

Intelligent Boiler Control

The Cleaver-Brooks CB-Hawk ICS Ultra IWT-200 Integrated Control System

Continuing with the basic design concept of the Hawk ICS Ultra IWT-100, the Ultra IWT-200 incorporates field proven core routines, but then further compliments these standard features with the ability to add many flexible options which uniquely adapt the boiler/burner combination to an array of specific customer needs. Needs which assist the owner in achieving maximum steam output, optimum fuel efficiency, diligent monitoring, expanded annunciation and communication, increased reliability and, improved safety.

Standard features include:

- Rockwell Automation's Allen-Bradley PLC-based logic hardware
- Panel View Plus 10" Touch Screen Interface for setup, monitoring and data logging
- Fully integrated yet replaceable burner management system (Fireye CB110)
- Building Automation System (BAS) through flexible integration
- Ethernet/IP communication
- E-mail and paging capability
- Short term trending/data logging
- High stack temperature annunciation and burner cutout
- All commissioning through the integral HMI
- Automatic "boiler warming" feature
- Night setback
- 4-20 Ma output to actuators
- Extensive I/O, field assignable:
 - 24 Analog Inputs
 - 16 Analog Outputs
 - 32 digital Inputs
 - 16 Digital Outputs
- CompactFlash cards for non-volatile program backup
- UL, cUL, NFPA 85 and CSD-1 compliant

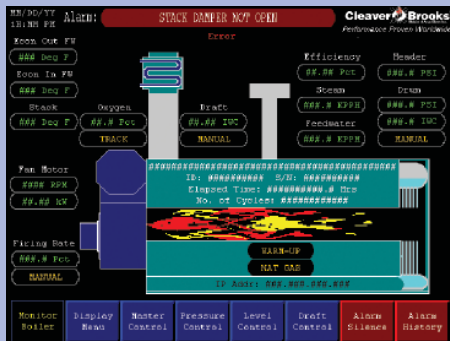


Aimed at larger and more sophisticated **industrial watertube boilers** (D, A & O styles), this flexibly-engineered PLC based control package will address any of our customers requests for monitoring, trending, communicating and controlling of the boiler's operating functions and, can be applied or adapted to both **new or retrofit applications.**

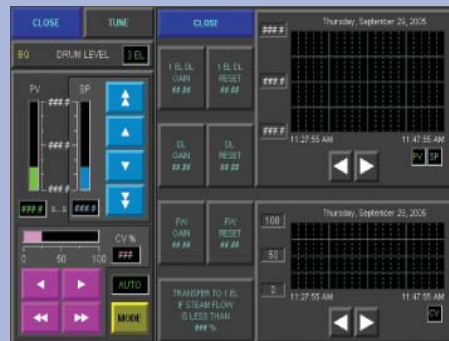
CB-Hawk ICS Ultra-200

The Answer to High Performance Industrial Watertube Boiler Control

All Cleaver-Brooks, CB-Hawk ICS, PLC based control systems standardly use Rockwell Automation's Allen-Bradley PLC as the logic hardware. Allen-Bradley PLCs are the "gold standard" in automation and digital control. Coupled with Cleaver-Brooks' industry leading boiler/burner and control expertise – the Hawk ICS has established the industry standard for functionality, flexibility, safety, fuel efficiency, low emissions and readily available parts.



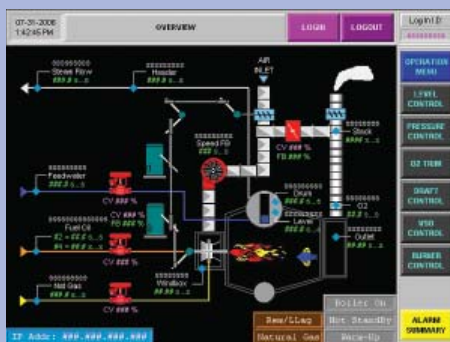
Overview Screen



Control Indication



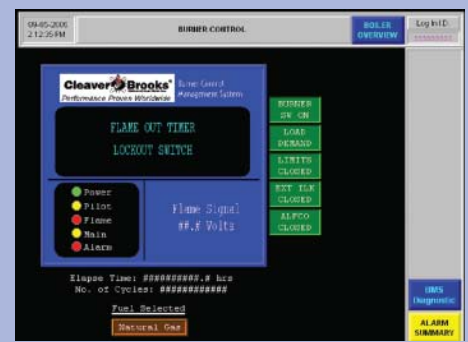
Variable Speed Drive



P&ID Style Boiler Overview



Analog Input Monitor



Burner Management System

CB-Hawk ICS Ultra-200

The powerful standard offering can be further enhanced with these added options:

- Combined or separate burner management and combustion control systems
- Single PLC for burner management and combustion control
- Control customization including optional PLC brands (Siemens, GE, etc.)
- Safety Integrity Levels (SIL) may be specified
- 1,2 & 3 Element feedwater control
- Single point, Parallel positioning or Full Metering of fuel and air
- Oxygen trim
- Variable speed drive
- Draft control
- Temperature and pressure compensation
- Flow totalization
- Multiple boiler sequencing with unison modulation, stand alone pressure control or remote firing
- Ultra-Low NOx control to <9 PPM

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