

EUROTHERM FLEXIBLE SOLUTIONS

# 2500

UNIT CONTROLLER



FOR INTELLIGENT DATA ACQUISITION  
AND PRECISION CONTROL APPLICATIONS

# The 2500 modular control concept from Eurotherm offers expanded system functionality

The 2500 is a unique concept combining the integrity of Eurotherm's discrete control range with easy access to fully integrated systems functionality. Scalability in size and capability, plus distribution of control and acquisition are all available in this behind the panel, cost effective package.

The 2500 easily combines with modern PLCs, SCADA displays and control systems.

## Intelligent Data Acquisition

- Channel to channel isolation for reliable operation in industrial environments
- Standard and custom linearisations for measurement flexibility

The modularity of the 2500 makes it easier to create a system with just the correct mix of inputs and outputs, enabling you to distribute the acquisition equipment physically, and saving the cost of expensive multi-core or compensation cables. Up to sixteen 2500 base units may be interconnected on a single communications line, to provide sophisticated distributed multi-loop control or acquisition applications.

## Alarm Monitoring

- Eight alarms per input module
- Assignable user alarm functions
- Absolute, deviation and rate of change types
- Diagnostic alarms and local error indication

In this comprehensive package, alarm outputs (contact trips) may be triggered by process or calculated variables. Calculated variables can be derived from a comprehensive library of maths and boolean functions. Alarms can be triggered by crossing a high or low threshold, deviation from another input or from a calculated value. Alarms may also be triggered on a rate of change basis.

## Signal Conditioning

- Custom linearisation
- High/Low signal select
- First Order Filter
- Combinational Logic
- Mathematical functions

As a signal conditioning unit, the 2500 can be configured to solve complex signal conditioning problems, such as selecting and averaging inputs before retransmitting the result. The 2500 gives programmable linking of analogue and digital, inputs and outputs while offering high-speed, industrial standard, serial communications to suit your data acquisition requirements.



*A uniquely flexible concept . . .*

## - and outstanding user benefits



- Modular concept ensures optimum flexibility
- Add advanced PID control to PLC installations
- Reduced wiring costs, simpler control panels
- Easy to configure, quick to install
- Suitable for simple and complex applications
- A stand-alone system or in conjunction with dedicated SCADA

### Enhanced Control Outputs

- Continuous analogue
- Time proportioned
- Motor valve control - VP bounded and unbounded
- Combinational heat cool

Advanced combinational PID algorithms provide a choice of analogue, time proportioned or advanced motor drive outputs, providing a solution to all your control problems.



### Advanced Multi-loop Control

- Proven Eurotherm Control performance
- 2, 4, 8 loop versions
- Simple, Cascade, Ratio and Override loop types
- Automatic PID tuning removing the need for control expertise

The 2500 brings you scalable distributed control with proven performance you can rely on. Control algorithm design is based on more than 30 years of temperature and process control market leadership.

**Life Sciences**  
**Heat Treatment**  
**Glass**  
**Plastics**  
**Water**

*. . . in temperature and process control*

# The easy and economical way to build a distributed process control system, tailored to your needs

Six base sizes allow for cost effective acquisition of up to 64 analogue or 128 digital inputs or outputs. The bases take up to 16 plug-in I/O modules and provide the flexibility for DIN rail or panel mounting. The 2500 can then be distributed where the control action is required, reducing wiring costs as only twisted pair communication cable need be taken to the user interface or PLC.

## Analogue I/O

- Universal analogue input -T/C, RTD, Pot, 0-100mV  
0-10vdc, 4-20mA
- 4-20mA with isolated 24v supply
- Analogue outputs for re-transmission or control
- LEDs indicate sensor fail
- Test disconnects

A unique input circuit incorporates digital filtering (Delta-Sigma filter), to ensure the high stability, accuracy and resolution expected from a Eurotherm product. The I/O provides open and short circuit monitoring and sensor fail action for most input measurements. High accuracy analogue outputs meet the most exacting demands of modern industry.



## Digital I/O

- Contact sense and logic inputs
- Logic and relay outputs
- LEDs provide direct feedback of I/O state
- Channel to channel isolation

Output modules provide user selectable actions for on/off, time proportioned or valve position outputs. Intelligence in the output modules enables the 2500 to calculate the output timing with a higher resolution than the nominal 110m second scan rate (TPO 10mS and VP 55mS).

Inputs and outputs share a common, comprehensive alarm capability.

*A uniquely flexible concept . . .*



# Eurotherm – helping industry get the most out of advanced measurement and control techniques

Behind the design of Eurotherm's 2500 I/O system are over 30 years of hard-earned applications experience in temperature and process control. This experience is available every time you contact Eurotherm for technical advice or product information. With well-trained experienced regional engineers throughout the country, we are only a telephone call away from helping you solve your next measurement or control challenge.

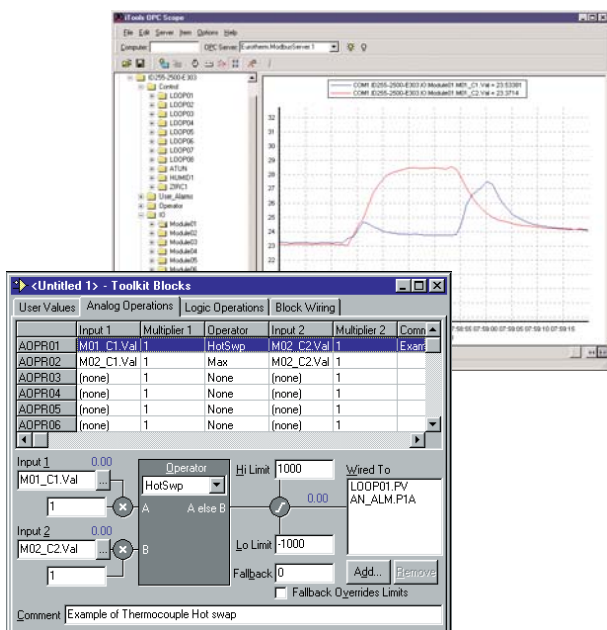
## Configuration Tools

- Automatic network node identification
- Easy connectivity - 'drag and drop'
- Clone file load save and verify
- Application documentation

"iTools" a Windows based PC configuration package, is used to configure and store the I/O and PID parameters, as well as commission your process.

A helpful multi-window browse-able format provides rapid access to inputs, outputs, alarms PID and Toolkit mathematical functions.

A custom sensor linearisation tool lets you download up to three special sensor characteristics for use within the acquisition, alarm or control strategy.



## Easy Commissioning

- OPC compliant
- Supports DDE - access to other Windows packages
- Real time trending and logging
- Variable scan rate

Combined with the iTools OPC server, OPC SCOPE, a powerful trending and logging package, facilitates easy commissioning by providing clear visibility of process variables through multiple time base windows.

## Toolkit Block Functions

- Humidity calculation
- Carbon potential
- Math functions
- Hot swap, signal select...
- Logic

Libraries of special 'Toolkit' function blocks provide the 2500 with more than just the expected high standard of I/O and control. 'Toolkit blocks' execute the mathematical or logical expressions required in creating an application. The functions are easily parameterised with iTools and are wired together using 'drag and drop' techniques. This simplifies the creation of complex applications.

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