CONTROL WITHOUT COMPROMISE

Gareth Ash explains how the latest heating controls can help homeowners save energy no matter what their individual requirements or restrictions

These days, we all expect to be able to communicate, shop, and play on our smartphones and tablets. Now, smart heating technology means we can control our home environment and reduce our energy usage too.

Using a central controller to link all the elements of a home's heating system, including room sensors and electronic TRVs, is at the heart of this new energy-saving technology.

Installing this type of wireless device enables users to set individual room temperatures, or group rooms together, to create different heating zones. Heating schedules can be personalised to suit lifestyles, and energy isn't wasted on heating empty rooms.

Some of the most advanced central controllers also enable the heating to be controlled remotely via an app, so consumers can ensure a comfortable, energy efficient home temperature wherever they are.

Wider use of heating controls is currently being driven by industry regulations like Boiler Plus, which recently came into force in England, and reflects the need to find smarter ways of heating our homes to cut heating costs and carbon emissions.

This new legislation recognises the energy-saving benefits of modern heating controls, which, when installed and used correctly, improve a heating system's performance and energy efficiency.

In brief, Boiler Plus stipulates the installation of products such as time and temperature controls as a minimum standard for all new central heating systems. Combi boiler installations require an additional energy saving measure, which can be a flue gas heat recovery system, smart control (with some level of automation and optimisation), weather compensating control, or load compensating control.

European legislation is also promoting the installation of individual room temperature controls for new buildings, and existing buildings when heat generators are replaced.

The new Energy Performance of Buildings Directive states that the installation of self-regulating devices (i.e. TRVs) should be considered for the separate regulation of the temperature in each room or, where justified, in a designated heated zone of the building unit.

TRVs provide accurate temperature control in individual rooms, reducing heating costs and enhancing comfort for consumers. They are also quick and easy to fit in new or retrofit installations, which is another important benefit for installers and their customers.

Having looked at some of the latest regulations relating to the choice and installation of heating controls, let's consider the different types, starting with room thermostats.

A modern room thermostat featuring load compensation provides a compliant solution to Boiler Plus as it varies the flow temperature from the boiler in relation to the difference between the measured room temperature and the room thermostat set point.

This is achieved by directly modulating the output of the boiler, thus reducing the amount of energy used. In addition to this key functionality, new programmable models are now available that offer wireless internet connectivity for controlling the heating system remotely via smartphone from anywhere at any time.

Users can adapt the thermostat's pre-defined schedules and temperatures while on the move, saving money when away, and improving comfort when returning home. Independent tests have shown that lowering home comfort temperature by just one degree can reduce energy consumption by as much as 10%, so making it quick and easy to reduce the set temperature can save energy and the environment.

A recent report from the European Building Automation Controls Association shows that energy costs for millions of households across the EU could be reduced significantly by upgrading heating systems with TRVs.

As far as the UK is concerned, the study estimates the potential energy savings of installing modern TRVs over manual radiator thermostats at 18,111Gwh. By providing accurate temperature control in individual rooms, TRVs play a pivotal role in reducing domestic energy consumption.

Like room thermostats, TRV technology has also advanced with the development of products that can be used with an app to program individual thermostats for optimum convenience and flexibility.

So, whether it's a high-tech heating app or a combination of TRVs and room thermostat, the message is clear – modern heating controls are one of the keys to keeping a home comfortably and affordably warm.

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