Weather Compensation Controls

In recent years, we've all been hearing a lot about the connected home, the smart home and the Internet of Things (IoT). Many heating engineers are already fitting smart thermostats that homeowners can adjust using their mobile phone, and we see media stories regularly about the next 'big thing' to join the suite of connected homes products available.

Overall though, a fair number of consumers still don't fully understand what heating control devices are and how they work, and so demand hasn't reached its full potential. Figures suggest that over 50 per cent of homeowners only have the very minimum heating controls, and before you think 'oh that's not so bad'. Minimum heating controls includes an on/off switch! So why are we not installing them? There has been research which suggests a lack of interest and knowledge. I actually don't believe there is a 'lack of interest' from the consumer perhaps just a lack of informed choice.

Increasing the numbers of households with heating controls tends to be driven to a great extent by the rate at which households replace their existing boilers, which is currently 5% of homes annually. Evidence indicates that installers, rather than consumers, frequently make decisions about which central heating controls to install and where to install them. With so many homes not having adequate controls there is a strong financial case to not wait for the boiler to need replacing but to go ahead and fit controls anyway.

The connected homes market is a significant sector. Since 2005 Gas condensing boilers have continued to evolve into very lean machines which are efficient as standard. And whilst we can't say they will not become more efficient in the future, as technology advances, it is unlikely their efficiencies will come down as significantly

as they have done since 2005. Now we need to look at how we can therefore make further efficiencies across the whole heating system. There is a growing number of heating control options already available, and it is important that we, as an industry consider them each one, as they say ‘One size doesn’t fit all’.

Weather compensation technology is one of those options. I’m sure those reading this will be familiar with the concept. Weather compensation controls work by placing a temperature sensor on the outside of the building, usually on a north facing wall. The sensor then sends messages to the boiler about the outside temperature so that it burns the required amount of fuel to match the needs of the building.

The idea is that the house will be kept at a constant ‘comfortable’ temperature and will never be too hot or too cold, as the boiler will be able to respond to changes in outside temperature before inside becomes too hot or cold. As the amount we use our heating largely depends upon what is going on outside, this technology is a sensible addition to the suite of options available.

Advanced controls- such as weather compensation and intelligent thermostatic controls can help the boiler operate at lower temperatures, and to maximise efficiency. Condensing boilers have dramatically increased the efficiency of home heating systems by recovering latent heat in the flue gases. For a condensing boiler to achieve the high levels of efficiency it is capable of it needs to condense for as long as possible.

Advanced controls enable the boiler to make constant, small adjustments to the flow temperature, ensuring that the boiler runs as hot as it needs to - but no hotter. By achieving a flow temperature a few degrees lower, the return temperature is lower, and the boiler condenses for longer, operating more efficiently and thus saving fuel.

In real terms, for the consumer this means, lower bills and I would suspect more importantly for them, improved comfort. Although this is clearly a very individual thing, if the high jinks in my house are anything to go by.

Heating engineers can help UK households become more in control by talking to their customers about the benefits. Of course Government incentives or even mandates would help too…..