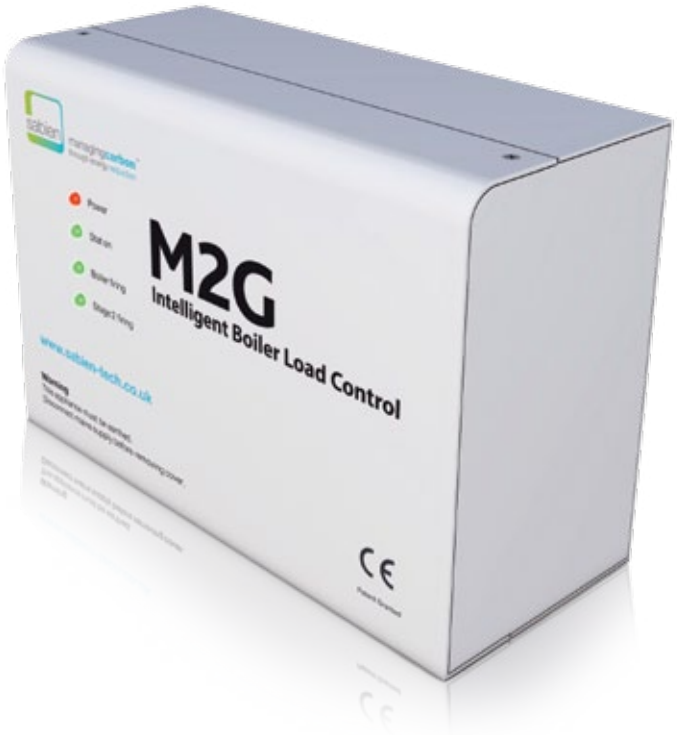
sabien managingcarbon™ through energy reduction

M2G Intelligent Boiler Load Optimisation



Intelligent, real-time, individual boiler control for more efficient boilers, lower costs and lower carbon emissions

M2G

M2G is a patented intelligent boiler load optimisation controller supplied and manufactured by Sabien Technology. M2G prevents the inherent problem of boiler dry cycling by detecting when the boiler has a real demand to meet by taking temperature measurements every second of the 'flow' and 'return' – the water leaving the boiler and the water returning to the boiler - and analyses this data every 10 seconds.

A gradual decrease in the 'flow' and 'return' temperatures is recognised by the M2G as 'standing losses' and therefore it prevents the boiler from firing unnecessarily i.e. 'dry cycling'.

If there is a sharp decrease, i.e. the temperature of the 'flow' or 'return' rapidly drops, the M2G instantly recognises this as a real boiler (heating) demand and allows the boiler to fire.

Compatible with natural gas, oil and LPG fired boilers, M2G can be retro-fitted to individual boilers and seamlessly integrates with existing building management systems (BMS) including those with variable temperature control, weather compensation sequencing and on demand control etc. There are no conflicts with existing controls.

UK's leading boiler control technology reducing energy consumption and carbon emissions by between 10% and 25%...

- Without major disruption
- Without major cost
- Without affecting your existing Building Management System or controls

What is boiler dry cycling?

Whatever the size, age or application of commercial and industrial boilers, all will lose some heat through their casing and via their flue. This is known as 'standing losses'. Furthermore, most commercial boilers are commissioned with a heating capacity far in excess of what is normally required in order to cope with extreme weather.

In normal operating mode, commercial boilers fire up to get the building to the temperature level required. Once reached, a building management system (BMS), or the boiler's thermostat, signals to the boiler that the required temperature has been reached and the boiler stops firing.

Most modern buildings, due to high levels of insulation, retain their optimum temperatures for a long time once that level is met. However, the boilers having shut down and in standby now start to cool due to standing losses and, as they cool, they can fire up unnecessarily to replace the standing losses even though there is no demand for further heat in the building at that time.

This is 'dry cycling' and it increases an organisation's energy costs and carbon emissions unnecessarily.

The good news is that it can now be eradicated – quickly, simply and effectively

Introducing Sabien Technology

Sabien Technology was founded in 2004 and was floated on the London Stock Exchange's AIM market in 2006.

With a skilled management team highly experienced across the telecommunications and energy sectors, the corporate strategy of Sabien Technology is to deliver to market proven and commercially viable HVAC technology that reduces carbon emissions and energy usage for private and public sector organisations.

M2G is the first product brought to market under this strategy. Protected by a European patent (Patent Number 1607820), M2G is an intelligent boiler load optimisation controller that improves the efficiency of each individual boiler it is fitted to and complements the existing controls such as BMS, weather compensation or sequencing etc.

Sabien Technology has established an international distributor network across EMEA and the USA and is actively seeking to develop this further.

Furthermore, Sabien Technology works with some of the UK's and Europe's leading Facility Management, Energy Supplier and Commercial Property Management Companies.

For our details of our international distributor network please visit www.sabien-tech.co.uk/sabien-worldwide

Proven technology delivering proven energy savings

M2G uses real time analysis and dynamically controls the boiler to typically reduce carbon emissions and energy consumption by between 10% and 25%, delivering payback within two years.

Sabien Technology has installed M2G across some of the UK's largest private and public sector organisations' estates.

Lincolnshire County Council

Lincolnshire County Council commissioned us to install M2G units on 82 boilers across 23 properties; the properties included residential homes, libraries, registry offices and other council offices. The ability for the M2G units to be integrated with existing building management systems and other controls, ensuring that set-point temperatures and comfort conditions were maintained, was a key factor in the decision to purchase. Measurements taken on three sites were analysed and weighted average energy saving across the sites was 15%. This would reduce CO2 emissions across the 23 sites by 1,980 tonnes over five years and deliver a projected return on investment within 2.3 years.

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…M2G was installed as part of a rolling program to all suitable buildings within the 7,500 strong BT estate

BT

Following extensive pilots, M2G was installed as part of a rolling program to all suitable buildings within the 7,500 strong BT estate. M2G's ability to integrate with BT's existing Building Management Systems and its vast range of single and multiple boiler applications (regardless of size and age) was a unique benefit provided by M2G that is helping BT meet its corporate strategy of reducing emissions by 80% by 2016 in the UK.

Proven, effective technology delivering tangible bottom line savings

HMS Sultan

HMS Sultan is a shore training base in Hampshire and home to the Defence School of Marine Engineering and the Royal Naval Air Engineering and Survival School. As part of an initial assessment, Sabien Technology installed M2G devices on three boilers servicing the JRAC building at the base. After a four-month pilot, data analysis demonstrated that the devices would deliver a 12% reduction in energy consumption. Across the estate, this would equate to annual costs savings of £126,000, deliver a reduction in carbon emissions of around 1,000 tonnes per year and deliver payback on the project within 1.4 years.

…annual costs savings of £126,000, deliver a reduction in carbon emissions of around 1m kg per year

…over a three month winter period, gas consumption and carbon emissions were reduced by between 14% and 17%

Aviva

Aviva, the UK's largest insurer and one of Europe's leading providers of life and general insurance with over 34 million global customers, commissioned a pilot of Sabien's M2G technology over the 2007/08 winter period. The M2G intelligent boiler load optimisation controllers were installed on three sites that represented a cross-section of the entire Aviva estate. Over a three month winter period, gas consumption and carbon emissions were reduced by between 14% and 17%, averaging at 15% across all three sites. This proved that the average payback per M2G was just 50 weeks, with each unit delivering average annual CO2 savings of 76 tonnes. Aviva also noted the expectation to achieve even higher proportionate savings than those achieved in the winter pilot during periods of higher ambient temperature, when boilers are subject to increased dry cycling. Not surprisingly, a subsequent estate-wide rollout was commissioned.

For further information on these case studies, and to view others, visit www.sabien-tech.co.uk/case-studies

M2G working with your Building Management System

M2G can be integrated with any Building Management System (BMS). However, it is often assumed that the BMS is already fully optimising the boilers to prevent dry cycling and M2G is not required when in reality, the majority of BMS's are controlling the boilers from the 'common header' i.e. the blended temperature of all boilers making it physically impossible to identify which boiler is dry cycling from a single blended measurement. This is why M2G is required to optimise each individual boiler.

M2G takes its operating instructions directly from the BMS. In this way the existing BMS strategies are always maintained including weather compensation, sequencing and demand control etc. Furthermore your existing BMS is able to connect directly to each M2G.

Please get in touch today

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