

uponor T-27 Base Thermostat Display



uponor T-27 Base Thermostat Display Instruction Manual

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uponor T-27 Base Thermostat Display



Product Information

Specifications

- **Product:** Uponor Base thermostat display T-27 230V
- **Installation and operation manual:** CD0000452

Description

Thermostat Features:

The Uponor Base thermostat display T-27 230V offers various features to control your heating system effectively.

System Compatibility:

This thermostat is compatible with specific heating systems. Refer to the manual for details on system compatibility.

Components of the Thermostat:

The thermostat includes components essential for its operation. Familiarize yourself with these components before installation.

Installation

Placement of Thermostat:

Select an appropriate location for installing the thermostat to ensure accurate temperature readings and efficient operation.

Installation Procedure:

Follow the step-by-step instructions provided in the manual to install the thermostat correctly. Incorrect installation may lead to malfunctions.

Operation

Learn how to operate the thermostat efficiently to maximize its functionality and ensure optimal heating control.

Troubleshooting

Refer to the troubleshooting section in the manual to address any issues that may arise during the operation of the thermostat.

Technical Data

Technical Specifications:

Understand the technical specifications of the thermostat to utilize its features effectively.

Dimensions:

Take note of the dimensions of the thermostat for installation purposes.

Wiring Diagram:

Refer to the wiring diagram provided to correctly connect the thermostat to your heating system.

Menu Description:

Familiarize yourself with the menu options and settings available on the thermostat for personalized usage.

FAQ

- **Q: How do I reset the thermostat to factory settings?**
 - **A:** To reset the thermostat to factory settings, refer to the manual for specific instructions. Typically, there is a reset button or a sequence of actions to perform this reset.
- **Q: Can I use this thermostat with a different voltage?**
 - **A:** No, this thermostat is designed for 230V systems. Using it with a different voltage may damage the product and is not recommended.

Safety instructions

Safety messages used in this document

Warning! Risk of injury and damage. Ignoring warnings can cause personal injury and/or damage to products and other property.

Caution! Risk of malfunctions. Ignoring caution can cause the product to not operate as intended .

Note: Important information to the section in the manual.

Uponor uses safety messages in the document to indicate special precautions required for the installation and operation of any Uponor product.

Safety measures

Note

Important information to the section in the manual.

Uponor uses safety messages in the document to indicate special precautions required for the installation and operation of any Uponor product.

- Read and obey the instructions and processes in the document.
- The installation must be performed by a qualified installer in accordance with local regulations.
- Uponor is not liable for modifications not specified in this document.
- Switch off all connected power supplies before starting any wiring work.
- Do not expose the Uponor components to flammable vapors or gases.
- Do not use water to clean electrical Uponor products/components.

Uponor is not liable for damage caused by ignoring the instructions in this document or the applicable building code.

Power

Warning!

Uponor system power supply: 230 V AC, 50 Hz. In case of emergency, immediately disconnect the power.

Technical constraints

Caution!To avoid interference, keep data cables away from components bearing power of more than 50 V.

Correct disposal of this product (Waste Electrical and Electronic Equipment)

Note

Applicable in the European Union and other European countries with waste separation systems.



This icon on the product, or in the related documents indicates that it should not be disposed with household waste. Please, recycle responsibly to support the sustainable use of resources and prevent possible harm to human health and/or the environment.

Household users should contact the retailer where they purchased this product, or their local government office, for details on where and how they can take it for recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract. Do not dispose of this product with other commercial waste.

Copyright and disclaimer

This is a generic, European-wide document version. The document may show products that are not available in your location for technical, legal, commercial, or other reasons.

For any questions or queries, please visit the local Uponor website or speak to your Uponor representative.

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This disclaimer applies to, but is not limited to, the accuracy, reliability, or correctness of the document.

The presumption for the document is that the product-related safety instructions are fully obeyed. The following requirements apply to the Uponor product (including any components) as covered by the document.

- The system (combination of products) is selected and designed by a competent planner. It is installed and put into operation by a licensed and/or competent installer in compliance with the instructions provided by Uponor. Locally applicable building and plumbing codes/regulations have been obeyed.
- Temperatures, pressure and/or voltage limits according to product and design information have not been exceeded.
- The product remains in its originally installed location and is not repaired, replaced, or interfered with, without prior written consent of Uponor.
- The product is connected to potable water supplies or compatible plumbing, heating and/or cooling systems approved or specified by Uponor.

Uponor Base thermostat display T-27 230V – Description



Uponor Base thermostat display T-27 230V (thermostat T-27) comes with a big LCD display and capacitive keys. The temperature is displayed in large digits for easy readability also from a distance. The capacitive keys and the front glass make cleaning of the front of the thermostat easy. A special electronics (triac) ensures that the thermostat is operating completely noiseless and provides the highest comfort in all rooms.

Thermostat features

Main characteristics for the thermostat:

- Mounting
 - on wall
 - on standard European patress box/flush mounting box
- Noiseless switching (triac)
- Can supply up to 5 actuators with power
- **Optional:** an external temperature sensor can be connected to the thermostat, to measure the room or floor temperature

Software features

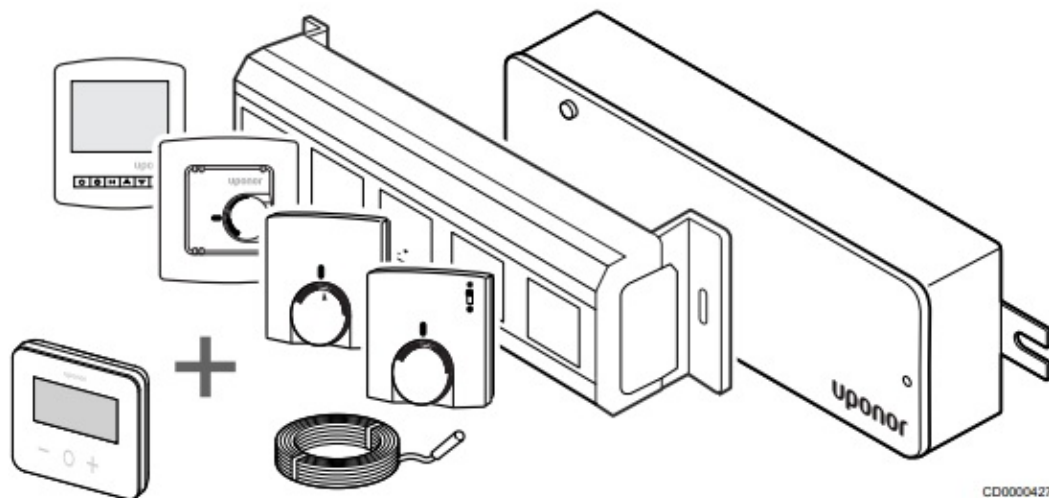
Main characteristics of the thermostat software:

- Temperature limitation
- Optional floor sensor connectivity
- Heating/cooling switch
- Regulation modes
 - **rt**: room temperature
 - **rS**: external sensor temperature
 - **rFt**: room temperature with floor temperature limitation
- Comfort/ECO modes
- Demand indication in the display
- Calibration
- Valve exercise – triggers the actuator valve to open for 2 minutes if the actuator has been closed for 3 days (72 hours)
- Factory reset

System compatibility

Note

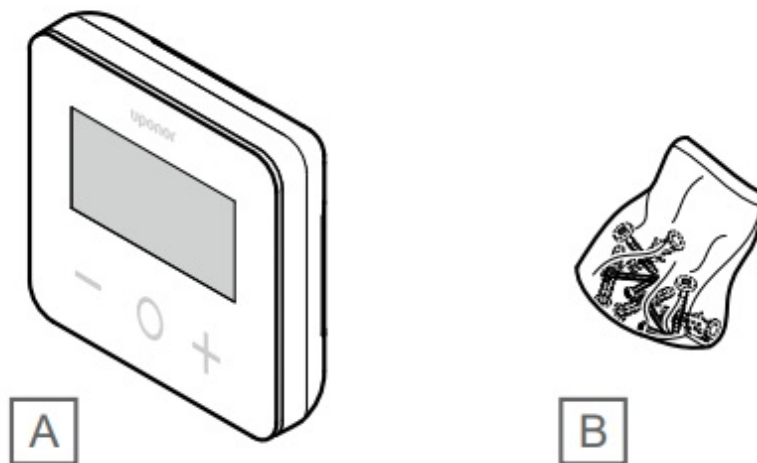
For more detailed information, product range and documentation please visit the Uponor website:
www.uponor.com.



The thermostat T-27 is compatible with the current Uponor Base control system 230 V, the Uponor Base flexiboard controllers (X-24/X-25/X-26/X-27), the Uponor Base X-23 wiring box as well as the Uponor Smatrix floor/remote sensor S-1XX.

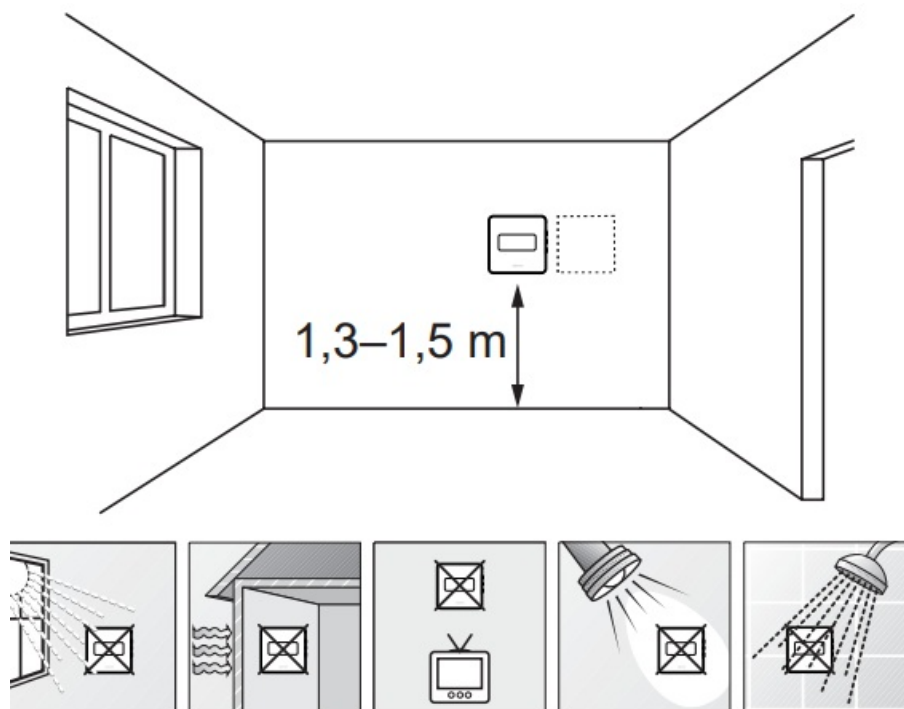
Components of the thermostat

The illustration below shows the thermostat and its components.



Installation

Placement of thermostat



- Select an indoor wall and a position 1,3 m to 1,5 m above the floor.
- Make sure that the thermostat is kept away from direct sunlight.
- Make sure that the thermostat will not be heated through the wall by sunshine.
- Make sure that the thermostat is kept away from any heat source, such as a television set, electronic equipment, fireplace, and spotlights. Nearby electric fires and wall – or table lamps may also prevent the thermostat from operating properly.
- Make sure that the thermostat is kept away from any source of humidity and water splashes (IP30).

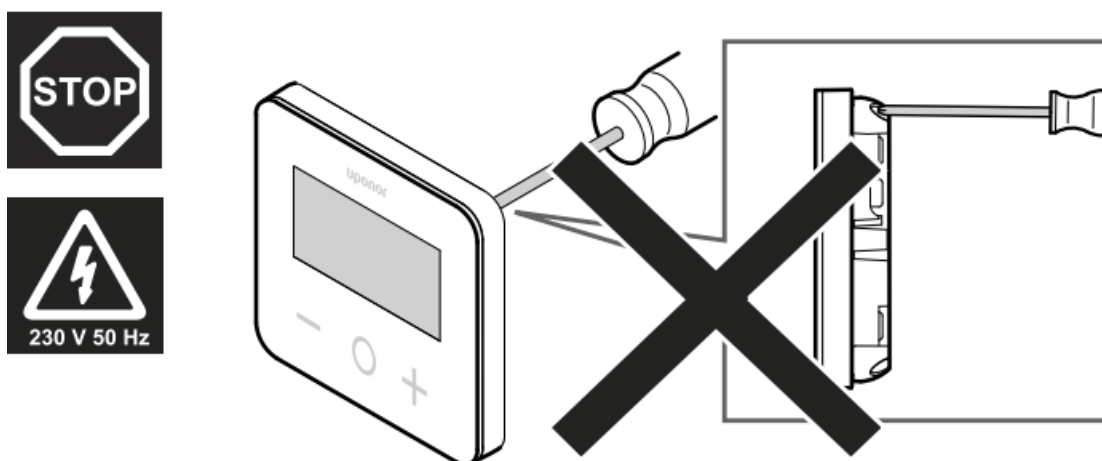
Installation procedure

Warning!

The thermostat uses 230 V AC power. Never open and/or separate the front cover from the rear face of the thermostat!

Caution!

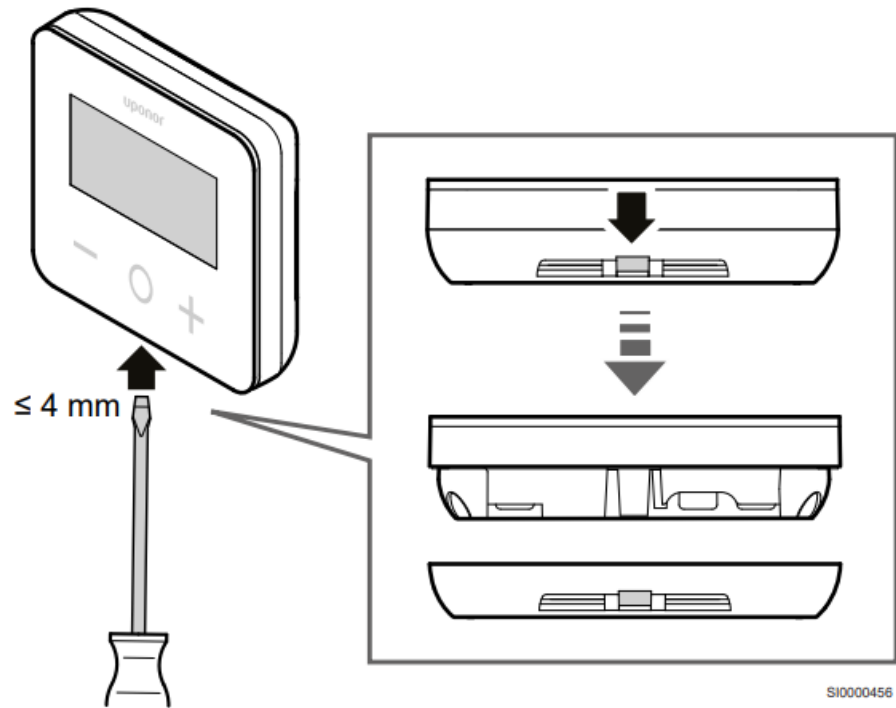
Do not push hard on the LCD screen as this may cause irreparable damage.



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Remove the back plastic cover

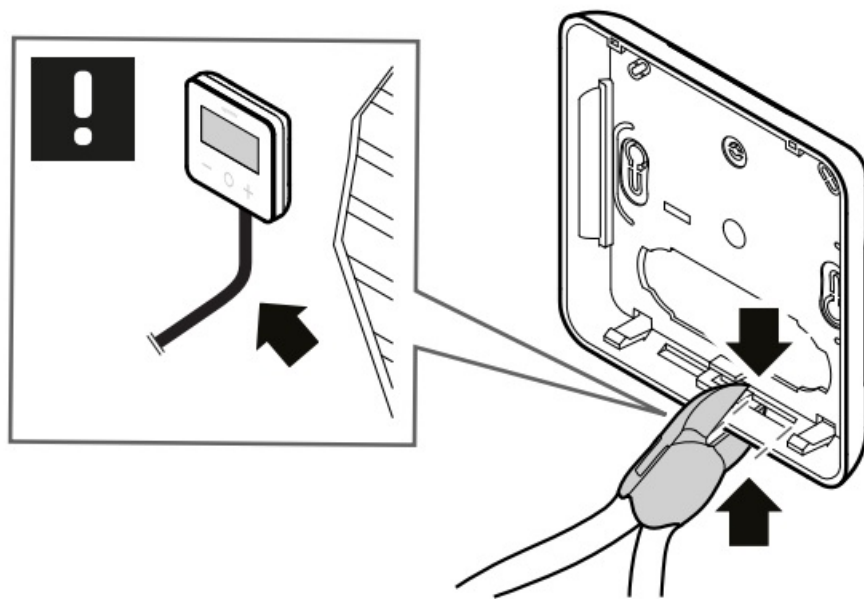
1



Use a flat screw driver/tool (width max. 4 mm) to remove the back plastic cover

If necessary: cut the back part plastic

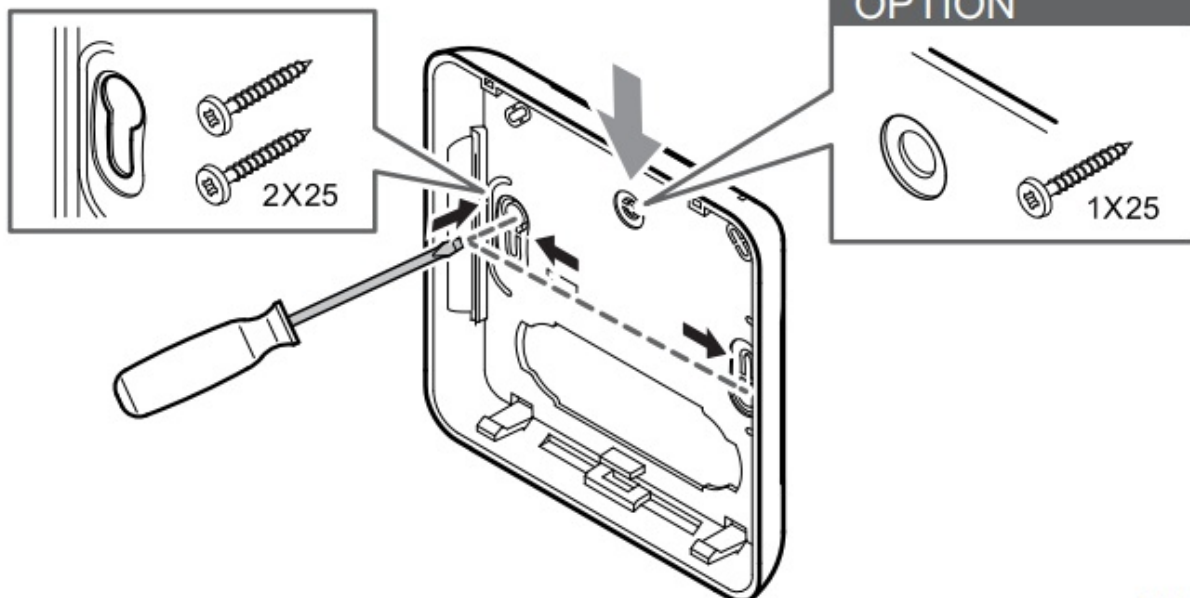
2



If the thermostat is wall mounted and the cables (or some of them) are placed on the wall, cut the back part plastic.

Remove the breakouts

3



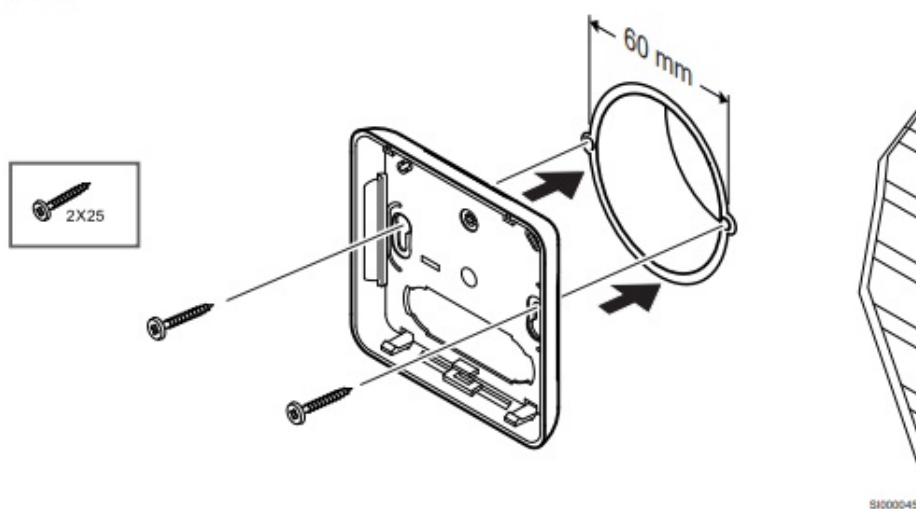
SI0000458

- **Wall mounting with 2 screws:** Remove the 2 breakouts for the screws in the back cover.
- **Option — wall mounting with 1 screw:** Remove the breakout of the center hole in the back cover.

Attach the back plastic cover to the wall

- **Wall box mounted**

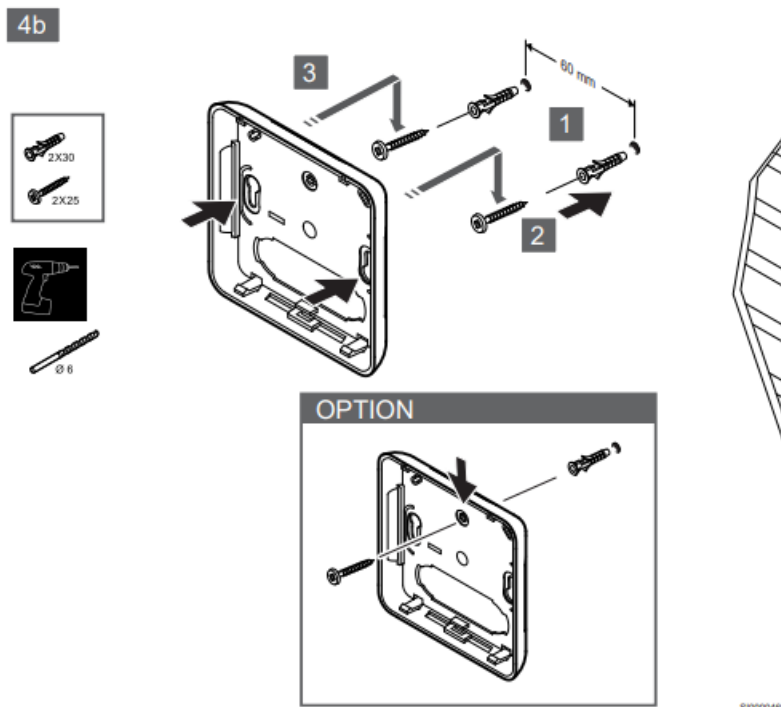
4a



SI0000459

Attach the back cover to the wall box.

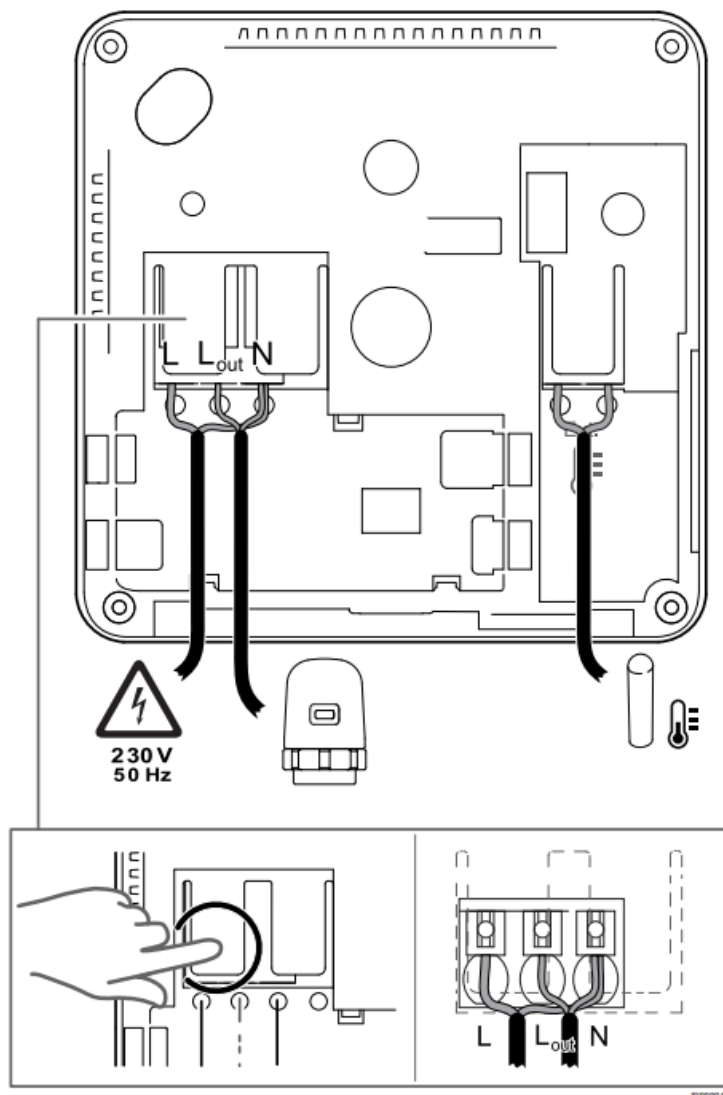
Wall mounted



Attach the back cover to the wall with 1 or 2 screws.

Connect the thermostat

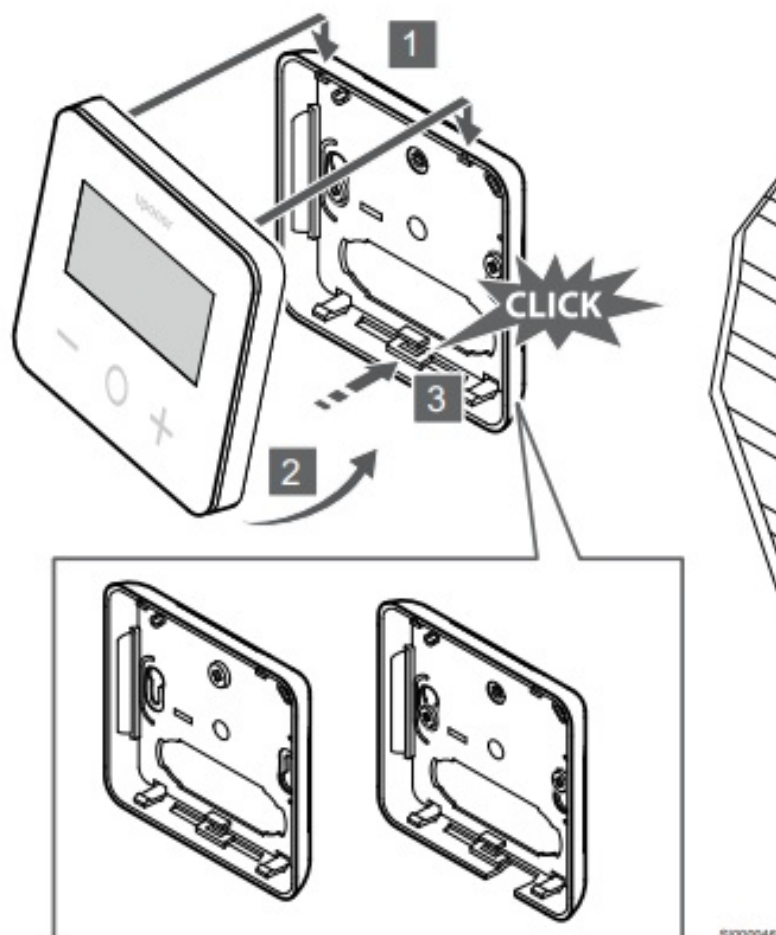
Note: Read the wiring diagram in the technical data chapter before making any electrical installation!



Connect the power cables to the backside of the thermostat. The external sensor is optional. The cables from the actuators can be connected directly to the thermostat or to a separate connection box. For easier wiring, Uponor Base Flexiboard X-24/X-25/X-26/X-27 offers flexible allocation of one or more actuators to the room thermostats via a selector switch during or after installation.

Attach the thermostat to the back cover

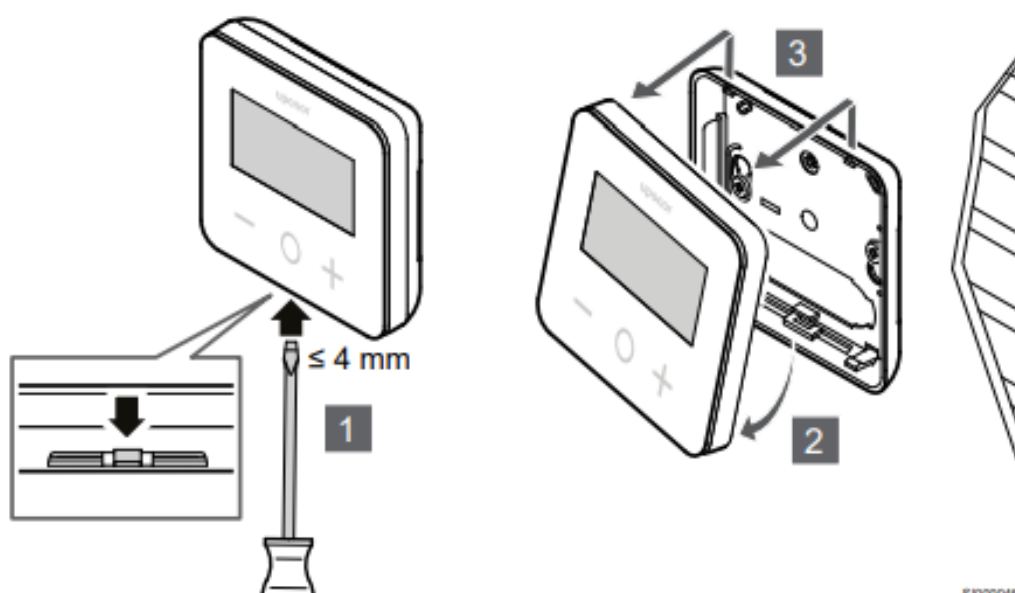
6



Attach the thermostat to the back cover.

1. Attach the thermostat body to the back cover by using the 2 hooks in the upper part as a hinge.
2. Gently press the thermostat down towards the clips at the bottom of the back cover until a clicking sound is heard.
3. The thermostat is attached to the back cover.

Remove the thermostat from the wall



Press the clips at the bottom of the back cover with a flat screwdriver (width max. 4,0 mm) to unlock and remove the thermostat.

Operation

Activate the thermostat



Power on/reset display



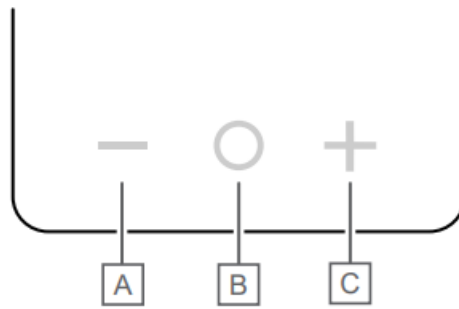
The software version is displayed after power on, or after a product reset.

Current mode



After the power has been set on or the thermostat has been reset, the thermostat runs in current mode (Comfort or ECO).

Thermostat key descriptions



Key/icon	Description
—	Minus/decrease
O	OK
+	Plus/increase

Press a key on the thermostat T-27 to initiate an action related to that key.

— and + keys

The keys — and + are used to

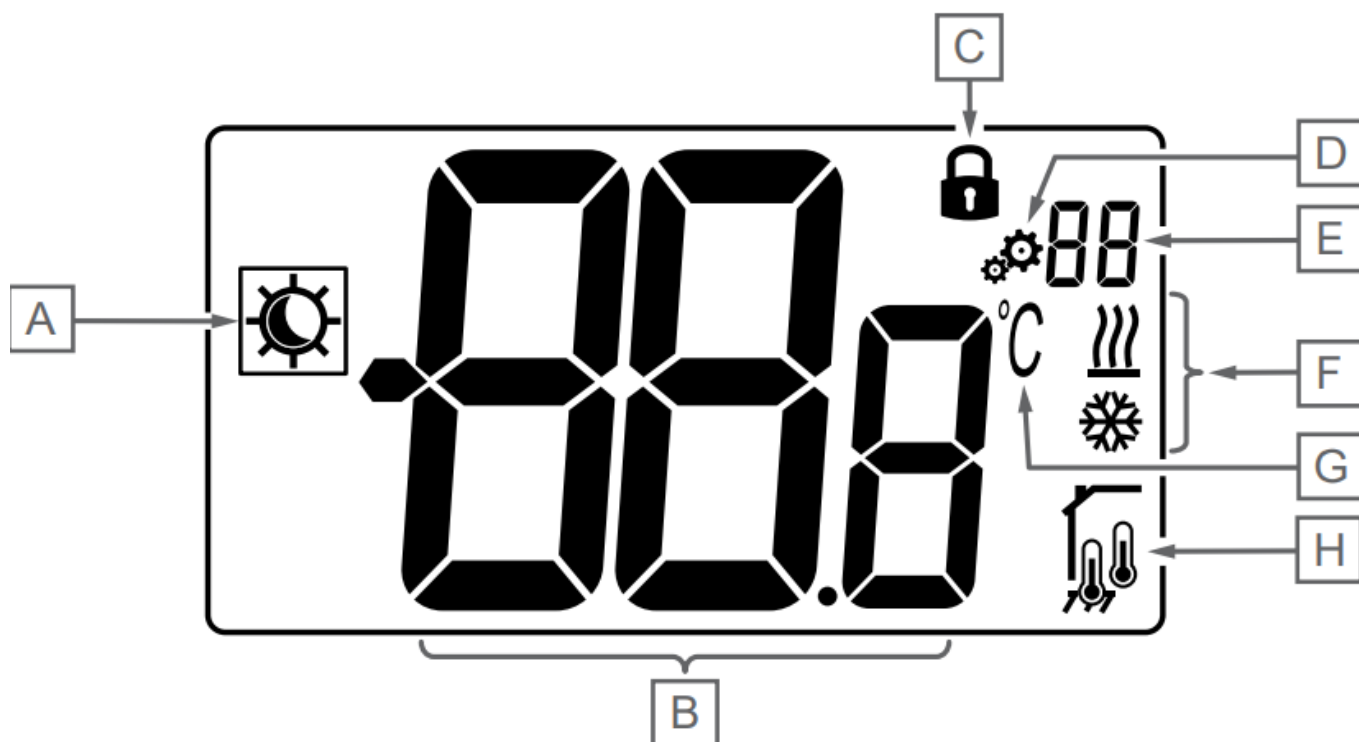
- Adjust setpoint temperature
- Move from one parameter to the next/previous one in the settings menu

O (OK) key

The key O (OK) is used to

- Display temperature measure
- Toggle between current status data, and values of available sensors connected to the thermostat
- Enter and exit the settings menu (holding the key for about 3 seconds)
- Confirm a setting








LCD display descriptions






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Symbols/icons

The figure shows all possible symbols and characters that can be shown on the display:

Item	Icon	Description
A		Comfort/ECO modes Visible depending on the selected mode
B		Temperature Value from internal or external temperature sensor
C		Locked display and keys
D		Settings
E		Settings menu number
F		Heating/cooling demand on the display
G		Temperature unit

Item	Icon	Description
H	Type of measured data and sensor used for system regulation:	
		Room temperature sensor (rt)
		Room temperature with external floor sensor (rFt)
		Remote temperature sensor (rS)

Display text

The following table contains an overview of all the display texts with reference to the respective sections where they are described.

Display text		Description	Settings menu number
00.5	00.5	ECO mode setback temperature	03
CLd	CLd	Cooling mode	01
Cmf	Cmf	Comfort mode	02
dls	dls	Lock keys and display function	09
Eco	Eco	ECO mode	02
Err	Err	Error	—
FL.H	FL.H	High limitation of floor temperature	05
FL.L	FL.L	Low limitation of floor temperature	06
Hot	Hot	Heating mode	01
HYS	HYS	Hysteresis value	13
MAH	MAH	Maximum heat Maximum value of setting range of the setpoint temperature	12
Min	Min	Minimum Minimum value of setting range of the setpoint temperature	11
Mod	Mod	Mode Heating/cooling modes	01
no r _i	no r _i	Calibration of internal room sensor	07
no r _e	no r _e	Calibration of external room sensor	08
rEG	rEG	Regulation selection	04
rES	rES	Factory reset	—
rFt	rFt	Room temperature with external floor sensor	04
rS	rS	Remote sensor	04
rt	rt	Room temperature	04
U1.0	U1.0	Software version	10
YES	YES	Yes	07/08

Display temperatures (Comfort/ECO)

Follow the below instructions to display the temperatures:

1. Press the key — or + to see the setpoint

2. Press the key O (OK) to display the room temperature and floor temperature (external sensor must be connected and the regulation set to rFt)

Temperature setpoint (Comfort/ECO)

The Comfort/ECO temperature setpoint is continuously monitored.

Follow the below instructions to modify the temperature setpoints:

1. Press the key — or + to see the current temperature setpoint
2. Press the key — or + again to modify the setting temperature
3. Press the key O (OK) to confirm the temperature setpoint value

Settings

Note : After 1 minute of user inactivity in the settings menu, the thermostat returns automatically to the current mode.



Settings menu overview

The following table contains an overview of all the settings with reference to the respective sections where they are described.

Settings menu number	Name	Description
01	Mod	<i>Heating/cooling modes, Page 11</i>
02	Eco	<i>Comfort/ECO modes, Page 11</i>
03	Setback	<i>ECO mode setback temperature, Page 11</i>
04	rEG	<i>Regulation selection, Page 12</i>
05	FL.H	<i>High limitation of floor temperature, Page 12</i>
06	FL.L	<i>Low limitation of floor temperature, Page 12</i>
07	no	<i>Calibration of internal room sensor, Page 12</i>
08	no	<i>Calibration of external room sensor, Page 13</i>
09	dls	<i>Lock keys and display function, Page 13</i>
10	U1.0	<i>Software version, Page 14</i>
11	Min	<i>Min. value of setting range of the setpoint temperature, Page 14</i>

Settings menu number	Name	Description
12	MAH	<i>Max. value of setting range of the setpoint temperature, Page 14</i>
13	HYS	<i>Hysteresis value, Page 14</i>
—	rES	<i>Factory reset, Page 14</i>

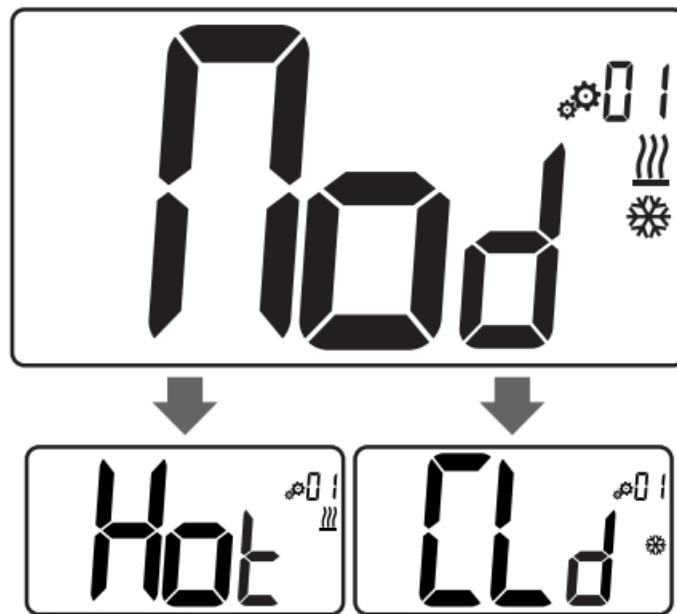
Enter the settings menu

The settings menu is accessible in both Comfort and ECO modes.

Follow the below instructions to enter the settings menu:

1. Press the key O (OK) for 3 seconds
2. Scroll up and down in the menu with the keys — and +
3. Select the desired menu by pressing the key O (OK)
4. Change the value with the keys — and +
5. Press the key O (OK) to confirm the settings
6. Press the key O (OK) for 3 seconds to return to the current mode

Heating/cooling modes

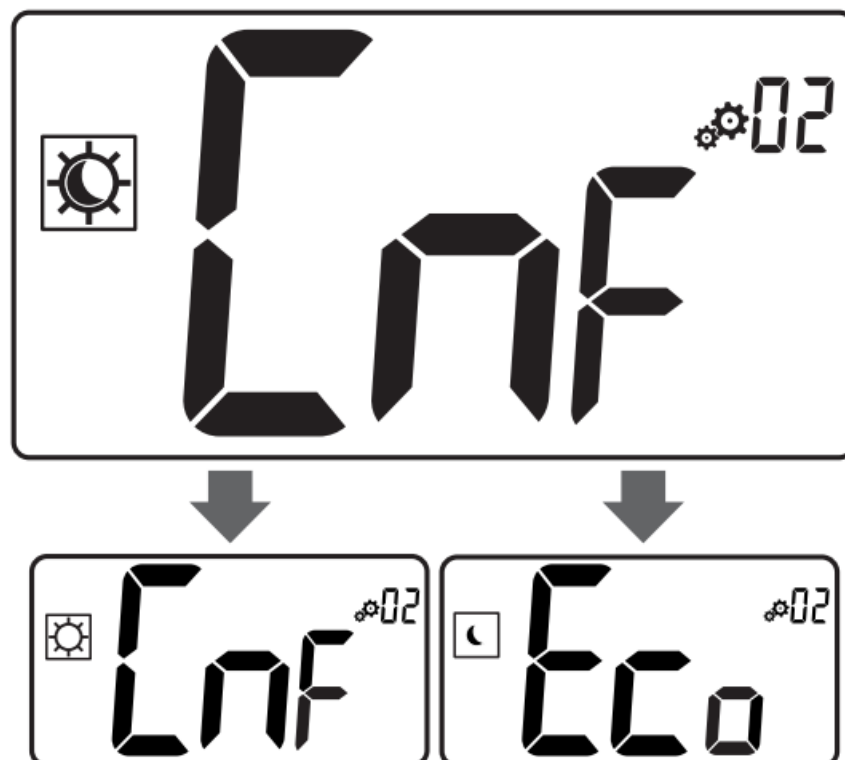


Values: Hot/CLd

Value/ Description

- **Hot:** Heating mode (default)
- **CLd:** Cooling mode

Comfort/ECO modes



Values: Comfort/ECO modes

value/ Description

- **CmF:** Comfort mode (default)
- **Eco:** ECO mode

Comfort mode

- **Setpoint setting /Step/ Temperature range**
 - 21 °C /0,5 °C/ 5,0 °C to 35 °C

If no limitation is defined, please see the settings menu

ECO mode

- **Setpoint setting/ Step /Temperature range**
 - 17 °C /0,5 °C /5,0 °C to 31 °C

If no limitation is defined, please see the settings menu

ECO mode setback temperature



Description /Value

- **Default value:** 4 °C
- **Step:** 0,5 °C
- **Values:** 0 °C to 11 °C

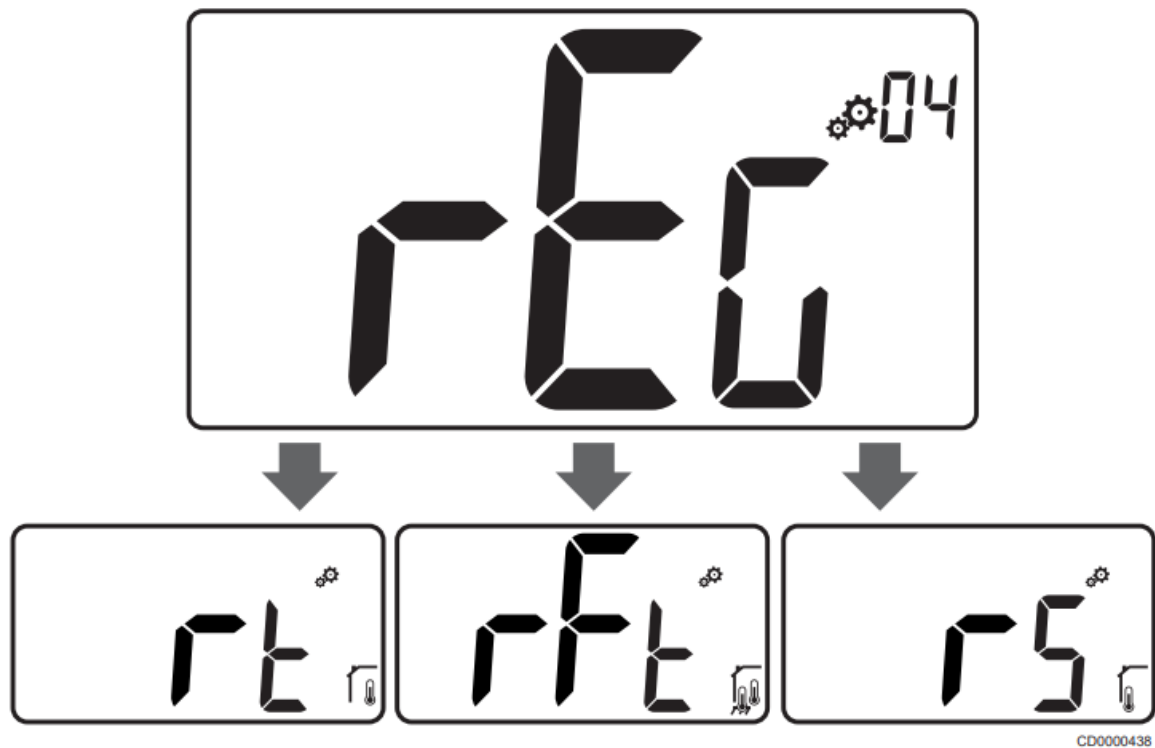
Calculation of ECO setpoint temperature

When the mode is changed from Comfort to ECO, the value displayed as setpoint temperature is:

- Comfort setpoint – ECO setback (in heating)
or
- Comfort setpoint + ECO setback (in cooling)




When the mode is changed from ECO to Comfort, the value shown as setpoint temperature is only the setpoint.

Regulation selection



Description /Value

- **Default value/** rt
- **Values** /rt/rFt/rS

Mode	Icon	Sensor	Description
rt		Internal	Indoor temperature The room temperature is measured with the internal sensor in the thermostat
rFt		Internal & external	Indoor temperature with floor temperature limitation The room temperature is measured with the internal sensor in the thermostat, and the floor temperature with external sensor Press the key O (OK) to switch between room temperature and floor temperature
rS		External	Remote sensor temperature The room or floor temperature is measured with an external sensor

High limitation of floor temperature

Note: This value is displayed only when the setting “rEG” is set on “rFt”.



Description/ Value

- **Default value/** 26 °C
- **Step/** 0,5 °C
- **Values/** 20 °C (or “FL.L”) to 35 °C

Low limitation of floor temperature

- **Note** :This value is displayed and set only if the parameter “rEG” is set on “rFt”.

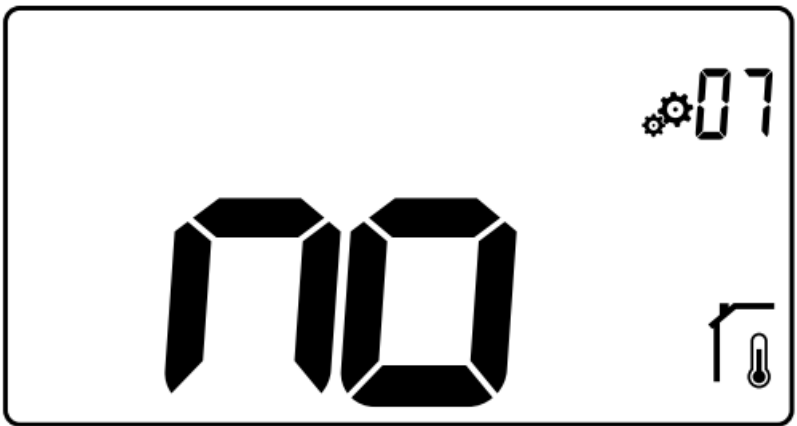


Description Value

- **Default value**/ 20 °C
- **Step**/ 0,5 °C
- **Values** /10 °C to 30 °C (or “FL.H”)

Calibration of internal room sensor

- **Note:** This menu is only displayed if the parameter “rEG” is set with “rt” or “rFt”.
- **Note** :If the keys — and + are pressed simultaneously, the sensor calibration is reset. “no” is displayed



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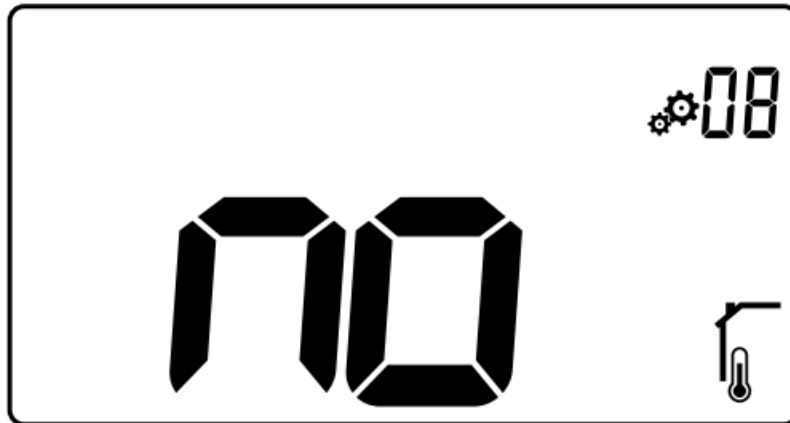
Description	Value
Default value	No (0,0 °C)
Step	0,1 °C
Values	-3,0 °C to 3,0 °C

The indicator says “no” (correction value is zero) when the calibration mode is entered for the first time. This means no calibration has been performed yet. Enter the reading on the thermometer using the keys — and + (step of 0,1 °C).

The setting is validated with key O (OK).

Calibration of external room sensor

- **Note:** This menu is only displayed if the parameter “rEG” is set with “rS” or “rFt”.
- **Note:** If the keys — and + are pressed simultaneously, the sensor calibration is reset. “no” is displayed



Description/ Value

- **Default value/** No (0,0 °C)
- **Step/** 0,1 °C
- **Values/** -3,0 °C to 3,0 °C

The indicator says “no” (correction value is zero) when the calibration mode is entered for the first time. This means no calibration has been performed yet.

Enter the reading on the thermometer using the keys — and + (step of 0,1 °C).

The setting is validated with key O (OK).

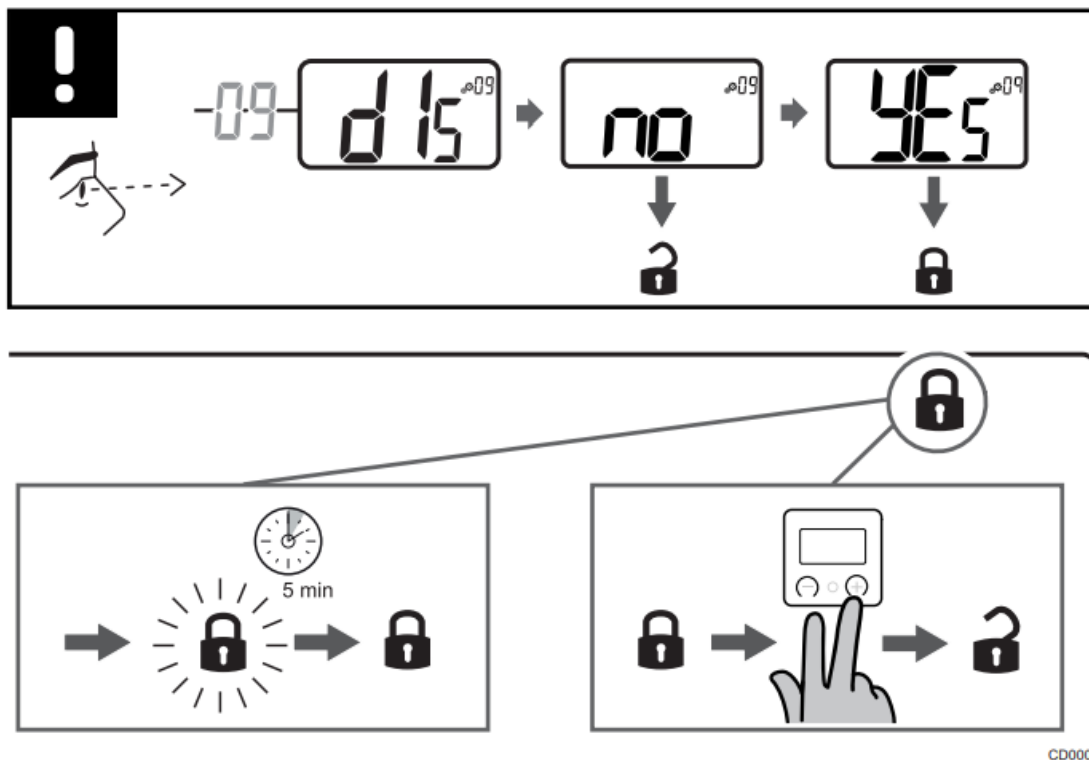
Lock keys and display function



Value /Description

- **Yes/** Activate the lock display and keys
- **No /**Deactivate the lock display and keys

The “lock keys and display function” is used to lock the thermostat keys and LCD display.



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Lock keys and display

Follow the instructions below to activate the lock function of the thermostat display and keys:

1. Press the key O (OK) for 3 seconds
2. Scroll up in the menu with the key + to 09 dls
3. Select the desired menu by pressing the key O (OK)
4. Change the displayed value “no” to “Yes” with the key +
5. Press the key O (OK) to confirm the settings
6. Press the key O (OK) for 3 seconds to return to the current mode
7. The lock icon on the display starts flashing
8. After 5 minutes of inactivity, the lock icon stops flashing and the thermostat is locked

Unlock the keyboard and display

Temporary deactivation of the lock function

Follow the instructions below to temporarily deactivate the lock function of the thermostat display and keys:

1. Press the keys — and + for 5 seconds. The lock icon starts flashing.
2. Make necessary changes in the setpoint, navigate in the settings menu and change parameters.
3. After 5 minutes of inactivity, the thermostat will automatically be locked again.

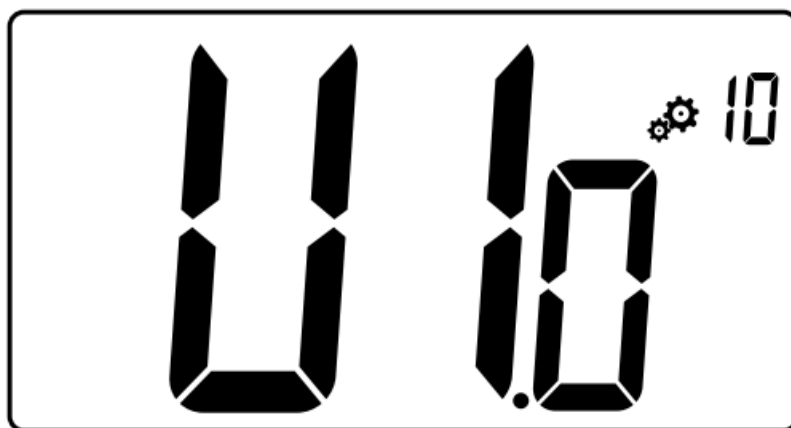
Complete deactivation of the lock function

Follow the instructions below to completely deactivate the lock function of the thermostat display and keys:

1. Press the keys — and + for 5 seconds. The lock icon starts flashing.

2. Press the key O (OK) for 3 seconds
3. Scroll up in the menu with the key + to 09 dls
4. Select the desired menu by pressing the key O (OK)
5. Change the displayed value “Yes” to “No” with the key +
6. Press the key O (OK) to confirm the settings
7. Press the key O (OK) for 3 seconds to return to the current mode
8. The lock icon on the display disappears and the thermostat is unlocked

Software version



Press and hold the key O (OK) to display the software version and debug information.

The software version is written: Vx.x.

Min. value of setting range of the setpoint temperature



Description/ Value

- **Factory settings value/** 5,0 °C
- **Values /**5,0 °C to 15,0 °C

Max. value of setting range of the setpoint temperature



Description/ Value

- **Factory settings value** /30,0 °C
- **Values** /20,0 °C to 37,0 °C

Hysteresis value



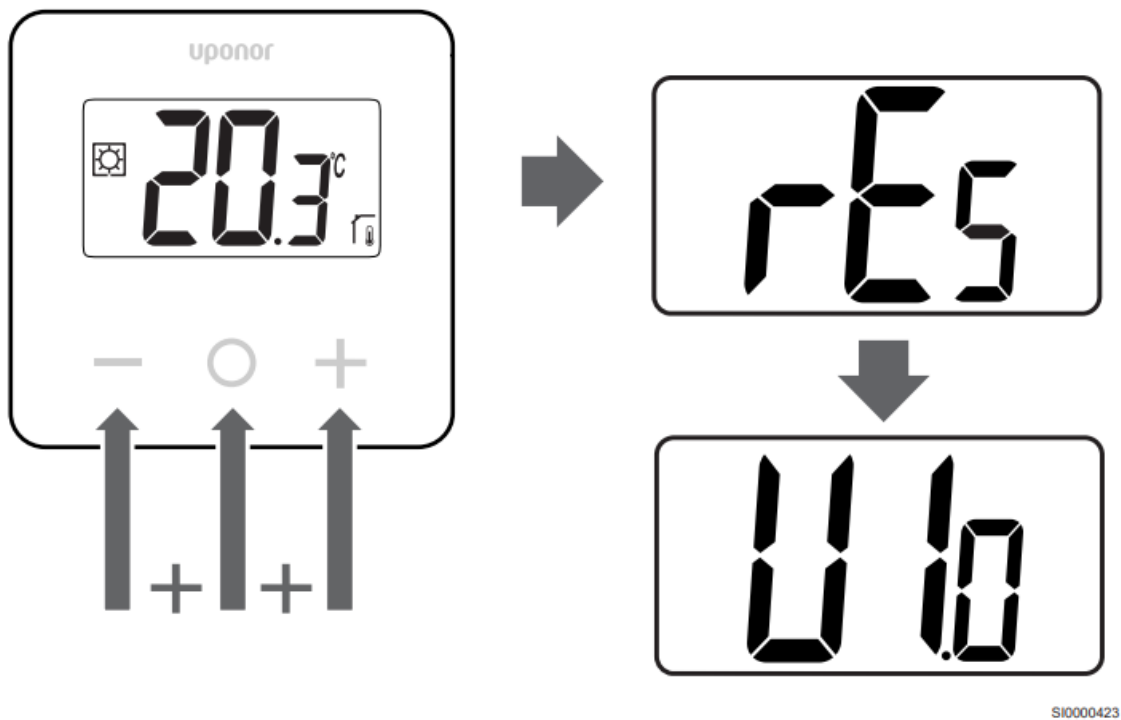
Description Value

- **Default value**/ 0,3 °C
- **Step**/ 0,1 °C
- **Values** /0,2 °C to 3 °C

Follow the instructions below to set the hysteresis value:

1. Use the keys — and + to set the hysteresis value
2. Validate the settings with the key O (OK)

Factory reset



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Follow the below instructions to reset the thermostat (factory reset):

1. Hold all three keys — and O (OK) and + for 10 seconds
2. The thermostat is reset with factoring settings

Troubleshooting

Temperature measurement errors

Note: The error can be identified in the regulation settings (04) for respective sensor mode rS/rt/rFt. The thermostat can fail to measure the temperature due to connection problems with the temperature sensor.

If the selected mode is “rS”, the display shows “Err”.

Change the mode to “rt” to continue working with the internal sensor or replace the external sensor.

Internal sensor (rt)



In “rt” mode, “Err” is displayed and the icon internal sensor is shown.

External sensor (rS)



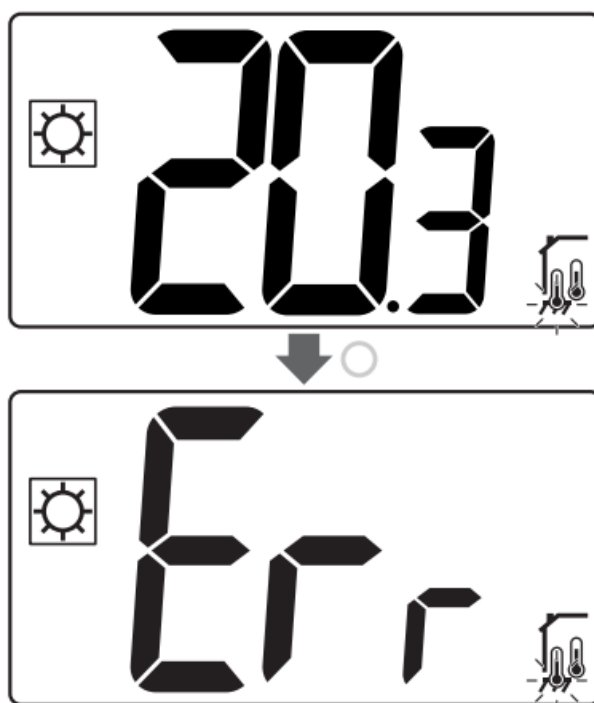
In “rS” mode, “Err” is displayed and the icon external sensor is shown.

Internal and external sensors (RFT) rFt – Internal sensor error



If the internal sensor fails, “Err” and the internal + floor sensor icons are shown.

rFt – External sensor error



If the external (floor) sensor fails, the thermostat carries on to measure the temperature with the internal sensor.

- The icon with internal and floor sensors is shown, but the floor sensor flashes.
- Press the key O (OK) and “Err” is shown instead of the floor temperature, and the floor sensor icon flashes.

Technical data

Description	Value
Product name	Uponor Base thermostat display T-27 230V
IP	IP30 (IP: degree of inaccessibility to active parts of the product and degree of water)
Max. ambient RH (relative humidity)	60 % at 20 °C
Marking	CE, UKCA, EAC
ERP	Class I
Power supply	230 V AC, 50 Hz
Operating temperature	0 °C to +50 °C
Wired control	TRIAC 230 V
Storage temperature	-20 °C to +60 °C
Room temperature sensor (rt)	CTN 10 K at 25 °C
External temperature sensor	CTN 10 K at 25 °C
Thermostat colour	Thermostat body RAL 9016 Transparent front glass

Regulatory conformance

The Uponor Base thermostat display T-27 230V complies with the following directives.

- CE
- UKCA
- EAC

EU/UK Declaration of Conformity



Hereby, Uponor declares that the Uponor Base thermostat display T-27 230V is in compliance with the relevant Community harmonization legislation. 1)

The full text of the EU/UK declaration of conformity is available at the following internet address:

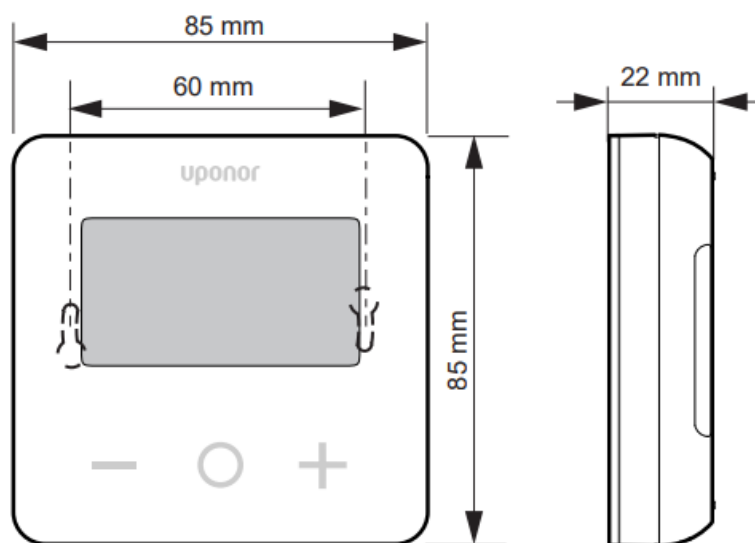
<https://www.uponor.com/doc/1120075>

1) Refer to the related Uponor product for the specified certification and compliance marks.

Additional product information and instructions are delivered with the Uponor product. They are available at the website [www.uponor.com/ services/download-centre](http://www.uponor.com/services/download-centre) and at the national Uponor websites in the local language.

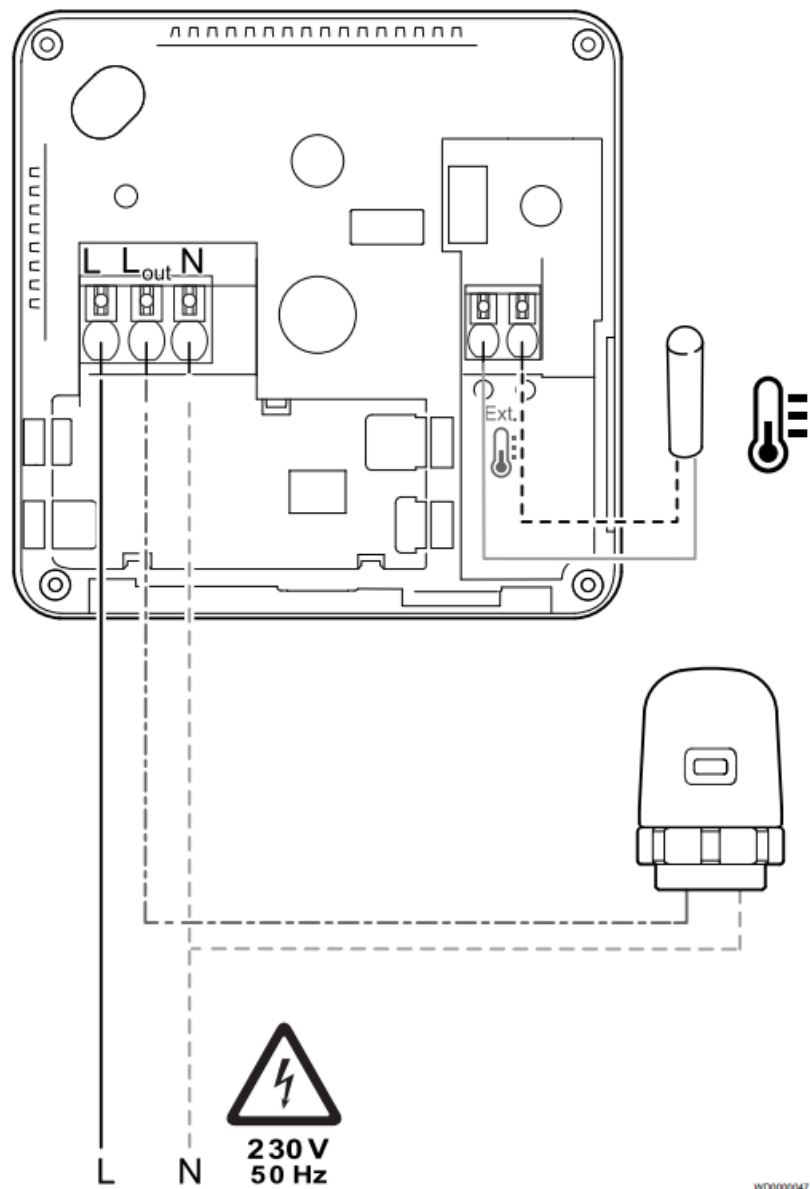


Dimensions



ZD0000060

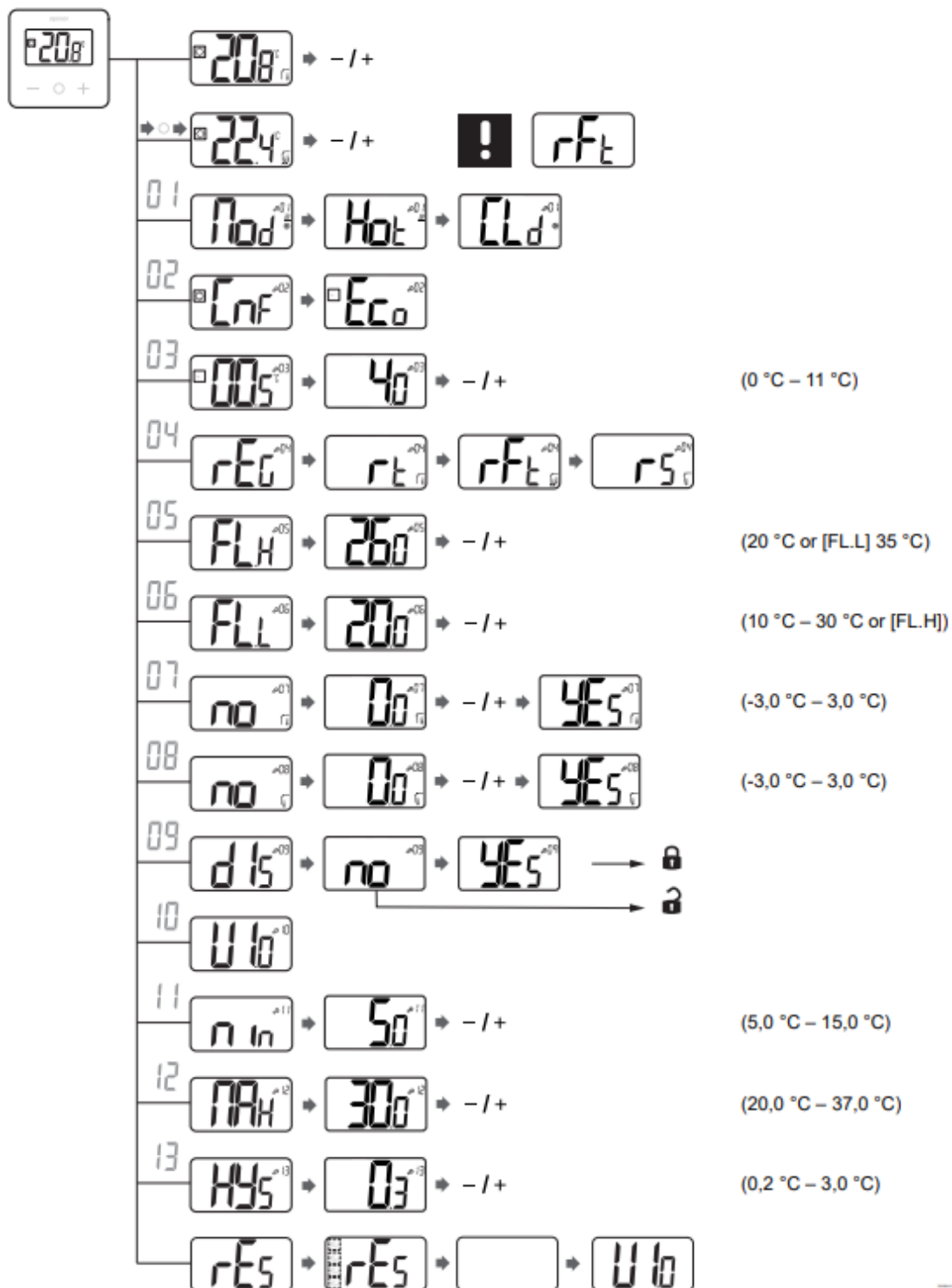
Wiring diagram



Item/ Connection /Description

- A /L /Power
- B /L out /Actuator
- C/ N/ Neutral
- D/ External sensor
- E /External sensor

Menu description



Industriestraße 56,


- D-97437 Hassfurt, Germany
- 1120503 v3_08_2023_EN
- **Production:** Uponor/ELO

Uponor reserves the right to change the product portfolio and the related documentation without prior notification, in line with its policy of continuous improvement and development.



- www.uponor.com

Documents / Resources

 <small>Udonor Base thermostat display T-27 230V</small> <small>Installation and operation manual</small> 	udonor T-27 Base Thermostat Display [pdf] Instruction Manual T-27 Base Thermostat Display, T-27, Base Thermostat Display, Thermostat Display
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References

- [U PEX Products for Residential & Commercial Applications | Udonor](#)
- [U Plumbing, heating and cooling solutions | Udonor](#)
- [U Udonor Base thermostat display T-27 230V RAL9016 | Udonor](#)
- [User Manual](#)

Manuals+, [Privacy Policy](#)

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