

BOILER MANAGERS DELIVER HUGE SAVINGS FOR DOMESTIC AND COMMERCIAL USERS

Reducing domestic energy use is a challenge for most households, even with the pressure of ever growing fuel bills and the on-going drive to become more environmentally friendly. For providers of social housing the need is acute, with thousands of tenants classified as 'fuel poor'.

The Energy Saving Trust says that turning the thermostat down one degree can save a household around £65 (260kg of carbon dioxide) per year. However, for tenants in fuel poverty heating their homes to government-accepted adequate standards of warmth (usually 21°C for the main living area and 18°C for other occupied rooms) is such a financial struggle that a growing number simply can't afford to. Turning the thermostat down isn't an option. Tenants just want lower bills and to remain warm and comfortable in their homes.



- Replacing an old boiler with a high efficiency condensing system and fully insulating properties are amongst the most effective energy saving measures. But there are a myriad of others that work well in social housing and offer meaningful savings without behavioral change required.
- Boiler managers are a relatively new approach and one that is creating much interest with social landlords. Typical savings of 20% can be expected and higher savings have been achieved, subject to household usage pattern. The best units are Energy Saving Trust recommended and require no user input from tenants, they are a fit-and-forget solution with a payback period of around two years. They also prolong the lifespan of boilers because they do not have to work as hard.

The manager units themselves are small (around 177mm x 12mm x 37mm) and take a qualified electrician around 90 minutes to install within the vicinity of the boiler. No invasive plumbing or disconnection of the gas supply is required therefore the installer does not require 'Gas Safe' registration. They are equally suited to new-build or retrofit situations and to gas, oil or LPG.



The boiler manager's suitability for retrofit makes it well-placed to help upgrade the energy efficiency of older properties. According to DECC, the proportion of households living in fuel poverty increases with the age of the property. In 2011, 18% of households living in properties built before 1919 were fuel poor, along with 13% of households living in properties built between 1919-1964. This compares to six percent of households living in properties built after 1964.

Field trials carried out in social housing properties proved the efficacy of boiler managers, with savings of between 15% and 31% reported by tenants with reasonably normal usage patterns. One elderly tenant, who required the heating

on for long periods to relieve pain from a medical condition, recorded savings in excess of 61%. This tenant commented on how her fuel pre-payment had significantly dropped following installation of the boiler unit.

Leading boiler managers control the firing cycle of combi, condensing or modulating boilers, reducing unnecessary dry cycling through the use of Variable Thermal Response, in some cases cutting firing times by half. Data from electronic sensors fitted to the flow and return pipes of the heating system is used to vary the system temperature according to demand. This significantly reduces fuel wastage caused by temperature overshoot, heat saturation of the heat exchanger, flue losses and unnecessary cycling. Internal comfort levels are maintained and CO2 emissions reduced. To further enhance the performance of the manager an external weather sensor can be used with heating-only or combi boilers.

Commercial sense

The same approach is also suitable for commercial premises, for example council offices, schools, leisure centres and health facilities. Commercial boiler managers work on exactly the same principle as their domestic counterpart. Typical savings of 20% may be expected and higher savings have been achieved, subject to boiler usage patterns. Again, the units are compact (around 180mm x 180mm x 63mm) and straight-forward for a qualified electrician to fit. Units are available for installation in commercial environments with mains gas, LPG or oil boilers and may be suitable for single boilers and linked pairs of boilers under a common header where the boilers output exceeds 30kW. Look for units that can be used in conjunction with a building management system (BMS) where necessary. These will not compromise maximum flow temperature as set by the boiler thermostat or BMS.

Conclusion

The drive to make buildings more environmentally friendly and manage rising energy bills is only going to gain pace. Boiler managers are an easy to install and highly effective means of managing heating and hot water bills and should be strongly considered as part of an energy efficiency programme. By controlling the boiler cycling rate and time, meaningful savings can be made without affecting comfort levels or hot water availability within the property. It is a simple concept that can deliver big savings and prolong the lifespan of boilers simply because they are not working so hard.

