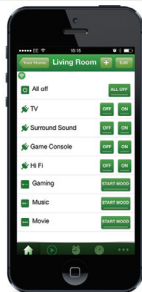


Radiator Valve (TRV)

Model No. JSJSLW922

Instruction Manual



Professional Series

www.megamanuk.com/lightwaverf





How do I get started?

The following installation guide will explain how to fit the LightwaveRF Thermostatic Radiator Valve (TRV) head to a radiator. The setup guide will explain how to link it to other LightwaveRF heating devices. For anything other than a basic setup, it is recommended to use the TRV with the Lightwave Link & Web App. For further help and guidance, visit www.lightwaverf.com or scan the QR code below.



What do I need?

To install the TRV (head), you will first need to remove the existing one. This is usually straightforward, and does not require tools. The TRV then simply screws onto the radiator valve body as a direct replacement.

Help Video & further guidance

You can scan this QR code with your smartphone. It will take you to a video and further instructions that will help guide you through setup and installation.





Overview

'Off' LED. When illuminated radiator is off.

'On' LED. When illuminated radiator is on.

Standby Button. Turns radiator on/off

Boost Button. Temporarily increases temperature.

Screw collar to attach to radiator valve.

Linking Button. Press to enter linking mode



IMPORTANT: Please retain these instructions for guidance on how to link other LightwaveRF Heating devices to the TRV. For App setup and additional guidance please visit www.megamanuk.com/lightwaverf



Attaching the TRV head to the valve

• To attach the LightwaveRF TRV (head) you will need to ensure that you have a suitable thermostatic valve fitted to your radiator (such as the one pictured) and unscrew the existing valve head. This can usually be done by hand and does not require any special tools.

NOTE: Removing the valve head should not risk any water leaks as the main body of the valve remains sealed.

• The LightwaveRF TRV head will screw fit the majority of existing thermostatic valves without alteration. There are, however, several adapter collars provided to compensate for the most typical variations in the diameter of the valve and screw thread.

Valve Head



**Collar
OPTIONAL**

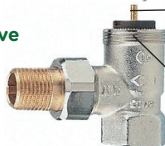


**Pin
Insert**

**Screw
Thread**



Valve



**Screw
Thread**



Installation

There are 2 types of collar (type A, type B). If Type A fits the valve screw thread, this is the more desirable collar to use. It has 4 insert pin lengths options provided for the collar. The most suitable pin is the one that replicates length of the current pin (when in the collar).

Type B provides a clamp fit around the valve body and can be tightened using the screw provided.

Inserting the Batteries / Calibration

2 x AA batteries are located in the top of the TRV. Remove the cover and insert the batteries.

Once the batteries are inserted, the TRV will automatically calibrate itself (this can take up to a minute). This requires it to be attached to the radiator, therefore do not insert the batteries until the TRV is securely installed. If the 'error' LED lights up during calibration, the TRV is not seated properly and may need adjustment (see troubleshooting section).



Type A (with pin inserted)



Type B



Battery compartment



Basic Operation

This section will show you how to setup the basic functions of the TRV to allow you to use it manually or with a Heating Remote / Magnetic Trigger. If you link the TRV to Room or Home Thermostat, or with the Lightwave Link & App, then the TRV will take its instructions from these devices. This means that the TRV will automatically abide by the temperatures and schedules that you set from them. The following section will show you how to link the TRV to a Thermostat and other LightwaveRF Heating devices to integrate it into your heating system. **It is always recommended to use TRVs with the Lightwave Link if anything more than a basic setup is desired.**

Understanding the Indicator LEDs

Steady Green 'On': TRV is opening the radiator valve

Steady Amber 'Off': TRV is closing the radiator valve

Alternating On/Off (longer on LED): Linking mode

Alternating Off/On (longer off LED): Unlinking mode

Steady Red & Amber: Valve jammed or wrong pin

Steady Red & Green: Not mounted correctly / wrong pin

Flashing Red x10 times: low battery (App should also report low battery status).





Device Setup

The Standby button

Pressing the Standby button toggles between standard 'Running' mode and 'Standby'. Holding the Standby button (3secs) activates 'Away' mode.

When the TRV is operating alone (without a linked Thermostat or the LightwaveRF App controlling it) Running mode will set it to a default temperature of 22 degrees. Standby will set the Switch to a default setback temperature of 18 degrees and Away mode 15 degrees.

If the TRV is linked to a Thermostat or to the App, Running mode will set it to the temperatures and schedules stipulated by these devices (see Thermostat and App instructions to learn how to do this). The Standby setback temperature and Away mode temperature is also stipulated by what is set on the Thermostat.

NOTE: If it is linked to a Home Thermostat or to the App, pressing Standby on the TRV will turn off Running mode **only** until the next 'heating period' in the schedule (see App or Thermostat instructions). Away mode, by contrast, will remain constantly active until it is cancelled by pressing the Standby button again on the TRV or Thermostat.



Standby button



The Boost button

Pressing the Boost button on the TRV raises the target temperature a few degrees above the current temperature for the duration of one hour. If the target temperature is already several degrees higher than the actual temperature, then pressing boost will simply match this temperature.

Using the Heating Handset

A LightwaveRF Heating Handset can be linked to one or more TRVs to directly control them (see Handset instructions). It can also be linked to a Room Thermostat which will, in turn, control TRVs.

Once linked, the Standby button on the Handset will toggle between Running and Standby Modes in the same way as the Standby button on the TRV. The Boost button operates the TRV Boost button.

The plus and minus arrows on the handset will raise or lower the target temperature a few degrees above or below the current temperature.



How LightwaveRF heating devices work together

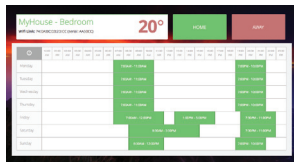
To use the TRV, with other LightwaveRF Heating Devices, you will need to **'link'** it. The devices that you link depends on the setup that you want to achieve.

You can create a basic setup (e.g. TRV plus a Heating Remote) by linking the devices directly (see later section). The most comprehensive solution is to link all heating devices to the LightwaveRF Smartphone or Web App using the **Lightwave Link**. This allows you to create an expandable zoned system that can take care of your entire home. Temperatures can be set for each room or 'heating zone', and heating can be planned week by week and room by room.

The illustration on the following page shows how different heating devices can be linked together in a whole house setup. Following this are some the most typical scenarios in which you would use the TRV. For further information and guidance please visit www.lightwaverf.com.



Lightwave Link



Web App Heating 'Planner'

Heating System Setup

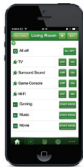


Home Thermostat
(monitors house temp.)



Heating Remote
(sets house temp.)

Lightwave App
(control any room from anywhere)



Lightwave link
(runs the show)

Boiler Switch
(turns boiler on/off)



Lounge

Room Thermostat
(controls several TRVs)



Bedroom 1



TRV
(controls radiator)

Bedroom 2



Window Trigger
(open window turns off TRV)

Example 'Heating Zones' (rooms or areas of the house)



Heating System Setup

1. Recommended: Using TRVs with the Lightwave Link

The most comprehensive and recommended way to use TRVs is by linking them to the App using the Lightwave Link. This will allow you complete control of the temperature of every radiator from your smartphone or tablet. The TRVs are arranged into 'heating zones' (e.g. rooms) and can be independently scheduled using the Heating Planner.



2. Controlling TRVs via a Thermostat and Lightwave Link

You can also use the App to control TRVs via a Room or Home Thermostat. This is useful as it provides a wall mounted display and control as well as a more accurate temperature reference point for the TRVs in the room to work to (because it is away from the hot radiator). A Thermostat can also control more than one TRVs together in the same room (heating zone).





3. Controlling TRVs with a Room/Home Thermostat

If there are several TRVs in a large room or area of the house, they can be linked to and controlled by a single LightwaveRF Room (or Home Thermostat).

There are several advantages to this:

1. The temperature of the room can be measured to a higher degree of accuracy as the sensor is distanced from the radiator.
2. The temperature and status of the TRVs can be set together from one place.
3. If the TRVs are not being controlled from the LightwaveRF App, the Home Thermostat can be used instead to set daily heating schedules and save favourite plans for that room or **'heating zone'** of the house.
4. If linked to the same thermostat, the valves can work together as one 'heating zone' which can appear on the LightwaveRF App or Web App.

NOTE: If linked to the LightwaveRF App or Web App, TRVs in the same room or area of the house can also be linked to each other to form a heating zone without the need for a thermostat.





Heating System Setup

1. Using the TRV with a Heating Remote

The LightwaveRF Heating Remote can directly control a single TRV or two daisy-chained together (see linking multiple devices). It can be used to turn the TRV on and off, to raise the temperature up and down and to boost the temperature.



2. Using a TRV with a Magnetic Trigger

The LightwaveRF Magnetic Trigger is designed to send an alert to a linked LightwaveRF device or to the LightwaveRF App when a door or window has been opened. If such an alert is sent to a linked TRV, the valve will automatically be turned off. If the window is opened, it will turn on again.





Linking the TRV to other LightwaveRF heating devices

If you intend to use a LightwaveRF Heating Remote, Home / Room Thermostat or Magnetic Trigger to control the TRV directly then you will need to 'link' them. The TRV can be linked to other LightwaveRF heating devices using the following method.

1. Press and release the 'Linking' button on the TRV (the on and off LEDs will flash alternately).
2. Press the Linking button on the heating device you wish to link. The 'on' LED should flash to indicate a successful link.

To unlink a heating device from the TRV, press and release the Linking button and then press the Standby button. This activates 'unlinking' mode. Press the Linking button on the heating device you wish to unlink. The 'off' LED should flash to indicate that the devices have been unlinked.

To completely clear the memory of the TRV, press and release the Linking button. Then hold the Linking button until the LEDs flash rapidly. Finally, press and release the Linking button once more. The off LED should flash.





Heating System Setup

Linking to Multiple Radiators in one 'heating zone' (room)

If you have a large room or area with more than one radiator, you may want to link the TRVs to become part of the same 'heating zone' on the App and work together.

You can do this by, firstly, linking one TRV to Lightwave Link and App, and then linking it to the next TRV to form a 'daisy-chain'. Alternatively, you can link a Room / Home Thermostat to the App, then to a TRV, and finally link the TRVs together. The Thermostat will take commands from the App and relay them to the linked TRVs in its 'heating zone'.

In some cases, you may also want to link a Heating Remote or Magnetic Trigger to more than one TRV in the same room or 'heating zone'. This will cause all radiators to be controlled by the same device. This can be achieved in the same way: link one TRV to the Remote or Trigger, and then link that TRV to the next. A single Heating Remote or Magnetic Trigger can also be linked to multiple TRVs by linking it to a Thermostat that, in turn, controls the TRV in that room.

IMPORTANT: LightwaveRF TRVs can link to a limited number of heating devices. If this limit is exceeded and an extra device linked, the link to the former device will be overwritten. More devices can be added by linking them to the Lightwave Link and App. It is always recommended to use the Lightwave Link if anything more than a basic setup is desired.



Linking to the LightwaveRF Apps

If you intend to use the LightwaveRF App or Web App to control the TRV, you will need the 'Lightwave Link'. This allows LightwaveRF heating devices to be linked to and controlled by a smartphone, tablet or PC. The TRV can be linked to the App using the following method.

- 1.** Follow the in-App setup instructions to setup the Lightwave Link and App. Access the 'Heating' Page and follow the instructions regarding how to add a device.
- 2.** Press and release the 'Link' button on the TRV (the on and off LEDs will flash alternately).
- 3.** Send the linking command from the App (the in-App instructions will explain how to do this). The 'on' LED should flash to indicate a successful link.





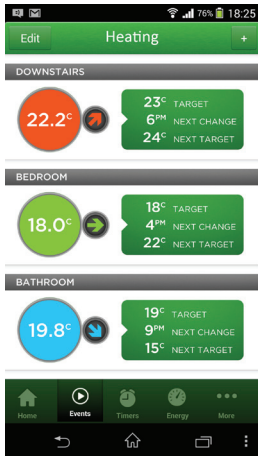
Heating System Setup

Using the Home Thermostat with the LightwaveRF App

IMPORTANT: For full instructions on how to use the Home Thermostat with the LightwaveRF App or Web App follow the in-App help or visit www.lightwaverf.com.

The main use of the Home Thermostat, if linked to the LightwaveRF App and Web App, is as an accurate temperature reference. You can still the schedule heating and select modes using the Thermostat, however, it may be more convenient to do this from the App or Web App on your smartphone/tablet. The Thermostat now acts as a convenient manual control to complement the App.

Importantly, the Thermostat and App work together: when you change the mode or schedule on the Thermostat or the App, it will automatically appear on the other device.





1. (Easy): Cut heat loss from windows

Required: TRV, Magnetic Triggers

When people are too hot, especially children, instead of turning off the radiator, they often open a window. This can waste a great deal of energy as the radiator is still working, but never reaches temperature as the heat is lost to the atmosphere. Installing a LightwaveRF Window Trigger means that, if a window is opened, the LightwaveRF TRV on the radiator is automatically turned off, therefore saving energy. Once the window is closed again, the radiator is automatically turned back on.



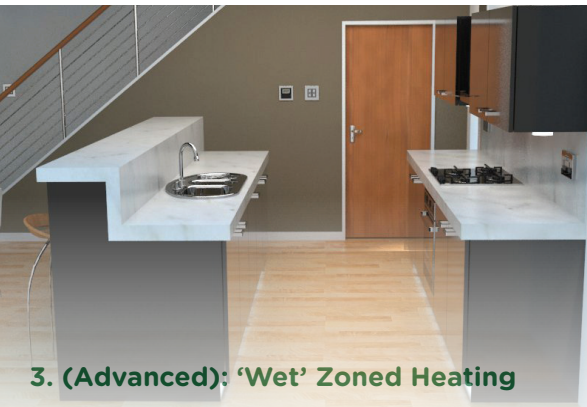
Heating Scenarios



2. (Easy): Remote control of a single radiator

Required: TRV, Heating Remote

It is really comfortable and convenient to be able to have direct control over the room temperature without having to get up and alter the thermostat or boiler. This can be achieved quickly and easily using the LightwaveRF TRV and Heating Remote. Installed in seconds, they can turn off the radiator in the room and allow you to be comfortable without having to affect the rest of the house heating.



3. (Advanced): 'Wet' Zoned Heating

Required: TRVs, Lightwave Link, Boiler Switch, Home Thermostat

With the LightwaveRF App and the **Lightwave Link** you can create an expandable zoned system that can take care of your entire home using TRVs that fit 'wet' radiators. Temperatures can be set for each room or 'heating zone', and heating can be planned week by week and room by room. If you have electric radiators, you can still achieve this by connecting them to Electric Switches. You can also link wet radiators AND electric radiators and schedule them together for a totally integrated heating system!





Troubleshooting

Problem: The TRV will not consistently operate remotely.

Solution: The Remote/Thermostat/Lightwave Link may be encountering interference or may be at the edge of its reliable range of operation. First, ensure that there are no large pieces of metal or bodies of water in the path of the transmission. If the problem persists, try moving the Controller/Link closer to the Socket.

Problem: The TRV 'error' LED flashes after calibration/operation.

Solution: The TRV is not calibrated correctly or may be jammed. This may be because it is not mounted properly; check that it is screwed down securely (finger tight) and not over tightened or cross threaded. If you are using an adapter collar, try changing the length of pin being used (there are four different lengths).

Problem: The TRV no longer functions and the LEDs do not illuminate.

Solution: Check the batteries. The average battery life should be at least one year, although this will vary depending on use. A red error LED will flash ten times to report a low battery status. If this measure fails, there may be a fault. Please contact technical support via www.lightwaverf.com.

**Q. Should I use a Room or Home Thermostat with the TRV?**

A. It is possible to use either of these Thermostats to control more than one TRV in the same room or 'heating zone'. The Room Thermostat, however, is the simplest and most attractive way to do this as it is purpose designed for the task.

Q. How do I know that the TRV will fit my radiator?

A. The TRV is designed to fit the vast majority of thermostatic radiator valves. It also comes with adjustable adapter collars to cater for any exceptions, therefore it should fit any standard radiators.

Q. Can I link more than one TRV to a Thermostat or Remote?

A. Yes. Please refer to www.lightwaverf.com for current device limits.

Q. Is it legal for me to install a LightwaveRF TRV myself?

A. Yes, LightwaveRF products are fully legal for you to install in your own home.

Q. How long do the batteries last?

A. This depends on use but a minimum of one year is a realistic timeframe.

Q. How do I know if the batteries need replacing?

A. The red 'error' light will flash 10 times when receiving a command. The App should also report that battery levels are running low.



Specification

RF frequency: 868 MHz

Batteries: 2 x 1.5V (AA)

Warranty: 2 year standard warranty



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