

Simply follow these steps to replace a roomstat...

We have based the following instructions on a modern electrical wiring system (fitted after 31st March 2006 when new cabling colours were compulsory on all new installations). If in the slightest doubt about your ability to complete a particular task, call in a professional.

1 Firstly disconnect the electrical power to the heating system. Remove the existing thermostat and wall bracket from the wall, retaining the terminal screws. There should be two wires visible (see 'safe electrics', following page). Remove the cover of the new replacement thermostat, held by two clips to the top left and right - use a small flat head screwdriver to release the clips.



2 Fix the wall bracket to the existing backplate with the terminal screws, making sure the cable is accessible.



3 Strip insulation to expose about 6mm of bare wire. Use a terminal screwdriver to loosen the terminal screws, and insert one wire into the 'A' and one wire into the 'B' terminal, then tighten the screws. Please ensure that you always refer to the manufacturer's instructions for full details on wiring.



4 Place thermostat and cover back on wall bracket. Make sure that you have discarded the plastic tab in the battery compartment to activate the batteries.



5 Check the power system to make sure boiler is working. Test the system by raising the temperature to a maximum of 35°C (see installation guide for full details) and the heating system should begin running.



Simply follow these steps to replace a standard valve with a TRV (thermostatic radiator valve)...

Drain your system:

1 Before draining the system, switch off the boiler, but allow the pump to run for ten minutes to cool the water. Then turn off the pump and close the stop valve in the pipe supplying the feed-and-expansion cistern. If there is no valve, place a batten across the top of the cistern and tie the ball valve arm to it to prevent the valve from opening. Push one end of a hose on to the outlet of the draincock. Run the hose to an outdoor drain.



2 Use an adjustable spanner to open the draincock, but do not remove the square valve shank completely. When the feed-and-expansion cistern has emptied, work down through the house, opening radiator bleed valves to release any remaining water trapped in the radiators.



Fit your valve:

3 Disconnect the valve from the radiator by unscrewing its capnut, but before releasing it completely, slacken the nut holding the valve to the pipe. Then unscrew both nuts fully and lift the valve together with its capnut and olive from the end of the pipe. The radiator here has been removed, but you can replace a valve without taking the radiator off the wall.



4 Clean the end of the pipe with wire wool and slip the capnut and olive of the new valve on to it. Hold the valve in place and screw the capnut on to the valve, making sure the olive is seated properly. Don't tighten the capnut fully at this stage.



5 Fit the radiator with a new connector if necessary, wrap a few turns of PTFE tape around its threads, align the valve and start turning the capnut onto it. Then tighten both capnuts fully. Refill the system, checking for leaks, and finally set the thermostatic valve in accordance with the manufacturer's instructions.



Safe electrics: Installing a digital roomstat

- Before you start any kind of electrical work switch off the main power at the consumer unit and remove the circuit fuse from the consumer unit - put it in your pocket so it can't be replaced by accident - or switch off the relevant circuit breaker and lock it if you can.
- The colours of live and neutral cores in cable changed in 2004 and became compulsory in all new installations after March 2006. Any alterations or additions made to existing electrical installations could therefore involve working with a mixture of old and new cable colours which could cause confusion. If in the slightest doubt about your ability to complete a particular task, call in a professional.

Ideal for the job

PTFE tape is used by plumbers to ensure a watertight joint on threaded fittings. Wrap around the threads about five times clockwise before you screw the fitting together.



Pipe wrench (or Stilson wrench)

is designed for gripping pipework - the jaws self-tighten as you apply force.



Waterpump (or slip-joint pliers)

have long handles and an adjustable slip jaw.



Project essentials:

Tools ✓

terminal screwdriver	<input type="checkbox"/>	slip-joint pliers	<input type="checkbox"/>
flat blade screwdriver	<input type="checkbox"/>	pipe wrench	<input type="checkbox"/>
adjustable spanner	<input type="checkbox"/>	wire wool	<input type="checkbox"/>
hosepipe	<input type="checkbox"/>	wire stripper	<input type="checkbox"/>
radiator bleed key	<input type="checkbox"/>	side cutter	<input type="checkbox"/>

Materials ✓

replacement heating control	<input type="checkbox"/>	PTFE tape	<input type="checkbox"/>
replacement TRVs	<input type="checkbox"/>	insulation tape	<input type="checkbox"/>



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B&Q how to...

install heating controls



project essentials on the back

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Taking control of your home's heating can help to get your energy bills down without compromising your family's comfort. Your boiler accounts for about 60% of the carbon dioxide emissions* in a gas heated home - so fine tuning your heating helps to combat climate change.



The more you are able to programme and control your heating, the more energy efficient and economical it will be to run.

Heating controls

Heating controls reduce energy consumption in a heating system by:

- **Reducing waste** - not overheating your home, only heating the parts in use
- **Reducing demand** - heating only when people are home, varying the heating programme to suit the lifestyle
- **Increasing efficiency** - converting fuel to heat more efficiently by fitting controls that allow condensing boilers to condense - there is no need to change your boiler, just improve the way it works

All of these can be performed in your home with little or no mess, just by fitting or changing controls.

our top tips

- **Turning your room thermostat down by 1°C can reduce your heating bill by 10%, in general the average human body is insensitive to a band of temperature of 3°C. Therefore you won't feel the difference in temperature, but will notice a difference in your pocket.**
- **Improving heating controls in your central heating system can cut your costs by up to 17%.***
- **Don't turn thermostatic radiator valves down completely as they may stick when you turn them up. Instead, select the frost free setting**



you can do it...

*Source: Energy Saving Trust, Oct 2010

What types of controls are available?

Room thermostats



Many systems incorporate a room thermostat, or roomstat, which controls the temperature in accordance with the temperature you have selected. It is normally sited in the living room or hall, and it operates on the assumption that a rise or drop in temperature in its vicinity will be matched by

a corresponding rise or drop throughout the house. A room thermostat will only control the temperature. It does not set 'on' and 'off' periods for your boiler.

Digital thermostats

Upgrading your thermostat to a digital version will improve performance by 10% with greater accuracy and efficiency. Measurements from an electronic sensor are compared with your desired temperature and software is used to maintain the temperature in an energy efficient manner. These are available in both wired and wireless versions.



Programmable room thermostats

These allow you to set 'on' and 'off' time periods. In general, one channel timeswitches only control heating (especially for combi boilers). Two channel programmers control both heating and stored hot water, and allow them to go on and off at different times - they do not control the temperature.

Programmable room thermostats

A programmable roomstat gives you greater control, enabling you to set both 'on' and 'off' time periods, as well as different temperatures for different times of day. This will give you maximum energy savings for your heating system. These are available as both wired and wireless versions.



Go wireless

Most room thermostats used in homes are wired in. It is fair to say that many are badly sited, leading to poor temperature control throughout the house. Many are situated in draughty halls, in which wafts of cold air tell the thermostat that the house is cold and the boiler needs to create more heat.

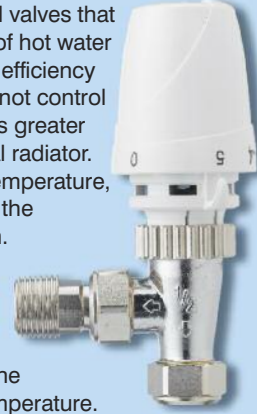


Benefits of wireless:

- Easy to install as you don't need to run cables through walls or under floorboards
- Flexibility for you to chose the best location to suit your needs, being battery powered means it can be sited anywhere in the house

Controlling your radiator with a TRV (thermostatic radiator valve)

Most radiators are fitted with manual valves that allow you to close or open the flow of hot water to the radiator. However, the energy efficiency of manual valves is poor as you cannot control the temperature. Fitting a TRV allows greater control of the heat from an individual radiator. Each one can be set to a different temperature, giving the user the ability to change the temperature of each individual room. A TRV works by sensing the surrounding air temperature. It progressively closes down the flow through the radiator as the air temperature rises, thereby cooling the radiator and regulating the room temperature. They do not control the boiler.



Programmable TRV

The programmable TRV improves room comfort and energy use by allowing you to precisely control the temperature in the room, achieved by automatically switching on and off during the day. It is easy to upgrade from a normal TRV as it does not require bleeding the radiators, simply swap the existing TRV head using the supplied adaptors.



Bleeding radiators

When you have installed replacement valves on your radiators, they may need bleeding. All radiators are provided with a bleed valve in one top corner to allow trapped air to be released, ensuring that the radiator heats up evenly. The valve is a square shaft inside a threaded plug. Turn off the heating and use a radiator bleed key (or in some cases a flat head screwdriver) to turn the shaft anti-clockwise by between a quarter and a half turn to open the valve - don't unscrew it by more than one complete turn. You will hear the trapped air hissing as it escapes. Hold a cloth beneath the valve to catch any water, and as soon as the first trickle appears close the valve. If you find you have to bleed your radiators frequently, have the system checked by a heating engineer, as there is likely to be a fault somewhere.



Upgrade your controls and save energy...

The key to upgrading your controls is understanding what heating system you have and then what is suitable for you and your boiler. Please review the table below for help. Where you see a star this means these products can save you money, the more stars that are linked to a product the greater the energy and money saved.

What you have already:			What you can upgrade with:		
Type of boiler	Type of hot water	Your current heating controls	Saving energy ★ upgrade with	Saving energy ★★ upgrade with	Saving energy ★★★ upgrade with
combi	instant	no controls	timeswitch and room thermostat	timeswitch and digital thermostat	programmable thermostat
combi	instant	built-in timeswitch, no room thermostat	use the built-in timeswitch, add a digital thermostat	set the timeswitch to continuous and use an external 7-day timeswitch and a digital thermostat	set the built-in timeswitch to continuous and add a programmable thermostat
combi	instant	external timeswitch, no room thermostat	use an external timeswitch, add a room thermostat	replace the external timeswitch with a digital timeswitch and a digital thermostat	replace with a digital timeswitch and a programmable thermostat re-located to living room
combi	instant	timeswitch (built-in or external) + mechanical room thermostat		replace the room thermostat with a digital thermostat	replace the thermostat with a digital wireless thermostat, for easier relocation
regular	stored	cylinderstat + mechanical programmer, no room thermostat	room thermostat	digital thermostat	replace the mechanical programmer (single time-base) with a digital programmer, and a digital thermostat
regular	stored	cylinderstat + 2 channel programmer (independent timing), no room thermostat	room thermostat	digital thermostat	

Draining and refilling the system

All wet central heating systems will be provided with at least one draincock to allow the system to be emptied for maintenance or repairs. Usually, this will be in the return pipe close to the boiler. However, where a solid ground floor prevents pipes from being run below it, the pipes will drop down from the ceiling void to supply ground-floor radiators. These sections of pipework will remain full of water when the system is drained from the boiler draincock and will have their own draincocks, allowing them to be emptied separately.

Remember to add new corrosion inhibitor to your system, as this will have been lost when the system was drained. Please follow manufacturer's instructions carefully.