Mk8 MM Controller

12.1" capacitive multi-touch screen

Touchscreen

Complete Boiler Management

Control more with software unlocks

Access codes unlock advanced features without the inconvenience of hardware changes or added modules:

✔ Autoflame water level management
✔ Analogue water level (requires Autoflame water level)
✔ TDS/Top blowdown
✔ Bottom blowdown
✔ Draught control
✔ Direct Modbus connectivity
✔ First out annunciation
✔ Fully metered, cross-limited control
✔ Steam flow & water flow metering

The Mk8 MM Controller is a Micro-Modulating system that offers comprehensive control over industrial and commercial boiler/burners.

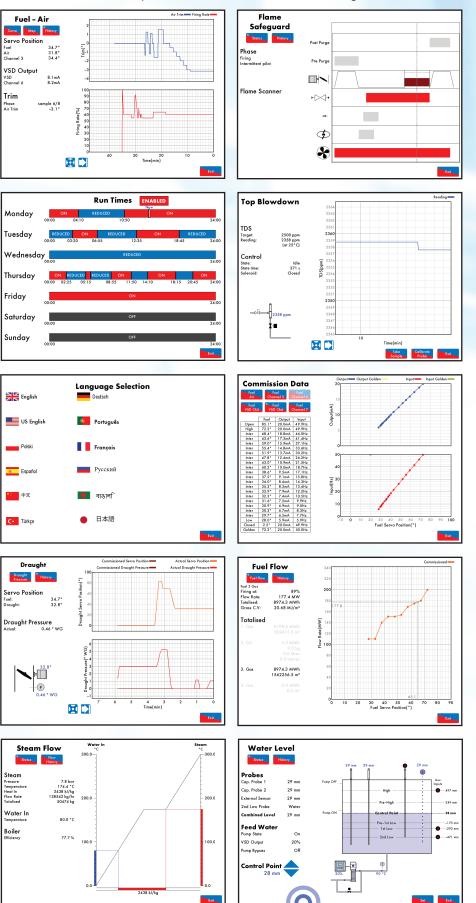• Manage virtually all boiler processes from a single 12.1" multi-touch screen interface without any added modules.

• Ideal for steam and water boilers (watertube or firetube), kilns and steam generators. Designed for oil, natural gas or both fuels.

• Linkageless servomotor system and automated flame safeguard create conditions for unmanned boilerhouse.

• Modbus connectivity allows for remote monitoring and management.

Standard features

Screen size	12.1"
Capacitive multi-touch screen	✔
Flame safeguard	✔
Air/fuel ratio control	✔
IBS/lead-lag sequencing	✔
Scheduling	✔
Commissioning	✔
VSD management	✔
Reporting/graphing	✔
FGR (Flue Gas Recirculation)	✔
Channels	5 servos 2 VSD
Lockout/error logging	Most recent 128 errors/ lockouts
Number of fuel curves	4
VPS gas valve proving (UL353)	✔
Outside temperature	✔
Login security	✔
Back up commissioning data via IR port	✔
Boiler log entries	1,000
Dual fuel support	✔
Air pressure monitoring & proving (UL 353)	✔
Oil pressure monitoring	✔
Fuel flow metering	✔
Golden start facility	✔
Commisioning points	20
Customizable graphics	✔
Dual IR and/or UV	✔
Multi-language display	✔
Metric or imperial units	✔
UL, CE, AGA approvals	✔
On-board technical manual	✔

Unlock with software access codes

Autoflame water level management	✔
Analogue water level (requires Autoflame water level)	✔
Steam/heat flow metering	✔
TDS/Top blowdown	✔
Bottom blowdown	✔
Draught control	✔
Fully metered, cross-limited combustion control	✔
Direct Modbus connectivity	✔
First out annunciation	✔

Enabled with additional modules

Indirect Modbus connectivity	Requires DTI
O2 trim	Requires I/O module
Three parameter (O2, CO2, & CO) trim	Requires EGA
Emissions monitoring & reporting	Requires EGA

Below is a small sample of the screens accessible through the Mk8 MM

Fuel – Air
Curve | Map | History

Servo Position
Fuel 34.7°
Air 31.8°
Channel 3 34.4°

VSD Output
VSD 8.1mA
Channel 6 8.2mA

Trim
Phase sample 6/8
Air Trim −3.1°

Flame Safeguard
Status | History

Phase
Firing
Intermittent pilot

Post Purge
Pre Purge

Flame Scanner

Run Times ENABLED
Monday	ON / REDUCED / ON — 00:00 04:10 10:50 24:00
Tuesday	REDUCED / ON / REDUCED / ON / REDUCED — 00:00 03:20 06:55 12:35 18:45 24:00
Wednesday	REDUCED — 00:00 24:00
Thursday	ON / REDUCED / REDUCED / ON / ON / ON — 00:00 02:25 05:15 08:55 11:50 14:10 18:15 20:45 24:00
Friday	ON — 00:00 24:00
Saturday	OFF — 00:00 24:00
Sunday	OFF — 00:00 24:00

Top Blowdown
TDS
Target: 2500 ppm
Reading: 2358 ppm (at 25°C)

Control
State: Idle
State time: 371 s
Solenoid: Closed

2358 ppm

Language Selection

English		Deutsch	
US English		Português	
Polski		Français	
Español		Русский	
中文		বাংলা	
Türkçe		日本語	

Commission Data
Fuel Air | Fuel Channel 3 | Fuel Channel 4 | Fuel VSD Ch5 | Fuel VSD Ch6 | Fuel Channel 7

	Fuel	Output	Input
Open	85.1°	20.0mA	49.9Hz
High	72.2°	20.0mA	49.9Hz
Inter	68.4°	18.8mA	46.0Hz
Inter	63.6°	17.3mA	41.4Hz
Inter	59.0°	15.9mA	37.1Hz
Inter	55.4°	14.8mA	33.6Hz
Inter	51.9°	13.7mA	30.2Hz
Inter	47.8°	12.4mA	26.2Hz
Inter	43.0°	10.9mA	21.5Hz
Inter	40.2°	10.0mA	18.7Hz
Inter	38.6°	9.5mA	17.1Hz
Inter	37.5°	9.1mA	15.8Hz
Inter	36.0°	8.6mA	14.3Hz
Inter	35.3°	8.3mA	13.4Hz
Inter	33.9°	7.9mA	12.2Hz
Inter	32.3°	7.4mA	10.5Hz
Inter	31.6°	7.2mA	9.9Hz
Inter	30.9°	6.9mA	9.0Hz
Inter	30.3°	6.7mA	8.3Hz
Inter	29.7°	6.5mA	7.7Hz
Low	28.0°	20.0mA	5.9Hz
Closed	2.5°	20.0mA	49.9Hz
Golden	72.2°	20.0mA	50.0Hz

Output | Output Golden | Input | Input Golden

Draught
Draught Pressure | History

Servo Position
Fuel: 34.7°
Draught: 32.8°

Draught Pressure
Actual: 0.46 " WG

32.8°
0.46 " WG

Commissioned Servo Position | Actual Servo Position
Commissioned Draught Pressure | Actual Draught Pressure

Fuel Flow
Fuel Flow | History

Fuel 3 Gas
Firing at: 89%
Flow Rate: 177.4 MW
Totalised: 8974.3 kg/hr
Gross C.V: 20.68 MJ/m³

Totalised
1. Gas 5198.6 MWh / 502415.5 m³
2. Oil 0.0 MWh / 0.0 kg / 0.0 litres / 0.0 tonnes
3. Gas 8974.3 MWh / 1562256.5 m³
4. Gas 0.0 MWh / 0.0 m³

Commissioned

Steam Flow
Status | Flow History

Steam
Pressure 7.8 bar
Temperature 174.4 °C
Heat In 2438 kJ/kg
Flow Rate 138542 kg/hr
Totalised 50474 kg

Water In
Temperature 80.0 °C

Boiler
Efficiency 77.7 %

2438 kJ/kg

Water Level
Status | History

Probes
Cap. Probe 1 29 mm
Cap. Probe 2 29 mm
External Sensor 29 mm
2nd Low Probe Water
Combined Level 29 mm

Feed Water
Pump State On
VSD Output 20%
Pump Bypass Off

Control Point 28 mm

Touchscreen