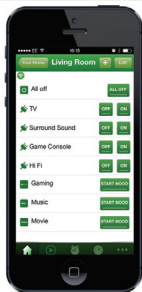


Radiator Valve (TRV)

Model No. JSJSLW922

Instruction Manual



Professional Series

www.lightwaverf.house

Version 2

EC DECLARATION OF CONFORMITY

Responsible Authority:

LightwaveRF PLC,
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Model Number(s):

JSJSLW922

Description:

Thermostatic Radiator Valve

Directives this equipment

Complies with:

2006/95/EC The Low Voltage Directive N/A
2004/108/EEC The Electromagnetic Compatibility Directive
1999/5/EC R&TTE Directive
93/68/EEC CE Marking Directive

Standards Applied in order to verify compliance

Safety: BS EN 60730-1: 2011

Health:

R&TTE: EN 301 489-1 V1.9.2: (2011-09), EN 301 489-3 V1.4.1: (2002-08)
EN 300 220-1 V2.1.1: 2006, EN 300 220-2 V2.1.2: 2007
EMC: EN 301 489-1 V1.9.2: (2011-09), EN 301 489-3 V1.4.1: (2002-08),
EN 55022: 2010, EN 61000-3-2: 2006 +A1: 2009 +A2: 2009 Class A,
EN 61000-3-3: 2008, EN61000-4-2: 2009,
EN 61000-4-3: 2006 +A1: 2008 +A2: 2010, EN 61000-4-4: 2012,
EN 61000-4-5: 2006, EN 61000-4-6: 2009, EN 61000-4-11: 2004

For and on behalf of LightwaveRF PLC

Name

J Shermer

Position

Managing Director



How do I get started?

The following installation guide will explain how to fit the LightwaveRF Thermostatic Radiator Valve (TRV) head to a radiator. It will also explain how to link it to the LightwaveRF Smartphone or Web App via the Lightwave Link.



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; however, an adjustable spanner maybe useful if the valve is tightly screwed down. The 'Lightwave Link' and App is required to operate the LightwaveRF TRV remotely.



Help video & further guidance

For additional guidance, and to watch a video that will help guide you through the installation process, please visit the support section on www.lightwaverf.house





Installation

'Off' LED. When illuminated the TRV is closing.

'On' LED. When illuminated the TRV is opening.

Standby button. Turns radiator on/off.

Boost button. Increases temperature for 1 hour.

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.



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 existing valve head should not cause 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

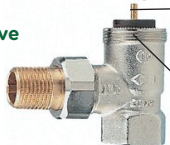


Pin
Insert

Screw
Thread



Valve



Pin

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 (when in the collar) replicates the length of the existing pin.

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

Inserting the batteries / calibration

The battery compartment is located at the top of the TRV. Remove the cover and insert 2x AA 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



Manual and remote operation

The TRV is designed to achieve a set room temperature by controlling the flow of heat to the radiator. It is remotely controlled by the LightwaveRF Smartphone App and Web App (you will also need the Lightwave Link). The TRV automatically abides by the temperatures and schedules set from the App. The TRV also has buttons to allow you to control the radiator manually. If linked directly to the valve, a LightwaveRF Heating Remote or Magnetic Trigger can also be used to control the radiator in place of or alongside the App. The following section will show you how to use the manual buttons and how to link the TRV to the App and to a Heating Remote / Magnetic Trigger.

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: Low battery (App should also report low battery status).





Manual Operation

The Standby button

Pressing the 'standby' button on the TRV toggles between the fully open and fully closed positions. This will turn the radiator on or off by enabling or preventing the flow of hot water to it. When the 'standby' button is pressed, a green light will illuminate to indicate that the valve is opening, or an amber light will illuminate to indicate that the valve is closing.



Standby button

NOTE: When linked to the App, the target room temperature that the TRV will achieve will be automatically set by the App (see App instructions to learn how to set this) unless the 'standby' or 'boost' buttons are pressed. Pressing the 'standby' button will fully open or close the valve, but **ONLY** until the next scheduled change. At the next scheduled temperature change, the TRV will revert to the target room temperature preset by the heating schedule.

The current target temperature, and the heating schedule for the TRV can be changed at any time using the App.



The Boost button

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

Using the Heating Handset

A LightwaveRF Heating Remote can be linked to a TRV to directly control it (see handset instructions).

Once linked, toggling the 'standby' button on the remote will turn the radiator on and off 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 room temperature.





Device Setup

Linking the TRV to the Heating Remote or Magnetic Trigger

If you intend to use a LightwaveRF Heating Remote 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.





Linking the TRVs to the LightwaveRF Apps

To use the App or Web App to control TRVs, you will first need to install the Lightwave Link. This allows any LightwaveRF devices to be linked to and controlled by a smartphone, tablet or PC. The TRVs can be linked to the App using the following method:

- 1.** Download the App and 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.** When prompted, 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.





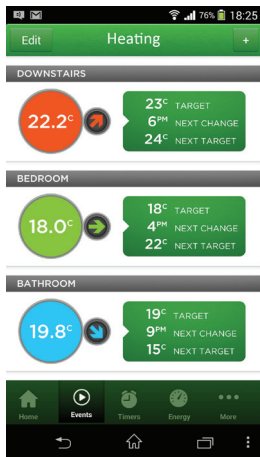
Using the App

Using the Home Thermostat with the App

IMPORTANT: For full instructions on how to use the Home Thermostat with the 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 to be an accurate temperature reference. You can still schedule the heating and select modes using the thermostat. It may be more convenient, however, 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 Home Thermostat and App work together: when you change the mode or schedule on the Home Thermostat or the App, it will automatically appear on the other device.



Add other Heating Devices



Home Thermostat

(monitors house temp.)



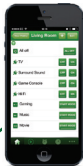
Boiler Switch

(turns boiler on/off)



Lightwave App

(control any room from anywhere)



Lounge

Room Thermostat

(controls several TRVs)



Heating Remote

(sets house temp.)



Lightwave link

(runs the show)



Bedroom 1

Bedroom 2

TRV

(controls radiator)



Window Trigger

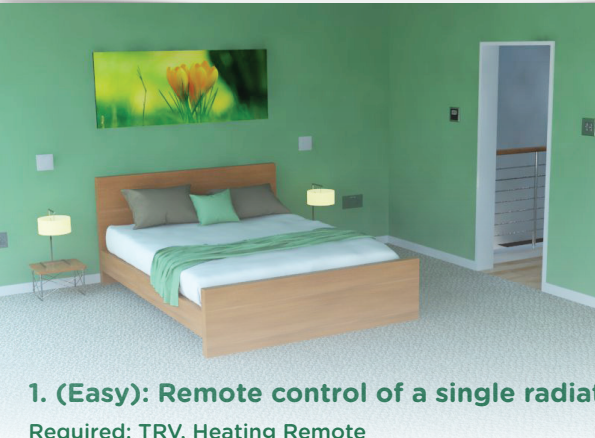
(open window turns off TRV)



Room by room radiator control



Heating Scenarios



1. (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.



2. (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!



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 devices closer together.

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. 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. 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 can vary, but up to one year can be expected with normal use and good quality batteries. For optimum battery life, lithium batteries are recommended.

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

Lightw^wave^{RF}

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