



Energy • Technology • Control



ETC6000 Series Burner Control System

# ETC6008 Burner Control System

The ETC6008 Burner Control System redefines fuel flexibility with advanced “fuel blending” capabilities and oxygen trim which monitors exhaust oxygen to adjust fuel:air ratio in real time to ensure optimal combustion. Integrated with IoT frameworks, it ensures safe, efficient, and environmentally responsible combustion management.

## Features:

- **Fuel flexibility:** Designed for fully modulating dual fuel (gas and oil) burners.
- **Streamlined operations:** All burner start up sequence functions and timings fully integrated.
- **Ignition system integration.**
- **Multi sensor flame monitoring:** IR, UV, photocell and ionisation flame detection supported.
- **Dual drive management:** Control of two variable speed drives for combustion air and fuel pump control.
- **Enhanced safety measures:** Fuel safety valve control and leak testing.
- **Multi-curve configuration:** Up to 4 fuel:air ratio profiles.
- **Comprehensive application support:** Versatile programming options allowing most applications to be addressed.
- **Integrated oxygen trimming:** Oxygen trim using dedicated ETC oxygen probes and interfaces ensures safe combustion.
- **Enhanced control compatibility:** Compatible with ETC621x boiler water control system.
- **Dynamic fuel blending:** Adjusts fuel usage in real-time based on availability and operational needs.
- **Compliance-driven design:** Designed to meet and exceed global environmental standards.

## Benefits:

- **Waste fuel utilisation:** Enables users to use combustible waste products as fuel, reducing overall fuel costs and disposal costs.
- **Enhanced positioning accuracy:** Rotary actuators with a positioning accuracy of  $\pm 0.1^\circ$  replace conventional characterising cams and linkages and eliminates backlash and hysteresis.
- **Energy-saving strategy:** Using a second setpoint during periods of low demand can save up to 10% in fuel usage.
- **Secure system operation:** Passcode protection to prevent untrained/unauthorised changes to combustion set-up.
- **Enhanced operational insights:** Software allows advanced interfacing functions and collection/trend logging of data.
- **Compact installation solution:** Small ‘footprint’ allows the ETC6008 to be mounted directly within the burner enclosure.
- **Sustainability commitment:** Minimises fuel costs by dynamically balancing usage based on availability.
- **Pre-emptive analytics:** Supports proactive maintenance, reducing downtime and increasing boiler room operational lifespan and performance.

**The ETC6008 Burner Control System builds upon the features of the ETC6000, introducing enhanced capabilities for mixed fuel management. Designed to handle multiple fuel profiles, the ETC6008 incorporates a fuel blending function that allows the system to bias the use of one fuel over another depending on availability. This ensures optimal operation even in circumstances where fuel supplies may fluctuate. The blending function is governed by a signal from external systems, which provides real-time input to adjust the fuel mix dynamically, maximising efficiency and ensuring seamless transitions between fuel types, whilst maintaining safe combustion.**

In addition to its blending capability, the ETC6008 includes oxygen trim as a mandatory function. Oxygen trim continually monitors the oxygen content in the exhaust gases and adjusts the fuel:air ratio in real time to maintain optimal combustion conditions. This precise control over the combustion process improves fuel efficiency and reduces emissions, ensuring that the burner operates at peak performance while meeting stringent environmental standards.

The ETC6008 integrates a range of critical burner management functions into a single, compact unit. These include burner control, gas leak detection, gas valve proving, flame supervision, PID modulation, and electronic ratio control (previously known as fuel:air control or gas:air control). By consolidating these functionalities, the system simplifies wiring and interconnections, reducing installation complexity and improving overall reliability. This functional integration ensures smoother operation and fewer potential points of failure, enhancing both system performance and longevity.

One of the key benefits of the ETC6008 is its ability to deliver improved combustion efficiency and greater turndown ratios, allowing the burner to operate more flexibly across varying loads. This results in fuel savings of up to 5%, which can significantly reduce operating costs over time. Additionally, by optimising the combustion process, the system contributes to a notable reduction in harmful CO<sub>2</sub> and other flue gas emissions, making it an environmentally responsible choice for facilities looking to minimise their carbon footprint.

The ETC6008 Burner Control System is a highly versatile and efficient solution for managing complex fuel profiles in dual-fuel or multi-fuel burners. Its advanced fuel blending capabilities, combined with mandatory oxygen trim and integrated burner control functions, make it a reliable and cost-effective option for improving burner performance, reducing emissions, and enhancing overall energy efficiency.

**For further information on the ETC6008 Burner Control System contact ETC today for bespoke solutions tailored to your needs.**

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