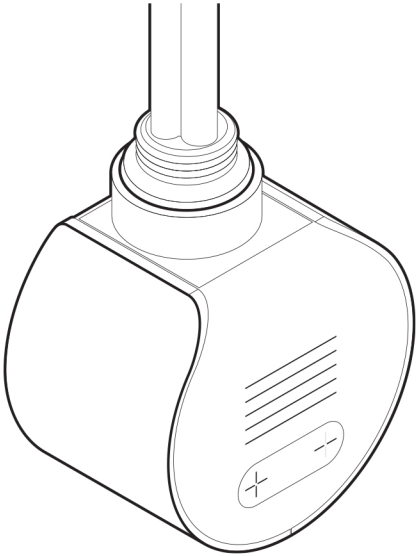
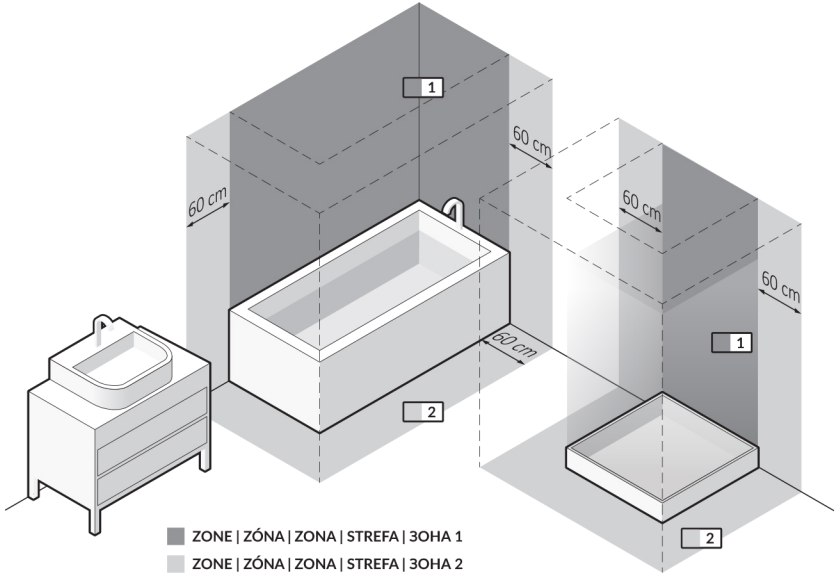


TERMA
SINCE 1990

HEATING ELEMENT
TERMA VEO SMART WI-FI
MANUAL

CNM Online
T: 01977 663331 **E:** cnmservice@cnmonline.co.uk
Unit 2, North Point Business Park, Selby Road, Eggborough, North Yorkshire, DN14 0JT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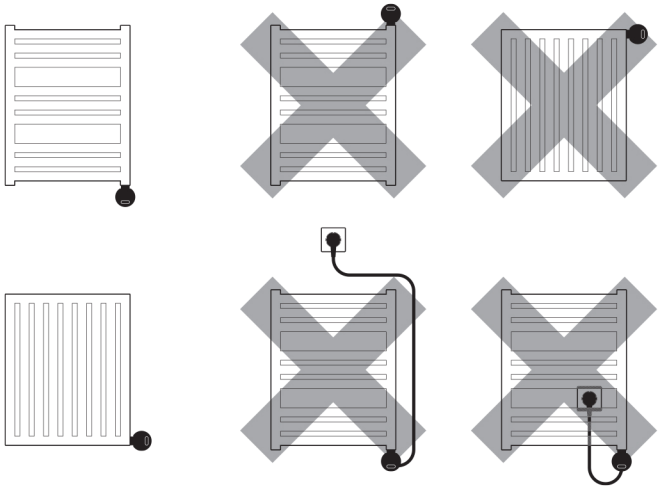

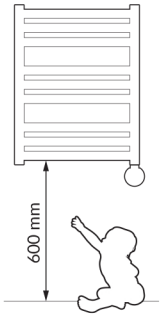
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ELECTRIC RADIATOR
GUIDE TO SAFE INSTALLATION AND USE

1. Electric heater is not a toy. Children under the age of 3 should not be allowed within close proximity of the device without the supervision of an adult.

   Children aged 3 to 8 should only be allowed to operate the heater when it has been properly installed and connected. The child must be under adult supervision or have been trained to safely operate the device while understanding the risks.

2. To ensure the safety of very small children, install the electric dryer so that the lowest tube is at least 600 mm above the floor.

3. Do not install the heater under an electrical socket point.

4. Your electric heater should be filled with a carefully measured amount of liquid. In the case of loss of heating medium, or in any other case which demands its supplementation, contact your supplier.

5. The device should only be installed by a qualified installer in accordance with the applicable regulations regarding safety and all other regulations.

6. All installations to which the device is connected should comply with regulations applicable in the country of installation and use.

7. Extension leads or electric plug adapters should not be used in order to supply power to the heater.

8. The electric installation to which the heater is connected should have the right current differential and overcurrent relay (R.C.D.) of 30 mA. With the permanent installation (cable connection without plug) it is also mandatory to have an omni-pole cut-out for disconnecting the device on all poles, by points of contact with the clearance of 3 mm.

9. The device version labelled PB or MS can be installed in bathrooms in zone 1, as defined by applicable law, subject to any additional regulations concerning electrical installations in wet areas. Other versions of the device can be installed in Zone 2 or beyond.

10. Ensure that the heater has been installed on a wall in accordance with its installation manual.
11. Note: Some parts of the radiator can be very hot and can cause burns. Pay special attention to the presence of children or people with disabilities.
12. When drying fabrics, pay attention to the permissible temperature for them. ATTENTION! Detergent residues may permanently stain the radiator surface, in particular the chrome plating. Such cases are not subject to complaint.
13. The device is recommended for use solely as described in the manual.
14. Please forward this instruction manual to the end user.

ELECTRIC HEATING ELEMENT
SAFETY REQUIREMENTS — INSTALLATION

1. Fitting and connection of the heating element should only be performed by a qualified installer.
2. Connect the unit to a sound electrical installation (see the ratings on the heater).
3. Switching on the heating element in the open air to test the device is permitted for a maximum of 3 seconds.
4. Never test a heating element that is already installed. Do not turn the heating element on in an empty radiator!
5. Ensure that the power cord does not touch the hot parts of the heating element or radiator.
6. Before installing or removing the device, make sure it is disconnected from the power source.
7. Do not open the device — any interference with internal components will invalidate the warranty.
8. The heating element's power output should not exceed the radiators power output for the parameters 75/65/20° C.
9. The pressure in the radiator must not exceed 1 MPa (10 bar). Ensure that an air cushion is preserved in electric radiators. In central heating systems, leave one valve open to prevent pressure build up due to the thermal expansion of the liquid.
10. Fitting and Installation of the device must be carried out in accordance with all local regulations for electrical safety, including installa tion within permissible locations only. Observe bathroom electrical zone regulations.
11. The device is intended for home use only.

SAFETY REQUIREMENTS — USE

1. Ensure that minors aged 8 and above or those with a physical or mental disability are supervised if operating the device.
2. The device is not a toy. Keep it out of the reach of children.
3. Cleaning of the equipment by children under 8 years of age is only permitted under appropriate supervision.
4. The heating element must be fully submerged in the heating liquid during its operation. When operating the heating element in a radiator connected to a central heating system (dual fuel version):
   — bleed the radiator regularly,
   — make sure, that one valve is always open,
   — periodically check the liquid level in the radiator.
5. Regularly check the device for damage to ensure it is safe to use.
6. If the power cord is damaged the device should not be used. Unplug the device and contact the manufacturer or distributor.
7. Do not allow flooding into the heating element casing.
8. Do not use the heating element in heating systems where the water temperature exceeds 82° C (class I only).
9. The heating element and radiator can heat up to high temperatures. Please be cautious — avoid direct contact with the hot parts of the equipment.
10. Do not open the heating element casing.
11. The device must be disconnected from the mains during cleaning and maintenance.

INTENDED USE OF DEVICE

The heating element is an electric device intended solely for installation in radiators (standalone or connected to the central heating system).

Heating element power output should be matched with radiator output for parameters of 75/65/20° C.

INSTALLATION OR REMOVAL

Detailed information demonstrating the different ways of installing or removing a radiator heating element is available from the manufacturer or importer (see footnotes at the end of the manual). Below we list some basic requirements and principles which must be followed to ensure long term, reliable operation of the product.

TECHNICAL INFORMATION

Model markings (power connection type)	PB (Straight cable without plug)* PW (Straight cable with plug) SW (Spiral cable with plug) MS (screw connection + on/off switch)*
Power supply	230 V / 50 Hz
Appliance class	Class I / Class II (**)
Towel rail connection thread	G 1/2"
IP code***	IPx5
WiFi	2,4 GHz 802.11 b/g/n

Heat outputs available (**)

Class I	power [W]	120	200	300	400	–	600	800	1000	1200	1500	1800	2000
	length [mm]	325	285	310	345	–	375	485	575	670	860	1025	1130
Class II	power [W]	100	200	300	400	500	600	800	1000	1200	1500	1800	2000
	length [mm]	165	220	260	350	350	465	600	670	670	670	670	670

* device intended to be connected permanently to the system

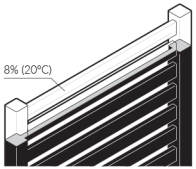
** details on the rating label of the device

*** degree of protection provided by enclosure

BEFORE INSTALLATION OR FIRST USE:

APPLIES TO CLASS I AND CLASS II DEVICES

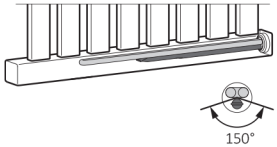
1. Read the chapter: ***Safety requirements — Installation.***
2. Fit the heating element using the correct spanner (size 24).
3. The heating element must be installed at the bottom of the radiator, perpendicular to the radiator pipes, while preserving space for the proper circulation of the heating medium.
4. Use a suitable heating medium for filling the electric radiator, i.e. (water, special products based on water and glycol for use in central heating systems, or oil which complies with the requirements of the manufacturer of the radiator and heating element).



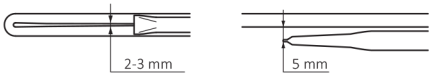
5. Make sure an adequate air cushion is present to protect against excessive pressure build up within the electric only radiator (or leave one of the radiator valves open in central heating system).
6. Follow the subsequent guidelines when connecting the electrical installation:
   a. Brown wire — live connection to the circuit (L)
   b. Blue wire — connect to neutral (N)
   c. Yellow & green wire — (tylko w urządzeniach klasy I) — earth connection (PE)
7. Do not switch the heating element on if it is not fully immersed in radiator heating medium (applies also to the first use)!
8. Before filling the radiator with heating medium, ensure that the heating element is fitted properly and that it is water tight.
9. In central heating installation radiator must be fitted with the valves enabling disconnection of the radiator from the rest of the system.
10. For detailed installation hints — see the last pages of this manual.

APPLIES TO CLASS I DEVICES ONLY

11. When the heating element is installed horizontally, it must be rotated to such an extent that the single tube, which houses the temperature sensor, is positioned as low as possible.



12. Check the distances between the individual heating element tubes and bend if necessary.



13. When filling the radiator with hot liquid insure that the liquid temperature does not exceed 65° C.

14. The temperature of the heating agent in the central heating system must not exceed 82° C.

NOTES PRIOR TO REMOVAL

1. Disconnect the device from electric circuit and ensure that the radiator has cooled down before you start disassembling the radiator.
2. Release the screw at the back of the controller casing.
3. Take off the controller from the heating element.
4. Be careful — electric only radiator filled with heating liquid may be very heavy. Ensure all necessary safety measures.
5. For disassembling the heating rod use a spanner no 24.

MAINTENANCE

- Before performing maintenance, always disconnect the device from the mains.
- Periodically check the liquid level in the radiator and keep the heating element completely submerged.
- Clean the product only when dry or with a damp cloth and a little detergent which does not contain solvents and abrasives.

TREATMENT OF ELECTRICAL AND ELECTRONIC EQUIPMENT WASTE:

Pursuant to the regulations in force for used electric and electronic equipment, products marked with the symbol of separate collection cannot be placed with other municipal waste. Due to the content of harmful substances, electronic products not subjected to the selective sorting process may be dangerous to the natural environment and to human health. The correct separate collection of used electrical and electronic equipment prevents negative impacts on the environment.

INFORMATION CONCERNING THE WASTE COLLECTION SYSTEM FOR ELECTRICAL AND ELECTRONIC EQUIPMENT IS AS FOLLOWS:

- A distributor accepts and collects electrical and electronic equipment waste from households free of charge, provided that the equipment is of the same type and performs the same functions as the equipment purchased,
- a collecting operator have the right to refuse to accept the waste equipment if it poses a threat to the health or life of individuals receiving the equipment due to contamination,
- the user of equipment intended for households may hand over the used equipment to:
  - a distributor,
  - a waste processing plant,
  - collecting municipal waste in the commune.

Further information can be found on the government website:
www.hse.gov.uk/waste/waste-electrical.htm

USER MANUAL

TERMA SMART WI-FI SYSTEM AND DEVICES

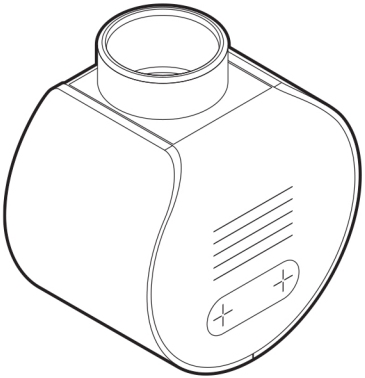
DESCRIPTION OF THE SMART SYSTEM

Terma Smart Wi-Fi is an intelligent heating system, all elements of which communicate using Wi-Fi technology. In addition to the standard operation, i.e. maintaining the set air temperature in the rooms, the user can control the system using the Terma SMART mobile application. Thanks to this application, it is possible to program seven-day schedules, initiate an early start mode, and divide the heated area into heating zones (several other functions are also included).

NOTE: For the initial set-up and registration of the devices, a router with Internet access is required (provided by the system user). A Wi-Fi router is responsible for delivering a wireless signal to each of the system components. Further information can be found in the chapter — SMART System — information about the system and application, as well as on the website **www.termasmart.com**

Each of the devices can function independently, however, the recommended structure of the system consists of heating zones, e.g. individual rooms in the house, which may include one (as a maximum) VTS temperature sensor per room and any number of other types of devices and sensors. Terma SMART Wi-Fi heating devices will function at an optimum level when connected permanently to a local Wi-Fi network with Internet access. The devices will also function without access to the Internet, or even without a Wi-Fi connection, but in this case the previously loaded schedule will be implemented, and many of the device functions will remain unavailable.

TERMA SMART VEO HEATING ELEMENT



GET IT ON Google Play

Download on the App Store

ACTIVATING THE SMART HEATING ELEMENT

1. Install the SMART application on your mobile device, grant the appropriate approvals relating to the location and operation of the scanner.
2. Create a user account and provide basic details of the newly created 'house'.
3. Prepare a password for the local Wi-Fi network.
4. Turn on the heating element and start PAIRING:

   a. The new device can be started with a short press on either of the + or − buttons on the front panel.

All LED strips will flash three times and the + / − buttons will flash steadily, the device will go into PAIRING MODE for 5 minutes.

   b. If the pairing mode does not start automatically, or if the device is restarted, press both buttons + and − simultaneously and hold them

for approx. 15 seconds (the entire display flashes every 5 seconds, after the third flash, release the buttons.

All LED strips will flash 3 times and the + / – buttons will start flashing steadily, the device will go into PAIRING MODE for 5 minutes.).

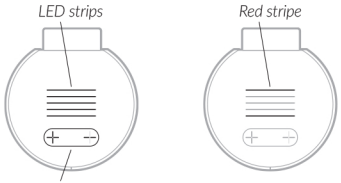
NOTE: from now on, the device broadcasts its network address (signal) and is seen by the SMART application.

c. Launch the SMART application and go to the Devices screen.

d. Select the **+** button and follow the instructions in the application (first scan the code from the sticker on the device (Fig.3) or enter it manually, select the local Wi-Fi network and enter the router password, then from the list of available devices, select the device currently being added).

e. When the automatic part of the process is over, select the appropriate zone in the application (or create a new one) and enter the device name and other data.

HEATING ELEMENT OPERATION VIA THE INTERFACE PANEL



White stripes	5 stripes	26°C
	4 strips	24°C
	3 strips	21°C
	2 strips	18°C
	1 strip	15°C
Red stripe		DRYER function is on

1. To wake up the device from the sleep mode, briefly press any button.
2. To raise or lower the temperature by one step, briefly press **+** or **−** button.
3. To start the DRYER function, press and hold the **+** button — a red stripe will appear on the interface, and the heating element will start to heat at 80% of the rated power for the duration of 1 hour. Then the element will return to the previous settings.
4. To swap the **+** and **−**, buttons, press and hold (> 10 s) the **+** button.
5. Modes and special actions — press and hold both **+** and **−** buttons simultaneously:
   - **a.** for 5 s — the heating element turns off (single flash on the interface);
   - **b.** for 10 s — the heating element will be put to sleep (stand-by mode) (single flash on the interface);
   - **c.** for 15 s — enter pairing mode (AP) all interface will flash 3 times;
   - **d.** for 25 s — restore factory settings and start the pairing mode, the device will flash as it did at set-up;
6. If the heating element's controller panel has been blocked (the PARENTAL CONTROL function in the control application), pressing the **+** key for 5 seconds will release the lock for 1 minute, which will allow you to change the settings manually on the device without the need to use the application (confirmation by flashing interface).

The change made on the device manually is valid until the next automatic temperature change saved in the schedule.

ADDITIONAL COMMENTS ON ADDING DEVICES TO THE TERMA SMART SYSTEM (APPLIES TO ALL SMART DEVICES)

- Adding devices is possible only via the mobile application.
- System changes are sent locally by the router, and to the cloud service by the application.
- In some Android system overlays, during pairing, the phone tries to automatically switch to the remembered Wi-Fi network with Internet access — you must manually confirm the connection with the device's network.
- After adding the heating devices to the system, they **are turned off by default** (they do not heat up, despite the low ambient temperature, the interface bars are not lit, and the remote communication interval is 1 h).
- Heating devices should be added first, followed by the sensors.
- There can be only one temperature and humidity sensor (VTS) in one heating zone.
- The option of 'combine into a set' is available only for the heating element and the thermostatic head installed in the same central heating radiator, and only during the installation of the second device.
- The name of each device must be unique within the system.
- The name of the zone must be unique within the system.

SMART SYSTEM — BASIC INFORMATION ABOUT THE SYSTEM AND THE APPLICATION

HEATING ZONES

In the application, a newly created 'house' should be divided into heating zones (e.g. rooms) to which individual devices are assigned. It is possible to select a schedule and view telemetry data for each zone. The list of all zones is visible to the user in the Zones tab. The view of a single zone contains a set of actions and information available to the user.

The temperature presented in the center of the screen of a single zone is the current measured temperature, while the value at the bottom is the set temperature that depends on the mode in which the system is currently operating:

- if the Vacation mode is active, the Vacation mode temperature is displayed
- if the Smart Location is active, the temperature for the Smart Location is displayed
- if at least one device is in the manual mode, the temperature set for the manual mode is displayed — the icon
- otherwise, the temperature for a given time interval will be displayed according to the schedule — icon

PRINCIPLES OF MEASURING THE TEMPERATURE IN THE ROOM (IN THE ZONE):

- If there is a temperature and humidity sensor (VTS) in a zone, its indications are the basis for the temperature control for all devices in a given zone (recommended configuration);
- If there is no VTS sensor in the zone, the devices will operate based on the average of the sensor readings of each device (or one sensor if one device is in the zone).

A more detailed description of the SMART System can be found on **www.termasmart.com**

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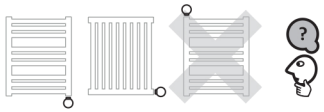

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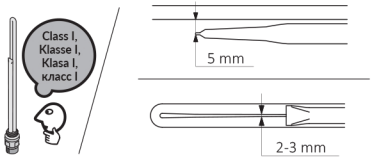
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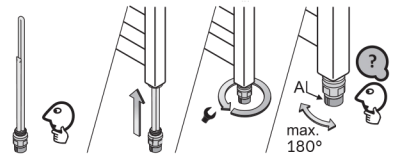
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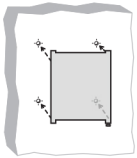

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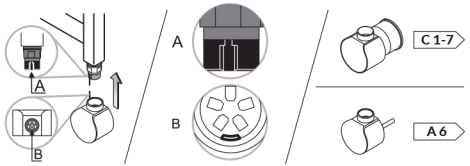
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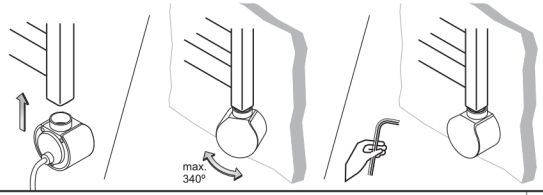

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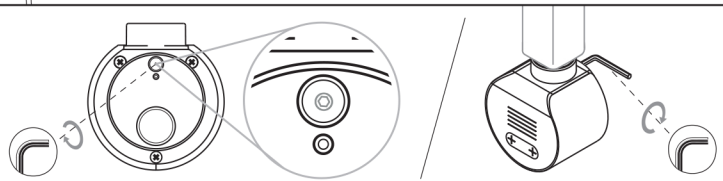

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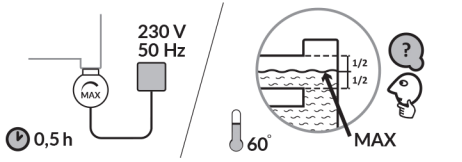

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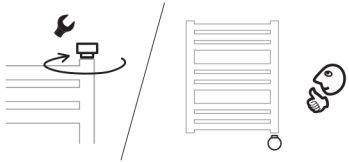

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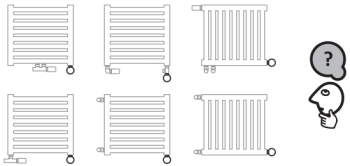
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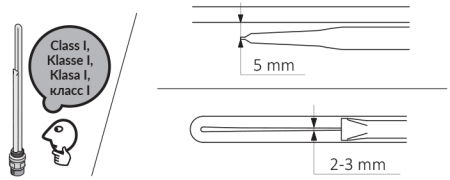
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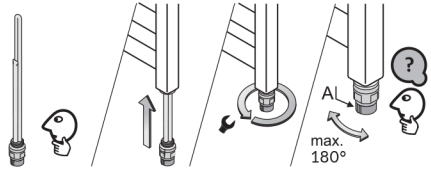
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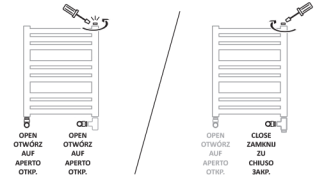
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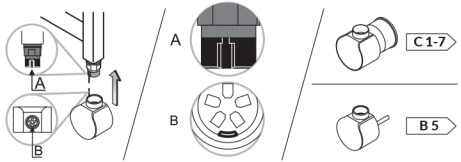
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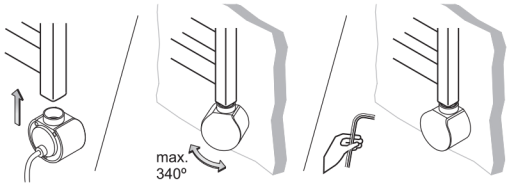

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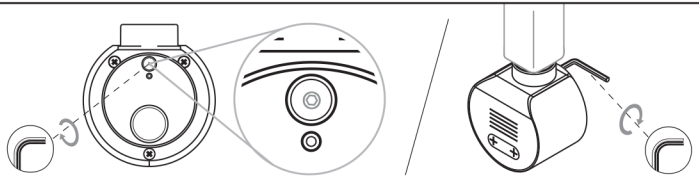

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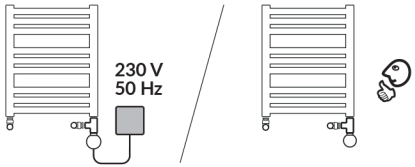

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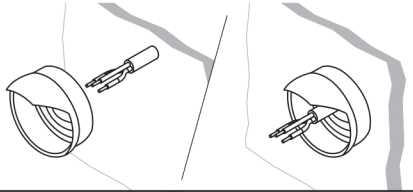

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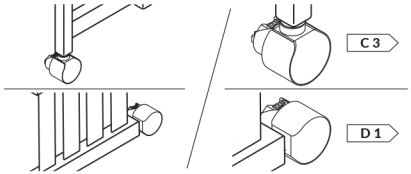

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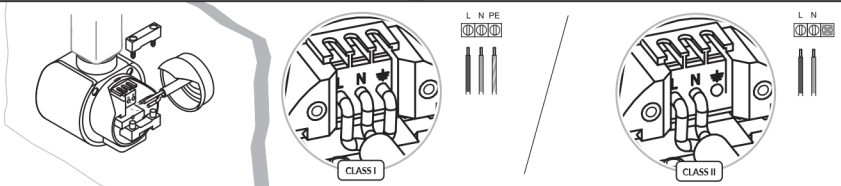

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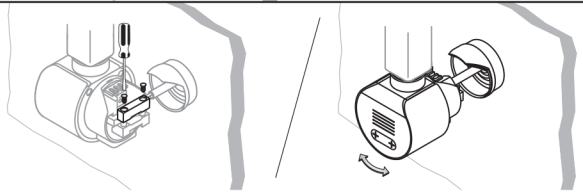

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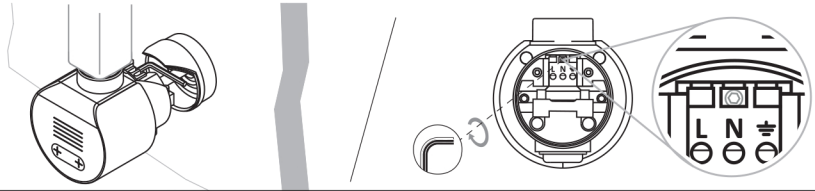

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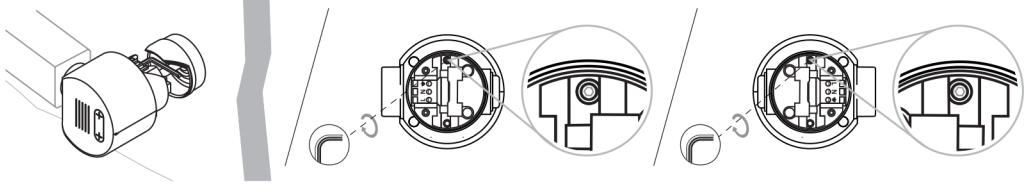

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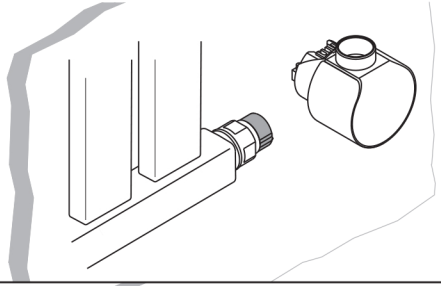

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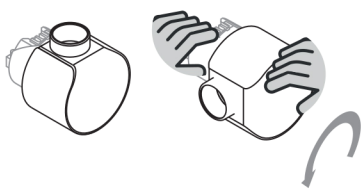

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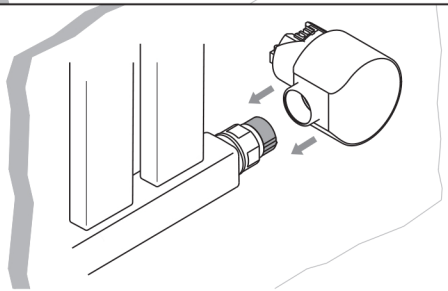

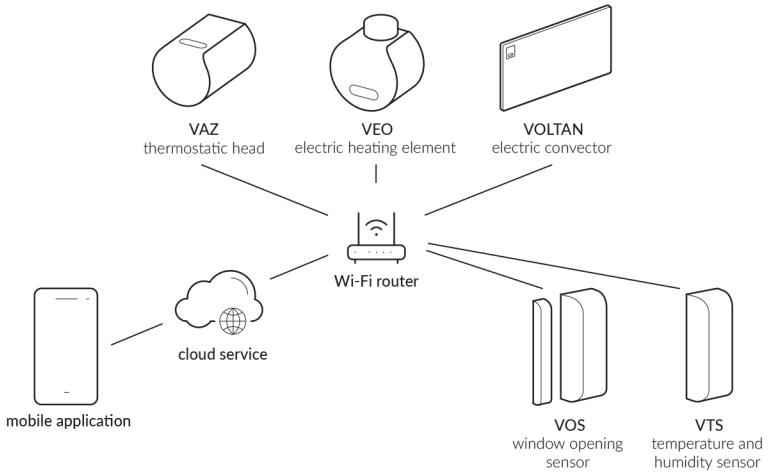
VAZ
thermostatic head
VEO
electric heating element
VOLTAN
electric convector
Wi-Fi router
cloud service
mobile application
VOS
window opening
sensor
VTS
temperature and
humidity sensor