

# Intelligent Boiler Control

## The Cleaver-Brooks CB-Hawk ICS-L35E Integrated Control System

With aggressive Return-On-Investment (ROI) demands, rising fuel costs and environmental mandates — all requiring intelligent monitoring, logging and instant communication — only one company has a straightforward and integrated solution. This fully engineered L35E package with unmatched feature set, uses the Allen-Bradley PLC based control architecture; delivering the following standard features:

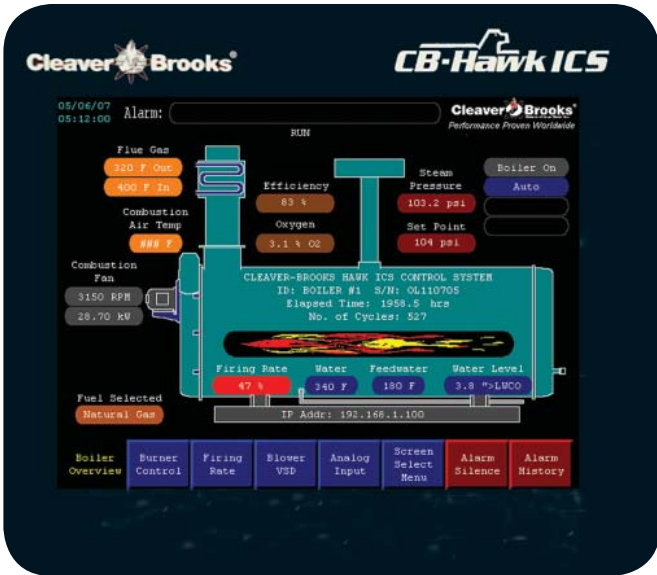
- 10" color touch screen for setup, monitoring and data acquisition
- (4) user defined analog inputs, and (3) discrete inputs: expanding visibility and data gathering possibilities within the boiler room or system
- Boiler efficiency readout
- Ethernet and Device Net communication channels
- Night setback
- Expanded annunciation via 3-user discrete inputs
- Remote modulation input
- PLC based draft control
- PLC based combustion control
- Integrated burner management system (CB-780) with fully modulated firing
- High stack temperature annunciation with auto cutoff
- Audible alarm and silencing through touch screen intervention
- Automatic "boiler warming" feature limiting thermal shock
- C-B Level Master interface for low water level and feedwater control; standard hardware on the C-B Promethean high pressure steam boilers and on the Cleaver-Brooks Model CBL
- Flash card reader and processor for boilers' program archiving and backup
- Fully integrated programming for;
  - Variable speed drive (VSD)
  - O<sub>2</sub> Trim and monitoring
  - Parallel positioning for independent fuel and air control
  - Two (2) boiler lead/lag control
  - Draft control
- UL, cUL, NFPA 85 and CSD-1 compliant
- Alarm silencer via touch screen
- Fully engineered integration with the boiler/burner package means the unit is virtually "plug and play"



# CB-Hawk ICS-L35E

## The Ultimate in High Performance Boiler & Combustion Control

All Cleaver-Brooks, CB-Hawk ICS, PLC-based control systems 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.



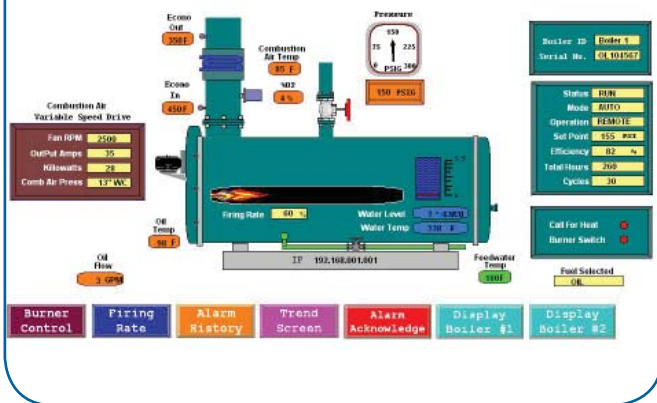
### CB-Hawk ICS-L35E

The Ultimate in high performance and reliability can be easily expanded to accommodate these value added options:

- LAN/WAN interfacing allows monitoring and control remotely at a given site or from a control room across the world
- Building Automation System (BAS) interfacing for inter-building system(s) integration
- E-mail and paging with text via internet or phone line
- Cleaver-Brooks Internet hosting for service and trouble shooting of your boiler(s)
- Variable speed drive controller for varying combustion air fan speed – saves electrical energy
- Oxygen trim system compensates for combustion air variations – saves fuel dollars
- Parallel positioning actuators for fuel and air replace the single point positioning system – adding to consistent fuel/air ratio control, saving fuel
- Draft controller for maintaining proper and consistent draft through the boiler, saving fuel
- C-B Level Master low water cutoff and level control for steam boilers other than the high pressure C-B Promethean and Model CBL as this is standard on these units
- Fireye CB 100 control
- O2 monitoring hardware and software
- Variable speed drive hardware
- Parallel positioning hardware
- Combustion air/ambient temperature monitoring
- 2 boiler lead/lag hardware
- Corrected boiler efficiency reading (with O2 option)
- Email and internet paging
- Phone paging
- Building automation interface
- Remote monitoring software (RS-VIEW)
- Master panel lead/lag control for (3) or more boilers

### CB-Hawk ICS-L35E:

#### Supervisory Control and Data Acquisition (SCADA) Control Interface as Displayed on a Local Computer



Call: (414) 359-0600

Write: info@cleaver-brooks.com

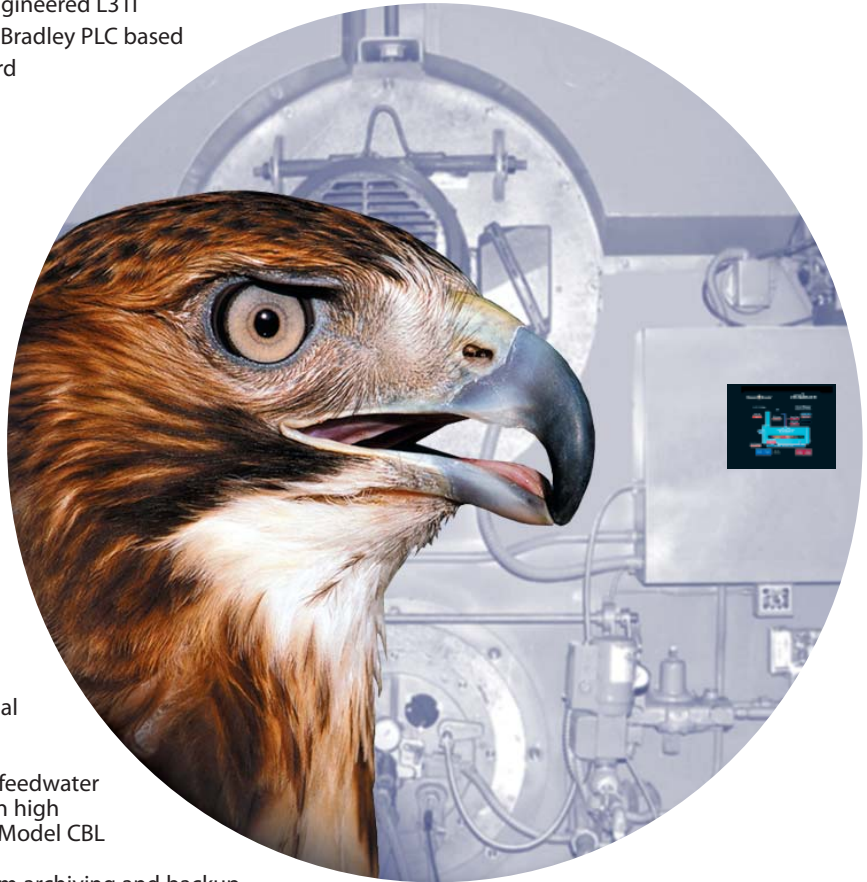


# Intelligent Boiler Control

## The Cleaver-Brooks CB-Hawk ICS-L311 Integrated Control System

With aggressive Return-On-Investment (ROI) demands, rising fuel costs and environmental mandates — all requiring intelligent monitoring, logging and instant communication — only one company has a straightforward and integrated solution. This fully engineered L311 package with unmatched feature set, uses the Allen-Bradley PLC based control architecture; delivering the following standard features:

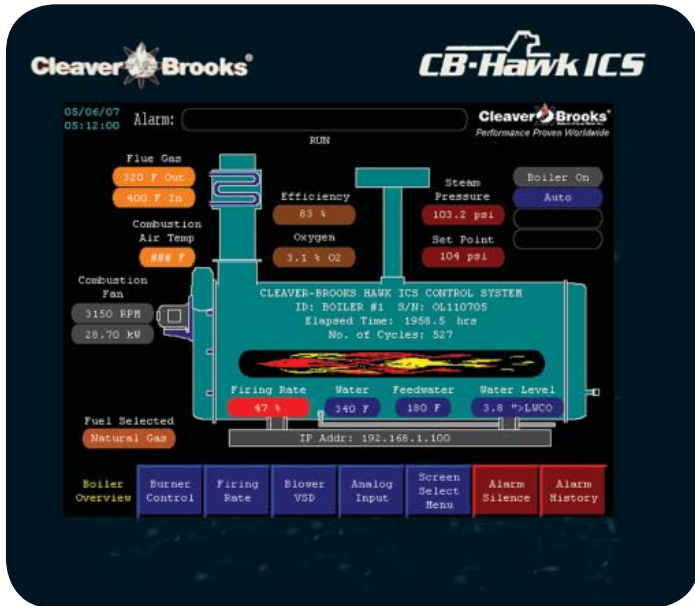
- 6" color touch screen for setup, monitoring and data acquisition
- Boiler efficiency readout
- Device Net communication channel
- Night setback
- Remote modulation input
- PLC based combustion control
- Integrated burner management system (CB-780) with fully modulated firing
- High stack temperature annunciation with auto cutoff
- Audible alarm and silencing through touch screen intervention
- Automatic "boiler warming" feature limiting thermal shock
- C-B Level Master interface for low water level and feedwater control; standard hardware on the C-B Promethean high pressure steam boilers and on the Cleaver-Brooks Model CBL
- Flash card reader and processor for boilers' program archiving and backup
- Fully integrated programming for;
  - Variable speed drive (VSD)
  - Two (2) boiler lead/lag control
- UL, cUL, NFPA 85 and CSD-1 compliant
- Alarm silencer via touch screen
- Fully engineered integration with the boiler/burner package means the unit is virtually "plug and play"



## CB-Hawk ICS-L311

### The Ultimate in High Performance Boiler & Combustion Control

All Cleaver-Brooks, CB-Hawk ICS, PLC-based control systems 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.

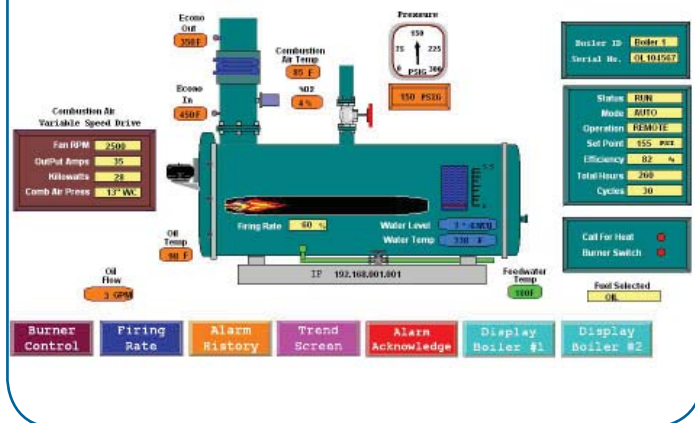


### CB-Hawk ICS-L311

The Ultimate in high performance and reliability can be easily expanded to accommodate these value added options:

- LAN/WAN interfacing allows monitoring and control remotely at a given site or from a control room across the world
- Building Automation System (BAS) interfacing for inter-building system(s) integration
- E-mail and paging with text via internet or phone line
- Cleaver-Brooks Internet hosting for service and troubleshooting of your boiler(s)
- Variable speed drive controller for varying combustion air fan speed – saves electrical energy
- Oxygen trim system compensates for combustion air variations – saves fuel dollars
- Parallel positioning actuators for fuel and air replace the single point positioning system – adding to consistent fuel/air ratio control, saving fuel
- C-B Level Master low water cutoff and level control for steam boilers other than the high pressure C-B Promethean and Model CBL as this is standard on these units
- Fireye CB 100 control
- O2 monitoring hardware and software
- Variable speed drive hardware
- Parallel positioning hardware
- Combustion air/ambient temperature monitoring
- 2 boiler lead/lag hardware
- Corrected boiler efficiency reading (with O2 option)
- Email and internet paging
- Phone paging
- Building automation interface
- Remote monitoring software (RS-VIEW)
- Master panel lead/lag control for (3) or more boilers
- 4 analog user inputs
- Expanded annunciation via 3-user discrete inputs
- Ethernet communications module

### CB-Hawk ICS-L311: Supervisory Control and Data Acquisition (SCADA) Control Interface as Displayed on a Local Computer



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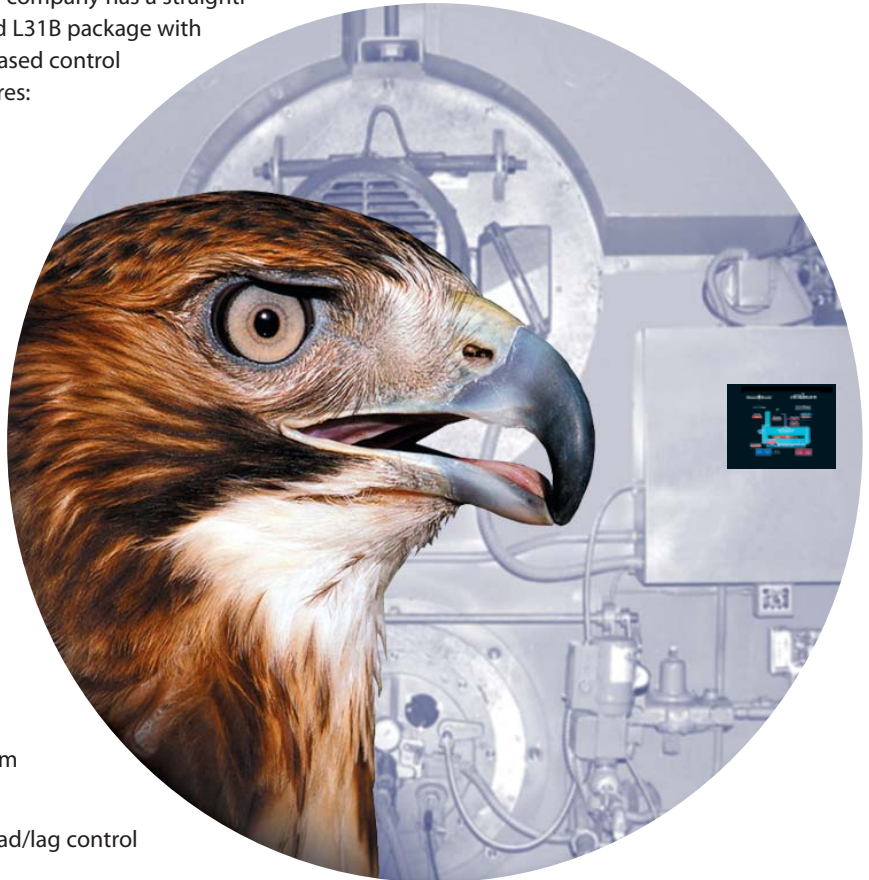
CB-8086

# Intelligent Boiler Control

## The Cleaver-Brooks CB-Hawk ICS-L31B Integrated Control System

With aggressive Return-On-Investment (ROI) demands, rising fuel costs and environmental mandates — all requiring intelligent monitoring, logging and instant communication — only one company has a straightforward and integrated solution. This fully engineered L31B package with unmatched feature set, uses the Allen-Bradley PLC based control architecture; delivering the following standard features:

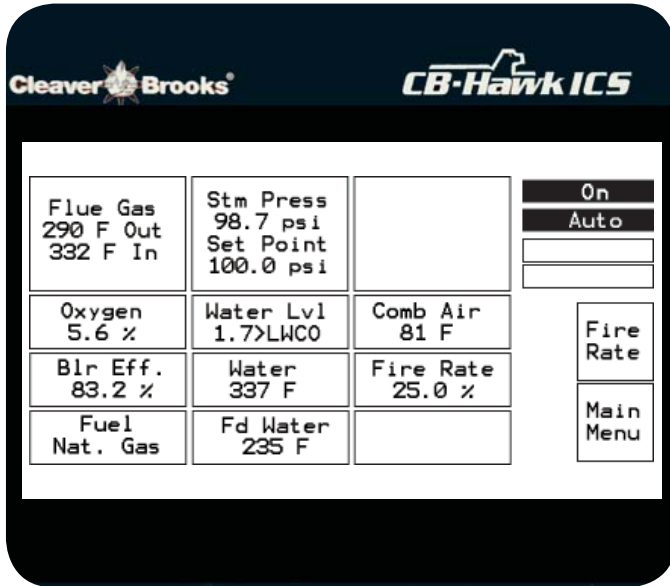
- 5.5" monochrome touch screen for setup, monitoring and data acquisition
- Night setback
- Boiler efficiency readout
- Remote modulation input
- PLC based combustion control
- Integrated burner management system (CB-780) with fully modulated firing
- High stack temperature annunciation with auto cutoff
- Audible alarm and silencing through touch screen intervention
- Automatic "boiler warming" feature limiting thermal shock
- Flash card reader and processor for boilers' program archiving and backup
- Fully integrated programming for two (2) boiler lead/lag control
- UL, cUL, NFPA 85 and CSD-1 compliant
- Alarm silencer via touch screen
- Fully engineered integration with the boiler/burner package means the unit is virtually "plug and play"



# CB-Hawk ICS-L31B

## The Ultimate in High Performance Boiler & Combustion Control

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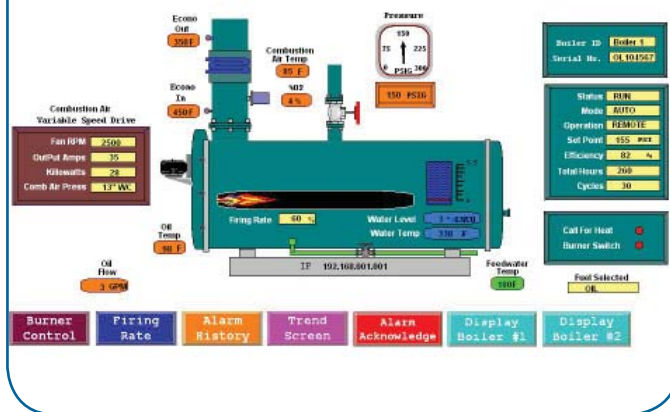
### CB-Hawk ICS-L31B

The Ultimate in high performance and reliability can be easily expanded to accommodate these value added options:

- LAN/WAN interfacing allows monitoring and control remotely at a given site or from a control room across the world
- Building Automation System (BAS) interfacing for inter-building system(s) integration
- E-mail and paging with text via internet or phone line
- Cleaver-Brooks Internet hosting for service and troubleshooting of your boiler(s)
- Fireye CB 100 control
- 2 boiler lead/lag hardware
- Email and internet paging
- Phone paging
- Building automation interface
- Remote monitoring software (RS-VIEW)
- Master panel lead/lag control for (3) or more boilers
- 4 analog user inputs
- Expanded annunciation via 3-user discrete inputs
- Ethernet communications module

### CB-Hawk ICS-L31B:

**Supervisory Control and Data Acquisition (SCADA)  
Control Interface as Displayed on a Local Computer**



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CB-8087