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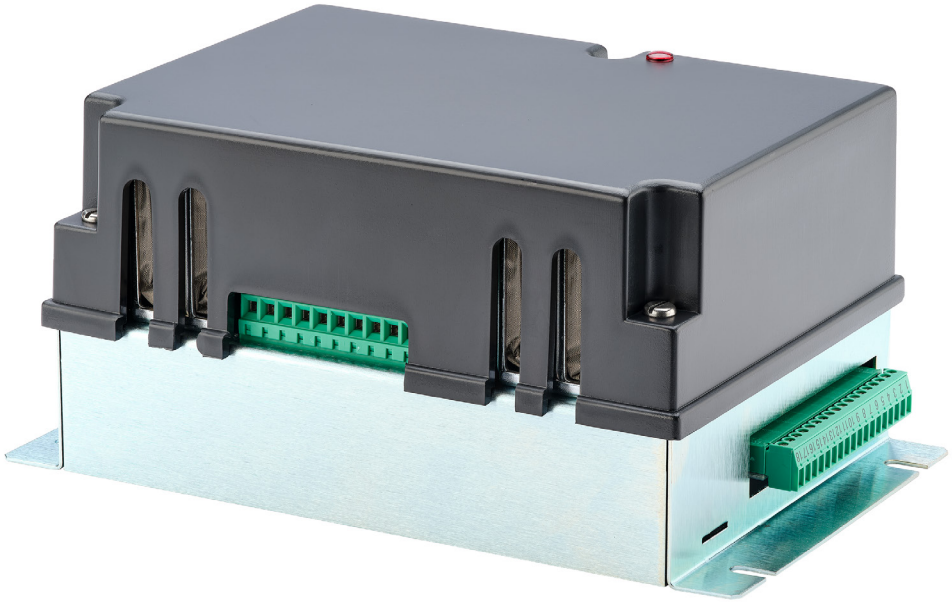

ETC6000 Series Burner Control System

ETC6212 Water Level Control

The ETC6215 is a compact, cost-effective expansion module for the ETC6000 Series of burner control systems. Designed for basic boiler drum level control, the ETC6215 is ideal for installations where advanced features such as TDS monitoring are handled externally or not required. It provides essential feedwater control and high/low-level safety interlocks for industrial steam boilers.

Features:

- **Single 4–20mA Input:** Continuous level monitoring using a single analogue probe.
- **Digital Inputs:** Supports conventional on/off-type level switches (e.g., conductive probes) for safety limits.
- **Relay Outputs:** Configurable outputs for pump control and high/low level alarms.
- **CANBus Communication:** Seamless integration with ETC6000 series via the CANBus network.
- **Expandable Functionality:** Compatible with the ETC6211 Daughter Board for TDS monitoring and automated blow-down.
- **HMI Integration:** All control parameters and diagnostics accessible via the ETC6000 touchscreen HMI 6075".

Benefits:

- **Cost-Effective Solution:** Ideal for installations requiring essential boiler water level control without advanced features.
- **Simple Integration:** Easily connects to the ETC6000 series via CANBus for synchronised control and monitoring.
- **Essential Safety Coverage:** Supports high and low-level alarms via relay outputs and digital inputs for conductive probes.
- **Flexible Control Modes:** Offers both basic on/off pump control and optional variable speed operation when paired with the ETC6211.
- **Clear Visual Feedback:** Full HMI integration with real-time status, fault logging, and trend monitoring.
- **Upgradeable Design:** Expandable with the ETC6211 Daughter Board to add TDS monitoring and automatic blow-down functions.
- **Versatile Installation:** Compatible with various boiler types and suitable for both new builds and retrofits.
- **Wide Power Supply Range:** Accepts 24:230 VAC, making it adaptable to diverse industrial power environments.
- **Simplified Maintenance:** Modular design allows for straightforward diagnostics and component replacement.
- **Fast Deployment:** Straightforward commissioning process using ETC6000's standard HMI interface and parameter structure.
- **Future-Proof:** Scalable architecture means features can be added over time, reducing the need for early system replacement.

The ETC6215 Expansion Module from Energy Technology & Control is a purpose-built solution for industrial boiler applications that require reliable, straightforward water level management. Designed as part of the ETC6000 series ecosystem, it brings robust functionality in a compact form factor, offering cost-effective water level control for systems that do not require the full range of advanced features provided by the ETC6212.

At its core, the ETC6215 enables precise control and monitoring of boiler drum water levels using a single 4–20mA analogue input, which typically connects to a capacitance or differential pressure probe. This input provides continuous feedback to the system, ensuring stable feed water delivery and safe operation of the boiler under varying load conditions. The device also supports digital inputs, allowing integration with conventional on/off-type level switches such as conductive probes. These inputs are commonly used to establish high and low-level alarms or shutdown interlocks, providing an essential layer of operational safety.

Despite its simplified feature set, the ETC6215 does not compromise on quality or reliability. It has been developed to the same engineering standards as the rest of the ETC6000 family, using industrial-grade components and intelligent system design. Its control algorithms are well suited to boilers operating with relatively stable steam loads or installations where existing infrastructure limits the complexity of automation that can be deployed. This makes the ETC6215 an excellent choice for small to medium-sized boilers, retrofit projects, or applications where budget constraints limit the use of higher-end modules.

The ETC6215 module connects to the main ETC6000 controller via a high-speed CANBus interface. This allows real-time exchange of control logic, system feedback, alarms, and trends. Once connected, the expansion module's functionality becomes fully integrated into the ETC6000 HMI interface. Operators and commissioning engineers can access setup parameters, view water level trends, and monitor pump activity through the familiar touchscreen interface. This ensures consistency and ease of use across all ETC6000-based systems.

In terms of pump control, the ETC6215 offers both relay-based on/off control and an optional analogue output (when fitted with the ETC6211 daughter board) for modulating drive of a variable speed pump or control valve. In its standard configuration, it provides outputs for two feedwater pumps, each controlled via independent relays. These can be set up for lead/lag operation or duty/standby switching, depending on the system requirements. Control logic is easily configured through the HMI, and the module can be adapted to suit specific commissioning preferences or site conditions.

One of the ETC6215's key strengths lies in its modularity. It is designed to support phased upgrades and long-term system flexibility. If a site initially requires only basic water level control, the ETC6215 can be installed and commissioned quickly. Should future operational needs evolve—such as a requirement to monitor water quality or introduce automated blow-down procedures—the ETC6215 can be expanded via the optional ETC6211 Daughter Board. This upgrade adds inputs for TDS (Total Dissolved Solids) sensors and PT100 temperature probes, enabling continuous water quality monitoring. Once fitted, the system can automate surface or bottom blow-down cycles based on time, measured TDS levels, or a combination of both.

The benefit of this modular approach is twofold: first, it provides a lower entry cost for sites that only need basic functionality; second, it allows system operators to add more advanced features without requiring a complete replacement of the control hardware. In doing so, the ETC6215 protects capital investment while supporting system evolution over time.

From a safety perspective, the ETC6215 includes configurable high and low-level alarm outputs, ensuring that the boiler operates within defined safe parameters. If the drum water level exceeds a safe high limit or falls below a programmed low threshold, the module can activate relays to trigger alarms, stop feedwater pumps, or even initiate a burner shutdown. These safety interlocks are critical in preventing boiler damage due to carryover or dry firing and are fully integrated into the control logic of the ETC6000 series.

Installation and commissioning of the ETC6215 are straightforward. The unit is designed to be mounted inside a burner or control cabinet, and its form factor is compatible with standard ETC6000 installation practices. It supports a wide input voltage range of 24 to 230 VAC, allowing for flexible site integration without the need for additional power conversion equipment. The device also meets IP40 standards for general indoor use, with optional enclosure configurations available for IP54 protection in outdoor or dusty environments.

The terminal layout of the ETC6215 is intuitive and well-labelled, with dedicated connectors for analogue inputs, digital inputs, relay outputs, CANBus communication, and optional daughter board connections. Clear separation of signal, power, and control circuits helps minimise noise and interference, while recommended wiring practices ensure EMC compliance. This attention to detail contributes to the overall system reliability and simplifies maintenance activities.

When used in conjunction with the ETC6000 series burner controllers, the ETC6215 benefits from full integration into the wider combustion control system. Parameters such as cut-in and cut-out levels, pump logic, alarm thresholds, and blow-down settings (if using the ETC6211) are programmed using the same commissioning procedures familiar to ETC-trained engineers. Water level data and event logs are recorded and displayed through the HMI, providing a comprehensive overview of system performance for operators and maintenance teams.

In operation, the ETC6215 offers dependable performance even under challenging industrial conditions. Its wide operating temperature range of 0°C to 60°C ensures reliability in most environments, while the use of robust terminal blocks and secure CANBus connectors enhances resilience against vibration and electrical interference. Additionally, the module has been engineered with long-term support in mind, including firmware compatibility with future ETC software revisions and backward compatibility with existing controller models.

In summary, the ETC6215 Expansion Module is a practical and highly effective choice for basic boiler drum water level control within the ETC6000 system architecture. Its compact size, ease of integration, and upgradeable design

For further information on the ETC6215 Water Level Control for the 6000 Series contact ETC today for bespoke solutions tailored to your needs.

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