

# Monitor up to 10 Boilers Remotely

## Efficiently Manage your Boiler House from a Local PC or BMS

### Overview

The Mk8 DTI (Data Transfer Interface) lets users know in real time how the boilers are performing, either on-site through its built-in touch screen, via a local PC, or remotely via a BMS system. It stores MM and EGA system data for a rolling 2 year period.

The DTI is a gateway for communicating with the Autoflame MM Controller and/or EGA range of products. The DTI collects and stores information from a maximum of 10 Autoflame Systems in one location. The information gathered is instantly available for transmission to an external source such as a BMS via RS422 or Ethernet link. The Mk8 DTI also includes Autoflame DTI Manager software as standard, allowing data collection over a local network or over the internet. The Mk8 DTI also supports the Modbus protocol over Ethernet and RS422 as standard.

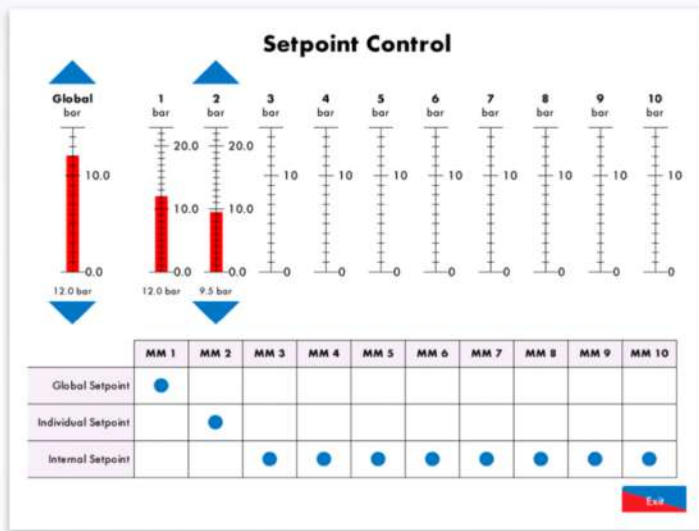
### Main Features

The DTI can collect information from up to 10 of each of the following Autoflame products:

- Mk8 MM Controller, Mini Mk8 MM Controller or any combination
- Autoflame Mk8 Exhaust Gas Analyser (EGA) linked directly to the DTI
- Pressure sensor network – connect and monitor Autoflame Mk8 digital Gas or Air pressure sensors, with two years of data logs
- Input/Output modules with both analogue and digital connections
- Network Emails generated in the case of a fault or alarm

## Benefits

- Mk8 DTI offers the benefit of Remote Connection of the boiler house to an external PC or to Building Management System (BMS) via Modbus
- Mk8 DTI can be used to efficiently manage the entire boiler house's lead/lag running order by using shuffle sequencing
- User defined automatic rotation of lead boiler on a user-defined schedule (hours, days or weeks apart)
- Alarm setup option for gas sensor's low/high pressure limits
- There are up to 1000 items of information that are viewable via the DTI from each MM Controller & EGA
- DTI Configuration upload/download via Infrared (Bluetooth to follow)
- 12.1" capacitive multi-touch screen display showing the boiler room: MMs, EGAs, Pressure Sensors, IO Units
- Software for remote viewing of the DTI for Windows PCs (Android & IOS support planned)
- On-screen native language support allows users to control the boiler house in English, Chinese, German and other languages



## MM Controller Data (Viewable & Stored within the Mk8 DTI for Two Years):

- Required and actual boiler temperature or pressure
- Burner firing rate (%)
- Firing rate control
- Fuel selected & flow metering values
- Number of control channels optioned showing both actual & commissioned positions
- Setpoint control from DTI
- Sequence status (on, stand-by, warm, off) & lead boiler status
- The DTI also shows the MM's and EGA's options and parameters
- Enable/disable status & error conditions
- Alarm status
- First out annunciation
- Expansion features

## Flame Safeguard Functions

- Burner firing status (off, firing, purge, ignition, offline)
- Hours run & number of start-ups

- Lockout status
- Flame scanner signal
- Gas pressure (online & commissioned)
- Oil pressure (online & commissioned)
- Air pressure (online & commissioned)
- Draft pressure (online & commissioned)

## Boiler Control Functions

- Operational information: steam pressure and feed water temperature
- Feed water pump status and valve position
- Water level probe information: temperature, signal value
- Steam flow metering data
- Total Dissolved Solids (TDS) data
- Bottom Blowdown status

## EGA Data (Viewable & Stored within the Mk8 DTI for 2 Years)

- O<sub>2</sub>, CO<sub>2</sub>, CO, NO, SO<sub>2</sub> & NO<sub>2</sub> percentage & ppm values
- Exhaust temperature, combustion efficiency, fuel consumption & emissions auditing data
- EGA error conditions
- Flow-metering & on-line Exhaust Gas Analysis data, both instantaneous & totalised for: O<sub>2</sub>, CO<sub>2</sub>, H<sub>2</sub>O, NO, CO, SO<sub>2</sub>, N<sub>2</sub>, total emissions as a weight, & corresponding volume at exhaust exit temperature & pressure
- Heat input, heat loss & net useful heat
- Net efficiency, gross efficiency & temperature change
- Fuel flow per hour & fuel flow totalised
- Calculated cost of fuel used

## Mk8 DTI Input Values

The following settings may be modified in individual MM Controllers via the DTI:

- Alter setpoint (individual & global)
- Enable/disable burner
- Re-order boiler sequencing
- Select lead boiler
- Remote firing rate control

## Connectivity

The Autoflame network operates using a two-core screened cable up to 1 Km. The DTI assesses each item on the network periodically, storing up-to-date information on the DTI and outputs to defined Modbus addresses. These are then available to third party systems. The DTI features dedicated data ports for RS422 & Ethernet connections. The 12.1" touch-screen displays the operational status of the DTI's communications, with corresponding error conditions in the event of a communication failure.

## Autoflame DTI Manager Software

- Ability to view live streamed data through a Mk8 MM Controller screen & EGA screen
- Ability to extract EGA CEMS data into an excel file
- Remote or local control
- Remote connection to DTI over internet or LAN

The data is sampled at 1 minute intervals & stored on an SD Card within the Mk8 DTI.

