



### Overview

The Autoflame Data Transfer Interface (DTI) is a Gateway for communicating with the Autoflame M.M./E.G.A. range of products. The DTI can collect and store information from a maximum of ten Autoflame Systems in one location. The information gathered is later available for transmission to an external source via RS232/RS422 data link.

The Autoflame DTI supports the Modbus and Johnson Metasys protocols as standard. Using either of these industry standard protocols information can be accessed by third party systems, stored and manipulated as required by the client.

### Main Features

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

- MM/EGA Modules; Mk7, Mk6, MiniMk7 or any combination to a total of 10 units.
- Exhaust Gas Analyser; either used in conjunction with an MM Module for trim or linked directly to the DTI for monitoring purposes only.
- Analogue Input/Output Modules; each unit featuring 6 inputs and 6 outputs.
- Digital Input/Output Modules; each unit featuring 8 volt free contacts and 16 inputs.

There are up to 150 items of information available for each MM/EGA system, below are some typical examples:

#### MM Fuel/air ratio data:

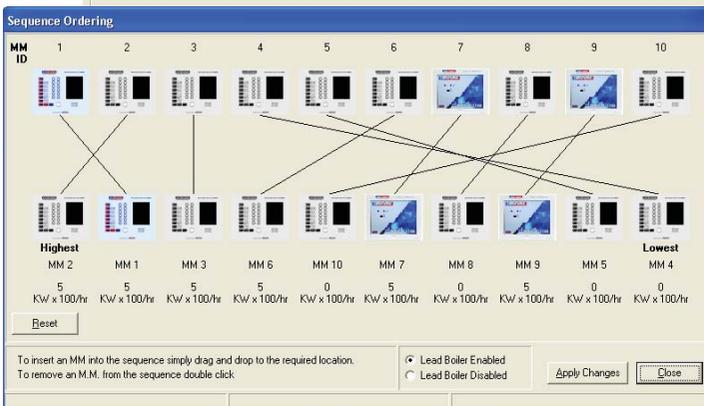
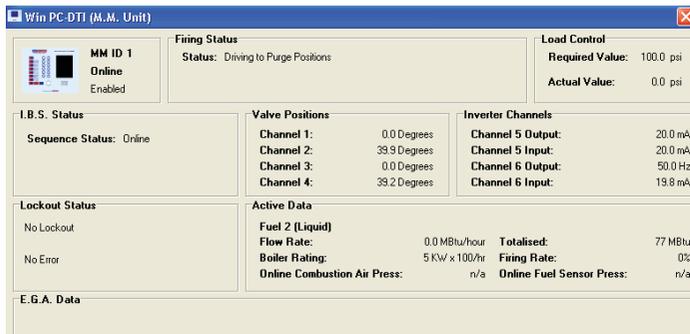
- MM type – Mk7, MiniMk7, Mk6 Evolution
- Required and actual boiler temperature or pressure.
- Burner maximum firing rate, Burner firing rate (%).
- Fuel selected, flow metering values.
- Control detector type (temperature/pressure).
- Auto/hand/Low flame hold operation.
- No. of control channels optioned showing both actual and commissioned positions.
- Maximum set point accepted from DTI.
- Minimum set point accepted from DTI.
- Burner firing status (off, firing, purge, ignition, off line).
- Lead boiler status, Sequencing optioned.
- Sequence status (on, stand-by, warm, off).
- Enabled/disabled status, Error conditions.

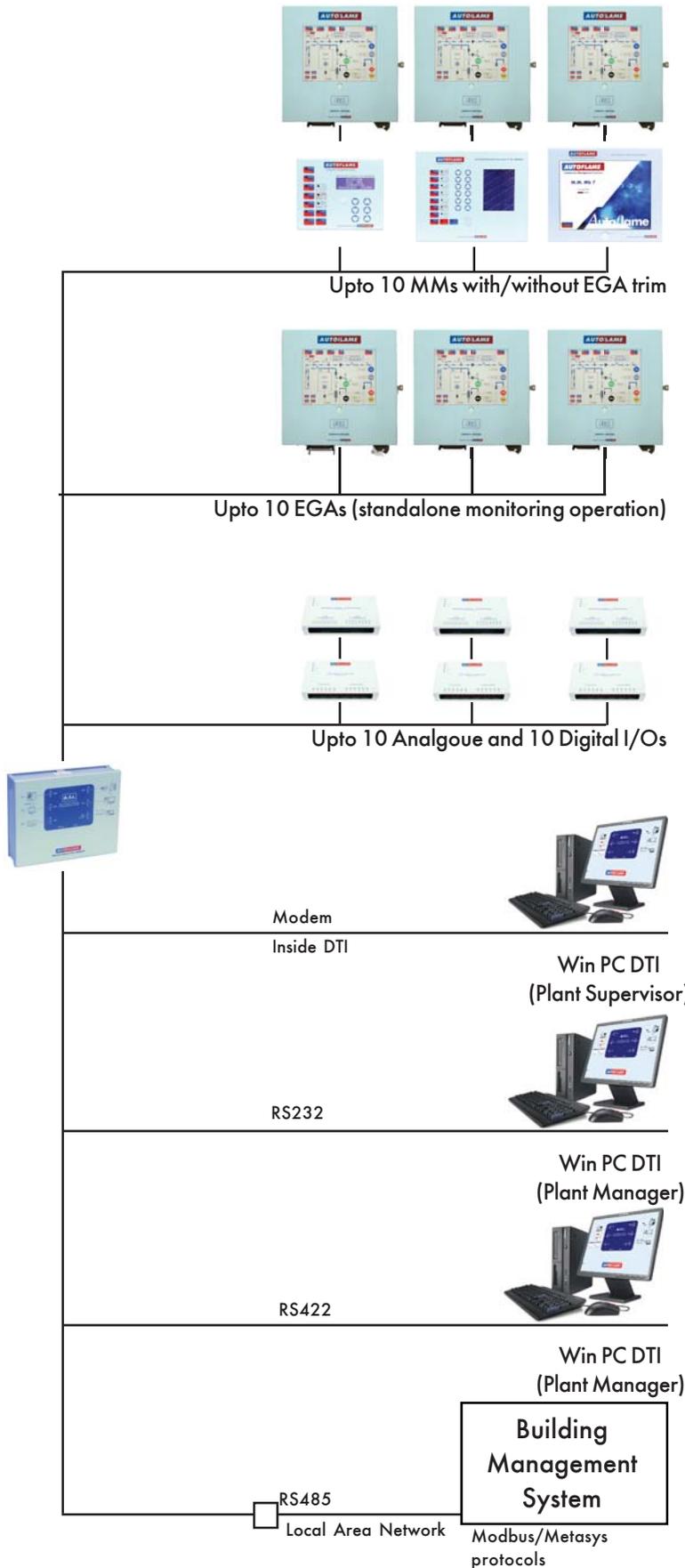
#### Flame Safeguard Functions:

- Hours run, Number of start-ups.
- Lockout status & code.
- Gas pressure, online & commissioned.
- Oil pressure, online & commissioned.
- Air pressure, online & commissioned.

#### Water Level Control Functions:

- Operational information- steam and feedwater temperature, pump status and valve position.
- Alarm status and First out annunciation.
- Probe information- temperature, signal value.
- Steam flow metering data.





**EGA. Information:**

EGA operation optional.

All monitored values are available as both instantaneous and commissioned.

O<sub>2</sub>, CO<sub>2</sub>, CO, NO, SO<sub>2</sub> or NO<sub>2</sub> are all monitored simultaneously.

Exhaust temperature, Combustion efficiency.

Status of service LED's, EGA error conditions.

**DTI Input values:**

Change setpoint (individual and global).

Select lead boiler, enable/disable burner.

All Analogue Inputs/Outputs.

All Digital Inputs/Outputs.

The Autoflame network operates using a simple two wire data connection. The DTI poles each item on the network periodically, storing up-to-date information in defined addresses, which are then available to third party systems. The DTI features dedicated data ports for RS232, RS422 and modem connections. A series of switches and jumpers enable quick and easy on site setup for each application. The DTI fascia displays each data connection with corresponding LED's for 'receive' & 'transmit' of data, 'Power on' and 'OK' indication.

**Autoflame Win PC DTI Plant Manager/Supervisor - Remote Monitoring and Control Software**

With the DTI comes Autoflame's dedicated Windows-based software for the Plant Manager/Supervisor. Data from the MM/EGA systems is available on a local PC and remotely via a modem. Using the Analogue & Digital I/O modules, operating status of the main ancillary plant in the boilerhouse is available on the PC Screen. Using the software, both monitor and alarm levels can be predetermined for each input. In the event of an alarm, lockout or system error, the DTI can dial up any or all of the following, giving alarm description with time and date: local printer, two remote PC's and an alpha numeric word pager.

**Continuous Emission Monitoring**

An additional software module calculates from the MM flow-metering and on-line Exhaust Gas Analysis data, both instantaneous and totalised values for the following:

- 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 and corresponding volume at Exhaust exit temperature and pressure.
- Heat input, heat loss and net useful heat.
- Net efficiency, Gross efficiency and ΔT
- Fuel flow per hour, fuel flow totalised

The data is sampled at 5 minute intervals and stored in a monthly database.

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