BT-D03 HC RF

Wireless Heat & Cool digital room thermostat
WATTS Vision® System

User guide

EN	**User guide**
DE	**Benutzerhandbuch**
FR	**Manuel d'utilisation**
NL	**Gebruikershandleiding**
IT	**Manuale d'uso**
ES	**Guía de Usuario**
DA	**Brugervejledning**
SV	**Bruksanvisning**
NO	**Bruksanvisning**
FI	**Käyttöopas**
RU	**Руководство по эксплуатации**
PL	**Instrukcja obsługi**

wattswater.eu

WATTS®

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General information

Safety warnings and operating instructions

- This product should be installed preferably by a qualified professional. Subject to observation of the above terms, the manufacturer shall assume the liability for the equipment as provided by legal stipulations.

- All instructions in this Installation & Operation manual should be observed when working with the thermostat. Failures due to improper installation, improper use or poor maintenance are voiding manufacturer liability.

- Any attempt to repair voids the responsibility and the obligation to guarantee and replacement from the manufacturer.

- Do not cover the thermostat for accurate measurement of ambient temperature. Therefore the sensor must never be hidden behind thick curtains, furniture, etc… Alternatively, a remote sensor should be used.

- Batteries may explode or leak, and cause burn injury, if recharger, disposed of fire, mixed with a different battery type, inserted backwards or disassembled. Replace all used batteries at the same time. Do not carry batteries loose in your pocket or purse. Do not remove the battery label. Keep batteries away from children. If swallowed, consult a physician at once.

- 2012/19/EU (WEEE directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points. For more information see: www.recyclethis.info

- 2006/66/EC (battery directive): This products contains a battery that cannot be disposed of as unsorted municipal waste in the European Union. See the product documentation for specific battery information. The battery is marked with this symbol, which may include lettering to indicate cadmium (Cd), lead (Pb), or mercury (Hg). For proper recycling, return the battery to your supplier or to a designated collection point. For more information see: www.recyclethis.info
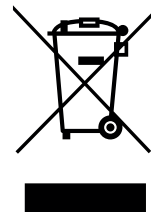
Application

- The thermostat have been designed for use in residential rooms, office spaces and industrial facilities. Verify that the installation complies with existing regulations before operation to ensure proper use of the installation.

> **Please refer to "Quick Installation Guide" for thermostat installation**

1. Presentation

- Connected thermostat **WATTS Vision®** system compatibility.
- 3 sensitive touch buttons.
- Wireless bidirectional communication 868 MHz.
- Different temperature modes setting.
- Anti freeze function.
- Configurable **Hysteresis or PWM** regulation.
- Pin Code & screws lock for public area.
- EEPROM non volatile memory.
- 2x1,5V AAA batteries (LR3).
- 2 parameter menus: User and Installer.

In option
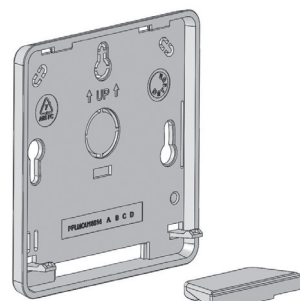External sensor with several possibilities of regulation (Floor, remote, combined...).

2. Box contents
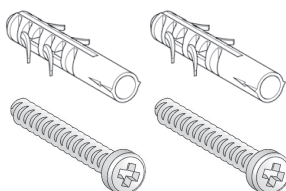
1 x

WATTS Vision® Thermostat

1 x

Back cover and stand for table fitting

1 x

AAA type Batteries

1 x

Fixing screws

1 x

Double side tape

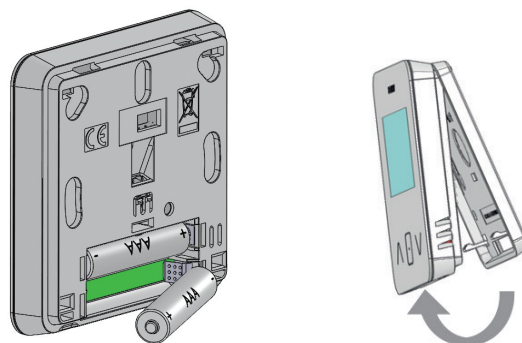1 x

Lock screws

3. First installation

See quick installation guide for installation.
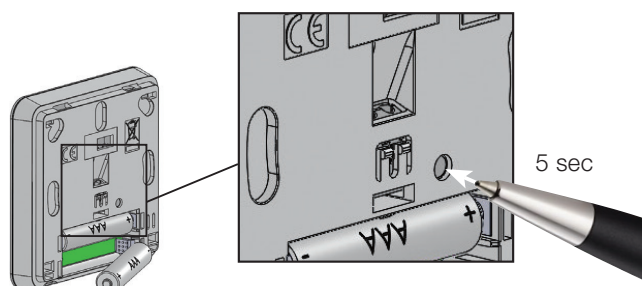
Batteries installation.
• Open the cover and insert the 2 AAA supplied batteries.
• Close the cover.

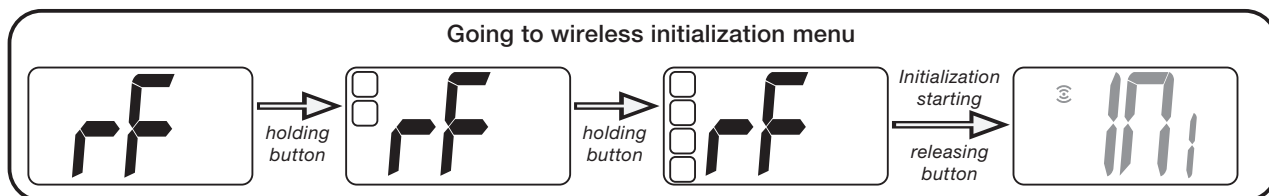**Thermostat pairing, RF wireless communication initialization.**

You must put your receiver or WATTS Vision® touch screen in **radio pairing** mode (refer to the device leaflet).

On the back, push 5 sec the button for direct access to initialization menu.

5 sec

Following screens are displaying:

Going to wireless initialization menu

rF → *holding button* → rF → *holding button* → rF → *Initialization starting / releasing button* → *ᴵᴺᴵ*

Other method from parameter menu:

1 Press ⊙ key to wake-up the thermostat.

2 Press 5 sec ⊙ key to enter parameter menu.

3 Press ⊙ key to enter in initialization.

Following screens are displaying:

rF ᵒᵒ → *ᴵᴺᴵ* ᵒᵒ
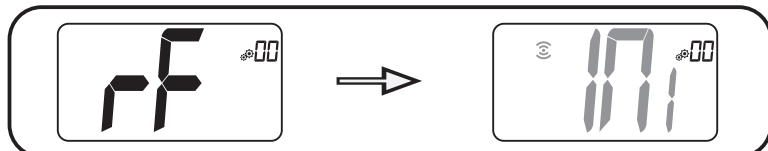
Note:
After few seconds, the thermostat and the receiver/touch screen should exit from the RF init mode, this is the normal procedure to confirm a correct pairing.
To make the installation easier, it will be better to have the thermostat near to the receiver or touch screen during the configuration mode.

4. Product description

Validation of temperature set point setting or accessing to parameter menu or displaying measured temperature/ temperature set point.

Minus button or down/left button for menu navigation.

Plus button or up/right button for menu navigation.
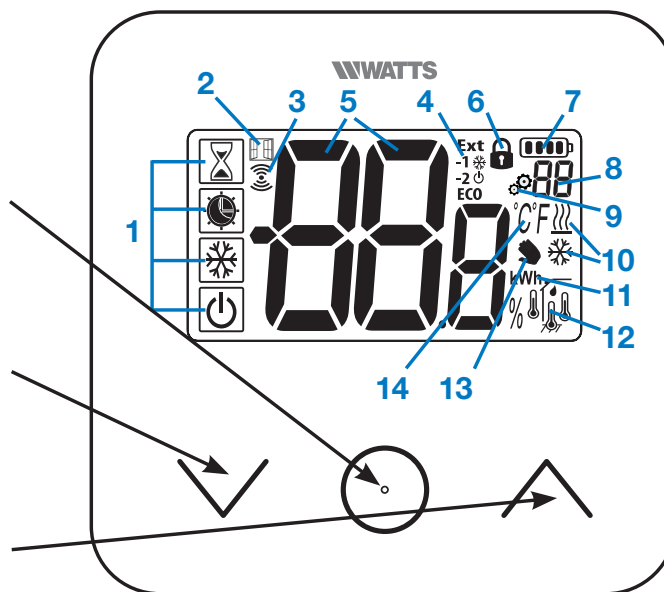
4.1 LCD logo description

1 Icon showing current operating mode of thermostat with left to right:

⧖ Boost/timer mode

⊙ Auto mode

☼ Comfort mode

☾ Reduced / ECO mode

❄ Frost protection mode

⏻ Off mode

2 ⊞ Open window function.

3 📶 RF communication.

4 Displaying of pilot wired order or reduced auto mode,

Ext order is applied to heating system

-1 order of comfort minus 1°C

-2 order of comfort minus 2°C

ECO order of reduced set point or Auto reduced mode

❄ order of anti-freeze set point

⏻ order of stop

5 ⊟⊟₈ Measured temperature/ temperature set point / remaining time for boost mode.

6 🔒 Locked keyboard.

7 🔋 Battery level.

8 ⊟⊟ Parameter menu number.

9 ⚙ Parameter menu.

10 ⫶⫶⫶ Indication of heating & cooling ❄ demand.

11 **kWh.** Unit for power consumption.

12 Type of measured data & sensor used for system regulation:

☒ ⌐ Humidity measurement & control

☒ 🌡 Internal temperature sensor
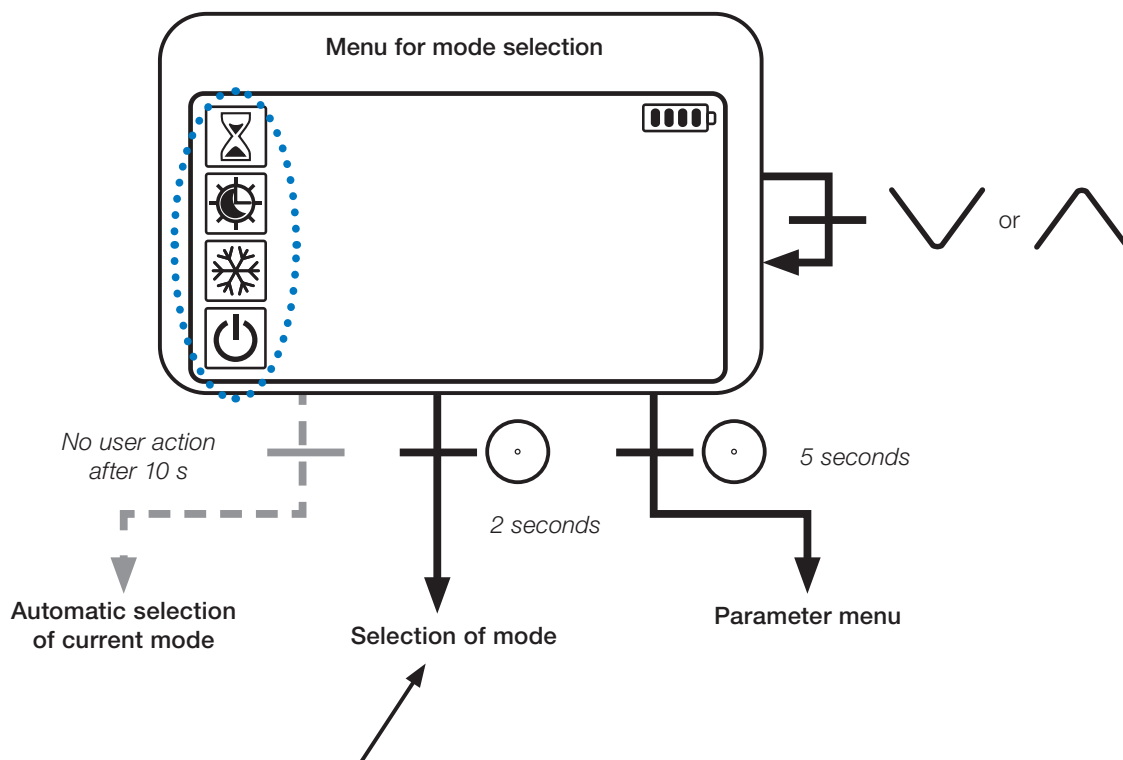
☒ 🌡 Ambient temperature sensor

☒ 🌡 Floor temperature sensor

☒ 🌡 External temperature sensor

13 ✋ User derogation or "adaptive start" during Auto mode application.

14 Temperature units ℃ or ℉ or % measurement of humidity rate.

5. Mode selection

Menu for mode selection

No user action after 10 s

2 seconds

5 seconds

Automatic selection of current mode

Selection of mode

Parameter menu
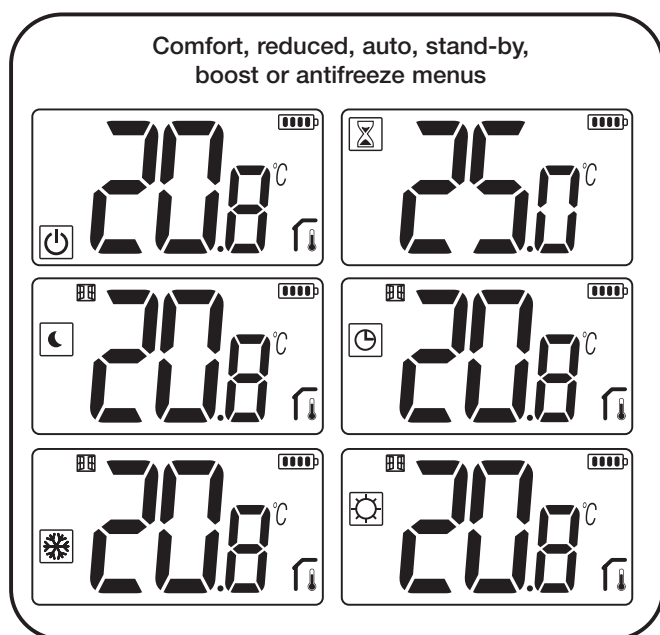
Press any ⋁ ⊙ ⋀ key to wake-up the thermostat and activates the back- light.

Hold ⊙ key for 2 second to access to **menu for selection of mode**.

Press ⋁ or ⋀ permits to change navigate in different **mode**.

Comfort, reduced, auto, stand-by, boost or antifreeze menus

If "basic navigation" is activated (menu #03), navigation menu will be:

5.1 Change temperature setting

Wake-up the thermostat by pressing any key.

Press ⌄ or ⌃, **to change the temperature** set point (digits starts to blink).

By pressing ⊙ key, temperature set point value is validated.

5.1.1 Boost/Timer mode ⧗

In mode boost, set point temperature is applied during a selected time.

After this time, thermostat will return to former mode.

You can first adjust, the desired setting temperature with ⌄ or ⌃, press ⊙ to validate, default value 24°C.

In a second time, you can adjust the du- ration in hours "H" if below 24H, then in day "**d**".

5.1.2 AUTO mode ◷

This mode is activated only when thermostat is paired with a WATTS Vision® touch screen BT-CT02.

In Auto mode, the **heating system will follow program** according to the current time and the Comfort and Reduced setting temperatures. By pressing keys ⌄ or ⌃, Boost/timer mode is selected, it override the temperature set point (1h).

5.1.3 Comfort mode ☼

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

5.1.4 Reduced / ECO mode ☾

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

Note: In cooling mode, reduced mode acts like the OFF mode (system is stopped, NC actuators close).

5.1.5 Anti-freeze mode ❄

Use this mode if you want to protect your installation against freezing. (default value 7°C).

Remark: in cooling mode, Anti-freeze mode acts like the OFF mode (installation is stopped).
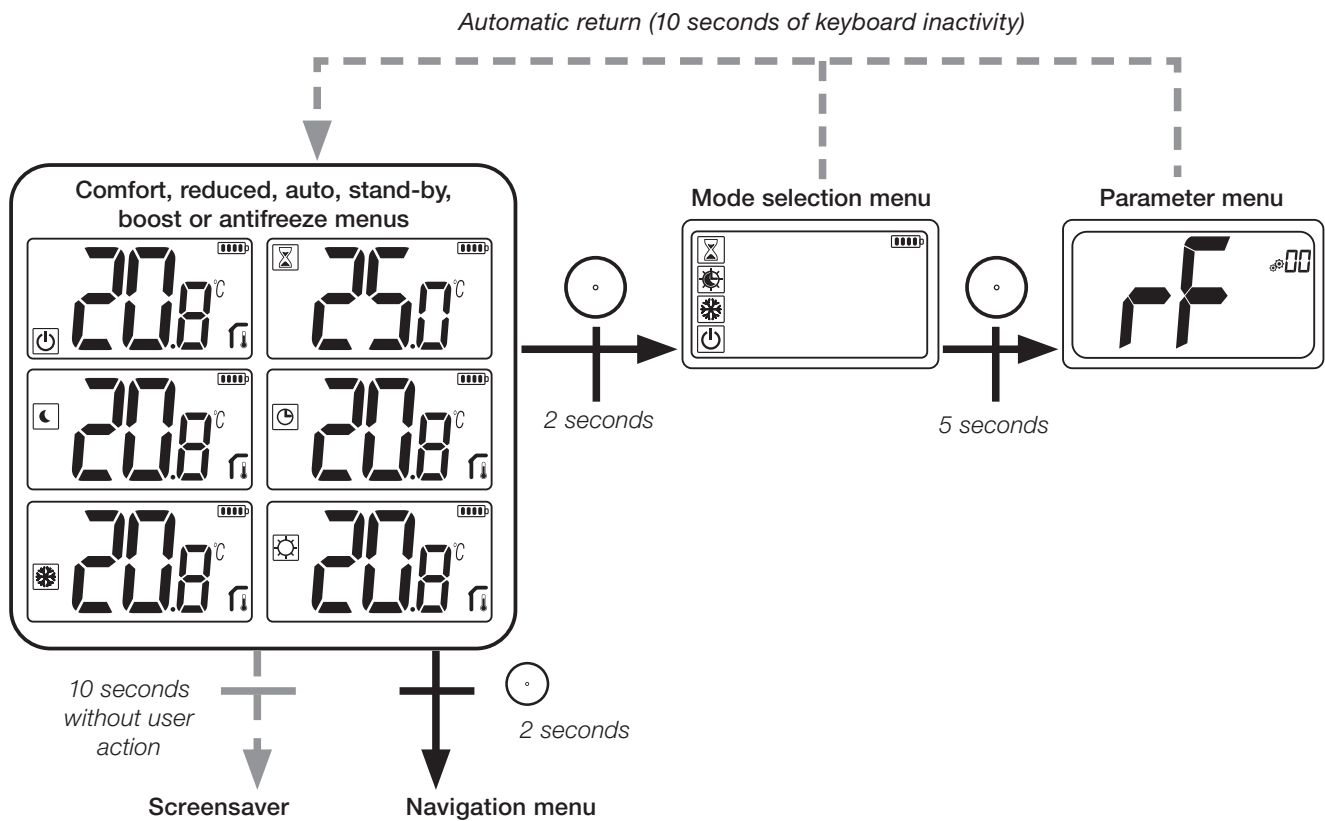
5.1.6 OFF mode ⏻

Use this mode if you need to switch off your installation.

Be Careful: In this mode your installation can freeze.

6. Functions highlights

6.1 Access user parameter menu

Automatic return (10 seconds of keyboard inactivity)

Comfort, reduced, auto, stand-by, boost or antifreeze menus

2 seconds

Mode selection menu

5 seconds

Parameter menu

10 seconds without user action

Screensaver

Navigation menu

2 seconds

Press any key to wake-up the thermostat and activates the backlight.

By pressing key ⊙ during 5 seconds, user can access to parameter menu.

The menu scroll is done with keys ∨ and ∧.

Menu is selected by pressing key ⊙, value starts blinking. Once in the menu, the parameter value is changed with the keys ∨ and ∧.

Pressing again key ⊙ sets the parameter value.

Note: Thermostat parameters are divid- ed into two groups: user and installer (advanced menu).

6.2 Reversible mode ♨ ❄

Reversible menu access is only possible on two conditions:

- thermostat isn't associated to a touch screen or 6Z master
- « reversible menu » is activated in the user parameter menu.

Enter user parameter 08, use keys ∨ and ∧, to select operating mode of the thermostat:

- **Hot** : heating regulation mode,
- **CLd** : cooling regulation mode,
- **rEv** : activation of reversible mode in menu,
- **Aut** : automatic Heat/Cool mode.

Pressing key ⊙ confirms the selection and switches to comfort mode.

A user inactivity of some seconds confirms current selection and returns to old selected mode.

Once the reversible mode has been selected, the change of mode is made as follows:

Press 2s on ⊙ to access the menu mode selection menu. Then go down below the OFF mode until the 4 blank icons are displayed:

Select with ⊙ then select the «Hot» heating mode or «Cld» cooling mode using ∨ and ∧ keys.
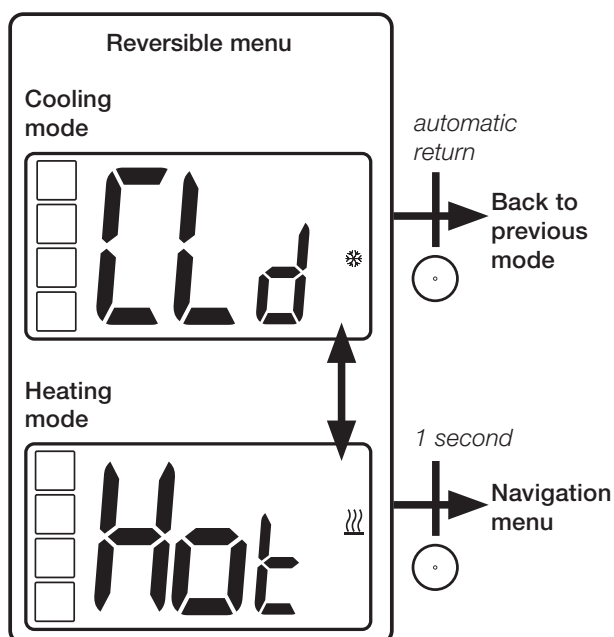
Pressing the ⊙ key for 1s confirms the mode selection.

User inactivity of a few seconds keeps the thermostat in the previous mode.

6.3 Opened windows detection ⊞⊞

Enter user parameter 07.

When activated and a detection is running, the icon ⊞⊞ will appear and blink on the screen!; This function is done by measuring and recording the temperature evolution.

When an opened window is detected, the thermostat applies to heating system anti- freeze temperature set point.

User can restart heating system, and stops window detection by pressing on a key.

6.4 Reset

By holding the button on the back of thermostat, user can:
- Unlock pin code
- Go directly to pairing menu (5 seconds)
- Reset thermostat with user parameter value equal to factory setting. (10 seconds).

5/10 seconds
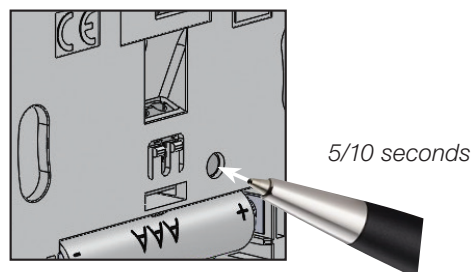
6.5 Keyboard locking

Wake-up the thermostat (lighted back- light).
Press and hold ∨ and ∧ keys simultaneously.

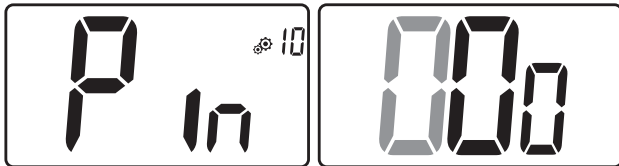Once locking is activated, logo 🔒 appears on the LCD screen:

6.6 PIN code

To activate this function enter user parameter 10.
The PIN code protect the thermostat from any change of the setting as temperature or mode.
When user pushes a key, "PIN" will be displayed. If user press another time a touch, he has to enter PIN number.

6.7 Other informations

6.7.1 Heating and cooling indications
Logos used to indicate than system requires:

heating is ; cooling is .

6.7.2 LED indication
When user modify set point temperature in functioning mode, behavior information is displayed with a LED RGB located on the middle of validation key.

Blue	Azure	Green	Yellow	Red
<18°C	<20°C	<22°C	<24°C	<37°C

6.7.3 Wireless communication functioning

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

RF frame is sent:
- When user press any key of the thermostat.
- When user press key in Central Touch screen to update the thermostat.
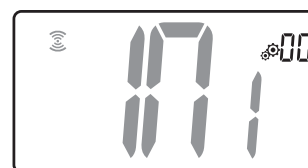- Automatically every 3-4 minutes.

7. User parameter description

RF pairing activation:

Pressing the key ⊙ starts communication initialization:

Another press of key ⊙ will exit this mode.

Degree unity for displaying:

☒ **°C** : Celsius

☒ **°F** : Fahrenheit

Default value: **°C**   Values: **°C** / **°F**

Buzzer activation:

"**Yes**" : activation of function

"**no**" :   no activation

Default value: **no**   Values: **Yes** / **no**

(parameter not available for Version 2.6 and more).

« basic navigation » mode:

"**Yes**" : activation of function, restrict to comfort and off mode.

"**no**" :   no activation

Default value: **no**   Values: **Yes** / **no**

Room temperature display:

"**Yes**" : remote displays measured temperature

"**no**" :   remote displays set point temperature

Default value: **Yes**   Values: **Yes** / **no**

Calibration of internal room sensor (remote):

Calibration must be done after a given order has been operating for a day.

Place the thermometer in the middle of the room at about 1.5 m above the floor. Record the temperature shown after 1 hour. When you enter calibration mode for the first time, the indicator says "no", which means no calibration has been performed yet. Enter the reading on your thermometer using the keys ⋁ and ⋀ (step of 0.1°C). The setting is validated with key ⊙. **YES** appears to indicate that calibration.

Important note: a large temperature deviation may indicate an inappropriate installation of the thermostat. If the temperature difference is too big, this could mean your thermostat was not installed properly e.g. in the right place.

NOTES: If user press simultaneously the keys ⋁ and ⋀, sensor calibration is reset. **No** is displayed.

Default value: **no** for offset of 0.0°C

Range values: **Yes**: for offset included between -3.0°C and 3.0°C.

Calibration of external room sensor (remote):

This menu is only displayed if parameter rEG (#20) is set with "Amb".

Calibration must be done after a given order has been operating for a day. Place the thermometer in the middle of the room at about 1.5 m above the floor. Record the temperature shown after 1 hour. When you enter calibration mode for the first time, the indicator says "no", which means no calibration has been performed yet. Enter the reading on your thermometer using the key ∨ and ∧ (step of 0.1°C). The setting is validated with key ⊙. **YES** appears to indicate that calibration.

Important note: A large temperature deviation may indicate an inappropriate installation of the thermostat. If the temperature difference is too big, this could mean your thermostat was not installed properly e.g. in the right place.

NOTES: If user press simultaneously the keys ∨ and ∧, sensor calibration is reset. **No** is displayed.

Default value: **no** for offset of 0.0°C

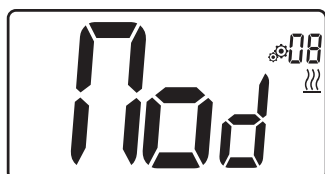Range values: **Yes**: for offset included between -3.0°C and 3.0°C

Open window detection:

"**Yes**" : activation of function

"**no**" : no activation

More information is in paragraph "Opened window detection"

Default value: **Yes**   Values: **Yes** / **no**

Operating mode of thermostat:

- **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 screen BT-CT02 or a 6Z master.

Authorization or not of cooling mode:

This parameter menu appears only if digital thermostat is associated with a Touch screen BT-CT02 or a 6Z master. It permits to allow or not cooling system in remote room.

Factory setting value: **Yes**   Other values: **no**
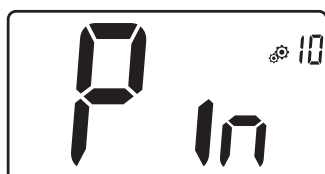
PIN code activation:

"**Yes**" : activation of function

"**no**" : no activation

More information is in paragraph « code PIN description ».

Factory setting value: **no**   Values: **Yes**

Setting value for PIN code:

User has to configure values of the three digits with and validate its choice with validation key.

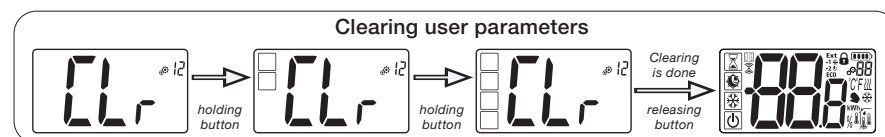Factory setting value: **000**   Value range: **000** to **999**

Reset user settings:

Press and hold ⊙ for 5 seconds to reset, all segments light up, showing that the thermostat has been reset with the factory default setting:

⊠ Set point temperatures in ☼ ☾ ❄ ⧗ modes,

⊠ All user parameters with their factory values.

When button is hold:

Clearing user parameters

Zone number displaying:

This function is available only if digital thermostat is associated with a multi-zone receiver.

Displaying client software version:

Pressing and maintaining key ⊙ displays software qualification version and debug information.
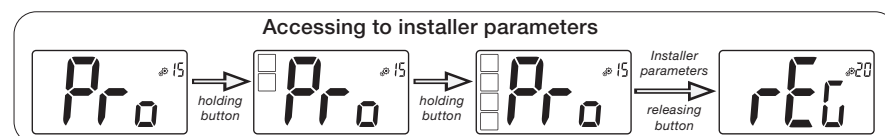
Reminder: software version is written: Vxx.xx.

Professional menu:

This menu permits to access to installer parameter menus.

Pressing and maintaining key ⊙ displays first parameter of installer menus.
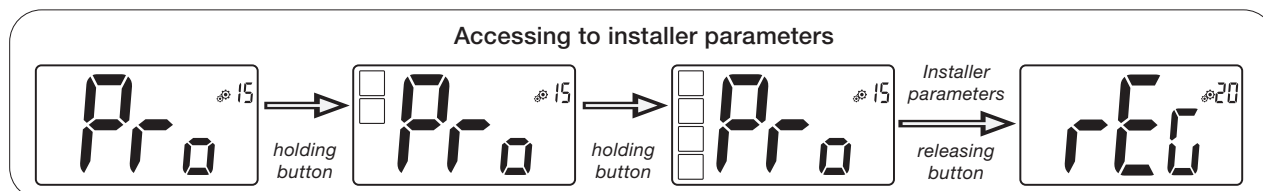
When button is hold:

Accessing to installer parameters

User menu exit:

Press key ⊙ to exit user menu and return to the main screen.

8. Installer parameter description

To access to these installer parameters, installer has to go to user parameter number 15.

After, he presses and holds validation key ⊙ during 5 seconds:

Accessing to installer parameters

Pro 15 → Pro 15 → Pro 15 → rEG 20

holding button — *holding button* — *Installer parameters* *releasing button*

Selecting temperature sensor used for the regulation:
- **AIR** : regulation with internal sensor
- **Amb** : regulation with external sensor
- **FLR** : regulation on floor sensor (external sensor of remote, only when thermostat is connected to master) or embedded sensor on receiver
- **FLL** : regulation with floor sensor and air sensor

Factory setting value: **Air**   Other values: **Amb** / **FLL** / **FLR**

Displaying of **measured temperature by internal sensor:**

If « Err » is displayed, internal sensor is damaged.

Displaying of **measured temperature by external sensor:**

☒ **FLOOR** temperature / **AMBIENT** temperature

If « Err » is displayed, external/ambient sensor isn't connected or damaged.

Displaying of **measured temperature by floor sensor connected to receiver** (only with specific bidirectional system):

If « Err » is displayed, thermostat isn't associated to a received with floor sensor or this sensor is damaged.

Lower limit of floor temperature (FL.L):

This value is used when parameter 20 is FLL.

Factory setting value: "**no**": not activated

Other values: **5°C** to "**FL.H**"

High limitation of floor temperature (FL.H):

This value is used when parameter 20 is set on "floor limit" FLL.

Factory setting value: "**no**": not activated

Other values: "**FL.Lo**" to **40°C**

Regulation type:

- **HYs**: regulation of hysteresis
- **bP**: regulation of proportional type

Factory setting value: **bP**   Other values: **HYs**

Hysteresis value:

This menu is displayed only if parameter "typ" is equal to "HYs".

Use ∨ and ∧ keys to set hysteresis value.

The setting is validated with key ⊙.

Default value: **0.3°C**   Value range: **0.2°C** to **3°C**

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, if parameter #26 is set to "HYs" this menu is not available.

Factory setting value: **uf1**   Other values: **uf2**

Choice of coating:

Two choices are possible:

- **bP1**: for tiling
- **bP2**: for wooden floors (floating or not), if parameter #26 is set to "HYs" this menu is not available.

Factory setting value: **bP1**   Other values: **bP2**

Function of pilot wire:

This option is used to enable the pilot wire functionality if it's used on your installation.

Factory setting value: **no**   Other values: **yes**

Minimum value of setting range of the set point temperature:

Factory setting value: **5.0°C**

Other values: **5.0°C** to **15.0°C**

Maximum value of setting range of the set point temperature:

Factory setting value: **37.0°C**

Other values: **20.0°C** to **37.0°C**

Humidity set point (Optional):

Factory setting value: **75 %**

Other values: **0%** ("**no**") to **100%**

Anti-condensation function of the installation:

When condensation is detected, air conditioning is stopped or/and dehumidifier is activated.

Factory setting value: **yes**   Other values: **no**

Master Heat and Cool of the zone : (parameter available for Version 2.6 and more).

This menu is available only: if the thermostat is paired to a M6Z and is allowed to be capable being a Master. If the thermostat is master ("MAS"), the thermostat can manage the heat and cool additional feature automatic ("SLA") function.

Factory setting value : **SLA**   Other value : **MAS**

Heat and Cool dead zone : (parameter available for Version 2.6 and more).

Only activated if Thermostat is in master ("Mas") and configured in Automatic for Heat and Cool ("Aut"). Define the dead zone around the set point not to switch between cool or heat.

Factory setting value : **1°C**   Other values : **0,5 à 5°C**

Heat and Cool Automatic timer : (parameter available for Version 2.6 and more).

Only activated if Thermostat is in master ("Mas") and configured in Automatic for Heat and Cool ("Aut"). Time to switch from cool to heat OR heat to cool in automatic. Time is given in minutes.

Factory setting value : **2H**   Other values : **30min to 48h by 30min step**

EEPROM clearing:

All thermostat parameters will be loaded with factory settings. RF wireless communication will be reset too.

Pressing and maintaining key ⊙ displays:

Accessing to installer parameters

EEp ⚙34 → *holding button* → EEp ⚙34 → *holding button* → EEp ⚙34 → *Clearing is done* *releasing button* → 888
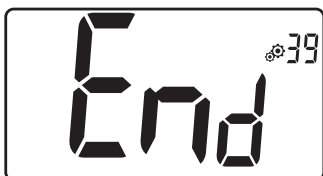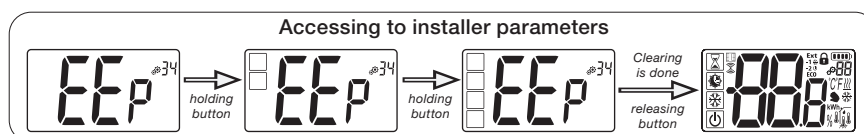

User menu exit:

Press key ⊙ to exit user menu and return to the main screen.

9. Troubleshooting & solution

Description of thermostat errors displaying

Remote **errors** are:

☒ Error of temperature measurement o Internal sensor;
                                                   o External sensor.

☒ Low batteries

☒ Loss of RF communication (only when remote is associated to Touch E3 or to master product).

Internal sensor error	Err	Displaying of "Err" and red LED blinking
External sensor	20.8℃	Icon blinking and red LED blinking
Low batteries	20.8℃	Backlight ON: Icon blinking and red LED blinking
RF error (only when remote is associated to smart home or master product)	20.8℃	Icon blinking and red LED blinking

My Thermostat seems work correctly but the heating or the cooling doesn't work correctly	
Output	On the receiver: - Check the good reception of RF signal. - Check the connections. - Check the power supply of the heating element. - Contact your installer.
RF communication	Check the following points: - The receiver must be put at a minimum distance of 50 cm of all others electrical or wireless materials (GSM, Wi-Fi.) - The receiver shouldn't be fixed on a metallic part or too close of hydraulic pipes... (Copper...)
Sensor calibration	- Try to calibrate your thermostat (refer to user parameter 05). - Contact your installer, to check & adjust the regulation parameters with your heating system.
Configuration	The logo ♨ ❄ blinks: - Cooling request is made by the central (BT-CT02) but the thermostat doesn't allow (refer to user parameter 08).

10. Maintenance

Battery level indication

The batteries are considered weak when voltage level is too low for a correct product functionning.

The icon ▭ will blinked on LCD screen.

Cleaning of the thermostat

Gently dust the outside of the thermostat with a soft, lint-free cloth.

If the thermostat needs a more thorough cleaning:

- Lightly dampen a soft and clean cloth with water.

- Wring out any excess water from the cloth.

- Gently wipe the display and sides of the thermostat, making sure no drops of water accumulate around the product.

Important: Do not spray thermostat directly with water, or use cleaning solutions or polishes, as doing so may damage the thermostat.

11. Technical characteristics

Environmental: Operating temperature Shipping and storage temperature	0°C to +40°C -10°C to +50°C
Electrical protection Installation category Pollution degree	IP30 Class II 2
Temperature precision	0.1°C
Setting temperature range Comfort, Reduced Holiday (Antifreeze) Timer	0,5°C step 5°C to 37°C 0,5°C to 10,0°C 5°C to 37°C
Regulation characteristics	Proportional Band (PWM 2°C/10min) or Hysteresis 0.2°C to 3.0°C
Power supply operating life	2 AAA LR03 1.5V Alkaline ~2 years
Sensing elements: Internal & External (option)	Internal: NTC 10kW at 25°C External: NTC 10kW at 25°C (ß = 3950)
Radio frequency	868 MHz, <10mW.

Software version	Showed in parameter menu. Vers 14
Compatible receivers	BT-M6Z02 RF - BT-FR02RF BT-WR02RF / BT-WR02HC BT-PR02RF - BT-CT02 Other receivers can be compatible, check on the instruction manual of your receiver.
Product conformed to Classification Contribution	UE 811/2013 and 2010/30/UE IV (2%)

11.1 Dimensions & weight

Weight: 115g (thermostat only) - all inluding box 220g

83,5 mm

83,5 mm　　17 mm　　60 mm
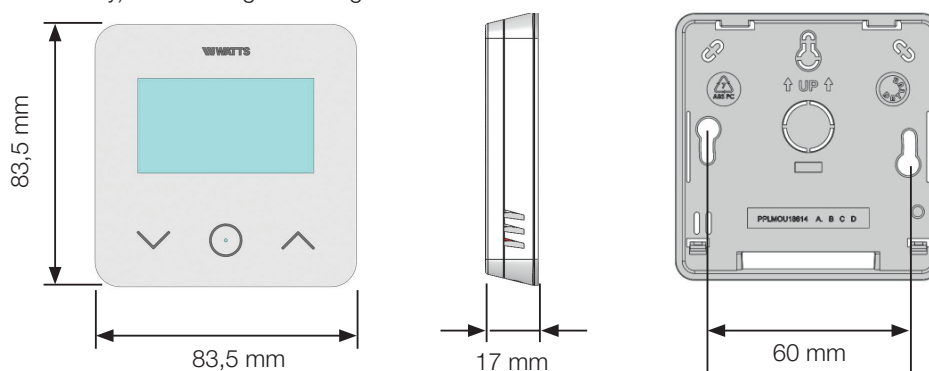
12. Directives

Designation	Description	Link
Low Voltage Directive (LVD) 2014/35/EU	The Low Voltage Directive (LVD) (2014/35/EU) ensures that electrical equipment within certain voltage limits provides a high level of protection for European citizens, and benefits fully from the Single Market.	2014/35/UE
Electromagnetic Compatibility (EMC) Directive 2014/30/EU	The Electromagnetic Compatibility (EMC) Directive 2014/30/EU ensures that electrical and electronic equipment does not generate, or is not affected by, electromagnetic disturbance.	2014/30/UE
Radio Equipment Directive (RED) 2014/53/EU	The Radio Equipment Directive 2014/53/EU (RED) establishes a regulatory framework for placing radio equipment on the market.	2014/53/EU
Restriction of the use of certain hazardous substances Directive (RoHS) 2011/65/EU	Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment.	2011/65/EU
Waste Electrical & Electronic Equipment Directive (WEEE)	The WEEE Directive (2012/19/EU) aims to reduce the amount of waste electrical and electronic equipment that ends up in landfill.	2012/19/EU
Ecodesign Commission Regulation (EU) 2015/1188	Ecodesign requirements for local space heaters.	2015/1188