HEAT4 is getting SMART with “SET POINTS”

What are SET POINTS and why do they matter so much to the performance and economy of a heating system? The easiest way to understand a Set Point is to think of the familiar wall thermostat. The Set Point is the number that the pointer on the dial is pointing at. When the temperature at the thermostat is below the Set Point the boiler fires, energy flows through the meter, the pumps run, the radiators get hot, the temperature hopefully rises and the energy bill rises as well.

When the temperature has risen to the set point the reverse happens; the boiler stops firing, the radiators cool and the energy bill stops rising for a while. Then as heat flows out of the room, the temperature falls until it is below the Set Point, the boiler fires up, and the cycle goes on until the heating is finally switched off. Simple and perfect! The temperature is just what you want; just as you set it on the dial and you have the comfort you have paid for. Well possibly, but as we all know where human beings and control of their machines are concerned things are never that simple. Most people will have twiddled a wall thermostat at some point and set it to a number that is completely inexplicable to others. And sometimes all agree that the heating seems to have gone mad; the winter sun is coming in the window, it’s turned mild outside and suddenly it “feels” far too warm. Windows are open; a hand reaches for the thermostat and changes it from 21°C to 15°C. The heating stops, things cool down, and everyone is relieved until they come into a cold building next morning. Engineers will talk about the many technicalities of feedback systems such as “control dead bands”, “set Point hunting”, “thermal capacity of the system”. They also offer solutions such as weather compensation controls, zoning, night set back, and two stage thermostats.

HEAT4 customers already enjoy absolute mastery of their “Set Points” for each zone and each individual heating session. Also the software delivers very precise control around the chosen set points which is far better than traditional electro-mechanical thermostats. Our next major release of HEAT4 software – Release 7 (due January 2012) offers significant developments further improving comfort and reducing energy consumption.

HEAT4 release 7 will offer control of boiler circuit water flow temperatures according to outside temperature. This is known as “weather compensation” and is required by regulation on many new installations. Now with HEAT4 it will be available to retrofit on most existing heating systems. It avoids over heating when conditions are mild and minimises preheat time when it’s cold outside.

Secondly we are introducing “Smart Set Points”™. Because HEAT4 has your local weather conditions and forecast, available from the internet, it will be able to make small automatic adjustments to the pre-programmed Set Points both before and during the heating periods. This will keep temperatures feeling just right for the weather conditions and save even more energy for our customers.
How Much Energy is a Lot of Energy?

We are asked to switch off lights and electronics from stand-by to save a lot of energy, reduce greenhouse gas emissions and slow global warming. We suggest that this amount of energy, although it is large and should be not ignored, actually pales in significance compared to the energy that could be saved if all our community buildings had the heating on only in the zone and at the time and temperature required for the particular use e.g. the ‘main hall’ may be used by the Badminton Club and Bridge Club with very different temperature requirements. The SI unit of energy is a Joule which is a rather small amount and for historic reasons we buy and sell energy and think about it in the familiar Kilowatt-Hour (kWh). When you buy 1 kWh of electricity for about 11p or 1 kWh of gas for about 3.3p the amount of energy that flowed through the meters, into your building is the same and is by definition 3,600,000 Joules or 3.6 Mega Joules. But what can 1 kWh of energy do for us? We have done some measurements and calculations to find out. 1 kWh of energy will:

- Boil water in a kettle to make about 24 mugs of tea
- Lightly toast about 70 slices of bread
- Operate a HEAT4 intelligent heating management system for 100 hours
- Keep a low energy light bulb (60W equivalent) on for 91 hours
- Operate a Satellite TV box for about 50 hours or in standby for 59 hours
- Keep a 60W light bulb on for 17 hours
- Operate a 42” plasma screen TV for about 4 hours or in standby for 500 hours
- Operate a typical 24kW domestic combi boiler for 2.5 minutes
- Drive a petrol family car at 60mph for 1 minute
- Operate a typical 80kW large village hall/church commercial boiler for 45 seconds

If you are responsible for a community building, meeting rooms, offices, or a large residential property and want to do your bit to save energy it really is worth paying attention to the accurate control of the heating system. Every minute accounts for a lot of energy.

HEAT4 Total Service

We are pleased to announce that we are designing our “HEAT4 Total Service” contract to offer to customers from early 2012. This will be a heating operation and management service. It will obviate the need for customers to have any direct dealings with the computer technology that runs HEAT4. We are continually striving to make our HEAT4 software as quick and easy to use as possible but appreciate that many people still do not have the inclination or time to spend on a computer, Ipad or Smart phone. And why should you when we are specialists, available, able and passionate, about delivering heating comfort and energy efficiency? Some of the service features we intend to offer are:

- 24/7/365 Contact with us for immediate response by telephone(03 number), Email or SMS text
- Accept and action unlimited calls and messages to set up and amend your heating programme from right now to any date up to 12 months ahead
- Review and action all “alerts” generated by HEAT4 regarding your heating system within 1 hour
- Hold and maintain contact details of any persons authorised by you to make decisions regarding the heating system. You can include your heating maintenance contractor with whom we will liaise for prompt attention to maintenance and faults
- Give telephone advice and support on all matters concerning heating your building and operating the HEAT4 control system
- Send an annual email report summarising the operation of your heating system

The price for this service will be about £8 + vat /week which for most customers will be far less than the energy savings we will achieve on their behalf. We are still designing the service so please contact us if you have any suggestions on how we could best meet your requirements.