

Gas and oil central heating controls



Decent central heating controls will help you heat your home more efficiently and lead to lower energy bills. This page looks at types of heating control for gas, oil and LPG central heating systems. Your system won't have all of them ...

Programmers or timers

Room thermostats

Hot water cylinder thermostats

Weather and load compensation

Thermostatic radiator valves

Smart heating controls

Programmers or timer

A timer or programmer allows you to control when your heating and hot water comes on and when it goes off.

Programming your heating

This means you can programme your central heating to fit around your needs. If you're not at home or you're in bed asleep, then the heating doesn't need to be on.

Most programmers are wireless and digital (they have a little screen). Older systems might have a non-digital timer that works by moving little plastic sliders (sometimes called 'tappets') around a dial.



The trick is to set your heating to come on half an hour before you get home or get up, and set it to switch off half an hour before you no longer need it. This is because an average home takes around 30 minutes to heat up when the heating comes on and 30 minutes to cool down when it goes off.

Your programmer might also have the option of setting different on/off times at the weekend.

A well-insulated home warms up faster and cools down more slowly – meaning you can set the heating to come on later and turn off sooner, saving energy and money. Experiment with the timer to see what works best for your home.

Programming your hot water

Setting the hot water timing depends on the type of boiler you have. A combi boiler only heats water when you turn on a hot tap, so you don't need to programme it. But if you have a hot water tank, this will need to come on every now and then during the day.

The number of times it turns on depends on how big and how well insulated the tank is, and how much water the household uses. Try an hour in the morning and an hour in the evening; if you don't run out of hot water, then that's

enough – no need to spend more money than you have to

The number of times the water needs to be heated depends on how big and how well insulated your hot water tank is, and how much water the household uses. Try an hour in the morning and an hour in the evening; if you don't run out of hot water, then that's enough – no need to spend more money than you have to!

Room thermostats

Room thermostats are usually found in a hallway or sitting room. Their job is to monitor the temperature in the house and send a signal to the boiler telling it to switch off when the house is warm enough.

Thermostats are normally set between 18 and 21°C. This is a comfortable temperature for most people. Some people need to keep their home warmer than 21°C due to their age or health problems.

Some modern heating controls now combine the timer and the thermostat, allowing you to set different temperatures for different times of the day

Hot water cylinder thermostats

Hot water tank and cylinder thermostats regulate the temperature of your hot water by switching off the heat supply from your boiler once the set temperature has been reached. They can save you money and avoid wasting energy by over-heating your water.

If your hot water tank has its own thermostat, set it to 60°C: that's hot enough to kill harmful bacteria like legionella, but not so hot that you're wasting energy. If you find 60°C too hot, mixer taps can help.





Jargon-buster

What the different settings on your heating controls mean ...

'Auto' or **'Twice'** means the heating goes on and off during the day at the times it has been programmed to do so.

'24hrs' or **'On'** means the heating stays on all the time.

'Off' means the heating will remain off all the time.

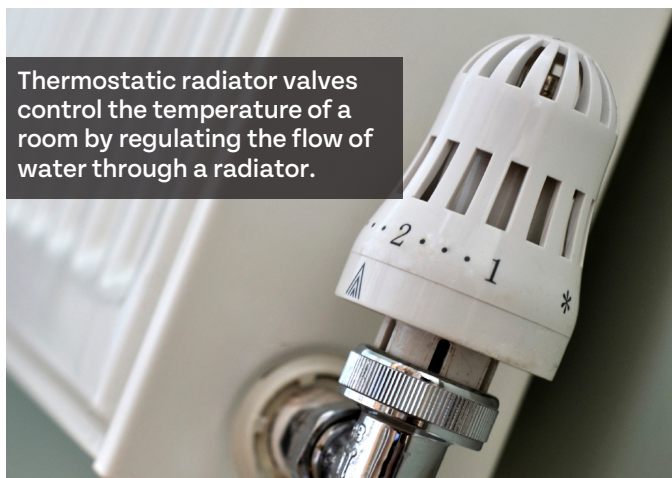
'All day' or **'Once'**, means the heating will switch on at the first 'on' setting you have programmed and then remain on until the last 'off' setting of the day.

'Boost' or **'+1hr'** switches the heating on for a one hour 'boost' of heat.

'Advance' moves the programmer to the next **'on'** or **'off'** setting in the daily cycle.



Thermostatic radiator valves control the temperature of a room by regulating the flow of water through a radiator.



Thermostatic radiator valves

Thermostatic radiator valves (TRVs) allow you to control the temperature of a room by regulating the flow of water through the radiator.

If, for example, during the day you spend most of the time downstairs, you could set the TRVs on the downstairs radiators to medium or high and leave the upstairs radiators on low.

It's not generally a good idea to turn radiators off completely for weeks or more, because very cold rooms can develop damp and mould. Instead, set the radiators in rooms you're not using to low, and close the doors so that the heat from your warm rooms doesn't travel there.

Weather and load compensation

Weather and load compensation devices can help reduce the amount of energy used by your boiler by adjusting the temperature of the radiators in response to conditions either outside or inside your home.

A weather compensator monitors the temperature outside and will automatically reduce the radiator temperature when the weather is mild.



Load compensators adjust the radiator temperature in response to changes to the indoor temperature. When the heating first comes on, the flow temperature will be set higher to warm your home more quickly, but when the desired temperature has nearly been reached, the flow temperature will be reduced which will avoid overheating.

These devices work differently to room thermostats or thermostatic radiator valves, which only affect whether the boiler is on or off or water flowing to an individual radiator.

The best option for you will depend on your individual needs and system set up, and we recommend you get advice from a heating expert.

Smart heating controls

It's possible to control your heating system with an app on your smartphone or tablet. These allow you to turn your heating and hot water on and off or adjust the temperature from wherever you are, as long as you're connected to the internet.

There are advantages to being able to control your heating while you're out. For example, you might have set your heating to come on at the time you usually come home in the evening.

But if you're held up, you can use the phone app to tell the heating to come on later.

On some apps, you have the option of using GPS technology to turn the temperature of the home up or down, depending on whether you – or family or housemates – are in or out or travelling towards the house.

Some systems will respond to weather forecasts, so if, for example, warm weather is on the way, the app will reduce the temperature setting of your heating.

CSE has produced a range of videos about using different types of central heating controls. See them on YouTube where they've had over 834,000 views

How to use a **digital central heating programmer**:
<https://youtu.be/VMQJmw0DMpE>

How to use the **Danfoss** central heating programmer.
<https://youtu.be/nXnm77TyAGM>

How to use a **non-digital programmer**:
<https://youtu.be/RKVQQxHuEPU>

How to set a **programmable room thermostat**:
<https://youtu.be/O3ECpfj-ZWU>

► This factsheet was updated in September 2026 ◀

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