homematic IP

Mounting instruction and operating manual

Radiator Thermostat UK p. 2

HmIP-eTRV-2-UK

Package contents

Quantity	Description
1	Homematic IP Radiator Thermostat UK
3	Adapters Danfoss (RA, RAV and RAVL)
1	Danfoss RAV spigot extension
1	Support ring
1	Nut M4
1	Cylinder head screw M4 x 12 mm
2	1.5 V LR6/mignon/AA batteries
1	Operating manual

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151305 (web)
Version 1.0 (02/2017)

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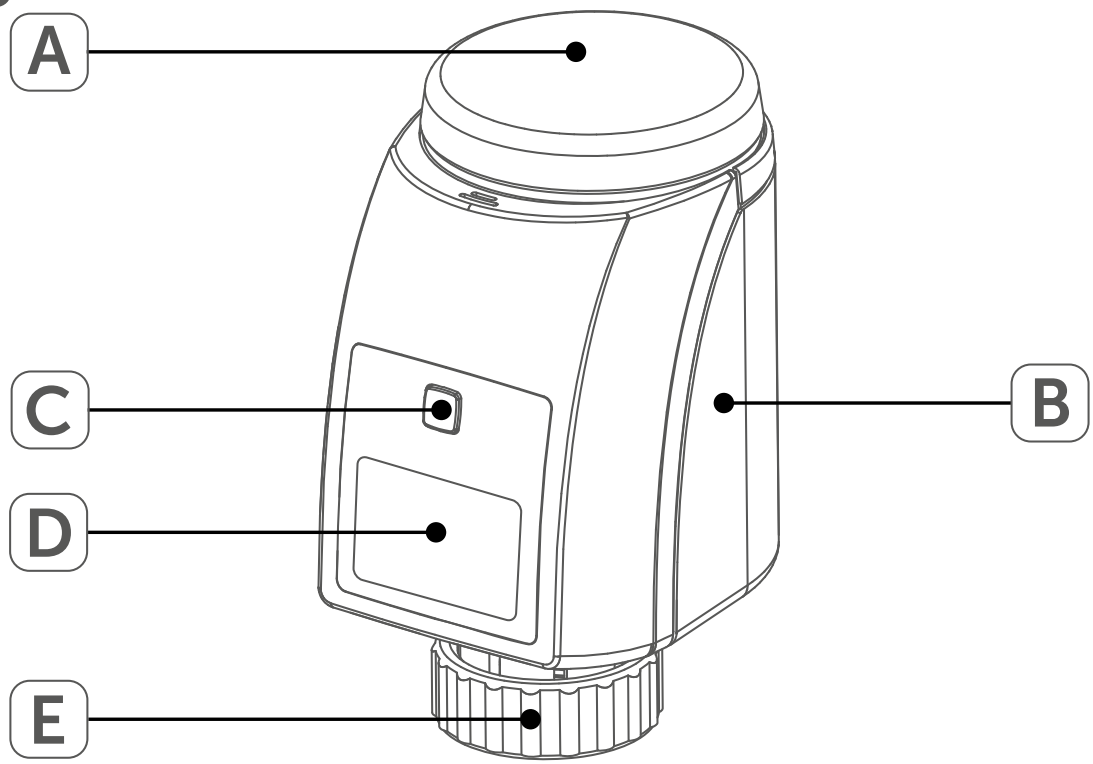

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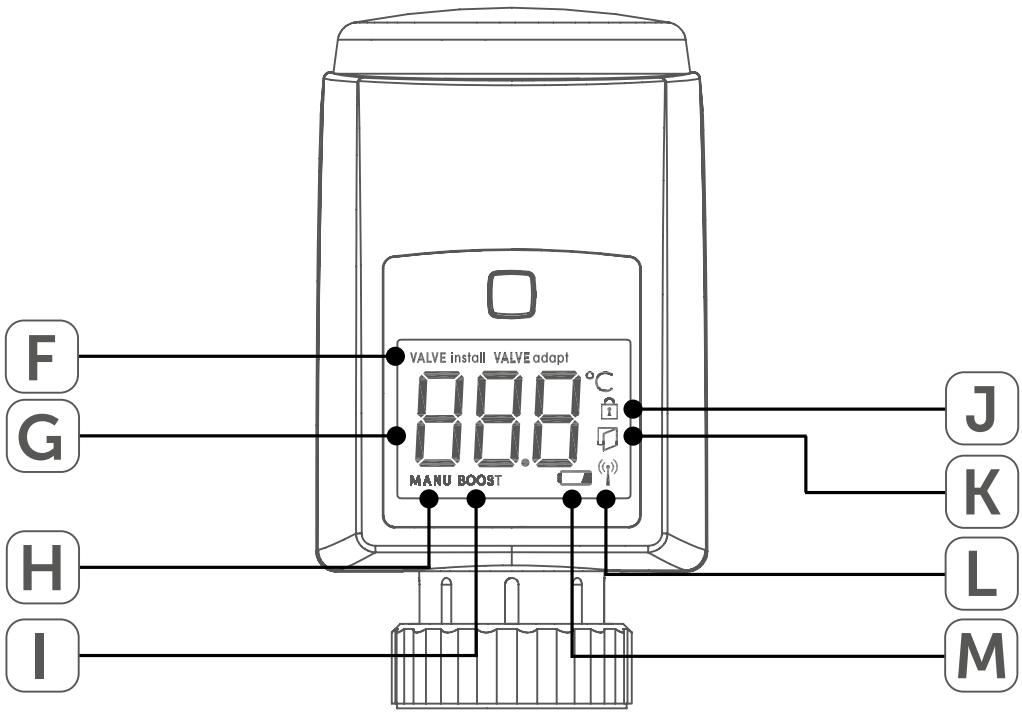

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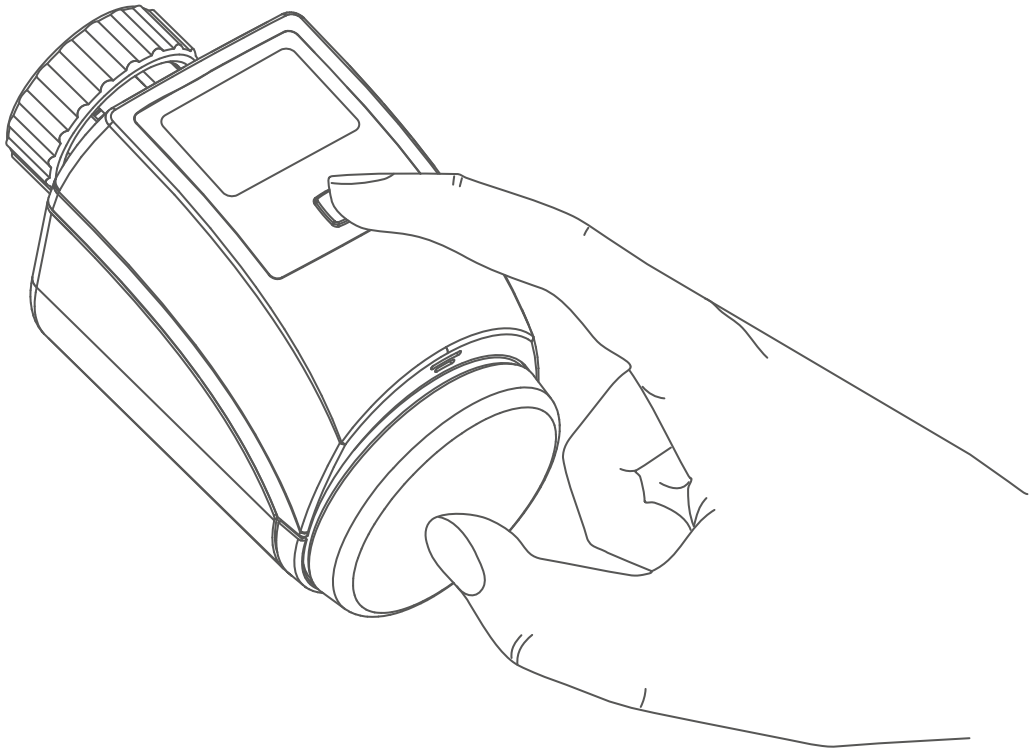

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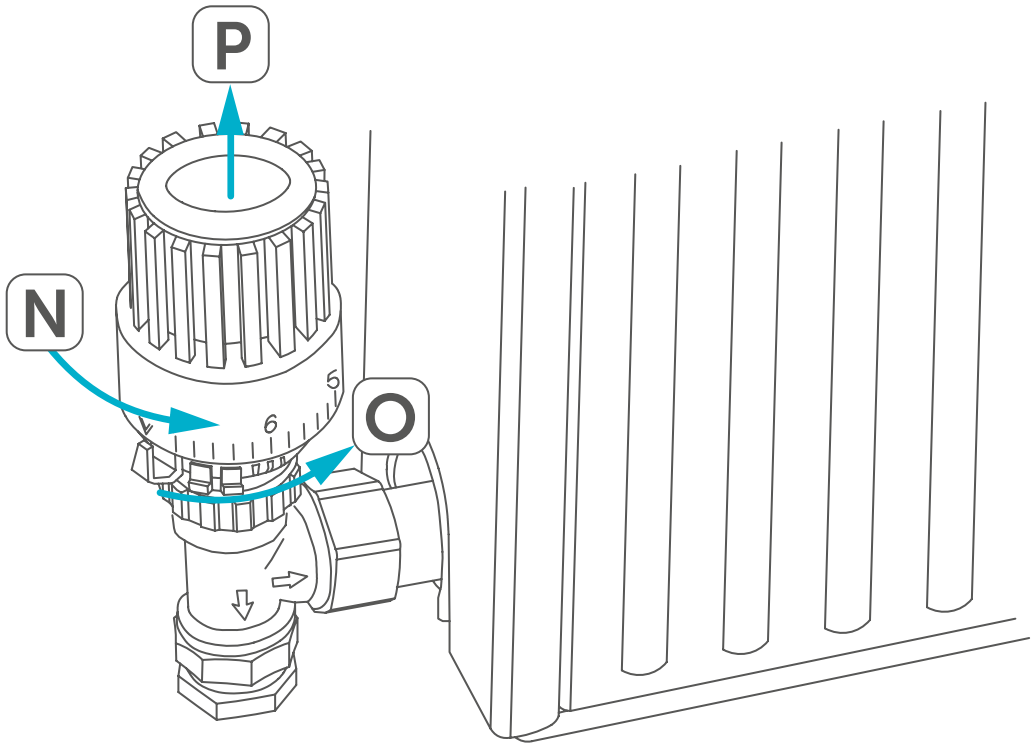

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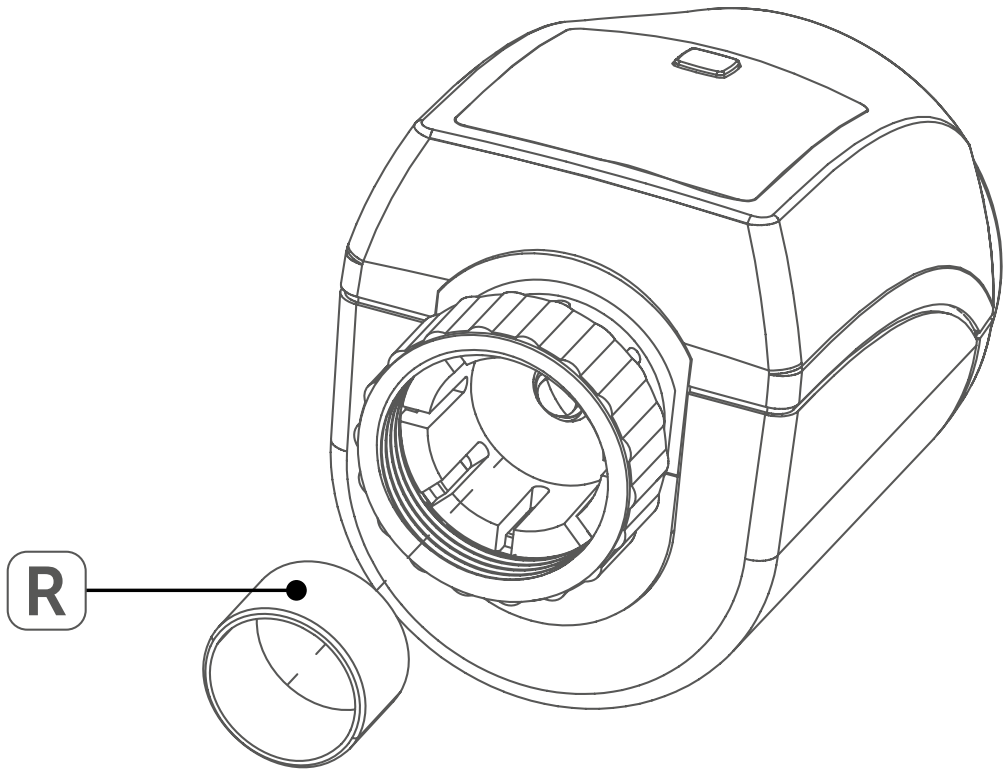

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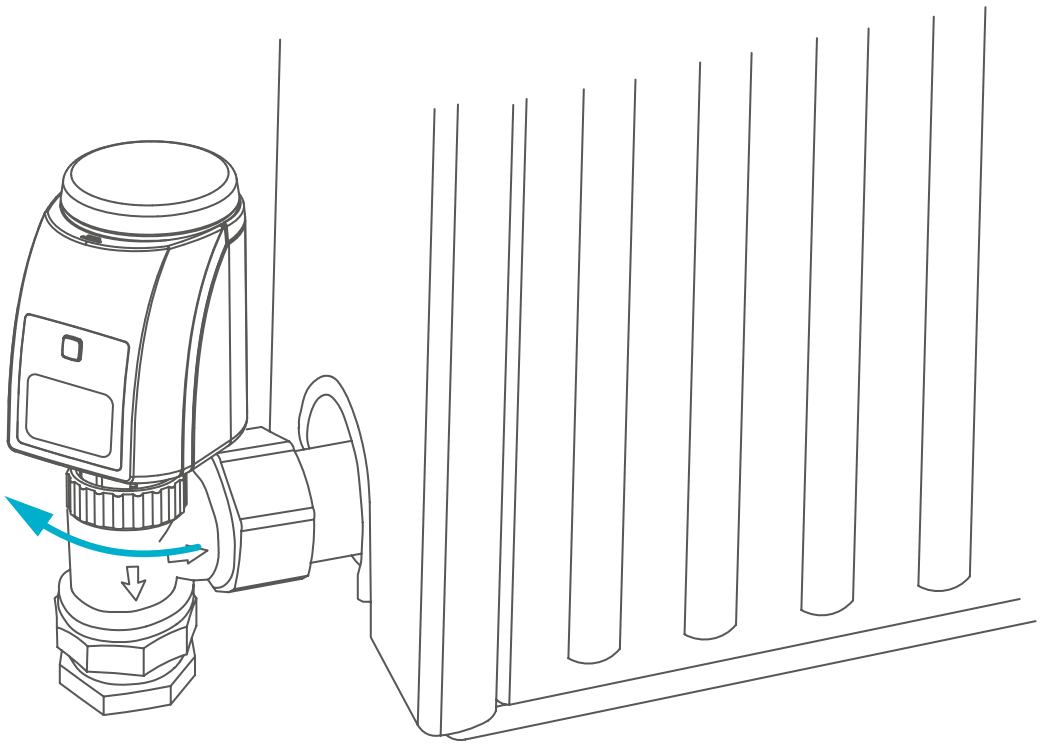

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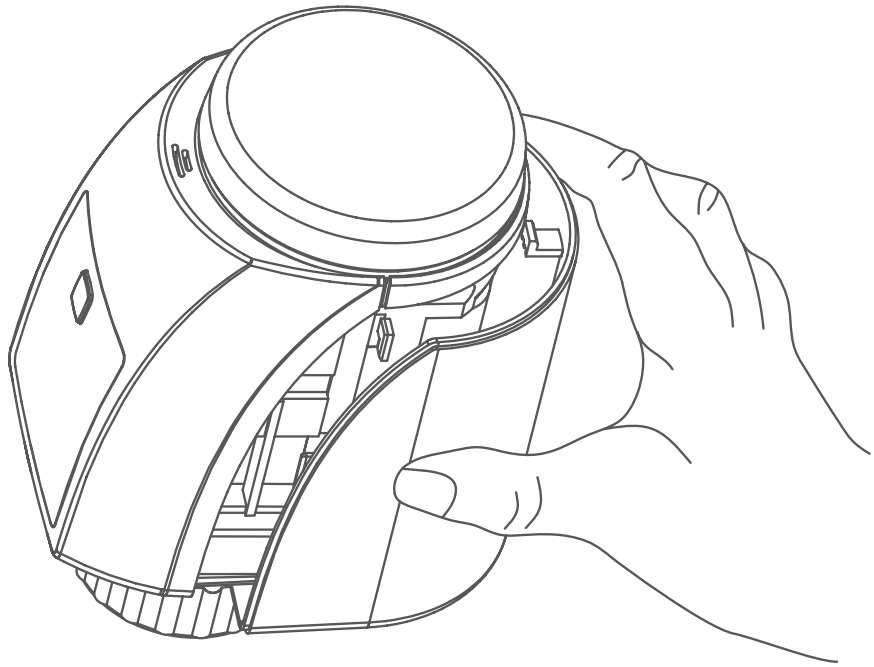

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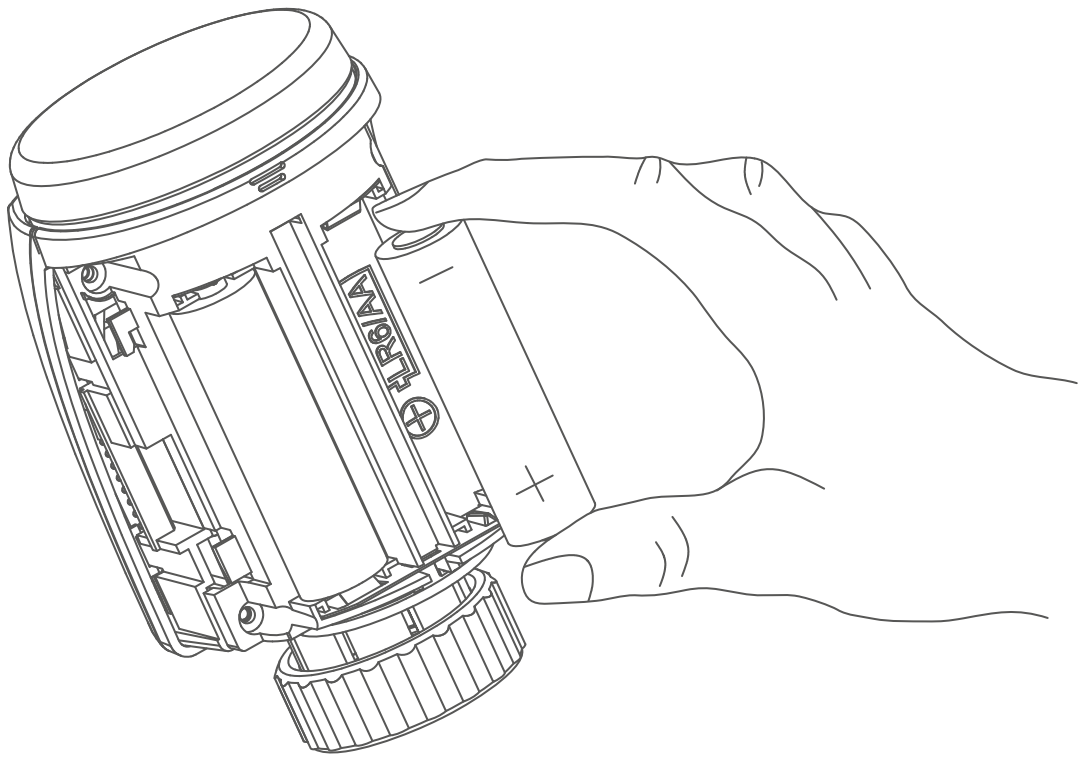

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1 Information about this manual

Please read this manual carefully before beginning operation with your Homematic IP components. Keep the manual so you can refer to it at a later date if you need to. If you hand over the device to other persons for use, please hand over this manual as well.

Symbols used:

Attention!
This indicates a hazard.

Note.
This section contains important additional information!

2 Hazard information

Do not open the device. It does not contain any parts that can be maintained by the user. In the event of an error, please have the device checked by an expert.

For safety and licensing reasons (CE), unauthorized change and/or modification of the device is not permitted.

The device may only be operated in dry and dust-free environment and must be protected from the effects of moisture, vibrations, solar or other methods of heat radiation, cold and mechanical loads.

The device is not a toy; do not allow children to play with it. Do not leave packaging material lying around. Plastic films/bags, pieces of polystyrene, etc. can be dangerous in the hands of a child.

We do not assume any liability for damage to property or personal injury caused by improper use or the failure to observe the hazard information. In such cases any claim under warranty is extinguished! For consequential damages, we assume no liability!

The device may only be operated within residential buildings.

Using the device for any purpose other than that described in this operating manual does not fall within the scope of intended use and shall invalidate any warranty or liability.

3 Function and device overview

With the Homematic IP Radiator Thermostat you can conveniently regulate the room temperature via the Homematic IP smartphone app according to individually tailored heating phases. According to your personal needs, you can create three different heating profiles with up to 6 heating phases per day.

In the climate control solution, the radiator thermostat can simply be connected to the Homematic IP Access Point. In connection with the Homematic IP Window / Door Contact, the temperature is automatically reduced during ventilation. For precise regulation of the room temperature, the Homematic IP Wall Thermostat with Humidity Sensor can measure the actual temperature of a room and transmit the data to the radiator thermostat. This ensures that the temperature is measured at the right place in the room.

The radiator thermostat fits to all common radiator valves and is easy to mount - without having to drain any water or intervene in the heating system. With the additional boost function, cool rooms can be heated within short by opening the heating valve.

Device overview *(see figure 1)*:

(A) Control wheel/boost button
(B) Battery compartment cover
(C) System button (teach-in button and LED)
(D) Display
(E) Metal nut

Display overview *(see figure 2)*:

(F) VALVE install / VALVE adapt Valve information
(G) °C Setpoint temperature
(H) MANU Manual operation
(I) BOOST Boost mode
(J) Operating lock
(K) Open window symbol
(L) Radio transmission
(M) Battery symbol

4 General system information

This device is part of the Homematic IP smart home system and works with the Homematic IP radio protocol. All devices of the system can be configured comfortably and individually with the Homematic IP smartphone app. Alternatively, you can operate the Homematic IP devices via the Homematic Central Control Unit CCU2 or in connection with various partner solutions. The available functions provided by the system in combination with other components are described in the Homematic IP User Guide. All current technical documents and updates are provided at www.eQ-3.de.

5 Start-up

5.1 Teaching-in

Please read this entire section before starting the teach-in procedure.

First set up your Homematic IP Access Point via the Homematic IP app to enable operation of other Homematic IP devices within your system. For further information, please refer to the operating manual of the Access Point.

To integrate the radiator thermostat into your system and enable it to communicate with other Homematic IP devices, you must teach-in the device to your Homematic IP Access Point first.

To teach-in the radiator thermostat, please proceed as follows:

- Open the Homematic IP app on your smartphone.
- Select the menu item **“Teach-in device”**.
- Remove the insulation strip from the battery compartment **(B)** of the radiator thermostat. Teach-in mode remains activated for 3 minutes.

You can manually start the teach-in mode for another 3 minutes by pressing the system button **(C)** shortly *(see figure 3)*.

- Your device will automatically appear in the Homematic IP app.
- To confirm, please enter the last four digits of the device number (SGTIN) in your app or scan the QR code. Therefore, please see the sticker supplied or attached to the device.
- Please wait until teach-in is completed.
- If teaching-in was successful, the LED lights up green. The device is now ready for use.

If the LED lights up red, please try again.

- Please select, in which application (e.g. climate control) you would like to use the device.
- Allocate the device to a room and give the device a name.

5.2 Mounting

Please read this entire section before starting to mount the device.

The Homematic IP Radiator Thermostat is easy to install, and can be done without draining heating water or intervening in the heating system. No special tools are required, nor does the heating have to be switched off.

The metal nut (**E**) attached to the radiator thermostat can be used universally and without accessories for all valves with a thread size of M30 x 1.5 from the most popular manufacturers such as

- Heimeier
- MNG
- Junkers
- Landis&Gyr (Duodyr)
- Honeywell-Braukmann
- Oventrop
- Schlösser
- Comap

- Valf Sanayii
- Mertik Maxitrol
- Watts
- Wingenroth (Wiroflex)
- R.B.M
- Tiemme
- Jaga
- Siemens
- Idmar

By means of the adapters in the delivery, the device can also be installed on radiator valves of type Danfoss RA, Danfoss RAV and Danfoss RAVL (see „5.2.2 Adapter for Danfoss“ on page 17).

5.2.1 Mounting the radiator thermostat

In case of visible damage of the existing radiator, valve or heating pipes, please consult a specialist.

Remove the old thermostat dial from your radiator valve.

- Rotate the thermostat dial to the maximum value **(N)** anti-clockwise *(see figure 4)*. The thermostat dial then no longer presses against the valve spindle, making it easier to remove.

There are different ways of fixing the position of the thermostat dial:

- **Union nut:** Unscrew the union nut in an anti-clockwise direction **(O)**. The thermostat head can then be removed **(P)**.
- **Snap-on fastenings:** Thermostat dials that are fastened this way can be detached by turning the fastener/union nut a little bit counter-clockwise **(O)**. The thermostat dial can then be removed **(P)**.
- **Compression fitting:** The thermostat dial is held in place by a mounting ring which is held together with a screw. Loosen this screw and remove the thermostat dial from the valve **(P)**.
- **Threaded connection with set screw:** Loosen the set screw and remove the thermostat dial **(P)**.

After removing the old thermostat dial you can mount the Homematic IP Radiator Thermostat with the metal nut **(E)** to the radiator valve *(see figure 6)*.

If required, you can use one of the supplied adapters for Danfoss valves (see „5.2.2 Adapter for Danfoss“ on page 17) or the supplied support ring (see „5.2.3 Support ring“ on page 21).

5.2.2 Adapter for Danfoss

One of the provided adapters is needed to attach to Danfoss valves. The assignment of the suitable adapter to the relevant valve can be found in the following illustrations.

Please ensure that you do not trap your fingers between the two halves of the adapter!

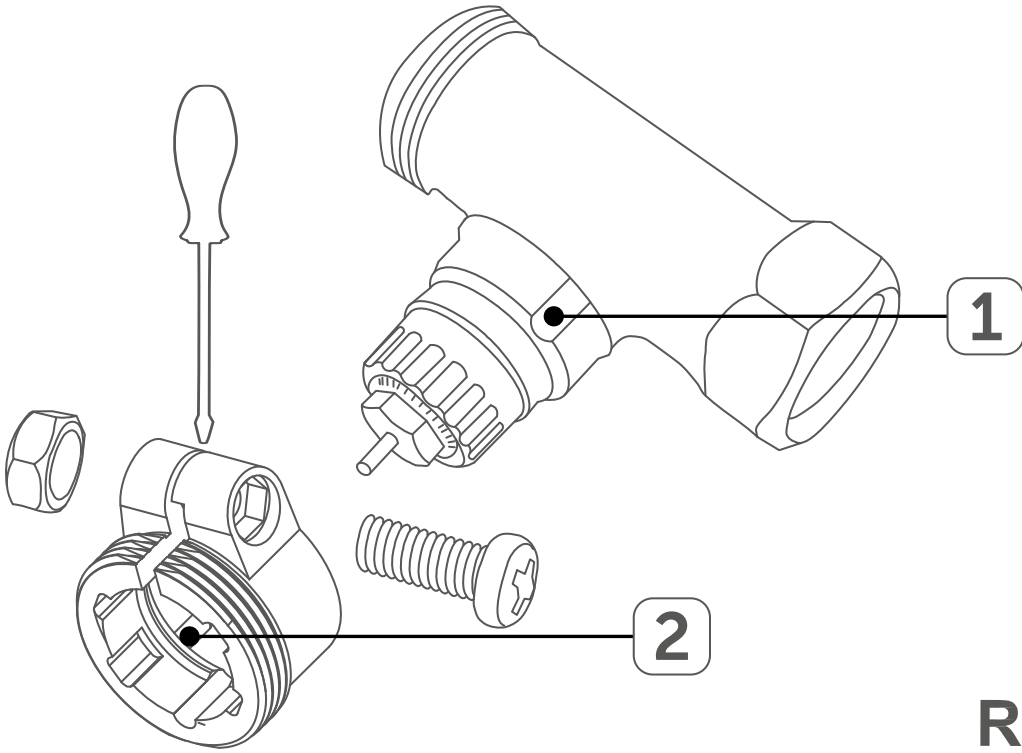
The RA and RAV adapters have been manufactured with pre-tension in order to provide a better seat. Use a screwdriver during installation if necessary, and bend it open slightly in the vicinity of the screw *(see following figures)*.

Danfoss RA

The Danfoss valve bodies have elongated notches **(1)** around their circumference, which also ensure that the adapter is properly seated when it snaps on.

During installation, please ensure that the pins inside the adapter **(2)** are lined up with the notches **(1)** on the valve. Ensure that a suitable adapter for the valve is properly clipped on.

After clipping onto the valve body, please attach the adapter using the provided screw and nut.



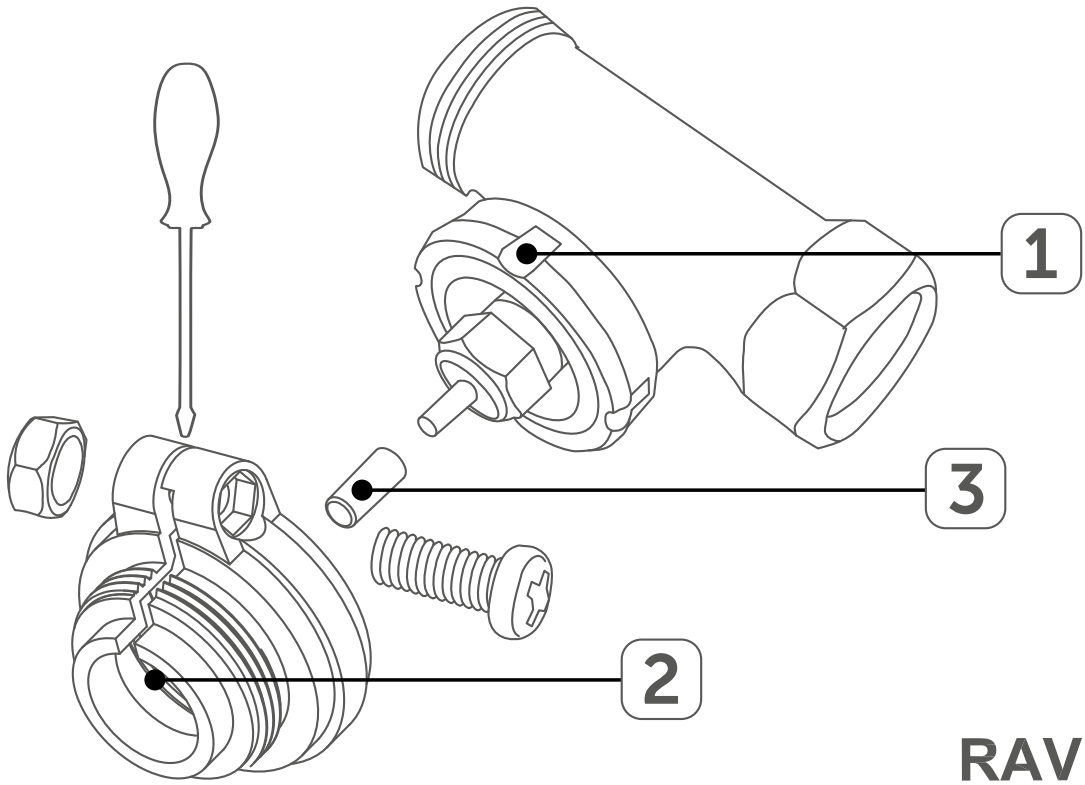
RA

Danfoss RAV

The Danfoss valve bodies have elongated notches **(1)** around their circumference, which also ensure that the adapter is properly seated when it snaps on.

During installation, please ensure that the pins inside the adapter **(2)** are lined up with the notches **(1)** on the valve. Ensure that a suitable adapter for the valve is properly clipped on.

The lifter extension **(3)** must be fitted to the valve pin of RAV valves prior to installation.

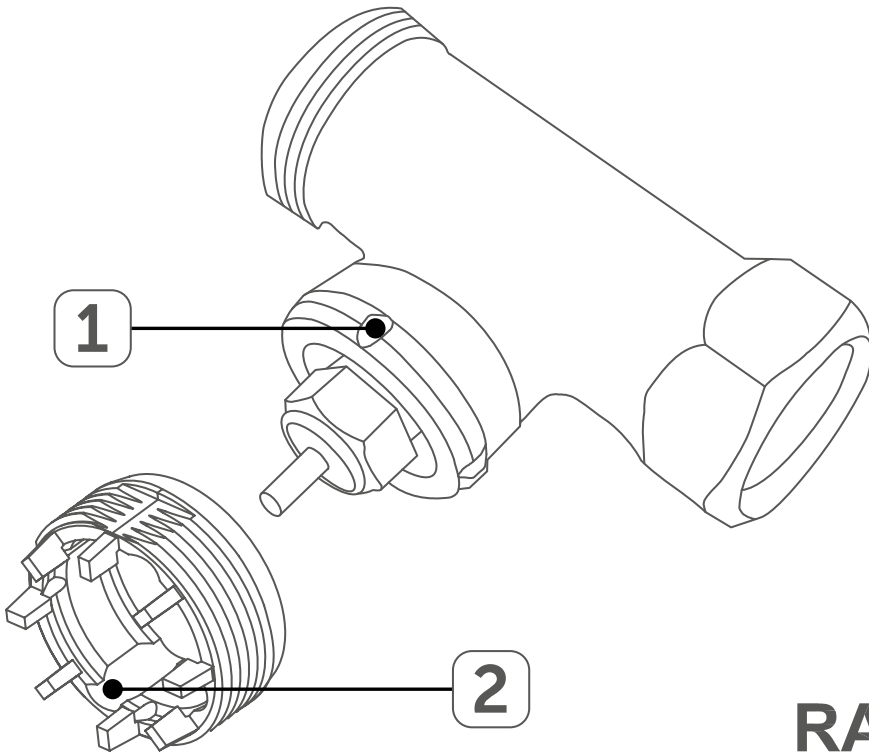


Danfoss RAVL

The Danfoss valve bodies have elongated notches **(1)** around their circumference, which also ensure that the adapter is properly seated when it snaps on.

During installation, please ensure that the pins inside the adapter **(2)** are lined up with the notches **(1)** on the valve. Ensure that a suitable adapter for the valve is properly clipped on.

The adapter RAVL does not have to be screwed.



RAVL

5.2.3 Support ring

The valves from different manufacturers may have tolerance fluctuations that make the radiator thermostat more loosely seated on the valve. In this case, the provided support ring **(R)** should be placed into the flange before mounting the radiator thermostat *(see figure 5)*.

5.3 Adaption run

Once the batteries have been inserted, the motor reserves. Meanwhile, "**VALVE install**" and the activity symbol ( ) are displayed.

After the radiator thermostat has been mounted successfully, an adaption run (**VALVE adapt**) has to be performed in order to adapt the device to the valve. To do this, proceed as follows:

- As soon as "**VALVE adapt**" is displayed, press the control wheel/boost button **(A)** to start the adaption run.

Now the actuator performs an adaption run. "**VALVE adapt**" and the activity symbol ( ) are displayed. During this time, no operation is possible. After the adapting run has been successful, the display returns back to normal.

If the adapter run has been initiated prior to mounting or if an error message (F1, F2, F3) is displayed, press the control wheel/boost button **(A)** and the motor reverses to the "**VALVE install**" position.

6 Operation

After teaching-in and mounting have been performed, simple operations are available directly on the device.

If the radiator thermostat is in standby mode, please press the control wheel **(A)** once before operation to activate the device.

- **Temperature:** Turn the control wheel **(A)** to the right or to the left to manually change the temperature of the radiator. In automatic mode, the manually set temperature will remain the same until the next point at which the profile changes. Afterwards, the defined heating profile will be activated again. During manual operation, the temperature remains activated until the next manual change.
- **Manual and automatic mode:** Press and hold down the control wheel **(A)** to switch between manual and automatic mode. In automatic mode, the defined heating profile of the Homematic IP app is active. In manual operation, the temperature can be set directly on the device or via the app and will remain active until the next manual change.
- **Boost function:** Press the control wheel **(A)** shortly to activate the boost function for heating up the radiator quickly and briefly by opening the

valve. There will be a pleasant room temperature right away because of the radiated heat.

The **operating lock** of the radiator thermostat can be activated and deactivated via the Homematic IP app. Tap on the menu symbol in the top left of the screen of your app and select the menu item “Device overview”. Select your radiator thermostat to switch the operating lock “ON” or “OFF”.

7 Replacing batteries

If the symbol for empty batteries (▭) appears in the display or in the app, please replace the used batteries by two new LR6/mignon/AA batteries. You must observe the correct battery polarity.

To insert the batteries into the radiator thermostat, please proceed as follows:

- Push the battery compartment cover **(B)** to the back and downwards to remove it from the device *(see figure 7).*
- Remove the (old) batteries.
- Insert two new 1.5 V LR6/mignon/AA batteries into the battery compartment, making sure that you insert them the right way round *(see figure 8)*.
- Close the battery compartment **(B)**.
- Please pay attention to the flashing signals of the

device LED while inserting the batteries (see „8.4 Error codes and flashing sequences“ on page 26).

Once the batteries have been inserted, the radiator thermostat will perform a self-test (approx. 2 seconds). Afterwards, initialisation is carried out. The LED test display will indicate that initialisation is complete by lighting up orange and green.

Never recharge standard batteries. Do not throw the batteries into a fire. Do not expose batteries to excessive heat. Do not short-circuit batteries. Doing so will present a risk of explosion.

Used batteries should not be disposed of with regular domestic waste! Instead, take them to your local battery disposal point.

8 Troubleshooting

8.1 Weak batteries

Provided that the voltage value permits it, the radiator thermostat will remain ready for operation also if the battery voltage is low. Depending on the particular load, it may be possible to send transmissions again repeatedly, once the batteries have been allowed a brief recovery period.

If the voltage drops too far during transmission, the empty battery symbol (▭) and the corresponding error code

will be displayed on the device (see „8.4 Error codes and flashing sequences“ on page 26). In this case, replace the empty batteries by two new batteries (see „7 Replacing batteries“ on page 23).

8.2 Command not confirmed

If at least one receiver does not confirm a command, the device LED lights up red at the end of the failed transmission process. The failed transmission may be caused by radio interference (see „11 General information about radio operation“ on page 29). This may be caused be the following:

- Receiver cannot be reached.
- Receiver is unable to execute the command (load failure, mechanical blockade, etc.).
- Receiver is defective.

8.3 Duty cycle

The duty cycle is a legally regulated limit of the transmission time of devices in the 868 MHz range. The aim of this regulation is to safeguard the operation of all devices working in the 868 MHz range.
In the 868 MHz frequency range we use, the maximum transmission time of any device is 1% of an hour (i.e. 36 seconds in an hour). Devices must cease transmission when they reach the 1% limit until this time restriction comes to an end. Homematic IP devices are designed and produced with 100% conformity to this regulation.

During normal operation, the duty cycle is not usually reached. However, repeated and radio-intensive teach-in processes mean that it may be reached in isolated instances during start-up or initial installation of a system. If the duty cycle is exceeded, this is indicated by three slow flashes of the device LED, and may manifest itself in the device temporarily working incorrectly. The device starts working correctly again after a short period (max. 1 hour).

8.4 Error codes and flashing sequences

Flashing code	Meaning	Solution
F1	Valve drive sluggish	Please check whether the valve pin is stuck.
F2	Actuating range too wide	Please check the fastening if the radiator thermostat.
F3	Adjustment range too small	Please check whether the valve pin is stuck.
Battery symbol (▭)	Battery voltage low	Replace the batteries of the device (see „7 Replacing batteries“ on page 23).

Antenna symbol ( ) flashing	Connection to Homematic IP Access Point is lost	Please check the connection to the Homematic IP Access Point.
Lock symbol ( )	Operating lock activated	Deactivate the operating lock via the app.
Short orange flashing	Radio transmission/ Attempting to transmit	Please wait, until transmission has been confirmed.
1x long green lighting	Transmission confirmed	You can continue operation.
1x long red lighting	Duty cycle exceeded or transmission failed	Please try again (see „8.2 Command not confirmed“ on page 25 or „8.3 Duty cycle“ on page 25).
Short orange flashing (every 10 seconds)	Teach-in mode active	Please enter the last four numbers of the device serial number to confirm (see „5.1 Teaching-in“ on page 12).
Short orange lighting (after green or red confirmation)	Batteries empty	Replace the batteries (see „7 Replacing batteries“ on page 23).

6x long red flashing	Device defective	Please see your app for error message or contact your retailer.
1x orange and 1x green lighting (after inserting batteries)	Test display	Once the test display has stopped, you can continue.

9 Restore factory settings

The factory settings of the device can be restored. If you do this, you will lose all your settings.

To restore the factory settings of the radiator thermostat, please proceed as follows:

- Push the battery compartment cover **(B)** to the back and downwards to remove it from the device *(see figure 7).*
- Remove the batteries.
- Insert the batteries ensuring that the polarity is correct *(see figure 8)* while pressing and holding down the system button **(C)** for 4s at the same time, until the LED will quickly start flashing orange *(see figure 3).*
- Release the system button again.
- Press and hold down the system button again for

4s, until the status LED lights up green.
- Release the system button to finish the procedure.

The device will perform a restart.

10 Maintenance and cleaning

The device does not require you to carry out any maintenance other than replacing the battery when necessary. Enlist the help of an expert to carry out any maintenance or repairs.

Clean the device using a soft, lint-free cloth that is clean and dry. You may dampen the cloth a little with lukewarm water in order to remove more stubborn marks. Do not use any detergents containing solvents, as they could corrode the plastic housing and label.

11 General information about radio operation

Radio transmission is performed on a non-exclusive transmission path, which means that there is a possibility of interference occurring.
Interference can also be caused by switching operations, electrical motors or defective electrical devices.

The range of transmission within buildings can differ greatly from that available in the open air. Besides the transmitting power and the reception characteristics of the receiver, environmental factors such as humidity in the vicinity have an important role to play, as do on-site structural/ screening conditions.

Hereby, eQ-3 AG, Maiburger Str. 29, 26789 Leer/Germany declares that the radio equipment type Homematic IP HmIP-eTRV-2-UK is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: www.eq-3.com

12 Technical specifications

Device short description:	HmIP-eTRV-2-UK
Supply voltage:	2x 1.5 V LR6/mignon/AA
Current consumption:	120 mA max.
Battery life:	2 years (typ.)
Degree of protection:	IP20
Degree of pollution:	2
Ambient temperature:	0 to 50 °C
Dimensions (W x H x D):	58 x 71 x 97 mm
Weight:	205 g (incl. batteries)
Radio frequency band:	868.0 - 868.6 MHz

	869.4 - 869.65 MHz
Maximum radiated power:	10 dBm
Receiver category:	SRD category 2
Typ. open area RF range:	300 m
Duty cycle:	< 1 % per h/< 10 % per h
Method of operation:	Type 1
Connection:	M30 x 1.5 mm

Subject to technical changes.

Instructions for disposal

Do not dispose of the device with regular domestic waste! Electronic equipment must be disposed of at local collection points for waste electronic equipment in compliance with the Waste Electrical and Electronic Equipment Directive.

Information about conformity

CE The CE sign is a free trading sign addressed exclusively to the authorities and does not include any warranty of any properties.

For technical support, please contact your retailer.

Free download of the Homematic IP app!

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ANDROID APP ON Google play

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Manufacturer's authorised representative:

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