

# WATCHMAN

## Integrated Control Panels for Oil & Gas-Fired Boilers

*Fuel & Energy Savings*

*Installation & Maintenance Savings*

*Increased System Availability*

*Field Flexibility*

- Control up to 3 boilers in one compact, space-saving panel
- Mix & Match standard combustion, drum level and balance-of-plant controls
- Compatible with most makes of field equipment & BMS
- Enable/disable features without adding I/O or changing panel wiring or controller configuration
- Color HMI for commissioning & operation
- Faceplates provide 100% backup to color touchscreen
- Non-volatile backup of configuration & tuning adjustments
- Single-point, isolated I/O and redundant power supplies



WATCHMAN is a pre-wired, pre-programmed panels that allows you the flexibility to choose your combustion control strategy and combine it with drum level control or balance-of-plant controls according to your needs.

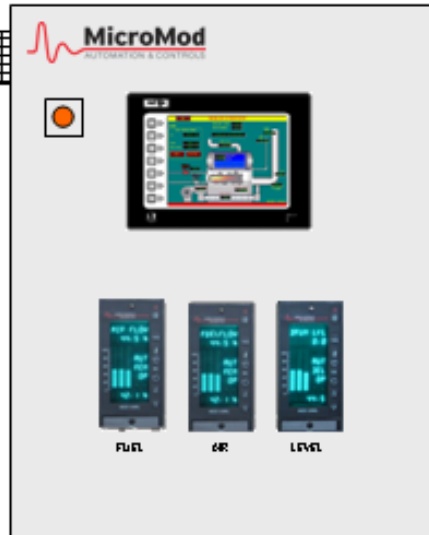
Easy-to-use, password-protected setup screens allow entry of combustion and feedwater curves, engineering unit ranges and other commissioning data to customize the WATCHMAN to your boiler. Operating screens provide information such as burner and boiler status, I/O status, boiler efficiency, and running flow totals as well as alarm and event notification and logging. A built-in web server is included for remote monitoring and operation.

At MicroMod, we understand the need for flexibility in the field to specify your control strategies and choose options according to field instrumentation and individual installations. Watchman gives you that flexibility - more than any other system in its class.

## Mix & Match Controls

Watchman provides you the flexibility to choose your panel components to match your boilerhouse and your budget. You can also choose a color touchscreen and integration of your BMS status.

- Pressure control with O2 Trim
- Fuel/Air ratio control with O2 Trim and VFD output
- Full Metered control with cross-limits and O2 Trim
- Single, 2- and 3-element drum level control
- Plant Master
- Optional 10" color touchscreen
- Optional BMS integration with status and alarms



## Safety First

The WATCHMAN controllers provide a high level of protection for your personnel and plant

- Minimum & maximum O2 trim limits and O2 trip
- High stack temperature trip
- Air feedback deviation alarm and trip
- Low and Low-low water alarm and trip
- Data quality checks and alarms
- Hardwire 4-20mA connection to VFD
- Automatic switch to Manual mode on loss of signal or out-of-range signal
- Mode interlocks to prevent unsafe operation

## Field Flexible

Watchman panels are pre-wired and pre-programmed to allow you to enable or disable features without adding I/O or changing the panel or control configuration, including:

- Online, continuous efficiency calculation
- FGR control
- Automatic boiler recycle
- Selectable retransmission of fuel demand, drum pressure, O2, current efficiency or stack temperature
- VFD Output option
- Steam and feedwater flow totalization
- Draft control
- Economizer monitoring
- Fuel totalization
- Opacity monitoring
- Automatic lead/lag sequence
- Steam feedforward to plant master
- Modbus RS-485 Communications

