

# UFH controls go mainstream

Jon Arntsen, of Emmeti UK, explains the thinking behind 'Part L Controls Guidance Documentation', its integration into other control systems and how the document can help with installer technical support...

With the recent publication of a controls guidance document, underfloor heating controls finally get integrated into mainstream electrical guidance documents.

The Underfloor Heating Manufacturer's Association (UHMA) - along with the British Electrotechnical and Allied Manufacturers Association - have released formal 'Part L Controls Guidance Documentation'. It can be viewed at: <http://www.beama.org.uk/en/energy/underfloor-heating/>.

This article focuses on the control of temperature per zone. So why was this guidance document necessary? There are two drivers in my opinion. The first is that warm water underfloor heating (UFH) systems have different controls requirements and they are installed in a different way.

## NO OFFICIAL GUIDANCE

Until now, there has been no official guidance on these differences, and more importantly, how to integrate a UFH system into the wider controls strategy.

After managing the temperature down to a safe level, UFH systems in common all use a simple set of controls – an electrothermic head per manifold circuit (or zone), wired to a wiring centre, which is in turn signalling a wall thermostat. This thermostat is located in a geographic zone, which is where the pipe loop per manifold circuit is emitting its radiant heat. This has been common practice for many years now.

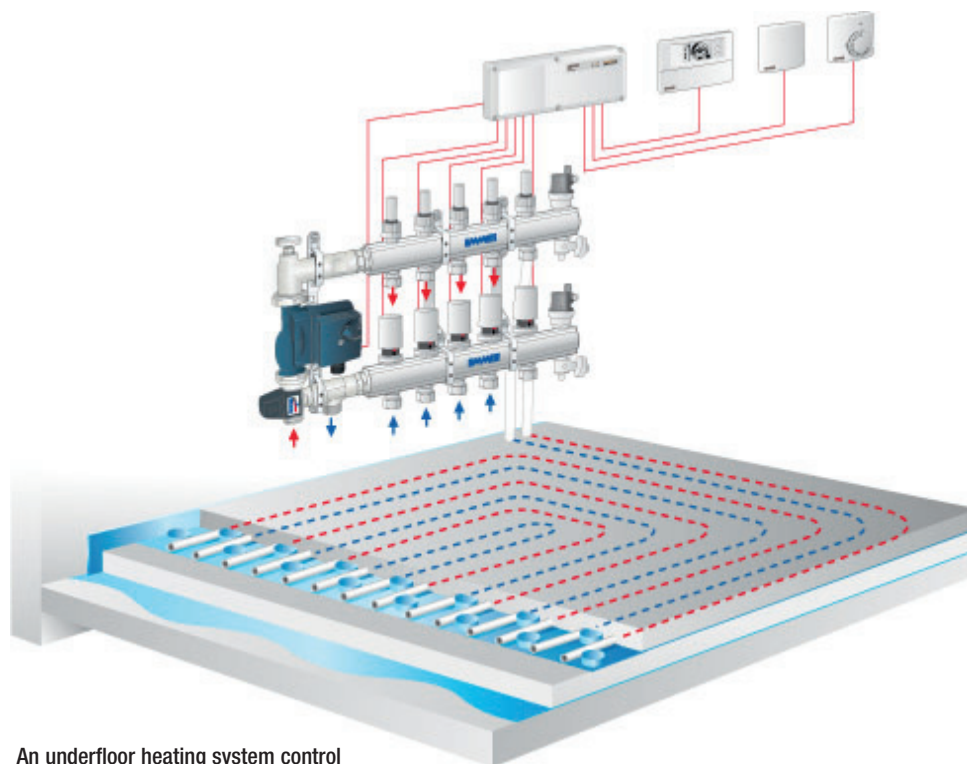
That most wiring centres cater for a secondary heating circulating pump, and the need to signal the heat source - acknowledging the requirement of boiler interlock functionality - has been well understood.

But there can be differences between each manufacturer, one from the other, and also the installers who use their equipment.

Now the underfloor heating industry, through UHMA, has a common technical approach cross linked and approved to existing good practice guidance published by TACMA (The Association of Controls Manufacturers) - also under BEAMA.

Underfloor heating encourages a different controls strategy which requires different solutions – by definition, underfloor heating means there is no visible radiator to attach a thermostatic radiator valve too.

What is commonly required is that each geographic area or zone needs a method to



An underfloor heating system control

measure the current temperature against a set temperature that the radiant heating system needs to reach.

This is achieved by use of a wall thermostat signalling (wired or wireless) back to the underfloor heating system's controls.

It has allowed increased usage of programmable wall thermostats, which enable two levels of temperature to be set, at different times. Generally, you can choose the lower of the two set temperatures for a time when the zone is not in use. You are also free to locate the wall thermostat within the zone at a more optimum location.

Manufacturers, specifiers and installers are increasingly aware that the decision they make when designing a heating system now includes the cost of running that system.

Zoning is all about giving the end user the right solution for the installation. In this time of expensive fuel costs and burgeoning climate change, it's all about a balance between comfort and cost – will it provide enough warmth, and what is the cost - both to the environment and to the end user.

The management of the energy consumption, once the activities undertaken by us professionals

(of design, installation and commissioning) are completed, is left entirely to the end user. These can be a homeowner or a commercial landlord's tenants. We consider it our responsibility to optimise the ease with which they can maximise the opportunity to reduce costs while maintaining a comfortable warmth.

The second driver to creating this guide is that we, like many other providers into the UFH market, get a disproportionate number of field installation support calls relating to the controls element of underfloor heating systems.

In our view, this is a combination of until now, the lack of common guidance, and the ongoing problem of controls sitting between two fields of expertise – the mechanical and the electrical elements of a heating system.

There is every likelihood these calls will diminish in the months ahead, as system designers and installers use this new guidance document to acquire and incorporate the expertise into their systems.

The guide also addresses newer technology, like heat pumps as the heat source.