

Since 1903



**boiler manager**<sup>®</sup>



**boiler**



**Maximize Boiler Efficiency  
with Ease**

# boiler manager<sup>®</sup>

## Fully Integrated Boiler Controls At Your Fingertips

Burner Management System  
Combustion Control  
Enhanced Efficiency Tools  
Boiler Feedwater Control  
Furnace Draft Control

Intuitive Graphical Operator Interface  
Smart Commissioning Software  
Unique Safety Features  
Built-in Communications  
Secure Remote Monitoring

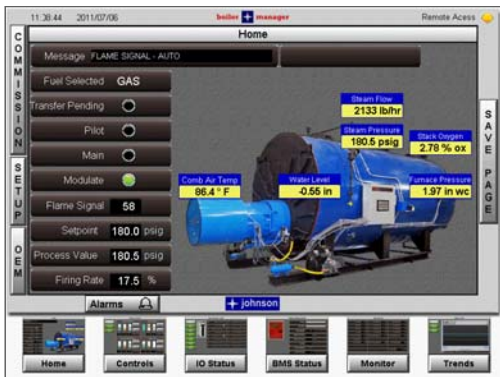
### Powerful Combustion Efficiency Tools

- Fully adjustable 16-point combustion curve allows precise control of fuel and air flow rates and maximizes turndown and boiler efficiency throughout the operating range
- Adjustable deviation limits on servo position insures repeatability and reduced hysteresis in fuel-air control
- Standard parallel positioning control with position feedback and cross-limiting to maintain optimum air-fuel ratio at all loads
- Ambient temperature compensation standard to automatically adjust combustion air flow to changing weather conditions (\*)
- Variable speed control on combustion air fan minimizes power consumption throughout operating range
- Stack oxygen trim fine-tunes excess air and maintains optimum boiler efficiency under all conditions
- Full metering cross-limited combustion control available in lieu of parallel positioning to further improve control of fuel and air flow rates



## Smart Curve Builder Simplifies Commissioning

- Smart *Curve Builder* software guides operator step-by-step through initial setup to insure a safe, fast commissioning
- System automatically locks out auto modulation until initial commissioning is successfully completed
- Commissioning done via the touch screen operator display. No separate device required
- Alarms can be enabled and disabled on-the-fly
- Actuators can be stroked with burner off-line



## Unique Features Improve System Safety

- Four levels of authority: remote monitor, operator, supervisor, engineer
- User-defined entries automatically reason-checked
- Ramp rate limiters automatically synchronize servo response with firing rate in Auto and Manual mode
- Critical analog inputs filtered to minimize process noise
- Oxygen trim automatically disabled on input failure
- Feedwater control automatically defaults to one-element mode on input failure
- Furnace draft set point either fixed or variable
- Adjustable cold boiler startup ramp
- Low fire hold until minimum steam pressure reached



## Standard Functions

- Single burner boiler firing gas or fuel oil
- Approved, non-programmable BMS
- Parallel positioning Combustion Control with position feedback and cross-limits
- Steam pressure or water temperature control
- Accepts master signal from remote plant master
- Furnace draft pressure control
- Flue Gas Recirculation control
- Ambient temperature compensation
- Stack temperature indication
- Flow totalizing for gas, oil and steam
- Boiler run time accumulator and cycle counter
- First out annunciation with user-adjustable alarms
- Real time trending and data logging
- Event recorder
- Indication and alarm available for most field inputs
- System backup/restore via memory card

## System Specs

- BMS controller UL, ULC, FM, CE and DIN approved
- Boiler controls based on industrial-grade PLC
- 12-inch full color touchscreen monitor
- 4-20 mA DC analog inputs/outputs
- 120 V AC control voltage
- Nema 12 cabinet standard • Nema 4, 4X priced option

## Optional Functions

- Full metering Combustion Control with cross limits
- Variable speed control for combustion air fan
- Stack Oxygen trim
- Boiler feedwater control, either one or two-element
- Steam temperature control on superheated boilers
- Boiler efficiency calculator



## Built-in Communications

- Ethernet
- Modbus, serial and TCP/IP
- Secure remote monitoring

\* Field devices not included. Available as priced option upon request

### **S.T. Johnson Company**

925 Stanford Ave. • Oakland, CA 94608 • USA  
Phone (510) 652-6000 • Fax (510) 652-4302  
www.johnsonburners.com