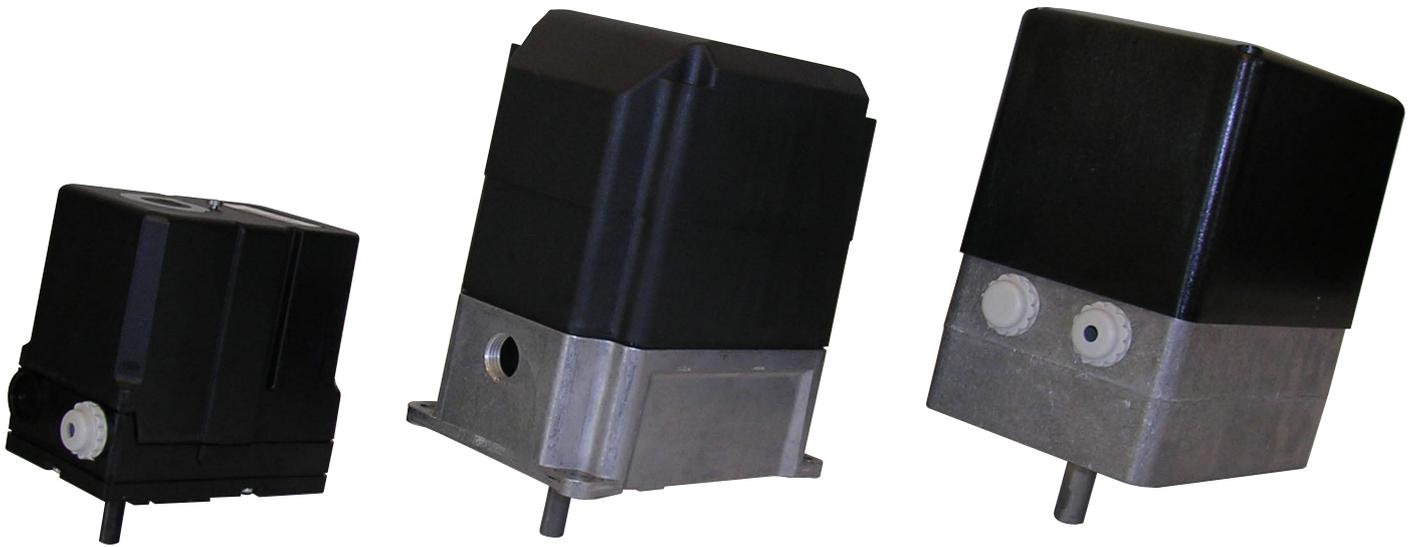




Energy • Technology • Control



ETC6000 Series Burner Control System

ETC6000 Series Rotary Actuators

ETC offers a wide choice of dedicated rotary actuators ranging from 4-40Nm in size for use with the ETC6000 Burner Management System series.

Features:

- Up to 10 rotary actuators per system (based on 6000 series controllers). This scalability supports complex burner configurations, allowing precise control over multiple components and enhancing the overall system efficiency.
- Intelligent fault reporting such as loss of communication and positional errors these automated fault reports help operators quickly identify and resolve issues, minimising downtime and maintenance costs while ensuring safety compliance.
- Each rotary actuator is equipped with a unique serial number, bolstering system integrity. Replacement drives can only be recommissioned using a unique passcode specific to the controller, ensuring secure operation and protecting against unauthorised access or tampering.
- The rotary actuators are designed to offer highly accurate positional control, ensuring consistent combustion performance.

Benefits:

- The system minimises the need for extensive wiring infrastructure, leading to simpler installation processes and lower costs associated with materials and labour.
- Options for fully certified ATEX and IECEx compliant versions, the system is suitable for use in hazardous environments, ensuring safety and compliance with international regulations.
- Compared to previous designs, which required one channel per rotary actuator, this system consolidates connections, leading to fewer terminations. This enhances reliability by reducing potential failure points and simplifies the wiring process, saving time during installation.
- Designed to integrate seamlessly with advanced control and monitoring platforms, offering increased functionality and remote access capabilities when combined with complementary systems.

The ETC rotary actuators are meticulously engineered to deliver precise positioning of air dampers and fuel valves, achieving an exceptional resolution of 0.1° over a 90° stroke. This unparalleled level of accuracy ensures the reliable repetition of air-fuel ratio profiles, a critical factor for maintaining optimal combustion conditions. By employing a dedicated rotary actuator for each variable component within a burner control system — such as secondary air dampers, and gas and oil metering valves—the reliance on complex mechanical linkages is entirely removed. This design not only simplifies the installation process but also enhances the overall reliability and performance of the system.

Traditional mechanical linkages often suffer from inherent issues, including hysteresis and backlash, which can significantly degrade system performance. Over time, these mechanical connections are prone to loosening and wear, leading to inconsistent and unreliable positioning, particularly during directional changes in movement. Such inaccuracies compromise combustion efficiency, increasing both fuel consumption and harmful emissions. Moreover, these limitations necessitate compensatory measures during commissioning, requiring combustion engineers to set the combustion profile further away from the stoichiometric point to account for these variabilities. While this adjustment mitigates inconsistencies, it often comes at the expense of overall system performance and efficiency.

The flexibility of actuator choice within the ETC range allows systems to be tailored to meet specific operational demands while upholding exceptional levels of performance. For applications requiring greater actuation force than the ETC models provide, larger rotary actuators can be seamlessly integrated with the ETC controller via the ETC6020 Line Voltage servo interface.

In particular, the EX actuators in the range are available with actuation forces of either 20Nm or 40Nm, designated as the ETC6023-Ex and ETC6024-Ex models, respectively. These actuators are fully compatible with all OEM variants of the ETC6000 series controllers, ensuring seamless integration across diverse system configurations. They are marked with the Ex type designation – II 3 G Ex nR II C T5 Gc – and have undergone rigorous evaluation and certification by ExVeritas. This certification guarantees compliance with stringent safety standards, making them suitable for deployment in potentially explosive atmospheres.

For additional versatility, systems requiring actuators in other zones can incorporate third-party drives via the ETC CANBus servo interface. This adaptability ensures the effective deployment of rotary actuators across a wide range of applications, catering to the diverse demands of modern combustion control systems. By combining precision, flexibility, and safety, ETC rotary actuators exemplify the highest standards of performance, reliability, and compliance.

For further information on the ETC6000 Series Rotary Actuators contact ETC today for bespoke solutions tailored to your needs.

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