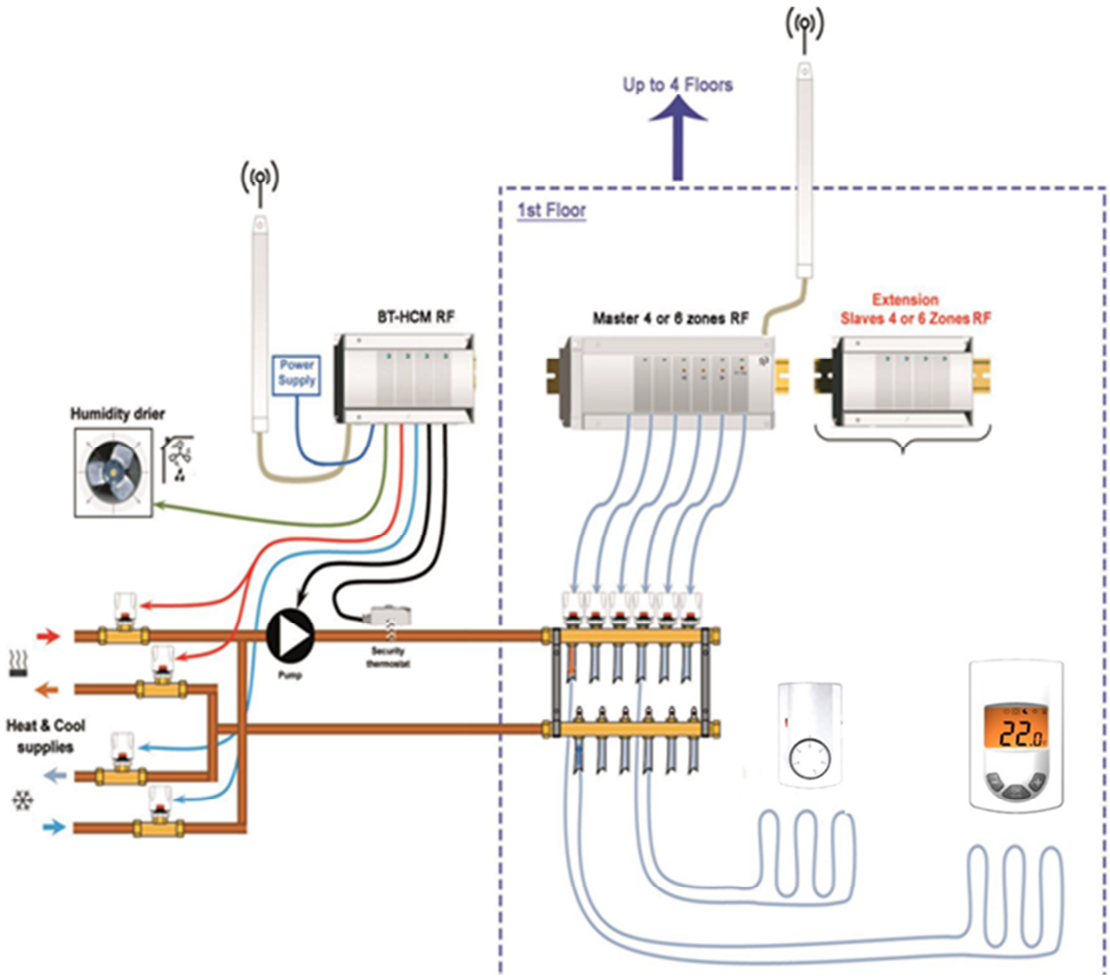
Table of Contents

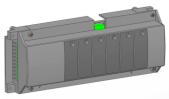
I. Presentation

1. Introduction



The thermostat is able to communicate with the current products TempCo RF (unidirectional wireless communication “rF.u”) and with the products of the new range TempCo E3 web RF (bidirectional wireless communication “rF.b”).

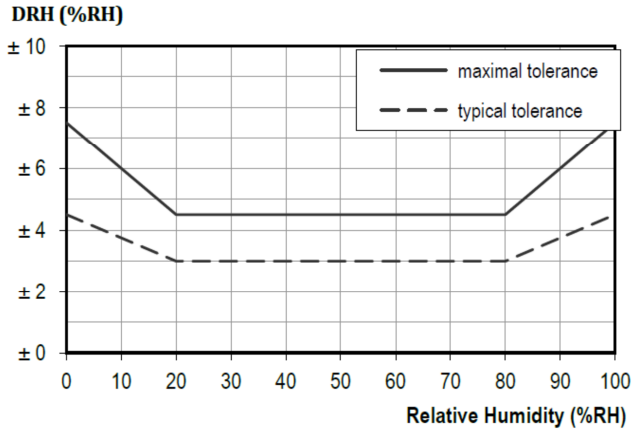
2. Denomination of range products

Product	Description
	Touch E3
	Single zone wall receiver live contact
	Single zone wall receiver heat and cool
	Single zone flush receiver
	Single zone plug receiver
	Master 6 zones 230V / 24 V
	Slave module 6 or 4 zones
	Pac module
	Thermostatic Head RF
	RF repeater

3. Technical data

This thermostat can be used in conditions described below:

Characteristics	Values
IP (degree of intrusion of foreign bodies and degrees of resistance to water)	IP20
Maximum ambient humidity (relative humidity)	85% to 20°C (68°F)
ERP	IV
Ambient operating temperature	0°C to 50°C (32°F to 122°F)
Storing temperature	-10°C to 60°C (14°F to 140°F)
Batteries	Two AAA alkaline batteries of 1.5V (warranty of 2 year lifetime and protection against battery inversion)
Power supply	2.2V to 3.6V
Wireless communication (radio frequency)	868.3 MHz, <10 mW. Range of approximately 100 meters in open field. Range of approximately 30 meters in residential area.
Humidity sensor (accuracy)	± 3.0 % RH (max de 8.0 % RH, see figure below)
Internal temperature sensor	CTN 10K at 25°C
Temperature sensor (accuracy)	± 0.5°C
External temperature sensor	CTN 10K at 25°C
Backlight	Orange (wavelength of 600 to 610 nm)



4. Standards

Designation	Description
Directive 1999/5/EC R&TTE	Radio And Terminal Telecommunication Equipment
Directive 2006/95/EC Low voltage	Low Voltage Directive
Directive 1999/5/EC CEM	R&TTE, Radiofrequency directive (includes EN300220 & EN301489)
Directive 2004/108/CE CEM	Electromagnetic compatibility
EN 60730-1 : 2013 (before 2003)	Automatic electric control devices for household and similar purposes - Part 1: General requirements
EN 61000-6-1 : 2007 (before 2002)	Electromagnetic Compatibility: Generic Standards - Immunity for Residential, Commercial and Light Industry
EN 61000-6-3 : 2007 (before 2004)	Electromagnetic Compatibility: Generic Standards - emission standard for residential, commercial and light industrial environments
EN 61000-4-2 : 2009 (before 2001)	Electromagnetic Compatibility: Testing and Measurement Techniques - Electrostatic Discharge Immunity Test
EN 300220-1/2 : 2012	Electromagnetic compatibility and radio spectrum (ERM) - Short-range devices (SRD) - Radio equipment operating in the frequency range 25 MHz to 1 000 MHz with power levels not exceeding 500 mW - Part 1: Technical characteristics and methods (V2.4.1)
EN 301489-1/3	Electromagnetic compatibility and Radio spectrum Matters (ERM); Electromagnetic Compatibility (EMC) standard for radio equipment and services

II. HMI specifications

1. User interface

a. LCD screen

This display is designed to be viewed with 12-hour viewing angle. It's lighted with an orange backlight. Its visible surface is 44x29mm.

b. Keyboard

The keyboard is composed by 3 keys as shown in the figure below:

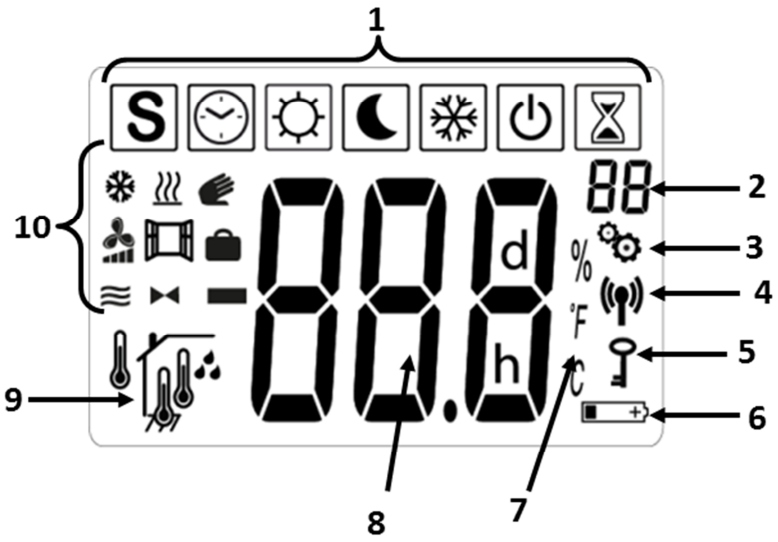
These 3 keys are used for:

- 

: validation of temperature set point setting or switching of thermostat mode
-  or  : increasing/decreasing of set point values, navigation in hidden menus and modification of thermostat parameters

IMPORTANT: When the backlight is switched off for several seconds, pressing a key allows to transmit an RF communication frame. In the case of a bidirectional system ("rF.b"), this communication allows the thermostat to be updated according to the changes made on the "Touch E3".

2. LCD description



LCD logo description:

1. Icon showing current operating mode of thermostat with left to right: Special mode, AUTO mode, comfort mode, reduced mode, frost protection mode, off mode and boost/timer mode.
2. Parameter menu number when logo 3 is displayed
3. User or installer parameter menu
4. Wireless communication in progress
5. Locked keyboard
6. Low battery
7. Measurement unit of temperature or humidity
8. Measured temperature/ temperature set point / measured temperature / temperature set point / remaining time for boost mode
9. Type of displayed measured temperature:
   - Internal sensor
   - External sensor plugged on thermostat back side (only with bidirectional wireless communication)
   - Floor sensor plugged on thermostat back side(unidirectional wireless communication) or sensor embedded on receiver (bidirectional wireless communication)
   - Humidity percent measurement
10. Thermostat state:
    - Heating demand / heating mode
    - Cooling demand / cooling mode
    - Opened window detection

3. RF wireless communication

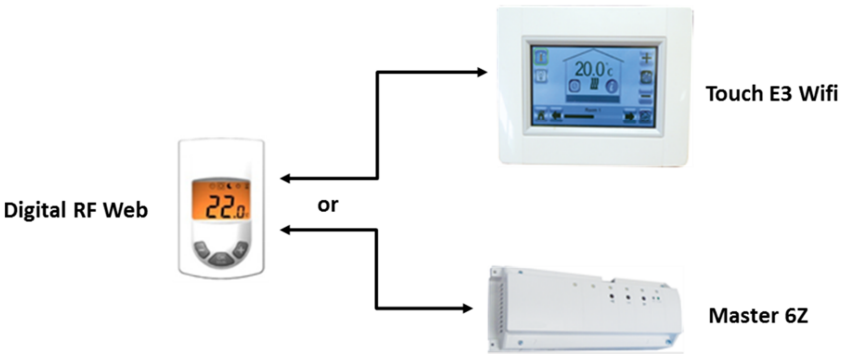
As presented in the first chapter **0** "*Presentation*", digital thermostat can be paired with two distinct ranges of products based on two different wireless communications: unidirectional or bidirectional wireless communication

The identification of system paired with digital thermostat is done during RF communication initialization step.

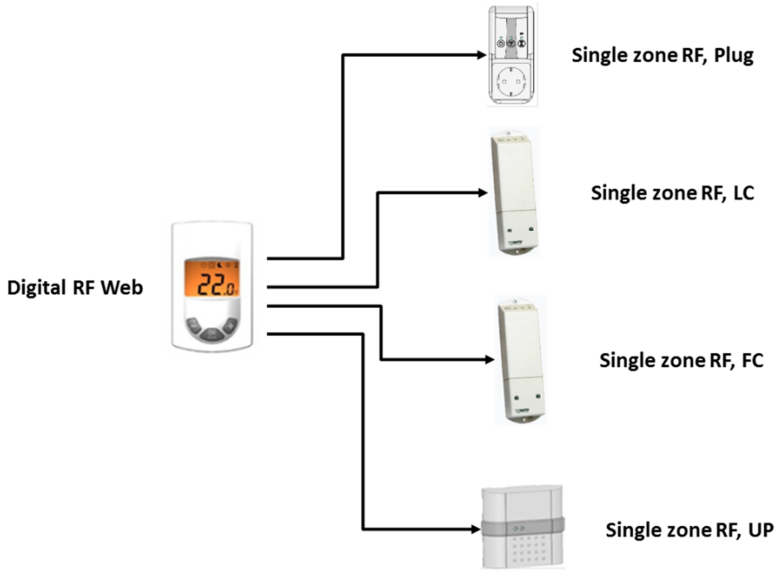
c. *Unidirectional/bidirectional/"hybrid bidirectional" wireless communication*

Thermostat can be connected to two different systems with two different protocols of wireless communication: unidirectional (current range) and bidirectional (new range). Moreover, when digital thermostat is paired with a "bidirectional system", two cases are distinguished according to the system paired with thermostat.

- Unidirectional wireless communication (current range "rF.u"):
  - Thermostat displays a **heating demand.** It doesn't know the real state of the receiver (heating system).
- Bidirectional wireless communication (new range "rF.b"):
  - this communication is used when thermostat is paired with:
    - Master 6 zones;
    - Touch E3



  - Digital thermostat displays **heating/cooling state** of system.
- Hybrid bidirectional wireless communication with basic receivers (unidirectional wireless communication with products of new range "rF.b"):
  - When digital thermostat is paired with:
    - Single zone wall receiver H&C
    - Single zone wall receiver live contact
    - Single zone flush receiver
    - Single zone plug receiver



- digital thermostat displays **heating/cooling state** of system.

NOTE: RF digital thermostat must be able to be paired with two ranges of product. It must therefore be able to select automatically the appropriate communication protocol during the pairing steps (see paragraph ***c*** and ***d*** respectively "*Identification of system paired to thermostat*" and "RF wireless communication initialization").

d. *Wireless communication functioning*

When digital thermostat sends an RF frame, LCD logo blinks during transmission.

RF frame is sent:

- when user changes a parameter of digital thermostat in order to update heating/cooling system parameters;
- when user press only one time key in order to update digital thermostat parameters (for example after a parameter modification done with a touch E3);
- Automatically every 3-4 minutes.

e. *Identification of system paired to thermostat*

This information is given in the initialization menu of wireless communication ("user menu", parameter 01). Access to user menu is described in the paragraph **III.8** "*parameter menus*".

The LCD screen differs with respect of system paired to digital thermostat:

- Current system (unidirectional wireless communication "rF.u"):

- new system (bidirectional wireless communication “rF.b”):

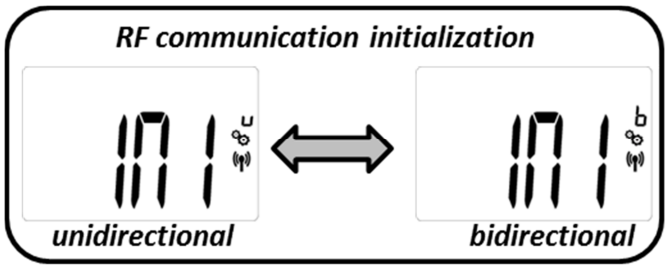
f. RF wireless communication initialization

By default, RF wireless communication of digital thermostat is unidirectional (current range “rF.u”).
To enter in RF communication initialization mode, user or installer has to:

- Enter in “user menu” and select parameter 01 (see paragraph **III.8** “*Parameter menus*”);

or

- Press and maintain the key Ok for 5 seconds. Following screens are displaying:



So, when thermostat is in wireless communication initialization step, it sends successively unidirectional and bidirectional pairing frames:

- When letter « u » appears, digital thermostat sends initialization frames to products of current range (unidirectional wireless communication “rF.u”);
- When the letter « b » appears, digital thermostat sends initialization frames to products of new range (bidirectional wireless communication “rF.b”).

During pairing step, there are **three study cases**:

- Pairing with receiver of the new range (“rF.b”):
  - once paired, thermostat automatically exists from initialization phase and a RF bidirectional communication is configured (“rF.b”).
- Pairing with receiver of current range (“rF.u”):
  - as wireless communication is unidirectional, thermostat remains in pairing phase until user presses the key Ok. A RF unidirectional communication is configured (“rF.u”).
- Pairing not finished (or keyboard inactivity):
  - digital thermostat remains 10 seconds in pairing then automatically returns to operating mode with unidirectional RF communication configuration (“rF.u”).

IMPORTANT NOTES:

- ✓ When wireless communication initialization is done, almost parameters are reset to their factory value.
- ✓ If digital thermostat is already paired with receiver of new range (bidirectional frame “rF.b”) and if user activates RF communication initialization, digital thermostat switches to unidirectional RF communication (“rF.u”) by default. If pairing isn’t reset, system won’t be functional.

g. RF communication reset

In order to erase thermostat pairing, user has to realize an “installer clear”.

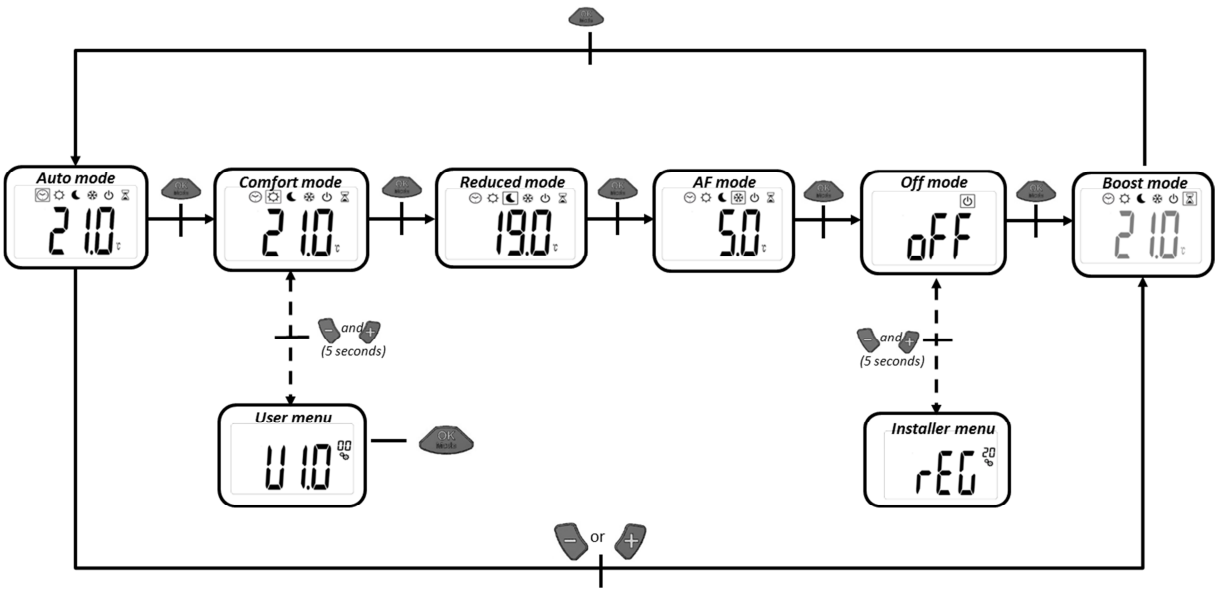
When the thermostat was paired to numerous receivers, it could be necessary to reset digital thermostat.

4. Navigation menu

As thermostat can be associated with two different types of system (current system and new system), navigation menu differs depending on the used system used.

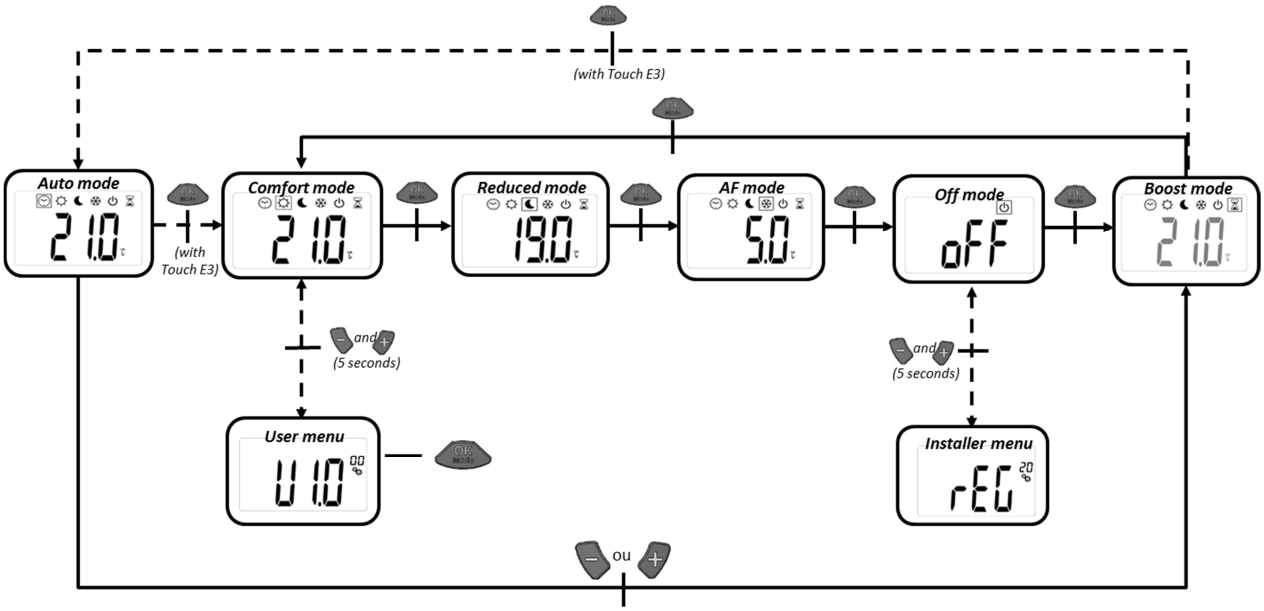
h. Current system navigation “rF.u” (unidirectional wireless communication)

Figure below shows navigation to access to different modes and parameter menus when the product is on (backlight is switched on).



i. Navigation with system of new range “rF.b” (bidirectional wireless communication)

The major difference with older system is the AUTO mode which only appears if the thermostat is associated with a "Touch E3".

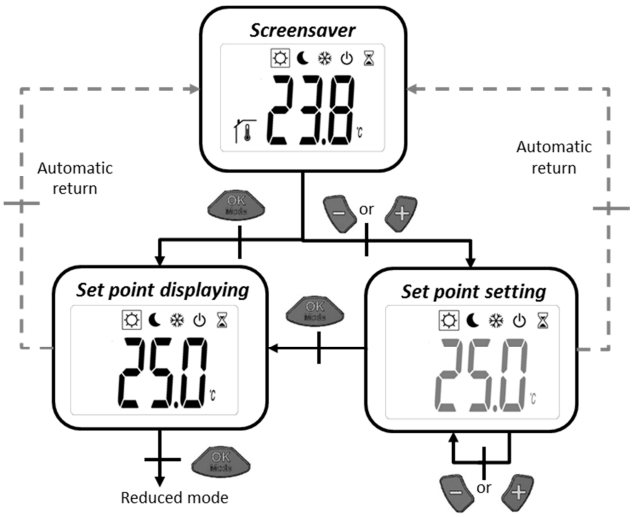


NOTE: If reversible menu is activated, menu navigation is changed as presented in paragraph **0.7.c** *"Special functions"*.

5. Working mode definition

Whatever the current mode of the thermostat, pressing one key activates the backlight. Pressing key again displays current temperature set point.

j. Comfort mode



In this mode, comfort temperature set point will be followed all the time.

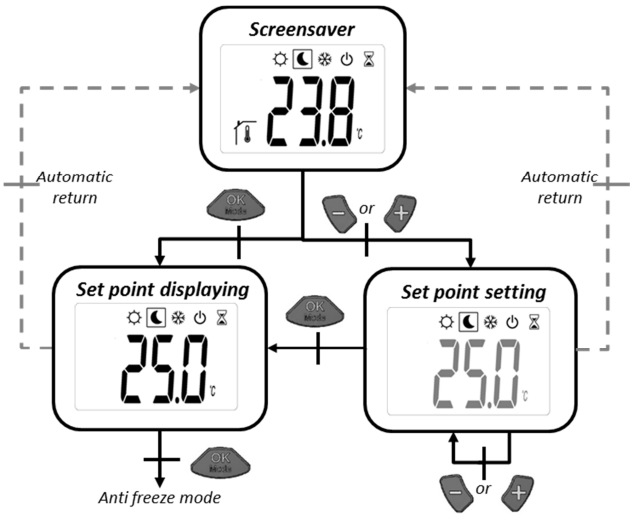
From the screensaver (lighted backlight), by pressing and keys temperature set point is displayed. Other pressings the comfort setting temperature starts to blink and can be modified. By pressing key, temperature set point value is validated.

From the screensaver (lighted backlight), by pressing key, current temperature set point is displayed. A second consecutive press can change current mode.

Default value: 21 °C

Value range: 5.0°C à 30°C

k. Reduced mode



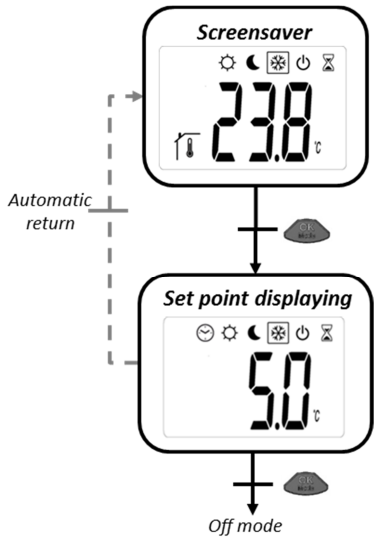
In this mode, reduced temperature set point will be followed all the time.

From the screensaver (lighted backlight), by pressing − and + keys temperature set point is displayed. Other pressings the comfort setting temperature starts to blink and can be modified. By pressing OK key, temperature set point value is validated.

From the screensaver (lighted backlight), by pressing OK key, current temperature set point is displayed. A second consecutive press can change current mode.

Default value: 19 °C
Range value: 5.0°C to 30°C
(parameters 29 and 30, "parameter menus")

l. Anti-freeze mode



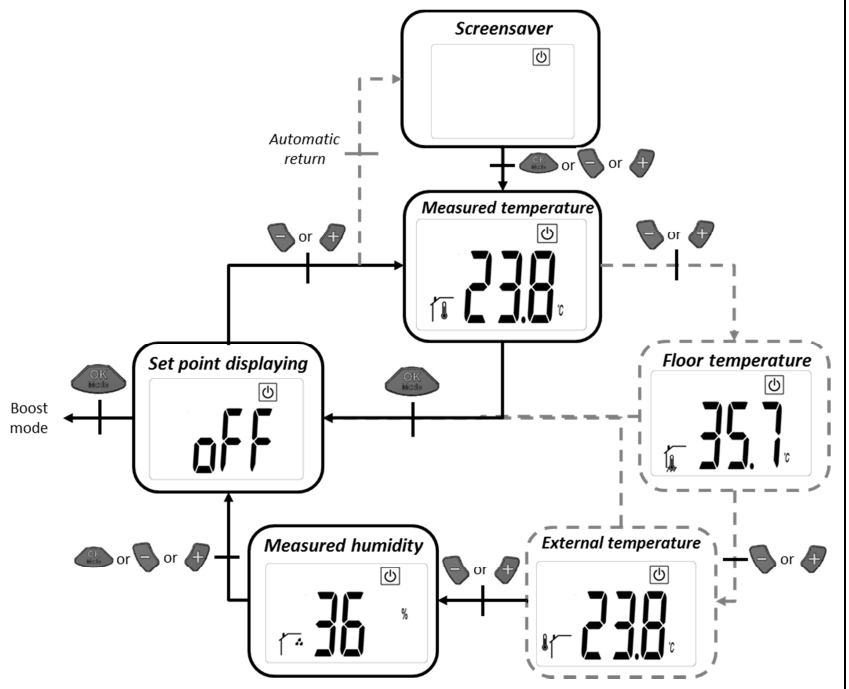
In this mode, anti-freeze temperature set point will be followed all the time.

From the screensaver (lighted backlight), by pressing OK key, temperature set point value is displayed. A second consecutive press can change current mode.

By pressing − and + keys temperature set point can't be set. This value setting can be done in user parameter menu (parameter 10, paragraph **III.8** "*parameter menus*").

Default value: 7 °C
Range value: 0.5°C to 10°C
(parameter 10, "parameter menus")

m. OFF mode

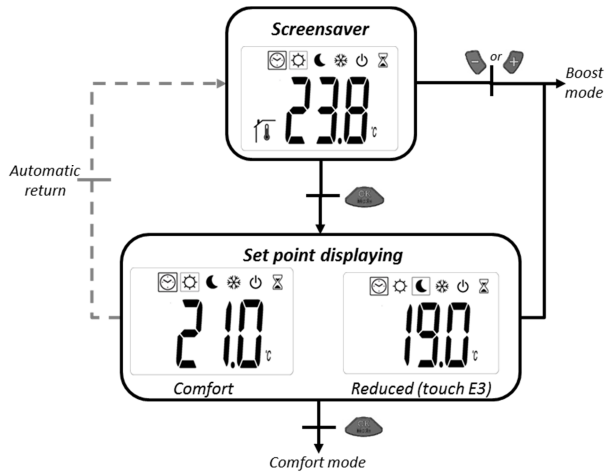


In standby mode, only « Off logo » mode is displayed.

After a press on one of the three keys, measured temperature is displayed. With respect of set regulation mode, different temperature can be displayed. The navigation is done with the keys and .

By pressing key, “oFF” is displayed. A second consecutive press can change current mode.

n. AUTO mode

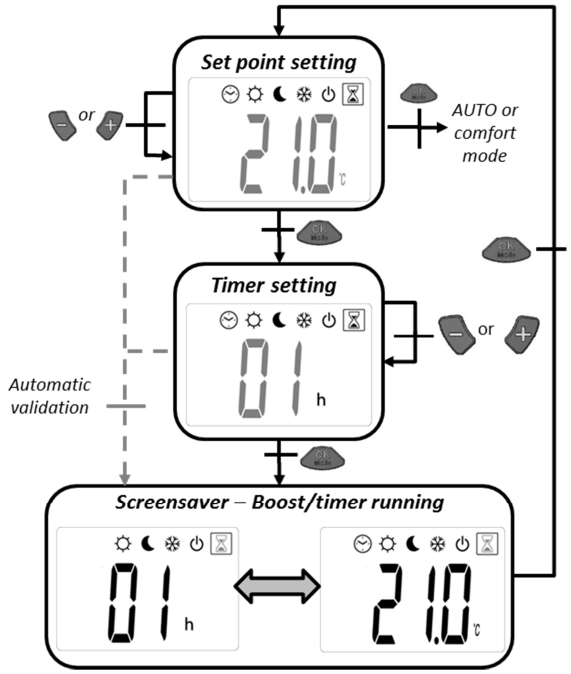


From the screensaver (lighted backlight), by pressing key, temperature set point value is displayed. A second consecutive press can change current mode.

By pressing keys or , Boost/timer mode is selected.

NOTE: when digital thermostat is connected to a system with a touch E3 in AUTO mode, temperature set point could be comfort or reduced temperature.

o. Boost/Timer mode



After selecting boost/timer mode (via le AUTO mode or mode selection), by pressing OK another time switches to the next operating mode (you mustn't have changed temperature set point beforehand, otherwise a second consecutive press is needed).

a) Temperature set point setting: by pressing keys − and + modifies temperature set point.

Default value: current temperature set point of comfort mode

Value range: 5.0°C to 30°C

*(Parameters 29 and 30, paragraph **0.8.b** "parameter menus")*

b) Timer setting: by pressing key OK set point value is validated. Next step is to set timer value. This value is set by pressing keys − and +. By pressing key OK the value is validated. Timer is started.

Default value : *2 hours*

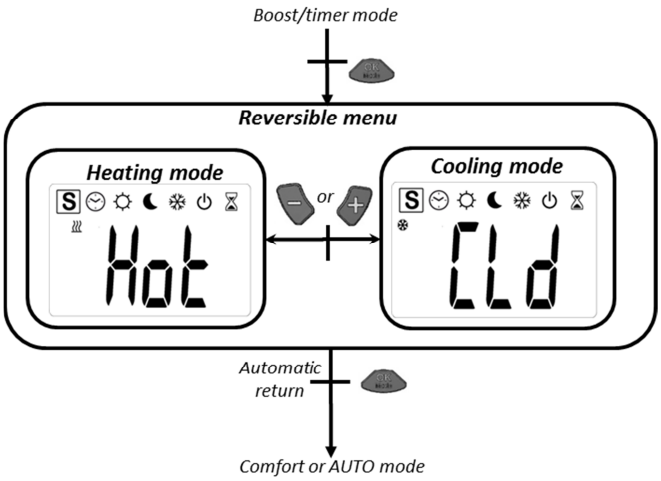
Value range: « no » to 23 hours (step of one hour) then 1 to 44 days (step of one day)

c) Timer running : Menu logo starts to blink and values of timer and temperature set point are displayed.

d) Timer end: When the counter is finished, thermostat returns to, with respect of range system:

- AUTO mode, if boost mode corresponded to AUTO mode derogation or comfort mode in other cases (*unidirectional system "rF.u"*).
- Comfort mode or auto mode when there is a touch E3 (*bidirectional system "rF.b")*

p. Reversible menu



Reversible menu access is only possible on two conditions:
- thermostat isn't associated to a « Touch E3 » or 6Z master;
- « reversible menu » is activated in the user menu (see paragraph ***0.8*** "*parameter menus*").

New menu navigation is presented in paragraph 0.7.

Once menu is selected, using keys and , operating mode of thermostat can be selected:
- « Hot »: heating mode;
- « CLd »: cooling mode.

Pressing key confirms the selection and switches to comfort mode. A user inactivity of some seconds confirms current selection and switches to comfort mode.

6. Heat&Cool functioning

q. *Description*

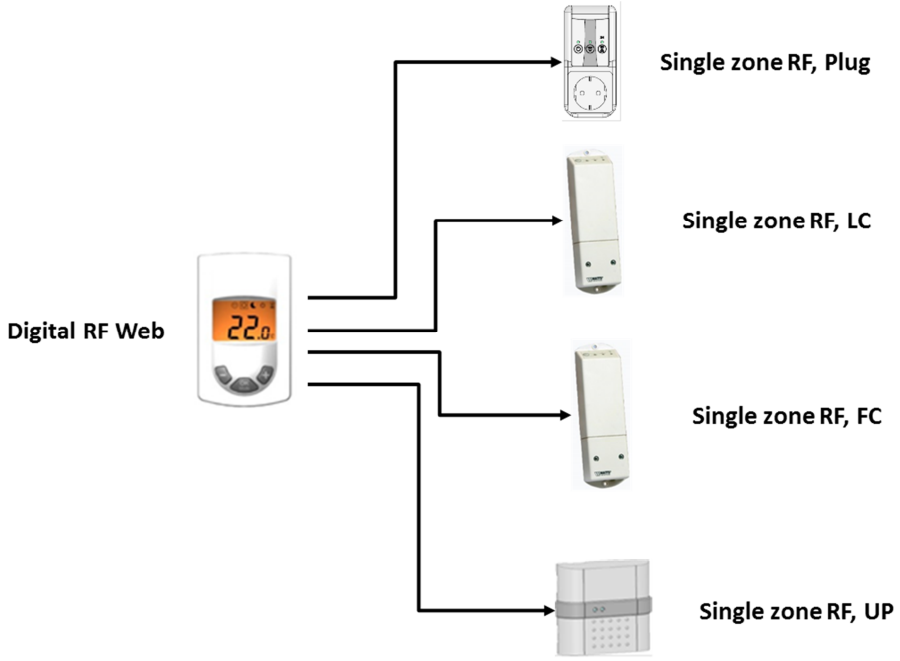
With respect of the system paired with digital thermostat (unidirectional "rF.u" or bidirectional "rF.b"), displayed operating mode and indications are different:

- System with unidirectional wireless communication ("rF.u"):
  - It isn't possible to switch to cooling mode directly via thermostat interface. In the "user menu", the parameter 04 (see paragraph **0.8** "*parameter menus*") isn't accessible.
- System with bidirectional wireless communication ("rf.b"):
  - It's possible to switch in cooling mode. The parameter 04 (see paragraph **0.8** "*Parameter menus*") is accessible in "user menu". However, with respect of bidirectional wireless communication system configuration to which thermostat is associated, configuration parameters are different as described in the following paragraph.

r. *Heat & cool mode: bidirectional system*

When digital thermostat is associated to bidirectional system (type "rF.b"), two study cases with respect of used equipment in the heating/cooling system are distinguished:

- Digital thermostat is associated with one or more LC, FC, UP receivers or plug:

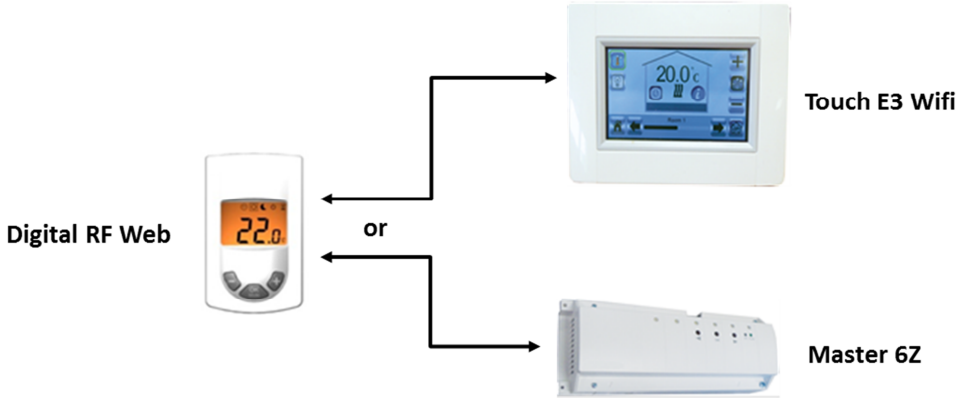


In "User menu", the parameter 4 permits to change system operating mode: heating or cooling.

If digital thermostat is associated with one or more *Single zone FC,* the system can work in *automatic* mode. It will switch between cooling and heating to regulate temperature at set point value.

IMPORTANT NOTE: It's strongly recommended to not associate one or more *Single zone FC* receiver with another different receiver. *Single zone FC* receiver having two different outputs (heating and cooling), its functioning isn't compatible with other receivers with only one input.

➢ Digital thermostat is associated to « Touch E3 » or 6Z master:



In this system configuration, the parameter 04 in “user menu” becomes an authorization or not of the area to be able to be cooled. The thermostat can’t access the “reversible” menu or “automatic” operating mode.

s. *Visual indication on thermostat*

Logos used to indicate whether the system requires heating or cooling is:

➢ heating request in progress;
➢ ❄ cooling request in progress.

7. Special functions

t. *Locked keyboard*

Keyboard lock can be accessed in any operating mode except in parameters menus.

From the screensaver (lighted backlight) of any operating mode except in parameter menus to block keyboard, you must:

- Press and hold the keys and simultaneously;
- Press .

Once activated, logo appears on the LCD screen:

To unlock the keyboard, repeat the same procedure as described above.

u. *Functions associated with humidity*

By measuring humidity in the air, two functions can be used:

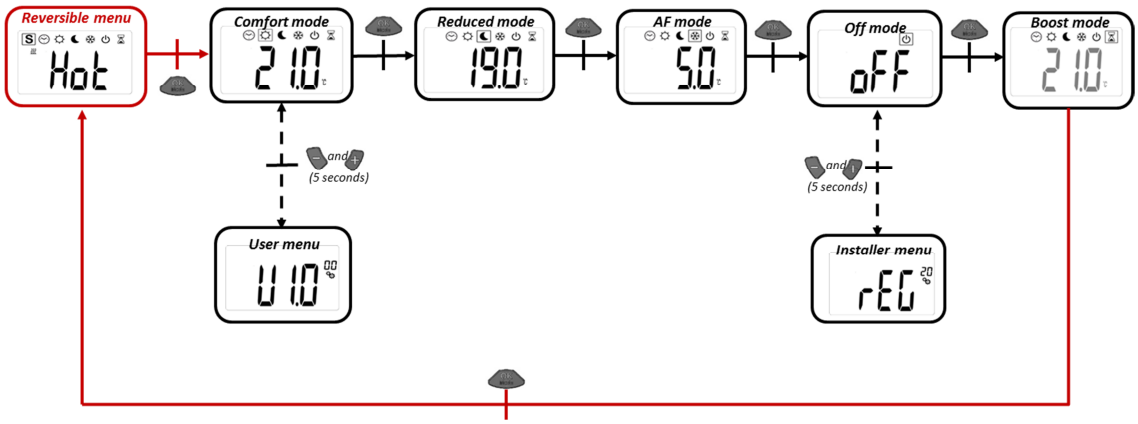
- System protection with humidity level:
  - with the humidity set point parameter (see parameter 08 in "user menu), the system stops air conditioning and switches on the dehumidifier to obtain a lower humidity level than the threshold set point;
- System protection against condensation:
  - with air temperature and humidity value, the dew point temperature is calculated. If digital thermostat has floor temperature and if protective function is activated (see parameter 09 in "user menu"), thermostat warns that condensation may form on the air conditioning system equipment.

When one of the two previous features is enabled, the logo will blink:

- Protection is active because humidity value is higher than the threshold;
- Condensation detection is performed.

v. Reversible menu

This menu is activated in the user menu ("*parameter menus*"). It's available only if thermostat is associated to *bidirectional system "rF.b"* and not to a Touch E3 or a 6Z master.



This reversible menu allows choosing the working mode for your installation:

- Heating mode;
- Cooling mode.

Menu navigation is described in paragraph 0.5.g.

w. Cooling mode authorization

When thermostat is associated with a bidirectional system including a "Touch E3" and/or 6Z master, it's possible for the user to allow or not the mode of air conditioning for the zone controlled by thermostat (see parameter 04, paragraph **III.8** "*parameter menus*").

When cooling request isn't allowed by thermostat, logos S and are displayed and blink:

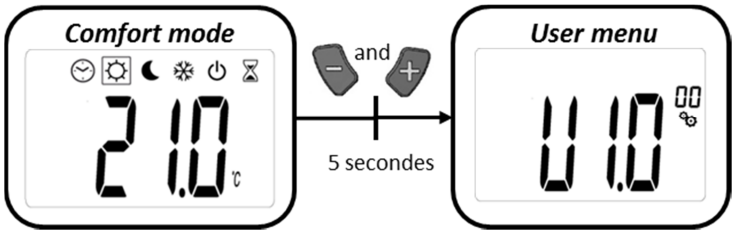
8. Parameter menus

There are two parameter menus:

- User parameter menu: parameter setting that doesn't affect the regulation;
- Installer parameter menu: parameter setting acting on regulation.

x. User parameter menu

The access is done when thermostat is in comfort mode and user presses keys − and + simultaneously during five seconds:



The menu scroll is done with keys − and +.

Menu is selected by pressing key OK. Once in the menu, the parameter value is changed with the keys − and +. Pressing again key OK sets the parameter value.

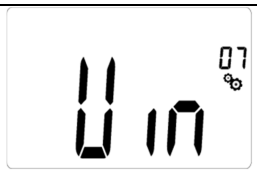
	Displaying **client software version**: Pressing and maintaining key OK displays software qualification version. *Reminder:* software version is written: Vxx.xx.qq
	**"rF.u"** or **"rF.b"** (respectively configuration of RF communication unidirectional or bidirectional) Pressing the key OK for 5 seconds starts communication initialization. Another press of key OK will exit this mode.

<table>
<tr><td>  </td><td>Calibration of room sensor:
Temperature value is set with keys and (step of 0.1°C). The setting is validated with key .

<u>NOTES:</u>
➢ If user press simultaneously the keys and , offset value is reset during the setting.
➢ If regulation is “Floor” type, this menu isn’t displayed (see “Installer parameter menu”)

<u>Default value</u> : 0°C
<u>Value range:</u> -5°C to5°C</td></tr>
<tr><td>  </td><td>Calibration of external sensor:
Temperature value is set with keys and (step of 0.1°C). The setting is validated with key .
<u>NOTES:</u>
➢ If user press simultaneously the keys and , offset value is reset during the setting.
➢ If regulation is “Air” type, this menu isn’t displayed (see “Installer parameter menu”)

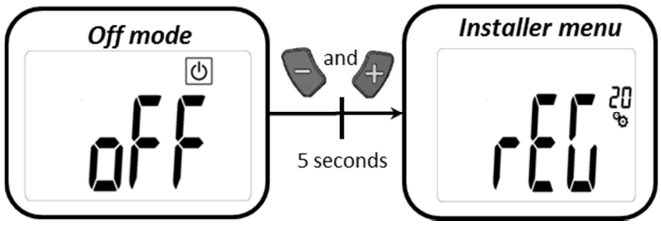
<u>Default value</u> : 0°C
<u>Value range:</u> -5°C to5°C</td></tr>
<tr><td>  </td><td>Operating mode of thermostat (only with bidirectional system “rF.b”):
- Hot: Heating mode
- CLd: Cooling mode
- rEv: activation of reversible menu
- Aut: automatic mode
This parameter menu appears only if digital thermostat isn’t associated with a “Touch E3” or a 6Z master.
(See “Heat&Cool functioning”)
<table><tr><td><u>Factory setting value:</u> Aut</td><td><u>Other values:</u> CLd / rEv /Hot</td></tr></table></td></tr>
<tr><td>  </td><td>Authorization or not of cooling mode (only with bidirectional system “rF.b”):
This parameter menu appears only if digital thermostat is associated with a “Touch E3” or a 6Z master.
(See “Heat&Cool functioning”)
<table><tr><td><u>Factory setting value:</u> yes</td><td><u>Other values:</u> no</td></tr></table></td></tr>
<tr><td>  </td><td>Choice of concrete type:
Two choices are possible:
- uf1: for thin liquid concrete < 6 cm
- uf2: for traditional concrete with a thickness higher than 6 cm</td></tr>
</table>

	Factory setting value: **uf1**	*Other values:* **uf2**
	**Choice of coating:** Two choices are possible: - **Bp1** : for tiling - **Bp2 :** for wooden floors (floating or not)	
	Factory setting value: **Bp1**	*Other values:* **Bp2**
	**Automatic detection of opened window** More information is in paragraph **0.10**, "Opened window detection"	
	Factory setting value: **yes**	*Other values:* **no**
	**Humidity set point** (*only with bidirectional system "rF.b")***:** More information is in paragraph **0.7**, "*special functions*"	
	Factory setting value: **75 %**	*Other values:* **0% ("no") to 100%**
	**Anti-condensation function** of the installation (*only with bidirectional system "rF.b")***:** (When condensation is detected, air conditioning is stopped or/and dehumidifier is activated, "*special functions*")	
	Factory setting value: **yes**	*Other values:* **no**
	**Anti-freeze temperature set point** (frost protection mode) Use keys  and  to adjust set point value and press  to validate the setting. **NOTE:** If a Touch E3 is connected to heating system, this parameter can't be changed.	
	Factory setting value: **5°C**	*Other values:* **0,5 to 10°C**
	**Reset user settings:** Thermostat reset is done with factory setting: temperature set points and user menu settings. Press and hold for 5 seconds key 	

	**Zone number displaying** (*only with bidirectional system "rF.b", product* RET Master 6Z *)***:** This function is available only if digital thermostat is associated with a multi-zone receiver.
	**User menu exit:** Press key  to exit user menu and return to the main screen.

y. Installer parameter menu

The access is done when thermostat is in OFF mode and user presses keys and simultaneously during five seconds:



The menu scroll is done with keys and .

Menu is selected by pressing key . Once in the menu, the parameter value is changed with the keys and . Pressing again key sets the parameter value.

<table>
<tr><td rowspan="4">  </td><td colspan="3">Selecting temperature sensor used for the regulation:
1) <u>current system (“rF.u”)</u>
-AIR: Internal room sensor
- Flr: External room
- FL.1: Air regulation with possibility of floor temperature limitation (see parameters 25&26)
- FL.2: Air regulation with possibility of floor temperature limitation: variable limitation threshold
- Cb.1: Combined mode 1 (hydraulic floor and radiator)
- Cb.2: Combined mode 2 (hydraulic floor and convector fan)
2) <u>new system (“rF.b”)</u>
- AIR: Regulation with internal sensor
- Amb: Regulation with external sensor
- FLR: Regulation with floor sensor
- FL.1: Air regulation with possibility of floor temperature limitation (see parameters 25&26)
- FL.2: Air regulation with possibility of floor temperature limitation: variable limitation threshold</td></tr>
<tr><td>current range “rF.u”</td><td><u>Factory setting value:</u> Air</td><td><u>Other values:</u> Flr / FL.1 / FL.2 / Cb.1 / Cb.2</td></tr>
<tr><td>new range “rF.b”
((*) depends of receiver type, see paragraph 0.9)</td><td><u>Factory setting value:</u> Air</td><td><u>Other values:</u> Amb / FLR(*) / FL.1(*) / FL.2(*)</td></tr>
<tr><td colspan="3"></td></tr>
<tr><td>  </td><td colspan="3">Degree unity for displaying
➢ °C : Celsius
➢ °F : Fahrenheit</td></tr>
<tr><td colspan="2"><u>Factory setting value:</u> °C</td><td><u>Other values:</u> °F</td></tr>
</table>

<table>
<tr><td>  </td><td>Displaying of measured temperature by internal sensor

If regulation is “Floor” type, this menu isn’t displayed (see paragraph 0.8.b “Installer parameter menu”)

If “Err” is displayed, internal sensor is damaged.</td></tr>
<tr><td> 
FLOOR
 
AMBIENT</td><td>Displaying of measured temperature by external sensor :
➢ FLOOR temperature (unidirectional system “rF.u”)
➢ AMBIENT temperature (bidirectional system “rF.b”)

If regulation is “Air” type, this menu isn’t displayed (see paragraph 0.8.b “Installer parameter menu”)
If “Err” is displayed, external/ambient sensor isn’t connected or damaged.</td></tr>
<tr><td>  </td><td>Displaying of measured temperature by floor sensor connected to receiver (only with specific bidirectional system “rF.b”)

If “Err” is displayed, thermostat isn’t associated to a received with floor sensor or this sensor is damaged.</td></tr>
<tr><td> 
  </td><td>Lower limit of floor temperature (FL.L)
This value is used when parameter 20 is FL.1,Cb.1 and Cb.2
<u>NOTE:</u> for Cb.1 and Cb.2, range for setting FL.H is between 5°C to FL.H.

<u>Factory setting value:</u>
➢ 18°C for unidirectional system “rF.u”
➢ “no”: not activated for bidirectional system “rF.b”

<u>Other values:</u> 5°C to “FL.Hi”

Intelligent lower limit (FL.o)
This menu is activated when parameter 20 is FL.2.
The calculated value of floor low limit can’t be:
➢ Higher than FL.H value;
➢ Lower than 5°C.

<u>Factory setting value:</u> 0°C (not activated)

<u>Value range:</u> 0°C to 5°C
<u>Step:</u> 0.1°C</td></tr>
</table>

<table>
<tr><td rowspan="3"> 
  </td><td colspan="2">High limitation of floor temperature (FL.H)
This value is used when parameter 20 is set on “floor limit” FL.1 and FL.2.
<u>NOTE:</u> for FL.2, range for setting FL.H is between FL.L to 40°C.</td></tr>
<tr><td><u>Factory setting value:</u>
➢ 35°C for unidirectional system “rF.u”
➢ “no”: not activated for bidirectional system “rF.b”</td><td><u>Other values:</u> “FL.Lo” to 40°C</td></tr>
<tr><td colspan="2">Temperature set point of the slab in combined mode (FL.S)
This menu is activated when thermostat is in combined mode Cb.1 and Cb.2 (see parameter 20 in paragraph 0.8.b “Installer parameter menu”).</td></tr>
<tr><td><u>Factory setting value:</u> 28°C</td><td><u>Value range:</u> 5°C to 45°C</td></tr>
<tr><td>  </td><td colspan="2">Regulation type:
- HYS: regulation of hysteresis
- bP: regulation of proportional type</td></tr>
<tr><td><u>Factory setting value:</u> bp</td><td><u>Other values:</u> hys</td></tr>
<tr><td rowspan="2">  </td><td colspan="2">Function of pilot wire (only with bidirectional system “rF.b”):
This option is used to enable the pilot wire functionality if it’s used on your installation</td></tr>
<tr><td><u>Factory setting value:</u> no</td><td><u>Other values:</u> yes</td></tr>
<tr><td rowspan="2">  </td><td colspan="2">Minimum value of setting range of the set point temperature</td></tr>
<tr><td><u>Factory setting value:</u> 5.0°C</td><td><u>Other values:</u> 5.0 to 15.0°C</td></tr>
<tr><td rowspan="2">  </td><td colspan="2">Maximum value of setting range of the set point temperature</td></tr>
<tr><td><u>Factory setting value:</u> 30.0°C</td><td><u>Other values:</u> 20.0 to 37.0°C</td></tr>
<tr><td>  </td><td colspan="2">EEPROM clearing
All thermostat parameters will be loaded with factory settings. RF wireless communication will be reset too.
Press and maintain the key  during few seconds</td></tr>
</table>

	**End of advanced menu** Press key  to return to main menu

9. Description of measured temperature and regulation

Temperature sensor choice determines thermostat regulation.

z. *Temperature measurement*

With respect of system paired with digital thermostat (“rF.u” or “rF.b”), temperature measurements are different.

System paired to thermostat	Receiver type(s)	Temperature sensor		
		Internal sensor	External sensor	Receiver sensor
Current range *(unidirectional communication system “rF.u”)*	All receivers 	Available	Floor sensor	Not available
New range *(bidirectional communication system “rF.b”)*		Available	Ambient sensor	Not available
		Available	Ambient sensor	Available (temperature value not returned to digital thermostat)
		Available	Ambient sensor or floor sensor	Not available
		Available	Ambient sensor	Not available *(unless a flush*  *is connected to the system)*

aa.Regulation with respect of measured temperature

Regulation type	System compatibility		Used sensor	Regulation description
	rF.u	rF.b		
AIR	X	X	Internal sensor	Internal sensor measurement for regulation
FLOOR	X	X	External sensor (range "rF.u") Sensor embedded on receiver (range "rF.b")	Current range "rF.u": external sensor measurement (plugged to rear of thermostat) for regulation New range "rF.b": regulation only allowed when thermostat is paired to Touch E3 or/and 6Z master or flush (Single zone RF UP).
AMB		X	External sensor ***NOTE:*** *if external sensor is broken, internal sensor is used.*	External sensor measurement (ambient) used for regulation
AIRFLOOR	X	X	Internal sensor External sensor (range « rF.u ») External sensor (range « rF.b » when remote is associated to 6Z master) Receiver sensor (range « rF.b » when remote is associated to Touch E3 or Single zone RF UP)	Regulation based on internal sensor measurement and limitation of floor temperature with floor sensor measurement New range "rF.b": regulation is only available when thermostat is paired with a Touch E3 or 6Z master or flush (Single zone RF UP).
AIRFLOOR SMART	X	X	Internal sensor External sensor (range "rF.u") or Receiver sensor (range "rF.b")	Regulation with internal sensor measurement and intelligent limitation of floor temperature with floor sensor measurement New range "rF.b": regulation is only available when thermostat is paired with a Touch E3 or 6Z master or flush (Single zone RF UP).
COMBINE	X		Internal sensor External sensor (plugged to rear of thermostat)	Combined regulation between an hydraulic floor and a heater
COMBNE SMART	X		Internal sensor External sensor (plugged to rear of thermostat)	Combined regulation between an hydraulic floor and a fan

bb.Floor Limit regulation

For this regulation, a floor sensor is needed (see *"Temperature measurement"*)

When « floor limit » regulation is activated, user defines two thresholds for floor temperature:

- Low limit: if floor temperature is below this threshold, heating system is activated:

- High limit: if floor temperature is above this threshold, heating system is stopped:

Low limit value can be calculated with respect of current set point temperature if user selects it with parameter 20 (see "*Parameter menu*"). In this mode, low limit value is equal to current set point temperature minus value defined with parameter number 25. This calculation is independent to system paired to thermostat (current range "rF.u" or new range "rF.b").

Note 1: For new range "rF.b", this mode is only available when thermostat is paired to a « Touch E3 » or to 6Z master or to flush (Single zone RF UP).

Note 2: Floor limit regulation isn't activated if thermostat mode is OFF.

cc. Regulation "combine"

This regulation permits to combine two different heating systems. This regulation is possible with specific products of current range:

- MASTER RF 6Z 230V unidirectional

- Tempco heat and cool RF 4Z

For this regulation, an “embedded” sensor, plugged at thermostat backside, is needed

dd.Regulation

Thermostat embeds two regulation methods:

- Hysteresis regulation:
  - Value of 0.5 °C
- Proportional regulation:
  - Cycle time of 10 mn or 20 mn with respect of floor type (thin or thick);
  - Proportional band of 2°C.

Regulation setting is done in “installer menu” (see paragraph **0.8** “*parameter menus*”).

10. Opened window detection

ee.Description

Digital thermostat is able to detect automatically if a window is open. To do that, it detects if temperature drops 3°C.

This function is activated in the user parameter menu. By default, function is activated (see “*Parameter menus*”).

If system detects an opened window, heating isn’t allowed for about 30.

This function doesn’t work when:

- Regulation type is “floor”;
- Digital thermostat is in OFF mode or in anti-freeze mode User interface

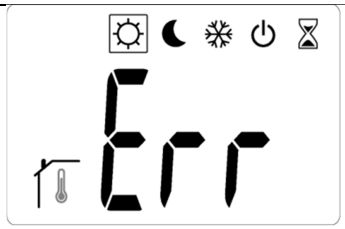
When an opened window is detected, temperature value and logo  flash.

Pressing a key stops the detection. Heating system restarts and opened window detection is reset.

11. Error managing

Thermostat errors are:

- Error of temperature measurement
  - Internal sensor;
  - External sensor;
  - Sensor embedded on receiver (only with new range “rF.b”)
- Error of humidity measurement
- Low batteries
- Loss of RF communication (only with new range “rF.b” when digital thermostat is associated to 6Z master or/and Touch E3)

Internal sensor error (similar for both ranges)		Backlight ON: Icon blinking  Backlight OFF : Displaying of “Err”

External sensor error - ambient Plugged on thermostat rear (range “rF.b”)		Backlight ON: Icon blinking
		Backlight OFF : Displaying of “Err” Icon blinking
- **External sensor error - floor** plugged on thermostat rear (range “rF.u”) - **Floor sensor error embedded on the receiver** (new range “rF.b” for flush receiver)		Backlight ON: Icon blinking
		Backlight OFF : Displaying of “Err” Icon blinking
Low batteries		Backlight ON: Icon blinking
		Backlight OFF: Displaying of “Err” Icon blinking
RF error (only for new range “rF.b” when digital thermostat is associated to 6Z master and Touch		Backlight ON: Icon blinking

E3)		<u>Backlight OFF:</u> Displaying of ”Err”
Error of humidity sensor		<u>Backlight ON:</u> Logo blinks.
		<u>Backlight OFF:</u> Displaying of “Err” and blinking of logo

<u>IMPORTANT NOTES:</u>

- Error message “Err”, when backlight is switched off, is displayed alternately with the value of temperature measurement;
- If displayed temperature corresponds to internal sensor measurement, only error message is displayed continuously.