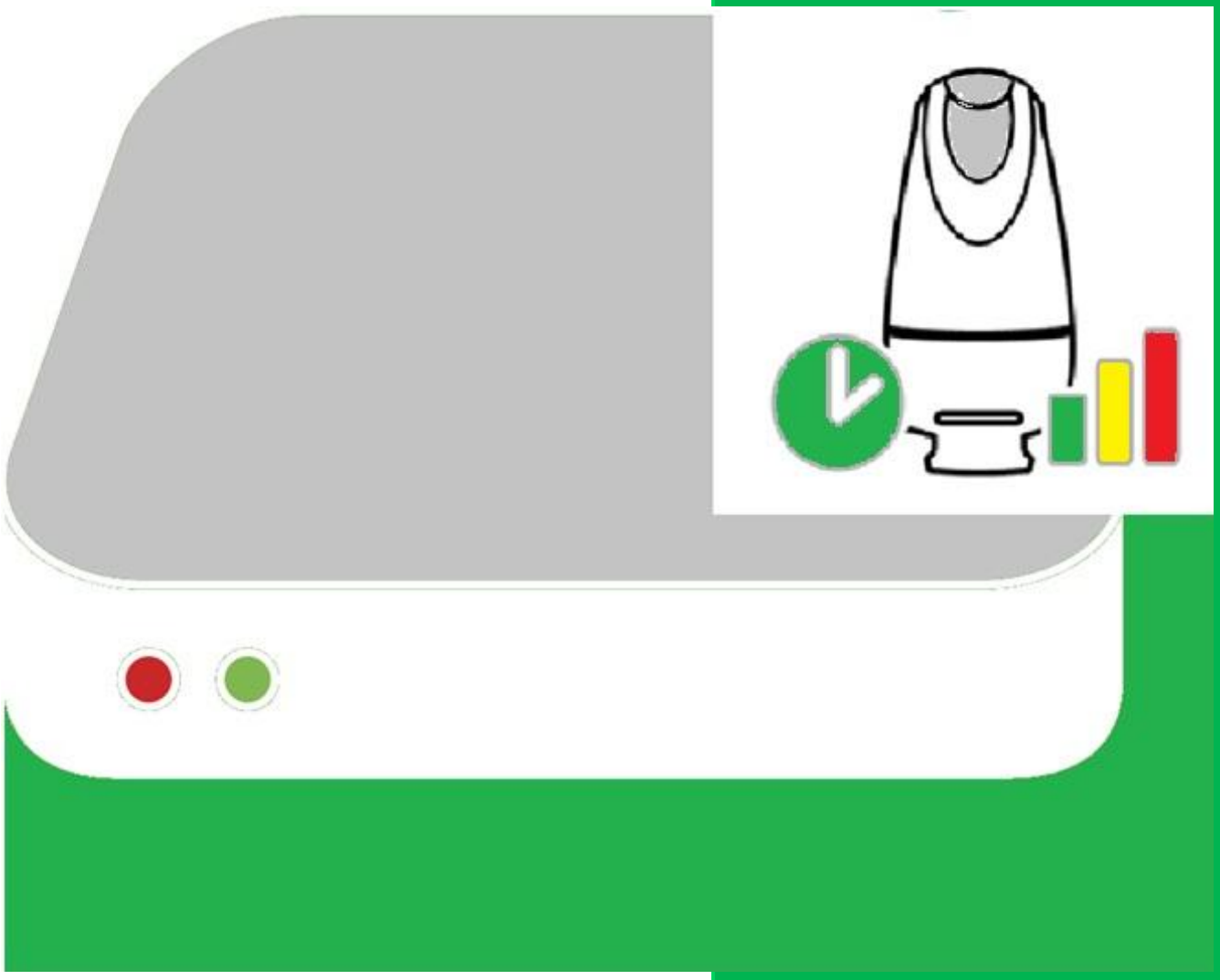
WeTRV and WeHUB
Installation and Setup guide



Chalmor
Experts in Energy Saving
Lighting and Heating

Thank you for buying the WeTRV (wireless electronic thermostatic radiator valve) with the WeHUB for operation over the internet. Please read through this manual before using the product, and follow the instructions in it.

This WeTRV can only be fitted to a radiator that already has a thermostatic radiator valve, as shown opposite. It has been designed to fit most standard radiator valves (as shown on page 7). In this case, the WeTRV is easy to fit and there is no plumbing work involved – you do not need to turn off your water or drain your radiators.

If you have a manual radiator valve, as shown opposite, you will need to have a normal thermostatic radiator valve body fitted first. You may need professional help from a heating engineer or registered plumber.

Please take the time needed to read and understand these instructions. After you have read the manual, store it in a safe place.

2015/07v1

What is a thermostatic radiator valve (TRV)?

TRVs sense the temperature of the air around them and regulate the flow of water through the radiator accordingly. They do not control the boiler.

TRVs should be set at a level that gives you the room temperature you want. These settings may have to be different in each room, and you should set the TRVs to suit each room and then leave them to do their job.

Turning a TRV to a higher setting will not make the room heat up any faster. How quickly the room heats up depends on the boiler and the size and type of radiator. Turning a TRV to a lower setting will result in the room being controlled at a lower temperature, and saves energy.

TRVs need a free flow of air to sense the temperature, so they must not be covered by curtains or blocked by furniture.

TRVs cannot turn off the boiler when the whole house is warm. To do that, your boiler will need to be controlled by a thermostat in a room. The radiator in the room the boiler thermostat is in should not normally have a TRV. If it does, keep the TRV on the maximum setting and adjust the boiler’s thermostat as explained in the instructions for your boiler.

Safety Instructions

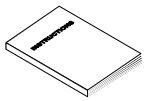
If you do not use the WeTRV or WeHUB correctly, in line with these operating instructions:

- the warranty will end; and
- we will not be liable for any damage or loss whatsoever, including indirect loss, damage to property or personal injury.

- The WeTRV, WeHUB and accessories are not intended for children and must not be used as toys.
- Do not leave packaging material lying around as children might be tempted to play with it, which is extremely dangerous.
- You must only use the product in dry areas indoors, and it must be protected from moisture and water.
- Handle the product with care. It can be damaged through being hit or dropped, even from a low height.
- Do not open the WeTRV or WeHUB as they do not contain any parts that you need to service. If the equipment arrives faulty, return it to where you bought it.

Disposal

The outer box of the packaging is made from 69% recycled material from managed forests and is 100% recyclable.



These instructions are 100% recyclable.

Do not throw this device away with your regular household waste. You must take electronic equipment to a local tip to be disposed of in line with current regulations.

Never try to recharge standard batteries as they may explode.

Do not take batteries apart or throw them into a fire.
Do not short circuit batteries.

Do not put used batteries in your regular household rubbish. Take them to your local battery-disposal point.

If you need this guide in large print, download the instructions from

www.chalmor.co.uk

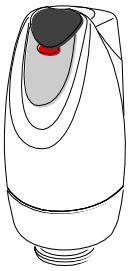
Contents

1 Introduction ▲

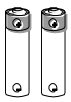
This manual explains how to install, use and maintain the WeHUB, the WeTRV and the setup process. Please keep this manual in a safe place so you can refer to it in the future if you need to.

The packaging should contain the following items and accessories.

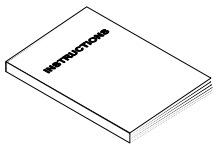
WeTRV parts



WeTRV



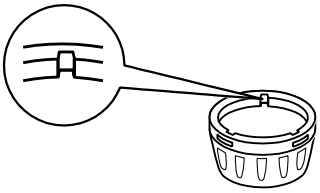
Two AA (LR6) batteries



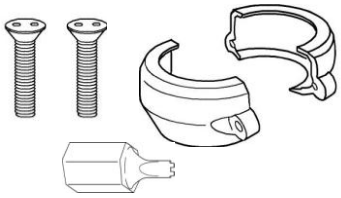
Instructions

Three base-ring pegs (3)

28mm base ring



30mm base ring

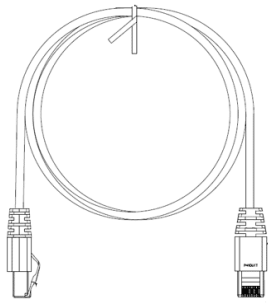


WeTRV security collar and snake eye screws
(if you ordered them)

2mm-thin spacer

3mm-thick spacer

WeHUB
(if you ordered one)



WeControl HUB and Ethernet cable 1.2m

USB 3 pin power supply adapter (230V to 5V) and Micro USB cable 1.0m

You will need:

- a screwdriver
- a PC (desktop or laptop) or mobile device (tablet, smartphone etc) able to connect to the internet at the time of pairing the WeHUB and WeTRVs

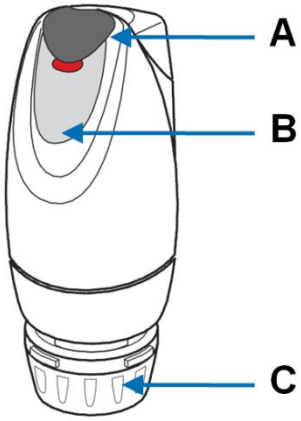
You may need:

- an adjustable spanner or grips (to remove the existing TRV)

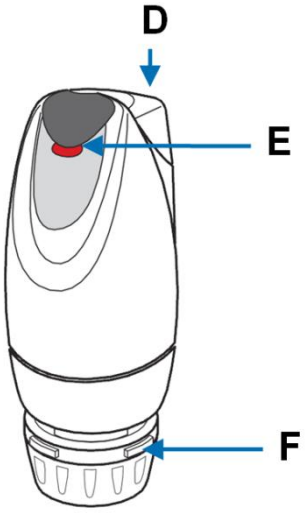
2 General use ▲

Each WeTRV controls a radiator valve to regulate the heating in the room, based on timer programmes, set temperatures and how the room is used. A WeHUB connects using the Ethernet cable to the local area network or router. This allows for operation over the internet, for pairing and setting the WeTRVs. An LED indicator (a red, yellow or green light) allows you to pair each WeTRV easily and to manually boost the heating if required. Using the WeTRV improves your comfort and saves energy, with the convenience of managing on-line using a web enabled device.

A: Micro USB socket
B: LED indicator
C: Ethernet socket



A: RF receiver
B: Grey push button
C: Base ring



D: Battery cover
E: LED indicator
F: Base-ring pegs

G: Stem

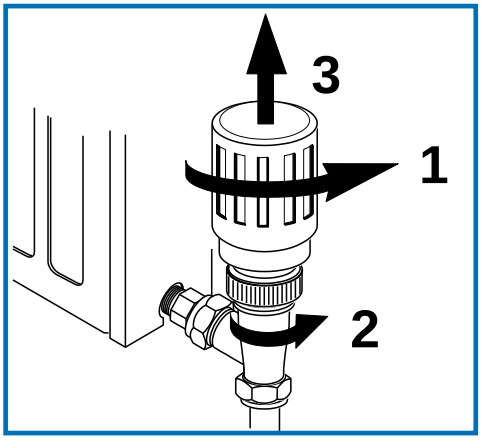
3 Fitting the base ring and spacer ▲

The first step is to remove your existing TRV head.

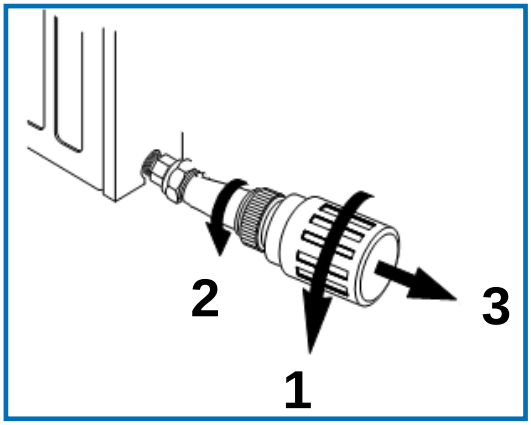
Step 1
Turn the TRV thermostat **anticlockwise** as far as it will go.

Step 2
Release the base by turning it **anticlockwise**, by hand or with a spanner.

Step 3
Pull the existing TRV thermostat off the valve.



Removing the existing vertical TRV



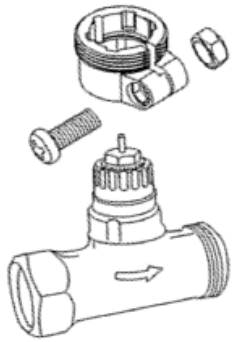
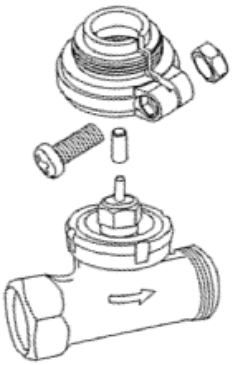
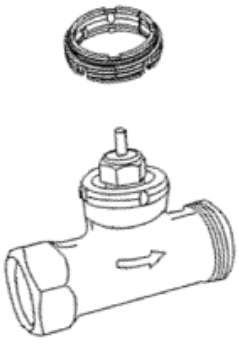
Removing the existing horizontal TRV

There are base-rings and spacers that allow your WeTRV to fit to either 28mm or 30mm radiator valves, whichever is already on your radiator.

The WeTRV is compatible with valves made by:

- Barlo
- Braukmann
- Drayton
- Honeywell
- Landis & Gyr DuoGyr
- Myson
- Pegler
- Regis (B&Q)
- Siemens

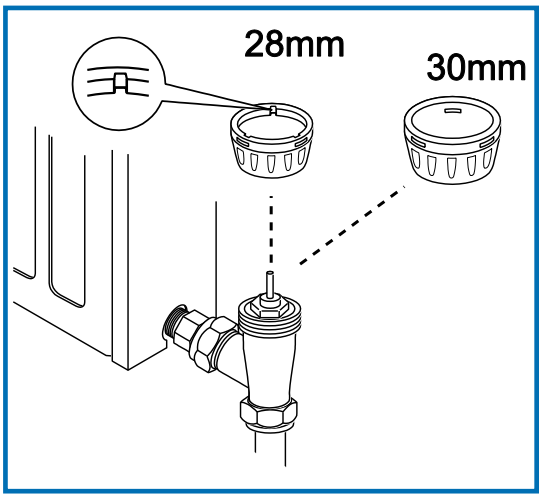
and many others.

		
Danfoss RA	Danfoss RAV	Danfoss RAVL
If you have an RA or RAV valve, you must fit the adaptor with the nut and bolt that comes with the adaptor. In the case of the RAV adaptor, the extension provided with the adaptor must be attached to the valve tappet		The adaptor must be placed on the valve and tightened.

If you currently have Danfoss RA, RAV or RAVL valves (see above) you need to fit special adaptors. Our Adapter Guide offers accessories that allow WeTRV to fit other valves too. Please refer to Chalmor for advice.

3a Choosing the correct base ring ▲

There are two base rings – 28mm (which has notches inside it) and 30mm (with no notches).



It is important that you use the correct size base ring for your valve. To check which one to use, remove the existing TRV as shown on page 7.

To identify which base ring to use, take one and screw it onto the radiator valve, **before** attaching to the WeTRV, to see if it fits.

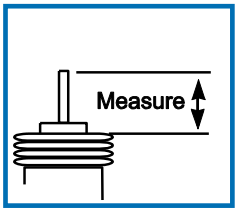
When you have found the correct base-ring, unscrew it so you can attach it to the WeTRV.

Important

- **Test which base ring fits each radiator valve before attaching it to the WeTRV.**
- **Your radiators may have different sized valves in different rooms, so check each one.**

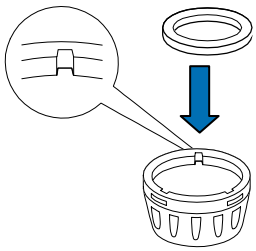
3b Choosing the correct spacer ▲

In most cases (where the valve pin is taller then 14mm), you will need to fit a spacer inside the base ring. The spacer comes in two thicknesses, 2mm and 3mm. It is important that you use the correct size spacer. **See our Adapter Guide for specific valve information.**



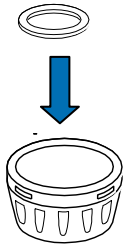
Tip – the 3mm-thick spacer is almost the same thickness as a £1 coin.

Different ring bases and spacers



3.5mm thick spacer

28mm base ring



2mm thin spacer

30mm base ring

Important

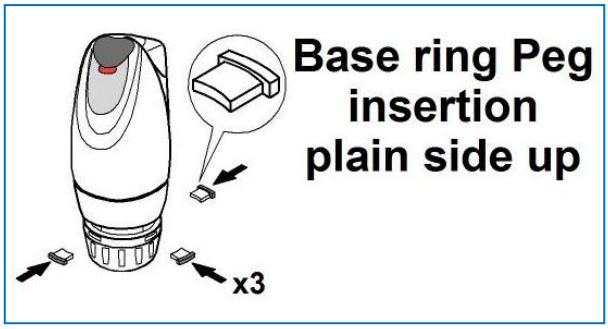
- **If you need to use a spacer, put it in place in the base ring before you attach the base-ring to the WeTRV.**

Once the spacer is in place, review the instructions overleaf **before** attaching the base-ring to the WeTRV.

3c Attaching the base ring to the WeTRV ▲

Base Ring removable condition
The three pegs should be inserted the same way around.

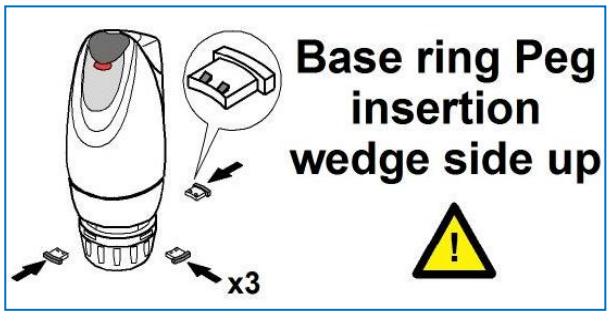
With the plain side up the pegs are easily removable. This is ideal for testing if you are uncertain whether or not a spacer is needed inside the base ring.



Important
- **This is not suitable for permanent installation, as the pegs may release when the WeTRV is tightened on to the valve.**

Base ring non removable condition
With the wedge side up the pegs are not easily removable.

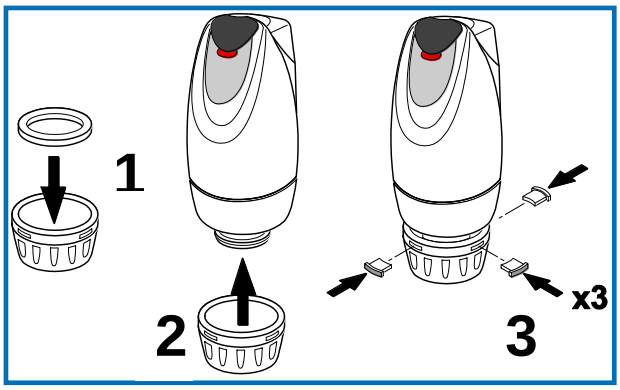
This is suitable for permanent installation, as the pegs help to lock the base on when the WeTRV is tightened on to the valve.



Step 1
Put the correct spacer (if one is needed) in the base ring.

Step 2
Fit the base ring onto the WeTRV.

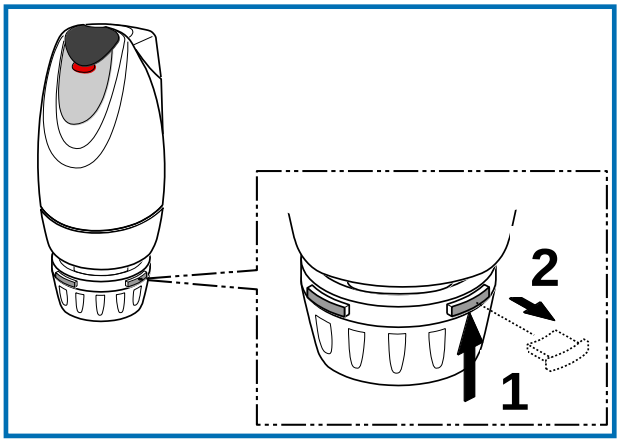
Step 3
Firmly push the three base-ring pegs into the slots on the base ring, noting the removable and non removable condition described above.



If you ever need to remove the base ring from the WeTRV, follow the steps below.

Step 1
Insert a 5mm, thin flat-head screwdriver under the peg.

Step 2
Carefully prise out pegs from base-ring. Take care not to lose any of the pegs.

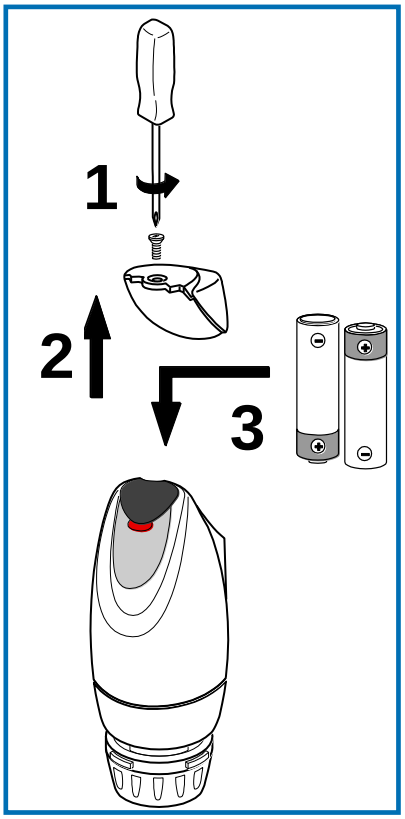


Note

- **Keep the unused base ring and spacers in case you fit a different size radiator valve in the future. Security accessories are available to prevent easy removal of the WeTRV. Please consult Chalmor if these are required. The security accessories do not suit all TRV bodies.**

4 Batteries ▲

Inserting the WeTRV batteries



Step 1
Using a cross head screwdriver (or socket screwdriver if you have a security screw, fitted with the snake eye tip), unscrew the screw at the top of the battery-compartment, but do not remove the screw.

Step 2
Remove the battery-compartment cover, with the screw still in it.

Step 3
Insert the two AA (LR6) alkaline batteries that came with the WeTRV into the battery compartment as shown. Make sure you put the batteries in the right way. Inside the battery cover there is a diagram showing which way to fit the batteries when looking from the front of the WeTRV.

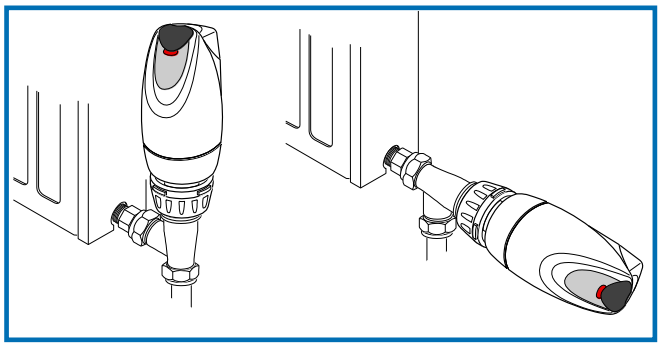
Step 4
Put the battery-compartment cover back on. Hold it in place while you fully tighten the screw.

The motor will automatically start to extend the stem (push it out). The LED indicator will continuously pulse red while the motor is running (this could take up to two minutes). Once the stem is fully out, the motor will then start to retract the stem (pull it in) and the red light will continue to pulse (this could take up to two minutes). Once the stem is fully in, the green light will pulse three times. The LED indicator will then continuously flash orange showing the stem is fully retracted and the WeTRV is ready for fitting to the radiator.

Important
The batteries provided with the WeTRV will last for up to 1½ years, depending on how often the motor runs and how frequently the WeTRV and WeHUB are set to communicate with each other. When you need to replace the batteries, insert new high-quality AA alkaline batteries. Do **not** use rechargeable batteries.

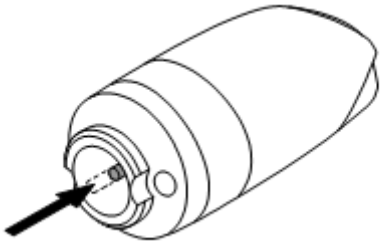
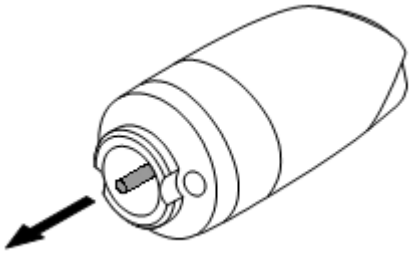
5 Fitting the WeTRV to the radiator ▲

You can fit the WeTRV vertically or horizontally (see the diagram), depending on the way the existing radiator valve is pointing.



Attaching the WeTRV

Before you attach the WeTRV, it is important that the stem is **fully retracted** (fully in), not extended (partially or fully out). If you have just fitted the batteries, then the stem will have automatically retracted as shown below.

	
Retracted stem (in) (opens radiator valve)	**Extended stem (out) (closes radiator valve)**

If the stem is extended (see above), take the batteries out for a minute and then put them back in again. The motor will automatically come on and start extending and retracting the stem. While the stem is extending and retracting the red LED light will pulse continuously. When the stem is fully retracted, the green light will pulse three times. The LED indicator will then continuously flash orange showing the stem is fully retracted and the WeTRV is ready for fitting to the radiator.

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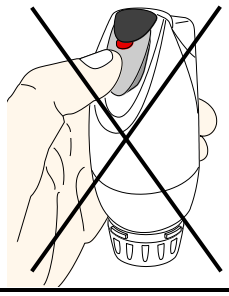
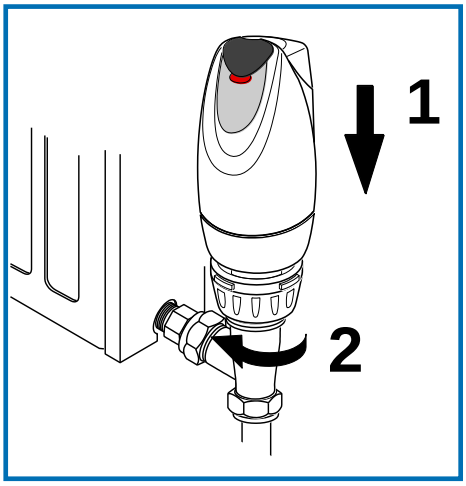
Important



Once the stem has retracted, **do not** press the grey push button on the front of the WeTRV until it has been installed correctly on the radiator valve. Pressing the grey push button will cause the stem to extend. If you accidentally press the grey push button, the motor will drive the stem out. In this case you will need to take the batteries out and then put them in again so that the stem will automatically retract.

Once the stem has **fully retracted**, you can safely attach the WeTRV to the radiator valve. Remember to have it facing forwards, with the LED indicator pointing forwards.



Step 1
Place the WeTRV on the valve.

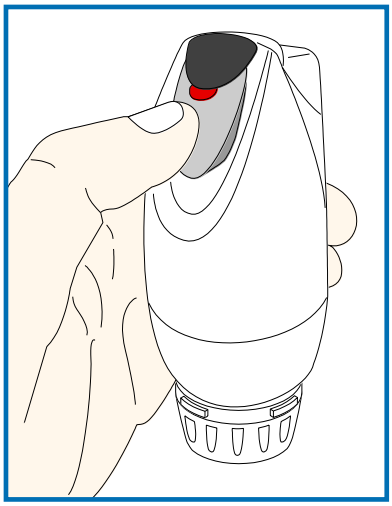
Step 2
Carefully screw the base ring **clockwise by hand** until it is firmly in place.

Be sure that the WeTRV is not blocked by furniture, curtains and so on. To be able to use the push button easily, you need to be able to reach the WeTRV.

As the WeTRV is set up wirelessly, remove any items from nearby that may interfere with the wirelss signal, for example metal waste paper baskets that may restrict the wirelss signal.

Important
Do not tighten the base ring too much as this may cause the pegs to push out from their slots. Remember to ensure that the pegs are correctly fitted in their non removable condition.

Starting the WeTRV



1. Press and hold the grey push button on the WeTRV **for 5 seconds** to extend the stem and fully close off the radiator valve. This could take up to two minutes. While the motor runs, the red LED light will blink continuously. When the valve is fully closed, the red light will pulse three times and will then switch off, showing the WeTRV is now fitted.

Pairing the WeTRV

2. Press and **hold** the grey push button again. The green LED light will come on, **continue to hold the button** until the red LED flashes (around 5 seconds). The red LED will blink five times to indicate that the WeTRV is now in pairing mode.

3. Now the WeTRV should be paired with the WeHUB.

   See page 20 to understand how to install the WeHUB.

6 Factory settings ▲

Your WeTRV comes with temperatures and control settings stored in its memory. It will work to these settings until you change them.

6a What the LED indicator means ▲

The LED indicator flashes red, yellow or green to tell you what the eTRV is doing and it's setting.

	Lights on WeTRV	Meaning
1	○ No indication	Normal condition
2	🔴 Red light pulses continuously	Motor is running during initial set up (wait until it's finished)
3	🔴🔴🔴 Red light flashes three times	Valve has fully closed
4	🟢🟢🟢 Green light flashes three times	Valve has fully opened
5	🟡 Orange light flashes continuously	WeTRV is ready to attach to valve
6	🟢 Green light flashes for 1 minute	Identifies WeTRV
7	🔴 Red light flashes once every five secs.	Dead battery needs replacing, Valve will fully open. See 6b
8	🔴🔴 Red light flashes twice every five secs.	Low battery needs replacing. See 6b
9	🟢 Green light on for two seconds	Boost selected
10	🔴🔴🔴🔴🔴 Red light pulses five times	WeTRV is in pairing mode (following 5 second button press)

	Lights on WeHUB	Meaning
1	○ No indication	No power or USB cable unplugged
2	🔴 Red on continuously	No network connection or Ethernet cable unplugged
3	🟢🔴 Green light on, with red flashes	Normal condition

6b Replacing low and dead batteries ▲

Low battery 🔴🔴

When the batteries are low, the red LED light will flash twice every couple of seconds. At this point you should replace the batteries.The online WeControl panel shows the battery voltage (normal display for healthy batteries is green / full). When the batteries are low, the battery voltage is shown (display for low batteries is brown / half full).

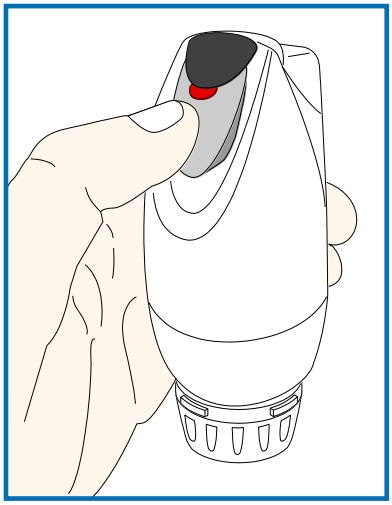
Dead battery 🔴

When the battery does not have enough charge to power the WeTRV motor, the WeTRV stem will automatically retract so heating will not be controlled. When batteries are considered dead, the red LED light will flash once every couple of seconds. When the

batteries are dead, the battery voltage is no longer shown (display for low batteris is grey / empty).

When you replace the batteries (see section 4 “Inserting the WeTRV batteries”), the motor will automatically start to extend the stem (push it out). The LED indicator will continuously pulse red while the motor is running (this could take up to two minutes). Once the stem is fully out, the motor will then start to retract the stem (pull it in) and the red light will continue to pulse (this could take up to two minutes). Once the stem is fully in, the green light will pulse three times. The LED indicator will then continuously flash orange showing the stem is fully retracted and the WeTRV is ready for re-fitting to the radiator (if you removed it for battery replacement). If you had removed it, refit the WeTRV to the radiator valve now.

Now restart the WeTRV



1. Press and hold the grey push button on the WeTRV **for 5 seconds** to extend the stem and fully close off the radiator valve. This could take up to two minutes. While the motor runs, the red LED light will blink continuously. When the valve is fully closed, the red light will pulse three times and will then switch off, showing the WeTRV is now fitted.

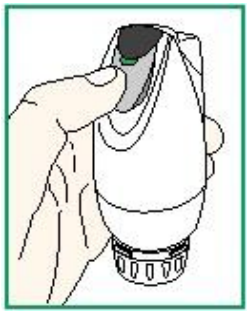
2. The WeTRV will reconnect with the WeHUB and will work at the last setting it had received. Use the WeControl panel at https://wetrv.chalmor.co.uk to adjust any settings if required.

7 Using your WeTRV ▲

You can work the WeTRV by pressing the grey push button on the front of the WeTRV to boost the temperature setting. Or you can control it by using the online WeControl panel at https://wetrv.chalmor.co.uk for remote control to set the temperature and the timer settings.

7a WeTRV grey push button ▲

You can use the grey push button on the front of your WeTRV to:



- boost the temperature setting for an hour to 22°C
- start pairing the WeTRV with the WeHUB

1. **Boosting to 22°C setting for an hour using the WeTRV grey push button**
   Pressing the grey push button and holding it in for two seconds boosts the WeTRV to **22°C** temperature setting for one hour. For example, if the WeTRV is set to control at 19°C, holding the grey push button in for two seconds temporarily boosts to the 22°C temperature setting for one hour.**Release the grey push button when the green light comes on to confirm the temporary change**.

   The WeTRV will automatically go back to the programme setting after one hour. The online WeControl panel does not show when the local boost is used.

2. **Restarting the one hour boost**
   Pressing the WeTRV grey push button again during a one hour boost will start the boost again for one hour (from the time the button is pressed and released and the green light comes on).

3. **Cancelling the boost**
   To cancel the one-hour boost, press the WeTRV grey push button and hold for around 5 seconds. This will cancel the 1 hour boost and will start pairing. With no further action, the WeTRV will remain in its normal paired setup. When the green light comes on, continue to press the button until the red light starts flashing.

7b Pairing the WeTRV ▲

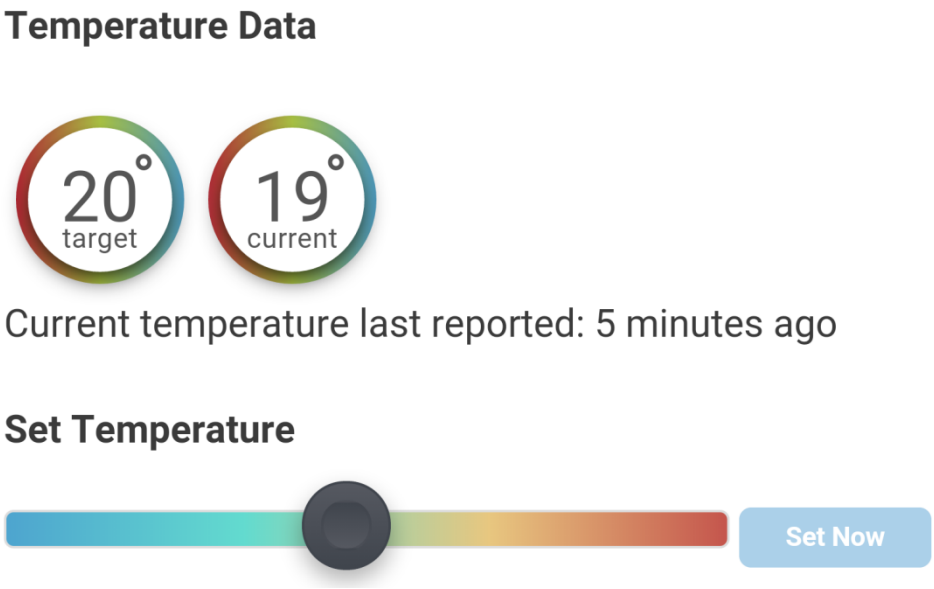
To pair the WeTRV to the WeHUB, log on to https:\\wetrv.chalmor.co.uk and use the WeControl panel to “Pair a New Device”. Follow the onscreen instructions for pairing the WeTRV.To start pairing the WeTRV to the WeHUB, press the WeTRV grey push button and hold for around 5 seconds. The green light will come on after around 2 seconds and and then the red light will flash when the WeTRV is in pairing mode. After pairing, click “Manage” to give the device a name and to allocate it to a group if you require group control.

8 Using as a simple thermostat ▲

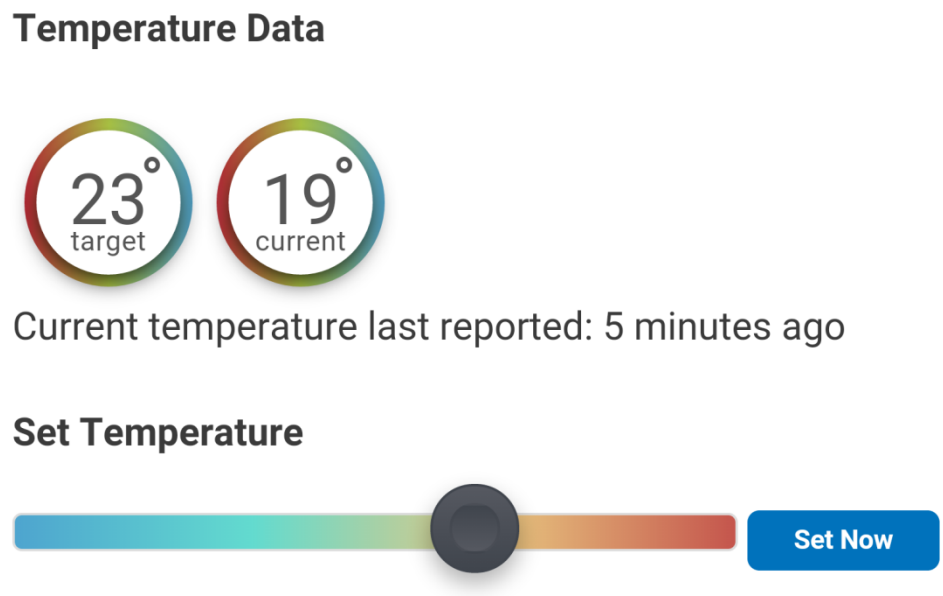
SET

Using the online WeControl panel, pressing the SET button allows you to use your WeTRV as a simple thermostat, giving you the choice of different temperature settings **from 12°C to 30°C**.

Choose the temperature setting you want by using the slider on the WeControl panel for the WeTRV.



Drag the slider until the new temperature setting shows in target temperature dial:



Then press the “Set Now” button to apply the change.

The WeTRV will stay on that temperature setting until you change it or until a timer programme adjusts it.

The current temperature reading is shown to assist in choosing the temperature setting required and to fine tune the temperature settings to keep the room comfortable..

9 Timers ▲

SET

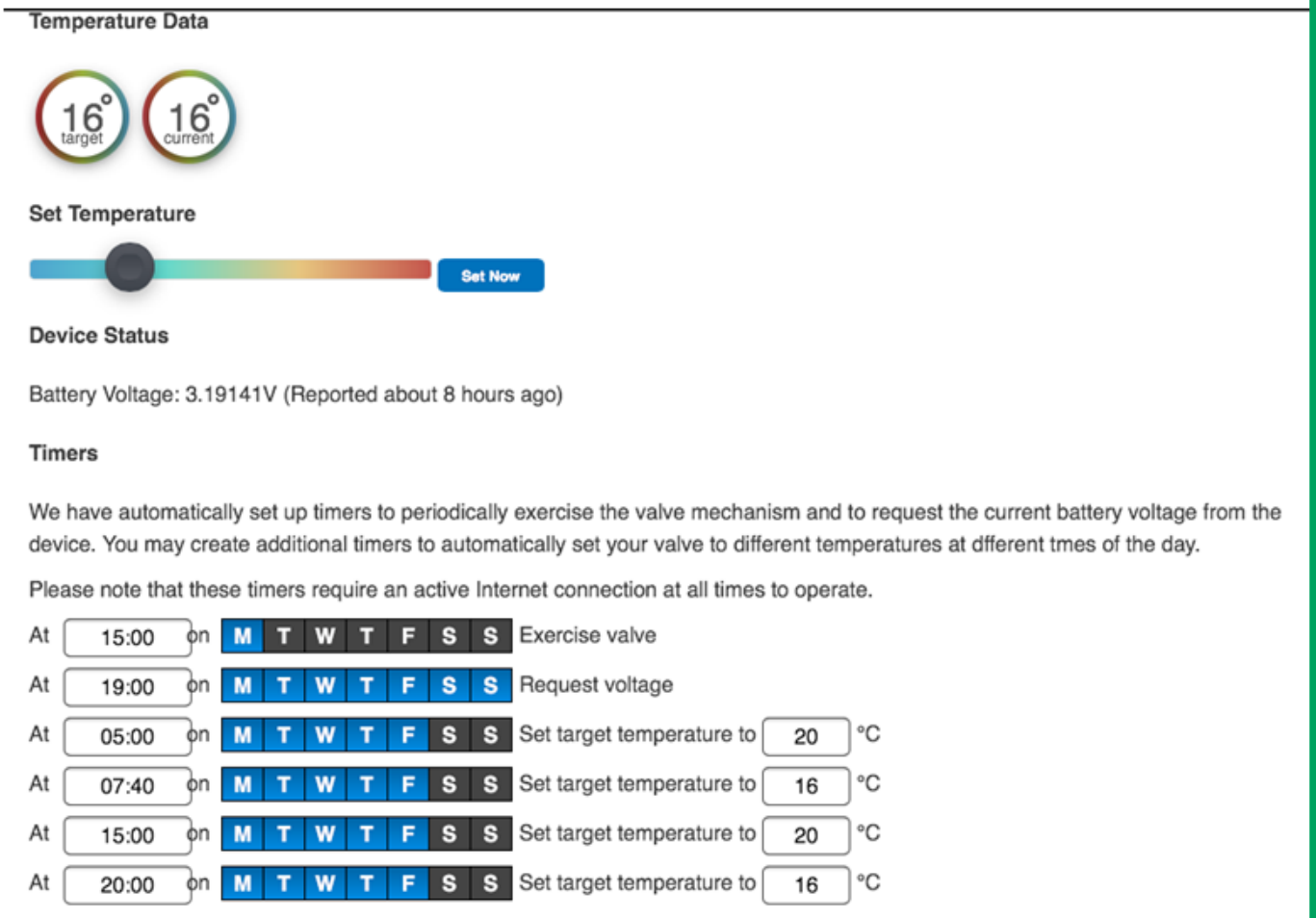
Using the online WeControl panel, pressing the SET button allows you to set up heating programmes for each day – each heating programme has a start time and the temperature setting, which can be applied to any days.

Important
These timers require an active Internet connection at all times to operate.
If the internet connection is lost, or there is a problem, then the timer may not operate.

An example WeTRV timer is shown below with timers set to:

1. Exercise the valve once a week at 15:00 on Monday
2. Check the battery voltage at 19:00 every day
3. To change to 20°C temperature setting every week day at 05:00
4. To change to 16°C temperature setting every week day at 07:40
5. To change to 20°C temperature setting every week day at 15:00
6. To change to 16°C temperature setting every week day at 20:00

Important
Only temperature settings of between 12°C and 30°C should be used. If any are not, the timer will be ignored as the temperature setting is outside the WeTRV range.



10 Changing timers ▲

You can change the WeTRV timers. Use the commands shown to “Add Timer” or to “Remove”. Or you can modify an existing timer by overtyping the time or temperature or selecting different days.

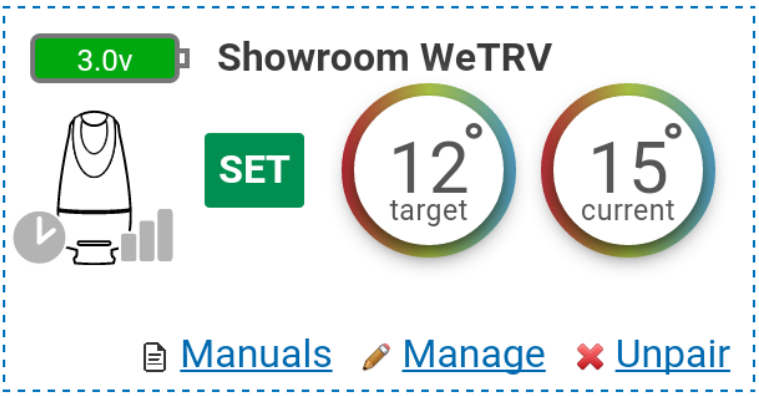
+Add Timer Remove

Always press the “Set Timers” button to apply the changes. Set Timers

11 Checking temperatures ▲

To check the target temperature and current temperature for a WeTRV, use the online WeControl panel.

The “Home” page shows all the devices. For each WeTRV, both temperatures are shown:



The WeTRV aims to achieve the target temperature. Other equipment in a room and the residual heat remaining in the radiator can cause the current temperature to exceed the target temperature. Also solar gain may cause certain rooms to overheat. Refer to the current temperature dial and adjust the target temperature to achieve the heating levels required.

12 Extra settings ▲

The WeControls and WeTRVs will have extra settings added from time to time. Please refer to the online WeControl panel or check for updates to this guide.

12a Exercising the valve ▲

Some radiator valves can stick after a long period without moving. To reduce the risk of this happening (for example, in the summer when the heating is off), the valve will exercise according to the timer that is set. We recommend the exercise happens at least once a

week at a time when people using the area will not be inconvenienced. At the set time, the WeTRV will automatically extend and retract to exercise all parts.

12b Restore factory settings ▲

To restore factory settings, use the online WeControl panel. Click on the “Unpair” command to delete the WeTRV from the WeControl panel. The same WeTRV can be paired again and all new settings applied.

13 Technical properties ▲

WeTRV	
Controller type	Programmable
Temperature range	12°C to 30°C
Frost-protection temperature	12°C
Temperature range it can be stored in	-20°C to +60°C
Temperature range it will work in	+5°C to +40°C
Maximum circulation temperature	90°C
Application group	Central Generation
Zone type	Maintained or Intermittent
Power supply	Two 1.5V AA alkaline batteries (LR6)
Battery life	Up to 1½ years (depending on use)
Back-up memory	Yes
Size without base-ring (HxWxD)	103mm high, 45mm wide, 45mm deep
Size with base-ring (HxWxD)	120mm high, 45mm wide, 45mm deep
Protection class	IP20

WeHUB	
Temperature range it works in	+5°C to +40°C
Temperature range it can be stored in	-20°C to +60°C
Humidity range it can work in	0 to 90% RH
Range from WeTRV it works in	Up to 25 metres
Power supply	Micro USB 5V DC power supply 150mA max
RF	434.3MHz
Size	86mm long, 86mm wide and 27mm high
Protection class	IP20

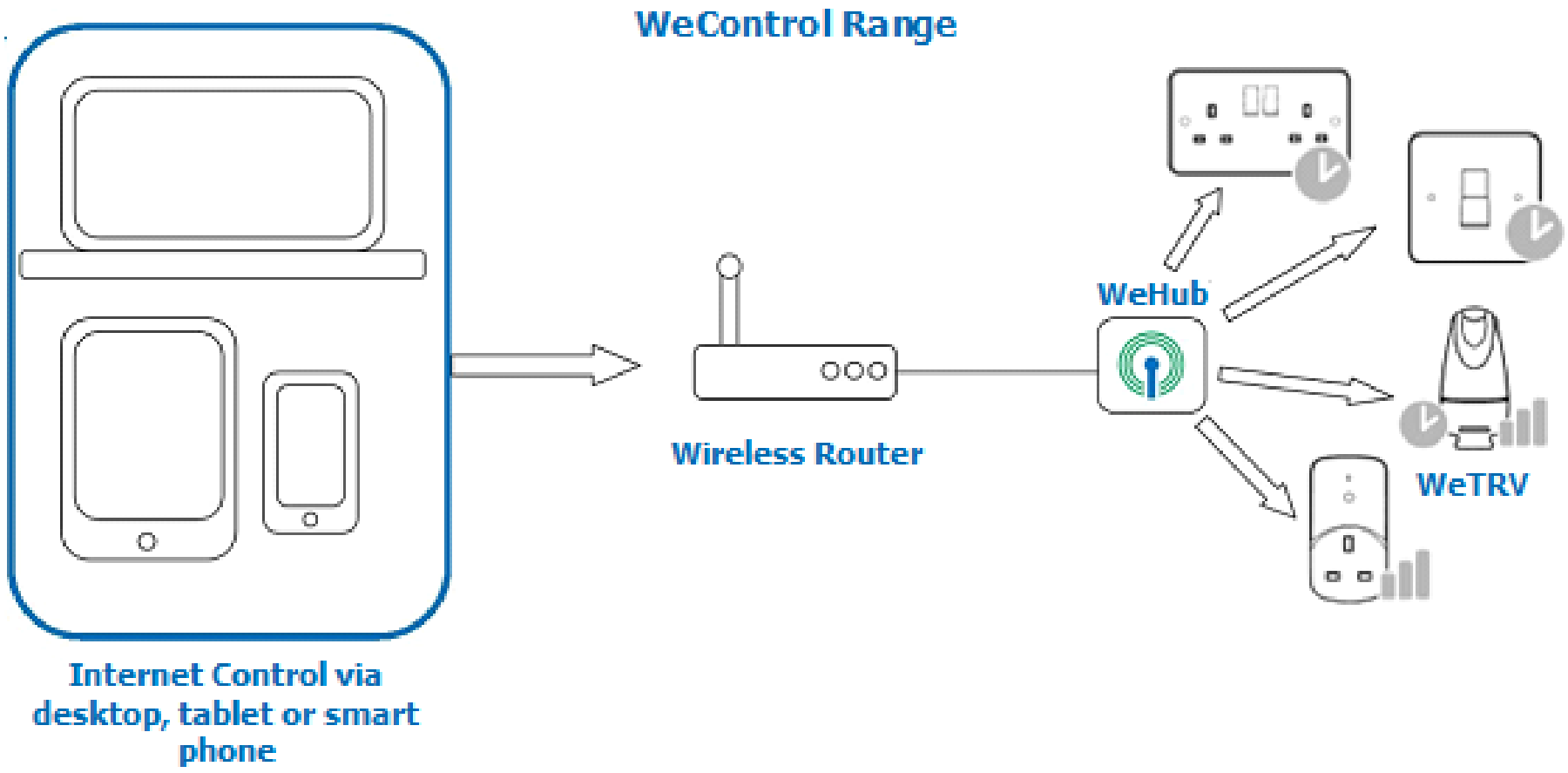
CE

This product complies with:

- BSEN 60730
- BSEN15500 (Part)
- BSEN 60529
- BSEN 50419

14 WeHUB Installation Guide ▲

Connect the USB power supply to the WeHUB (Power Over Ethernet is not suitable). Connect the WeHUB Ethernet cable to your router. Ensure that any firewalls are set to allow the WeHUB to connect to https://wetrv.chalmor.co.uk The WeHUB(s) will communicate wirelessly with the WeControl Range (eg WeTRVs). We recommend one WeHUB operates up to 15 WeTRVs allowing capacity for other accessories available in the future. The maximum wireless range is up to 25m and varies according to the construction of the building. Install more WeHUBs in other locations if required.



Log on to https:\\wetrv.chalmor.co.uk - select create an account or log in to your account, and click "Add a new WeHUB" and follow the on screen instructions. The Authorisation Code is printed on the label on the back of the WeHUB or can be obtained using the QR code where provided.