



Direct Fired Hot Water Controller

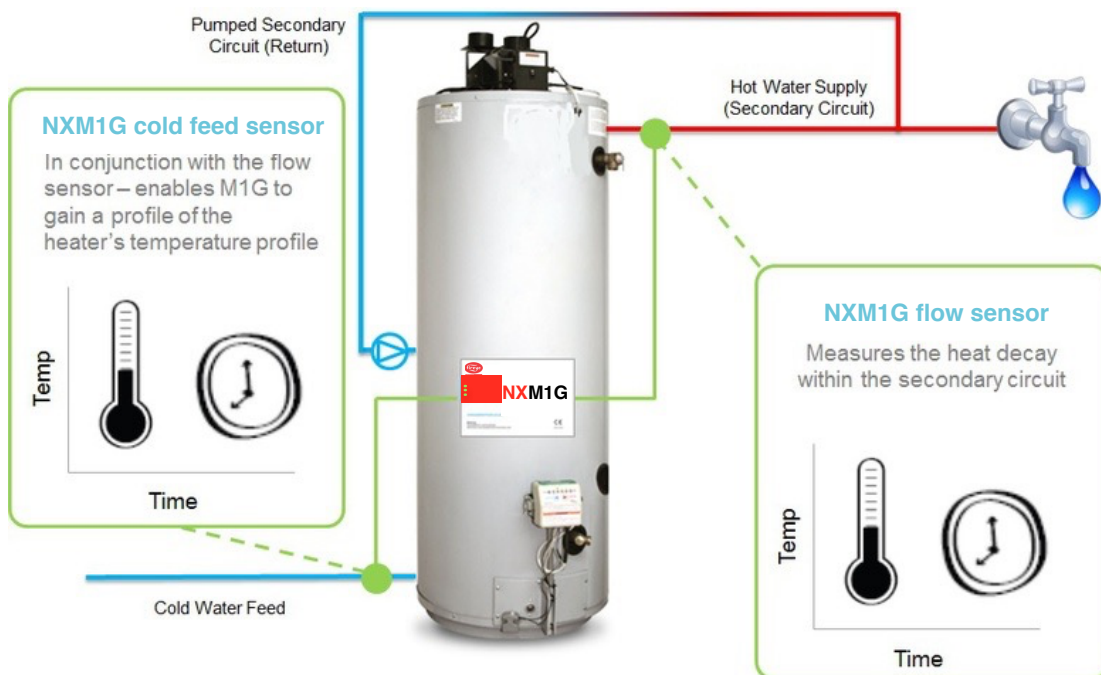
NXM1G is a patented intelligent controller specifically designed for all standard Direct Fired Hot Water Heaters. NXM1G can be retro-fitted to individual Hot Water Heater and seamlessly integrates with existing building management systems (BMS). NXM1G does not alter the set point of the Water Heater or the stored water temperatures.

How It Works:

NXM1G detects when a Water Heater has a real demand to meet or whether it is short cycling by taking temperature measurements every second of the hot water supply (Secondary Circuit) i.e. the hot water leaving the water heater to the taps or point of use and cold water supply to the water heater - and analyses this data every 10 seconds. A gradual decrease of temperature in the hot water supply is recognised by the NXM1G as 'standing losses' and therefore it prevents the water heater from firing unnecessarily i.e. 'short cycling'. If there is a sharp decrease, i.e. the temperature of the hot water supply drops rapidly, the NXM1G instantly recognises this as a real demand for hot water and allows the water heater to fire.



Illustration of a NXM1G installation



For more information contact mattarmstrong@liasindustrial.co.uk
www.liasindustrial.co.uk/NXM1G

What is short cycling?

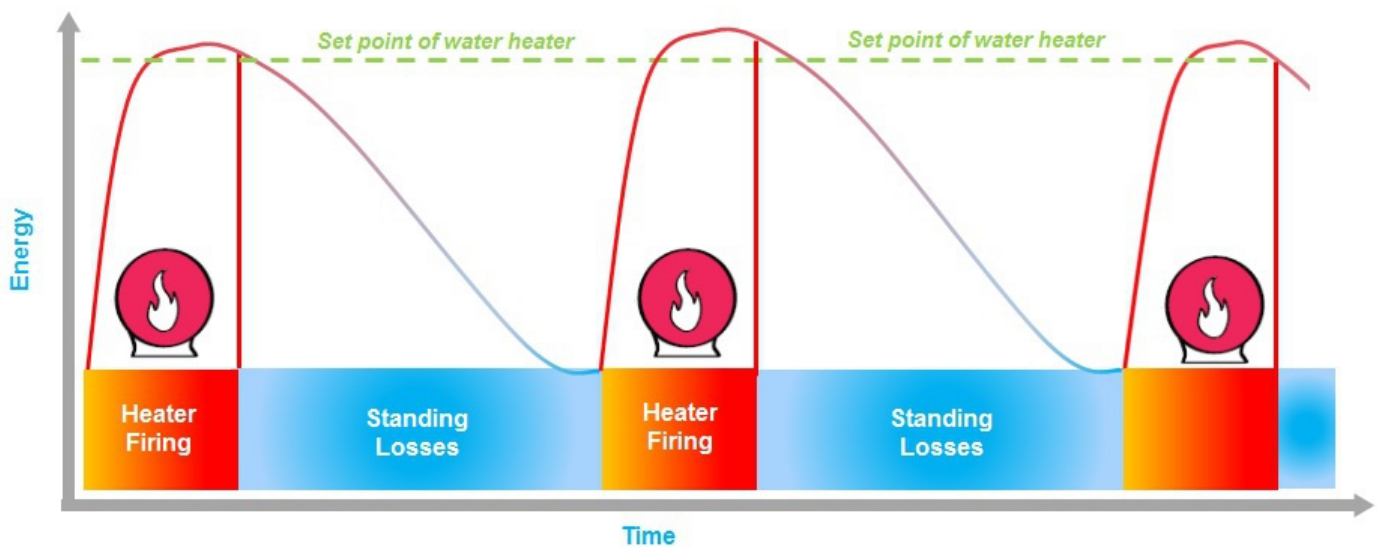
Whatever the size and age of the Direct Fired Hot Water Heater, heat will be lost through the heaters casing and secondary pumped circuit i.e. hot water supply. This is known as 'standing losses'. Furthermore, the majority of Direct Fired Hot Water Heaters are single stage fired with an input heating capacity far in excess of what is normally required in order to cope with the current "standing losses". Direct Fired Hot Water Heaters fire to heat the water to 55oC to 60oC. Once reached, the Hot WaterHeaters thermostat signals to the Water Heater that the required temperature has been reached and the Water Heater stops firing. With the Water Heater now in standby, heat in within the heater and secondary circuits starts to cool the stored water temperature due to standing losses and as they cool the Water Heater re-fires and reaches temperature very quickly and cools down slowly The Water Heater can fire unnecessarily just to replace the standing losses, rather than genuine demand for hot water. This is 'short cycling' and it increases an organisation's energy costs and carbon emissions unnecessarily.

The minimum firing capacity (kW) of the heater exceeds the amount of heat lost

As consequence the heater reaches temperature very quickly and cools down slowly

This is short cycling –which repeats itself, therefore wasting energy and money

Short cycling occurring when there is no genuine demand for heat



For more information contact mattarmstrong@liasindustrial.co.uk
www.liasindustrial.co.uk/NXM1G