostat:



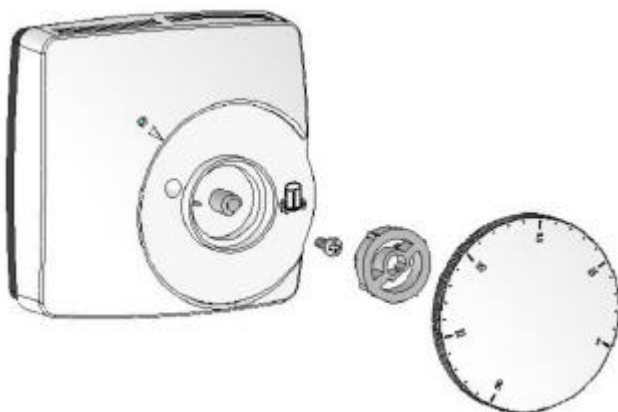
1. Remove the temperature scale
2. Loosen the screw
3. Remove the front plate

Place the thermostat in a suitable room:



- Place the thermostat at a height of 1.5 m
- Avoid direct sunlight
- Don't fix the thermostat on an external wall


Closing of the thermostat

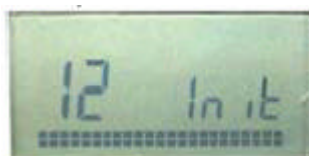


1. Place the front plate
2. Fasten the front plate with the screw
3. Replace the temperature scale as before

Connection of a radio-controlled digital room thermostat (UFH-THERM-D):

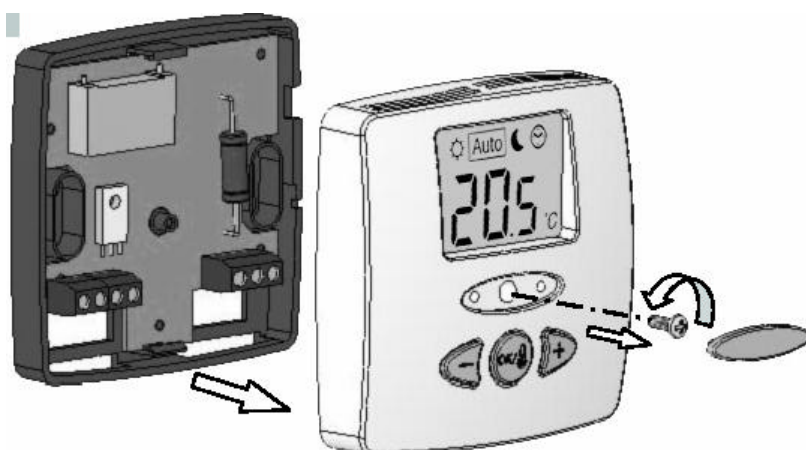


- Put the timer in the comfort mode () by using the < and > keys.
- Push the “OK” button then, keep pushing the “OK” while pushing the “<” at the same time. (You have reached the installer’s menu now)
- Push “-“ once now; you have reached the RF initialisation menu now. The utmost left LED blinks.



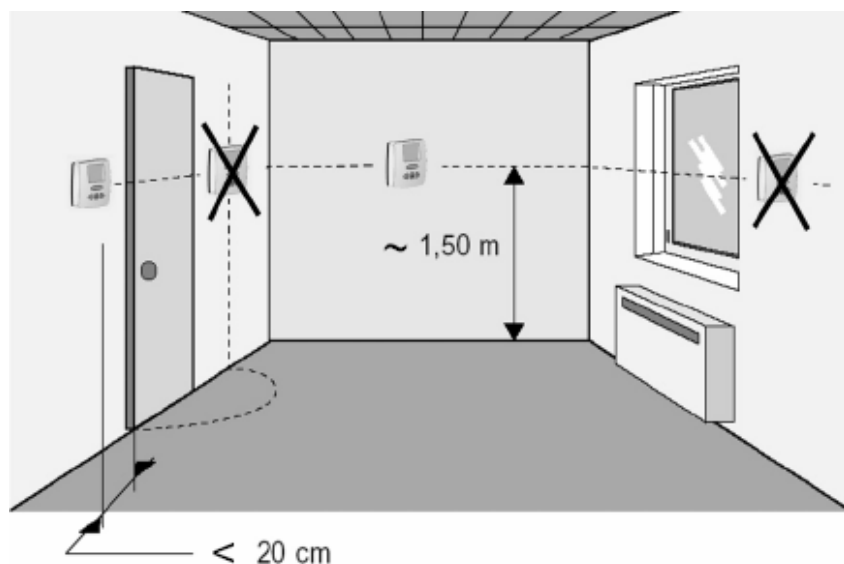
- By using the “+” and “-“ keys you can select and deselect respectively a zone. If you select a zone with the “+ key”, the LED of the concerned zone keeps lighting up and the LED of the next zone starts blinking. If you deselect a zone with the “- key”, the LED of the concerned zone turns out and the LED of the next zone starts blinking. (You can select several zones for 1 room thermostat).
- If you have selected the zones you want to connect with the room thermostat, push the “OK key” of the digital thermostat during 5 seconds. The UFH-THERM-RD is now sending radio signals to the timer. If a double bar appears at the bottom of the timer display, push again shortly on the “OK key” of the thermostat. The LEDs of the selected zones turn out now.
- Repeat the above mentioned steps until all room thermostats are connected with the desired zones.
- Push the “OK key” of the timer now during 5 seconds in order to leave the installer’s menu.
- Put the timer in the “AUTO mode” in order to activate the programmes.

Open a thermostat:



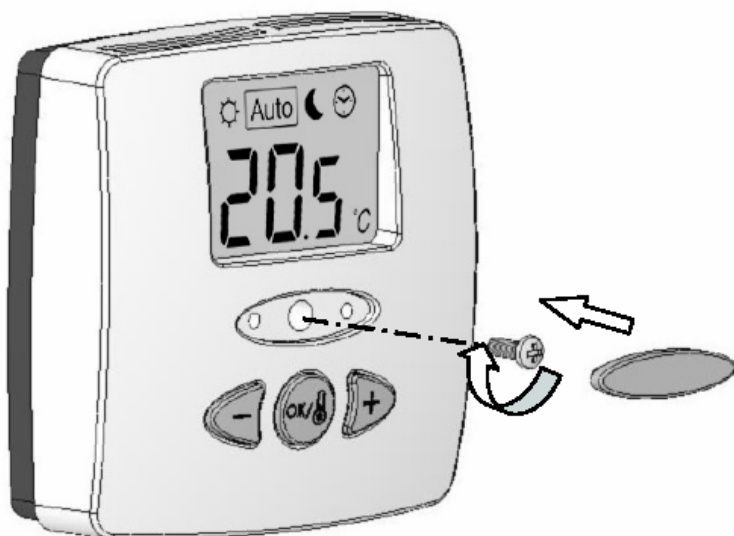
1. Remove the white protecting cap
2. Loosen the screw
3. Remove the front plate

Place the thermostat in a suitable room:



- Place the thermostat at a height of 1.5 m
- Avoid direct sunlight
- Don't fix the thermostat on an external wall

Close the thermostat



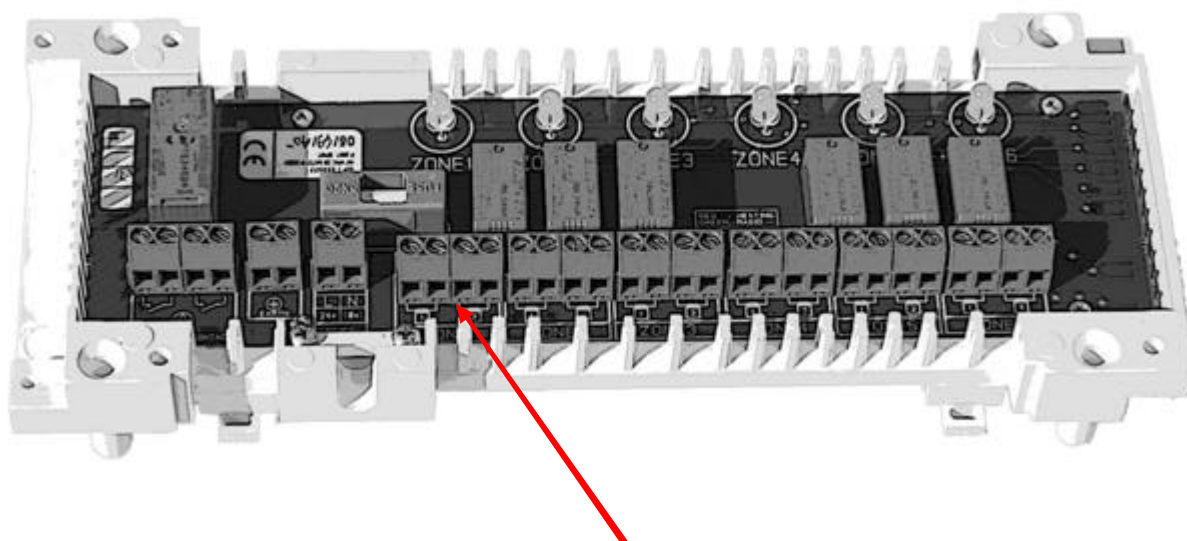
- 1 Place the front plate
- 2 Fasten the front plate with the screw
- 3 Replace the white protecting cap as before

Connection of an electrothermal motor **UFH-ACT230NC2**, **UFH-ACT230NC4** or **UFH-ACT24NC2**



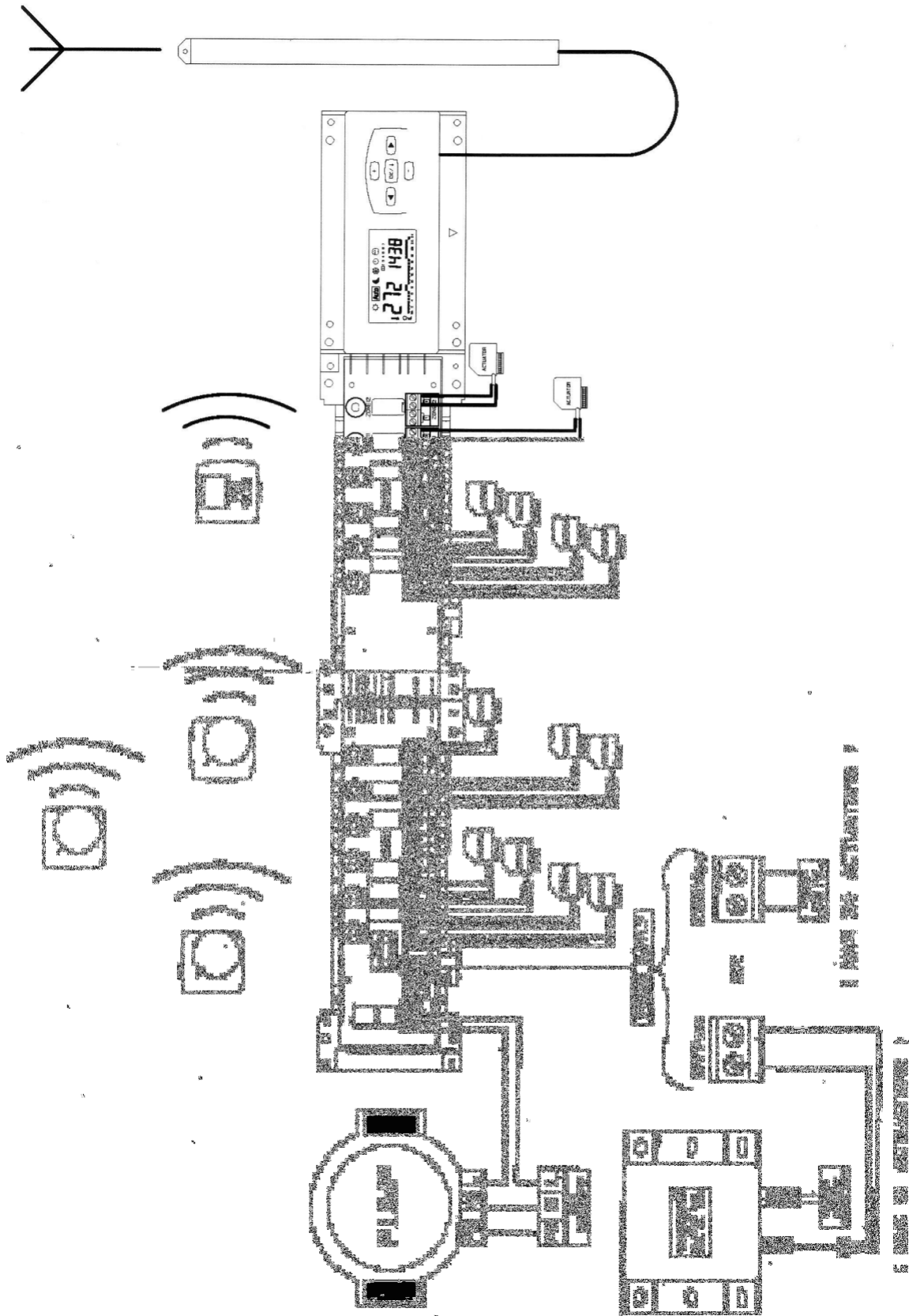
Each zone is provided with 2 pairs of terminals for the connection of an electrothermal motor. Only 1 motor maximally may be connected per pair of terminals. So: 2 electrothermal motors per zone (or per room thermostat).

In case of an electrothermal motor with auxiliary contact (UFH-230NC4), you only have to connect the blue and brown wire onto the terminals.



Terminals for electrothermal motor

Connecting diagram:



Detailed information:

UFH-THERM-R room thermostat



This radio-controlled room thermostat has been especially created for floor heating systems. Each room thermostat has a personal digital code that excludes jamming from room thermostats in the neighbourhood.

There is a switch at the side of the room thermostat by means of which the thermostat can be put into 3 modes, namely:

- comfort
- night reduction
- OFF

The thermostat has an LED indication, showing the heating-up phase and radio transmission. The temperature adjustment can be limited or blocked.

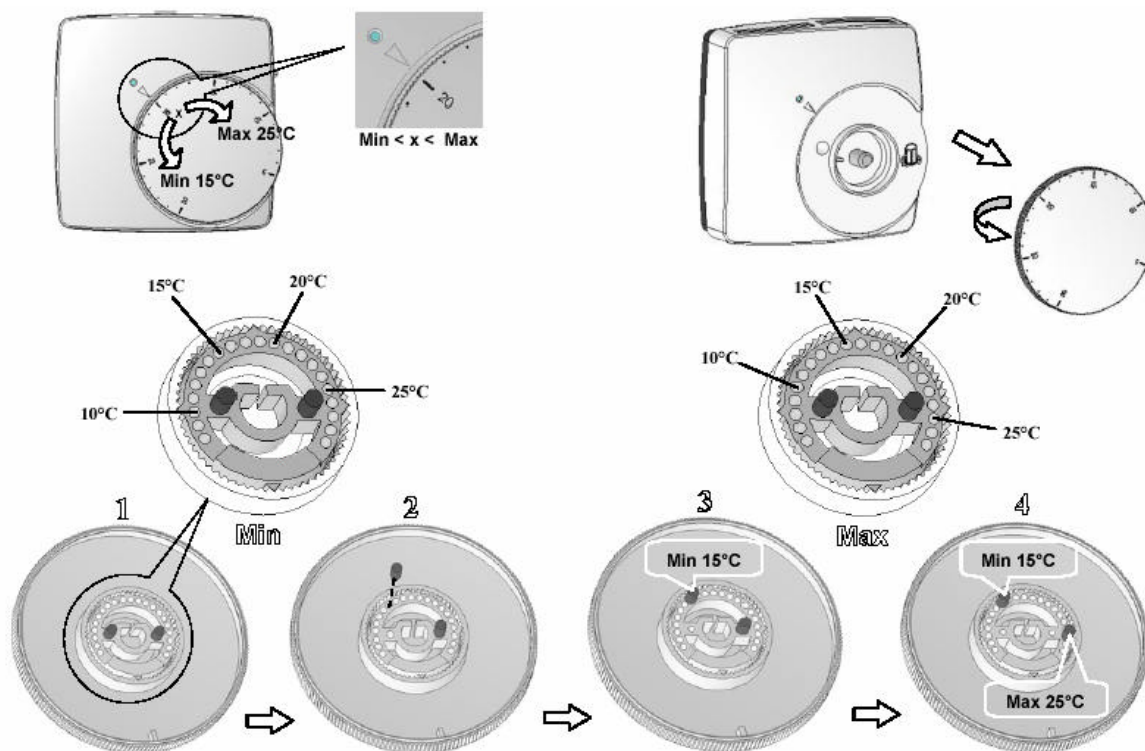
Technical characteristics:

Accuracy of the measured temperature:	0.1° C
Adjustment range:	+ 5° C to 30° C
Regulation:	Proportional link of 2° C for a cycle of 15 min.
Autonomous feeding:	2 batteries of 3V, type CR2430, life span 2 years
Frequency:	433.92MHz, <10mW
Protection class:	IP30
Dimensions:	80 x 80 x 31 mm

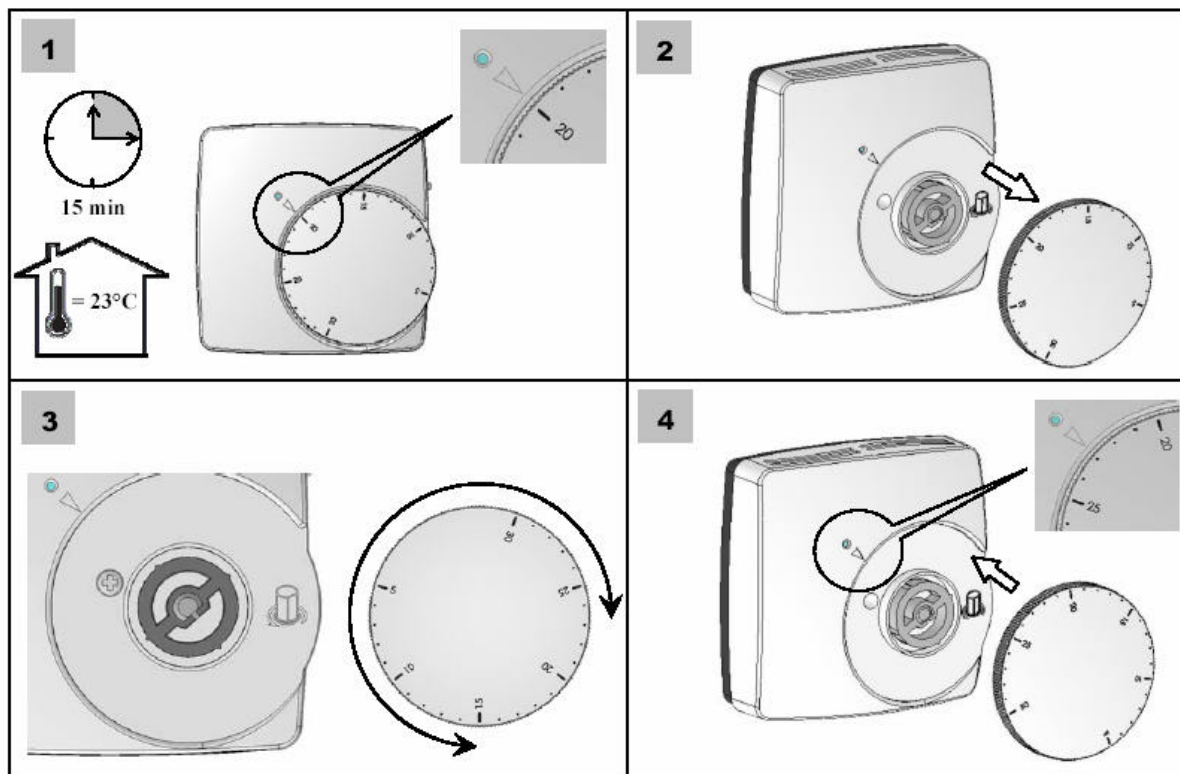
LED indication:

Green blinking:	Radio transmission
Red:	Heating-up phase based on the environmental temperature
Red blinking:	The battery has to be replaced

Adjustment range limitation:



Calibration of the thermostat:



UFH-THERM-RD Digital wireless room thermostat

This radio-controlled room thermostat with LCD display has been especially created for floor heating systems. Each room thermostat has a personal digital code that excludes jamming from room thermostats in the neighbourhood.

By pressing a key, the room thermostat can be easily put into 3 modes, namely:

- comfort
- night reduction
- OFF

Display of the desired temperature and room temperature.

Can be equipped with an optional floor sensor (UFH-SENSOR) to limit the temperature of the floor.

This room thermostat has also an extended installers' menu.

Following parameters can be adjusted:

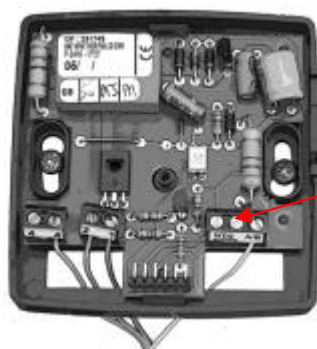
- Display of °C or °F
- Selection between heating and cooling system
- Adjustment of the time cycle (proportional regulation)
- Regulation of the amplitude in °C or °F (proportional regulation)
- Possibility to put the pump into operation once a day.
- Option between environmental and floor temperature
- Setting-up of the temperature limits of the floor sensor

Technical characteristics:

Accuracy of the measured temperature:	0.1° C
Adjustment range:	+ 5° C to 37° C, in steps of 0.5° C
Autonomous feeding:	2 batteries of 3V, type CR2430, life span 2 years
Frequency:	433.92MHz, <10mW
Protection class:	IP30
Dimensions:	80 x 80 x 31 mm

Adjustment of the optional floor sensor:

In order to prevent floor heating from being switched off by the thermostat when sunlight is coming in, or to prevent floor temperature from rising too much so that the comfortable feeling disappears, the room thermostats can be equipped with this optional floor sensor.

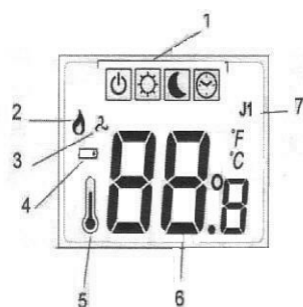


Terminals for floor sensor





Connect the sensor with the terminals provided for that purpose; the parameters of the floor sensor can be adjusted in the installer's menu (see "installer's menu" below).





LCD display:



- 1 : Function mode
- 2 : “Burner into operation” display
- 3 : “Cooling system into operation” display
- 4 : Replace the batteries (only for the RF model)
- 5 : When lighted up, 6 shows the environmental temperature
- 6 : Measured temperature or adjusted temperature
- 7 : Parameter installation: description

Installer’s menu:

Push the OK button during 5 seconds, use the  and  keys then in order to select the parameter installation to be adapted.

Push the OK button to walk through the parameters or to adapt the value. If the value blinks, you can modify it with  and . Press the  and  key at the same time to return to the works’ settings. Push OK to confirm.

N° of the parameter	Description of the parameter
Rf	Radio signal is sent out, press OK shortly to stop and leave the menu
JO	° C/° F display
J1	Cooling installation
Cy	Proportional integral regulation – value time cycle in minutes (standard: 15 minutes)
bp	Proportional integral regulation – value amplitude in degrees ° C/° F (standard: 2° C/3.6° F)
J5	Select PMP to let operate the pump once a day (if the pump hasn't functioned one day)
J6	Air: air temperature adjustment
J7	rEG (proportional integral) or HYs (0.3° K Hysteresis) to choose the regulation type
Cp	° C/° F Display (standard: 2.0° C/3.6° F)
Ao	Adaptation environmental sensor – display measured environmental value
Fo	Adaptation floor sensor – display measured floor value
FL	Limitation of the floor temperature lower limit (standard 5° C/41° F); works only if the floor sensor has been connected.
FH	Limitation of the floor temperature upper limit (standard 28° C/82° F); works only if the floor sensor has been connected.
Clr	Push OK during 5 sec. in order to choose works settings for all parameters.

Description of distinctive modes:**Mode COMFORT**

Use this function to set your installation into “comfort mode”

Use the  and  keys to adjust the comfort temperature

The “**comfort**” temperature of the thermostat is unlimitedly maintained

Afterwards, the environmental temperature is displayed again

**Mode REDUCED TEMPERATURE**

Use this function to put your installation into “reduced temperature mode”

Use the  and  keys to adjust the reduced temperature

The “**reduced**” temperature of the thermostat is unlimitedly maintained

Afterwards, the environmental temperature is displayed again

**Mode OFF**

Use this function to switch off your heating installation.

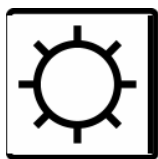
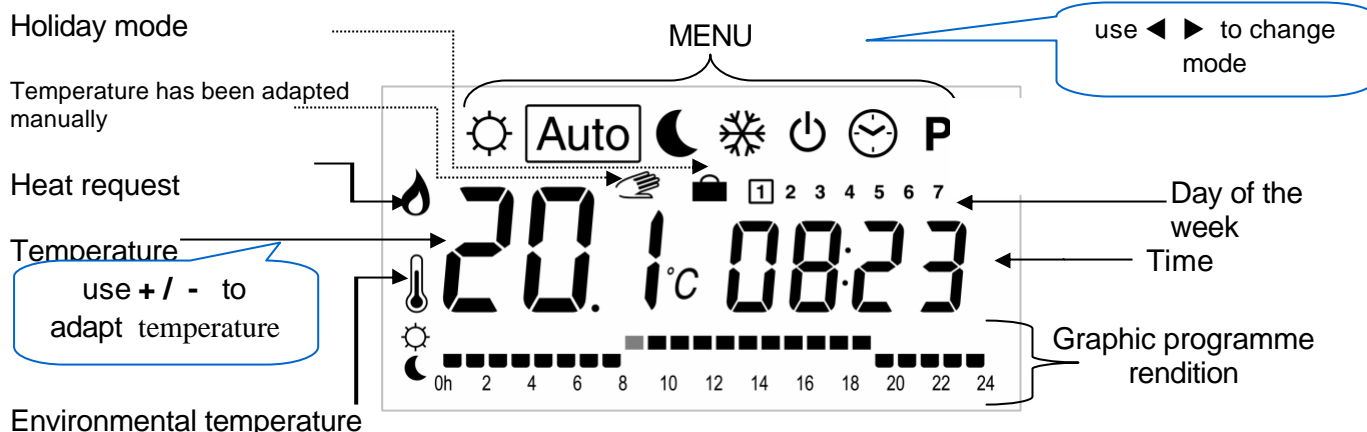
The display is empty now. (Attention: Your installation may freeze now). The parameters are kept.

Timer**Characteristics:**

- Guarantees wireless communication, equipped with an active antenna. Average receiving range in residential environments: 50 m.
- 7 days, to be programmed separately per zone
Provided with 9 works programmes and 12 user programmes (to be programmed yourself)
- Graphic programme rendition
- Temperature display in each zone
- Comfort mode / reduced temperature / frost protection
- Mode holidays
- Programming is maintained during long current interruptions
- The clock continues to operate during 3 hours of current interruption

- Distinctive installation parameters

LCD-display



Mode COMFORT:

If selected, each zone follows the temperature which is adjusted on the local thermostat. If you push the "OK button", you can read the temperature in the selected zone.

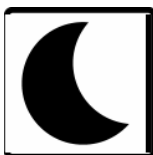


Mode AUTOMATIC:

If selected, the timer follows the programme which you programmed/selected for each zone.

Sun = Room thermostat adjusted temperature.

Moon = Room thermostat adjusted temperature - 4°C.



REDUCED TEMPERATURE mode:

If selected, the temperature is reduced in each zone.

Room thermostat adjusted temperature - 4°C.



FROST PROTECTION mode:

If selected, the installation is frost-protected.

With the "+/- keys", you can adjust the anti-freeze temperature.

In each zone, the temperature will be at least equal to the anti-freeze temperature.



Mode OFF:

Select this mode if you want to turn off the heating installation.
The timer will first of all turn off the installation and then itself.
The clock continues to work another 3 hours; the programmes are kept in memory.
The timer can be activated by pressing any random button.

Attention:

If you choose this mode, your installation may freeze.



Mode CLOCK :

Select this menu to adjust the time.

08:23

use +/- to set minutes, push on OK then

08:23

use +/- to set hours, push on OK then

08:23

use +/- to set the actual day (1 = Monday), push on OK then

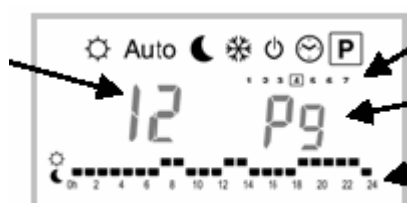


Mode PROGRAMMING:

By pushing the "+/-" keys, the zone number starts blinking.

(***)

use "+/-" to select a zone or a user programme



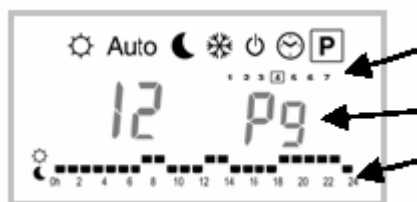
with < and > you can look at the other days of the programme

Programme number

Shows the daily programme

If you select a zone (1 to 12) and push on "OK" then, you can select a weekly programme that has to be followed by this zone.

When the programme number is blinking:



With < and > another day of the weekly programme is shown

Use "+/-" to select a programme

Shows the daily programme

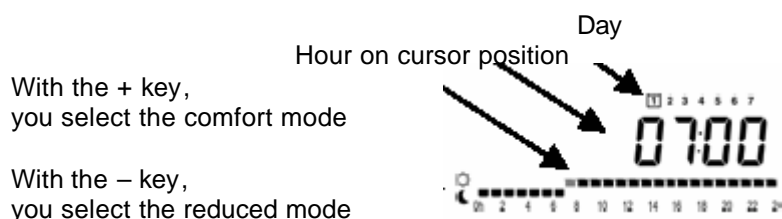
When you select a works programme (P1 to P9 (included)) or a user programme (U1 to U10 (included)) and then you push on OK, this programme will follow the AUTO mode.

Works programmes:

- P1: Morning, evening and in the weekend
- P2: Morning, noon, evening and in the weekend
- P3: Day and weekend
- P4: Evening and in the weekend
- P5: Morning, evening
- P6: Morning, afternoon and in the weekend
- P7: 7h-19h (office)
- P8: 8h-19h and Saturday (shop)
- P9: Weekend (weekend house)

User programme setting-up:

If you choose for a user menu (U1-U12) in (***), you can, after having pressed “OK”, program a whole week.



With the < and > you are walking through the programming bar; if a complete day is programmed, push the “OK” to go to the following day.

If you “push” the OK button on the seventh day, this will bring you to the main menu.
In phase (***), you can link your programme to the desired zone now.

Installer’s menu:

Go with the < > keys to the comfort mode. Keep pushing on “OK” and press “<” at the same time. You have reached the installer’s menu now.

With “+/-“ you can select the desired parameter; push “OK” to adapt the parameter.

Parameters:

F.0 PROG/EASY

Select PROG for an extended menu
Select EASY for a limited menu, only:

- comfort
- reduced temperature
- frost protection
- holiday mode

F.1 BUZZ/no

If you choose for BUZZ, a sound signal is generated when contact with a room thermostat is lost.

F.2 NC/NO actuator

Select NC if you use “normally closed” actuators

Select NO if you use “normally open” actuators

- F.3 ACtU/no Actuator exercise
Choose ACtU if you want to open the actuators during 5 minutes daily, if there is no heat request during 24 h.
- J.0 °C/° F temperature display
- J.1 12h/24h time display
- J.2 --:15/--:8 time cycle in minutes
Choose --:8 if you have an installation that thermally reacts slowly.
- J.3 2.0° K/1.2° K proportional link
Choose 1.2° K only if you have an installation that thermally reacts quickly.
- J.5 PUMP/no pump test
Choose PUMP in order to activate the pump during 2 minutes a day (at 12h), if there is no heat request during 24 h.
- J.6 ItCS/no Intelligent Temperature Control System
Choose ItSC if you want to use intelligent software, taking into account the distinctive parameters, which are influencing the heating-up and cooling-down time of each zone.
Consequently, each zone will be warmed up optimally with a minimum of energy costs.

UFH-ACT230NC2 Electrothermal motor 230V, normally closed (NC) Attachment M30 x 1.5

Description:

This electrothermal ON/OFF motor is used for automation of manifolds of type V-06 and VH-06.
The motor is addressed by a room thermostat or regulation unit.

Operation:

The operation is based on a thermostatic wax element, which is activated by an electrical signal (230V) originating from a room thermostat or regulation unit. The wax element is warmed up by this electrical signal, which results in expansion. This expansion activates opening and closing of a zone.
The motor is provided with a transparent zone which visualizes the status.
(RED = valve closed, BLACK = valve opened)

Technical characteristics:

Supply voltage: 230V alternating voltage
Frequency: 60Hertz
Consumption: 2.5Watt
Starter current: 0.25A x 0.5sec
Initial opening and closing time: 90s
Final opening and closing time: 3min.
Protection class: IP44
Operating temperature: 0 to 50° C
Storage temperature: -25 to 60° C
Maximal liquid temperature: 110° C
Nominal clamping force: 140N



UFH-ACT230NC4 Electrothermal motor 230V, normally closed (NC), with auxiliary contact.
Attachment M30 x 1.5**Description:**

This electrothermal ON/OFF motor is used for automation of manifolds of type V-06 and VH-06. The motor is addressed by a room thermostat or regulation unit. The pump is addressed by an auxiliary contact.

Operation:

The operation is based on a thermostatic wax element, which is activated by an electrical signal (230V) originating from a room thermostat or regulation unit. The wax element is warmed up by this electrical signal, which results in expansion. This expansion activates opening and closing of a zone. The motor is provided with a transparent zone which visualizes the status. (RED = valve closed, BLACK = valve opened)

Technical characteristics:

Supply voltage: 230V alternating voltage
Frequency: 60Hertz
Consumption: 2.5Watt
Starter current: 0.25A x 0.5sec
Initial opening and closing time: 90s
Final opening and closing time: 3min.
Protection class: IP44
Operating temperature: 0 to 50° C
Storage temperature: -25 to 60° C
Maximal liquid temperature: 110° C
Nominal clamping force: 140N
Maximal switching current of the auxiliary contact: 700mA at 250 (AC)

**UFH-ACT24NC2 Electrothermal motor 24V, normally closed (NC) Attachment M30 x 1.5****Description:**

This electrothermal ON/OFF motor is used for automation of manifolds of type V-06 and VH-06. The motor is addressed by a room thermostat or regulation unit.

Operation:

The operation is based on a thermostatic wax element, which is activated by an electrical signal (24V) originating from a room thermostat or regulation unit. The wax element is warmed up by this electrical signal, which results in expansion. This expansion activates opening and closing of a zone. The motor is provided with a transparent zone which visualizes the status. (RED = valve closed, BLACK = valve opened)

Technical characteristics:

Supply voltage: 24V alternating voltage
Frequency: 60Hertz
Consumption: 2.5Watt
Starter current: 0.25A x 0.5sec
Initial opening and closing time: 90s
Final opening and closing time: 3min.
Protection class: IP44
Operating temperature: 0 to 50° C
Storage temperature: -25 to 60° C
Maximal liquid temperature: 110° C
Nominal clamping force: 140N

