ETC

Energy • Technology • Control

ETC6000 Series Burner Control System

ETC6009 Burner Control System

The ETC6009 Burner Control System offers sophisticated blending for mixed gas profiles, using IoT-enabled inputs to optimise fuel usage. Its compliance-ready design ensures both efficiency and environmental responsibility.

Features:

- **Fuel flexibility:** Designed for fully modulating dual gas 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 for two gas delivery systems.
- **IoT connectivity:** Choice of communications protocols including RS-485, Profibus and Modbus RTU.
- **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:** Can be expanded to allow oil firing with ETC6221.
- **Real-time blending adjustments:** Automatically modifies fuel mixes based on real-time availability and input.
- **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 ±0.1° 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 ETC6009 to be mounted directly within the burner enclosure.
- **Cost efficiency:** Minimises fuel costs by dynamically balancing usage based on availability.
- **IoT integration:** Provides enhanced connectivity for remote monitoring and system adjustments.

The ETC6009 Burner Control System represents a significant advancement in burner control technology, offering enhanced capabilities that go beyond those provided by the widely-used ETC6003 system. One of the key features that sets the ETC6009 apart is its innovative gas blending functionality, which is particularly advantageous for applications that rely on mixed gas profiles. This feature makes it ideal for burner configurations that utilise dual-fuel or multi-gas setups, where the availability and type of fuel can fluctuate based on supply conditions. The ability to seamlessly manage these variations ensures that the burner can maintain continuous, efficient operation even when one fuel source becomes limited or unavailable.

The ETC6009 is specifically designed to handle situations where multiple gas sources are employed, allowing operators to prioritise the use of one fuel over another depending on availability and cost considerations. For example, when one gas source is more readily available or less expensive than another, the system can automatically adjust the fuel mix to maximise efficiency and minimise operational costs. This is particularly useful in industrial settings where natural gas and biogas, or other gas combinations, might be used in varying proportions depending on supply. By offering this flexibility, the ETC6009 ensures that fuel is always utilised in the most cost-effective manner, providing significant operational savings over time.

The process of gas blending is controlled by a signal from an external sensor or system, which provide real-time data regarding fuel availability and operational needs. The 4-20mA signal dictates the exact ratio in which the various gas sources are blended. As conditions change, such as fluctuations in fuel supply or changes in operational demands, the ETC6009 adjusts the blend accordingly, ensuring that the burner continues to perform optimally without the need for manual intervention. This level of automation not only simplifies operations but also ensures that the system can adapt in real-time to changing circumstances, providing both reliability and fuel management flexibility.

In addition to its gas blending functionality, the ETC6009 incorporates oxygen trim as a standard feature. Oxygen trim is a vital component in maintaining combustion efficiency by continuously monitoring the oxygen content in the flue gases. By analysing this data, the system is able to fine-tune the air-fuel ratio to achieve optimal combustion conditions. This leads to more efficient fuel use, reduced emissions, and improved overall burner performance. Oxygen trim ensures that the burner operates at peak efficiency while meeting increasingly stringent environmental regulations, particularly those aimed at reducing greenhouse gas emissions.

The ETC6009 Burner Control System is engineered for precision control, making it an ideal solution for complex industrial environments that require the ability to manage multiple gas sources while maintaining high levels of efficiency and environmental compliance. With its dual strengths of gas blending and oxygen trim, this system offers a comprehensive solution for facilities looking to optimise their fuel usage, reduce emissions, and adapt to dynamic fuel availability. Whether used in power generation, manufacturing, or other industrial applications, the ETC6009 provides the control and flexibility needed to ensure efficient, reliable, and environmentally responsible operation.

For further information on the ETC6009 Burner Control System contact ETC today for bespoke solutions tailored to your needs.

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