

T800

MODEL



Visual Supervisor Technical Specification

Features

- **Combined controller and operator panel**
- **Multi setpoint programmer**
- **Comprehensive data logger and trending**
- **Open communications: Profibus, Modbus RTU and Modbus TCP**
- **Advanced recipe and batch capability including reports**
- **Printer support**
- **Touch-screen display**
- **Advanced continuous and sequential control**
- **Comprehensive alarm and event management**
- **Extensive pre-formatted displays and up to 99 user configuration pages**
- **Internationalisation**
- **Bar code reader/scanner support**
- **Selectable user based security**
- **Auditor option designed to meet FDA 21CFR11**
- **Intellectual property protection**

The Visual Supervisor is an innovative multi-function control and display product. This product combines the well-established expertise which Eurotherm has in control, data acquisition and process automation into a single product. It can be used either as a stand-alone system in conjunction with I/O such as Eurotherms 2500 modular control / data acquisition, or as a building block within a larger system. It can be connected to Eurotherms proprietary ELIN (Ethernet) local network, allowing both peer-to-peer and system communications.

The Visual Supervisor as part of a mini DCS offers several features in a single unit. Its flexible combination of the powerful display and control functions including batch has been recognised as an exceptionally cost-effective solution, offering great versatility for a wide range of control requirements. The Visual Supervisor is being specified for applications as diverse as pharmaceutical / chemical reactors, food and beverages, glass furnaces, multi-zone and specialist furnaces, injection moulding and extrusion systems, and other multi-loop applications.

The T800 Auditor option has been designed to meet 21 CFR11 requirements. A secure product generated time stamped audit trail, records date and time operator details and actions. The audit trail is kept with the process data, any actions cannot be separated remove or modified.

Either ASCII, secure compressed data or Eurotherms UHH format files on internal archive or floppy disk. The internal archive files can either be sent to or requested by a remote file server.

Multi language support for English, Spanish, French, Italian, German, Portuguese. Other languages can be added using text language files. Special fonts are supported on the User configurable screens.

Intellectual Property right protection option allows OEMs or Sis to protect their investment preventing configurations from being copied or modified without the necessary permission which is password protected.

General specification

T800 Visual Supervisor is available in two sizes 1/4 VGA and large screen SVGA

Physical

1/4 VGA case dimension and weight

Dimensions	Bezel: 144 x 144 mm
	Cut-out: 138 x 138 mm
	Depth: 180 mm (case) + X mm (cabling) where X = 50 for Category 5 cable with RJ45 connectors
Weight:	2.83 kg
Screen Type:	1/4 VGA TFT colour
Display area:	111 x 84 mm
Touch panel:	Resistive analogue
Character set:	Unicode Latin-1

Large screen SVGA case dimension and weight

Dimensions	Bezel: 288 x 288 mm
	Cut-out: 281 x 281 mm
	Depth: 254 mm (case) + X mm (cabling) where X = 50 for Category 5 cable with RJ45 connectors
Weight:	6.12 kg
Screen Type:	SVGA TFT colour
Display area:	245 x 183 mm
Touch panel:	Resistive analogue
Character set:	Unicode Latin-1

Environmental operating ranges and standards

Temperature	Storage: -10 to +85°C
	Operation: 0 to +50°C
Humidity:	Storage: 5 to 95% RH (non-condensing)
	Operation: 5 to 85% RH (non condensing)
Vibration:	BS EN60068-2-6
Protection	1/4 VGA: IP54
(front panel)	SVGA: IP65

EMC and safety standards

RFI EMC emissions:	EN61326
EMC immunity:	EN61326 Industrial
CE compliant	
Electrical Safety:	BS EN61010-1
Installation:	category II

Power Requirements

Line Voltage supply	90 to 250V; 50/60Hz
Max power requirement	50VA
Max current	0.56A
Supply voltage connector	Standard IEC fixed plug
Fuses	No user replaceable fuses
Battery:	Type 1/2 3.6V AA lithium. When exhausted batteries must be disposed-of in accordance with local regulations. They may not be disposed-of with normal refuse

Health Relays

Relays:	Health relay
	Run relay
Contact	Format: Changeover (Common, normally closed and normally open contacts)
	Rating (resistive): 30V ac/60V dc at 0.5Amps
Isolation:	(Contact-to-ground) 30V ac (RMS) or 60V dc

Rear panel indicators

LEDs	Red: Hardware / startup failure
	Yellow: SLIN comms activity
	Green: Software running
Comms Activity:	Green and yellow LEDs integral with Comms connectors

Other connections

Safety earth connection: By M4 earth stud on right hand flange of the backplane

Control

Control Options

Table below shows available control, sequencing and Setpoint Program options

Control, Sequencing and Setpoint Program Options

Option	Resources
SPP (SetPoint Programmer)	Standard SFC + Enhanced SPP + Standard DB
SFC (Sequential Function Chart)	Enhanced SFC + Standard SPP + Enhanced DB
EDB (Enhanced DataBase)	Standard SFC + No SPP + Enhanced DB

Table below shows resources for Various Continuous Database (DB), Sequences (SFC) and Setpoint Programs (SPP) options

Continuous database Resources (default max values)

DB Resource	Standard plus	Enhanced
Continuous control database size	128 Kbytes	160 Kbytes
Number of templates	100	100
No of External Database	32	32
Number of TEATT (External Attachments)	128	128
Number of Connections	512	1024

Sequence Control Resources (SFC)

SFC Resource	Standard	Enhanced
Sequence memory	55 Kbytes	142 Kbytes
Program data		
Sequence memory SFC resources	27 Kbytes	27 Kbytes
Independent sequence tasks simultaneously active	10	28
SFC actions, including root SFCs	50	130
Steps	160	390
Action associations	600	1560
Actions	300	780
Transitions	225	582

Setpoint Program Resources

SPP Resource	Standard	Enhanced
Max. Profiled Analogs	8	16
Max. Profiled Digitals	16	32
Max. Segments per Program	250	500

Multile Setpoint Programs Allocation

No of Programs	Standard	Enhanced
1 Program	8 Analog 16 Digital	16 Analog 32 Digital
2 Programs	4 Analog 8 Digital	16 Analog 32 Digital
4 Programs	2 Analog 4 Digital	16 Analog 16 Digital
8 Programs	1 Analog 2 Digital	8 Analog 8 Digital

Internationalisation

The following languages are supported

English
French
Italian
German
Portuguese

Languages can be changed online. Other languages can be added using text language file. Special fonts can be used on the User configurable screens

Alarms and events

Number of records in history: 500 lines max
 Acknowledgment: Colour coded

Recipes

Concurrent recipe (files): 4 sets max
 Production lines per set: 8 max
 Recipes per set (file): 16 max
 Variables: 500 max (across 4 recipe sets)

Batch

Concurrent batches (files): 4 max
 Phases per batch: 20 max

Trends

Groups (trends) SVGA: 8 max
 1/4 VGA: 6 max
 Points per group SVGA: 16 max
 1/4 VGA: 16 max (but max. 6 faceplates)
 Maximum frequency: 1 sample per second
 Maximum samples: 15000 samples for 1 group of 16 points

Data logging Storage

Disk: DOS-formatted 3.5" floppy 1.44Mb
 Internal archive: 16Mb flash memory
 Data format: ASCII (.asc) or compressed data
 Data compression: Proprietary
 Maximum log frequency: Once every 10 seconds (floppy disk); once per second for internal flash

Universal Serial Bus (USB)

version: 1.1 (2.0 devices are compatible)
 Devices supported: USB bulk storage devices ('Memory stick')
 Isolation: No signal isolation

Communications**Ethernet port**

Type: 100/10 Base-T
 Cable Type: Cat 5
 Max length: 100 metres
 Termination: RJ45 telephone connector
 Supported protocols: Modbus TCP, FTP, ELIN, TELNET
 Isolation: 50V peak
 FTP: Push files to upto 3 remote servers
 Remote FTP servers able to pull files with upto 4 concurrent FTP logins (only one write account at any one time)
 TELNET: Provides remote terminal configurator access

ALIN ports

Connectors: Parallel wired pairs of shielded RJ45 connectors per port
 Network medium: ArcNet (screened twisted pair, 100 Ohm)
 Network type: Token bus
 Speed: 2.5 Mbits/sec.
 No of node (max): 8, extendable by repeater
 Line length (max): 100 metres, extendable by repeater
 Isolation: 60V dc / 30V ac; 5.6kΩ to 0V

I/O memory

Option	520 Processor
Profibus only	160K
Modbus only	160K
Profibus & modbus	Profibus 80K Modbus 80K

Master I/O Comms

Modbus TCP slave: Used to talk through only
 Modbus TCP master: Slave connections 20 max

Modbus/Jbus (EIA422/485)Slave

Connectors: Shielded RJ45 connector
 Single (1/4 VGA) Parallel wired pair (SVGA)
 Protocol: MODBUS/JBUS RTU slave
 Data rate: Selectable between 1200 and 38,400 Baud
 Data format: 8-bits, 1 or 2 stop bits, selectable parity
 MODBUS: Data tables 16, configurable as registers or bits
 Table length (max.): 200 registers or 999 bits
 Memory allocated to tables: 6000 bytes
 Isolation: 60V dc / 30V ac

Note: Can only configure one port as slave.

Modbus (DCM) Master

Connectors: Shielded RJ45 connector
 Single (1/4 VGA) Parallel wired pair (SVGA)
 Protocol: MODBUS/JBUS RTU master
 Data rate: Selectable between 1,200 and 38,400 Baud
 Data format: 8-bits, 1 or 2 stop bits, selectable parity
 Isolation: 60V dc / 30V ac

Note: Both ports can be configured as master.

Profibus Master

Connectors options: Pair of RJ45 connector wired parallel
 D9 Connector
 Protocol: Profibus DP/DPV1
 No of nodes supported: 16 (Standard)
 124 (Enhanced)
 Data rate: Selectable between 9,600 and 12M Baud
 Isolation: 60V dc / 30V ac; 1MΩ to Chassis

RS232 Serial Comms

Connectors options: Front panel jack 3.5mm connector or back of panel
 D9 connector
 Comms medium: RS232 (3 -wire)
 Comms options: SLIN
 Serial Printer
 Line length: 15m extendable by comms buffer
 Units per line: 1

Note: Use of a comms buffer/isolator is recommended.

Parallel Printer Port

Connector: 25 pin D type
 Comms medium: IEEE1284 'Centronics Compatibility Mode'
 Line length: 10m for IEEE1284 cable assemblies otherwise 2m

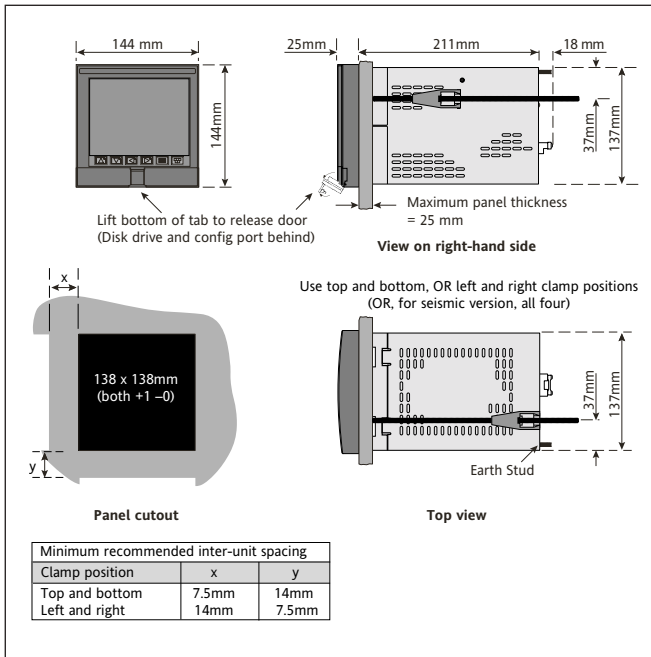
Keyboard/Reader Port

Connector: Standard PS2 connector
 Comms medium: AT101/102
 Line length: 4m maximum

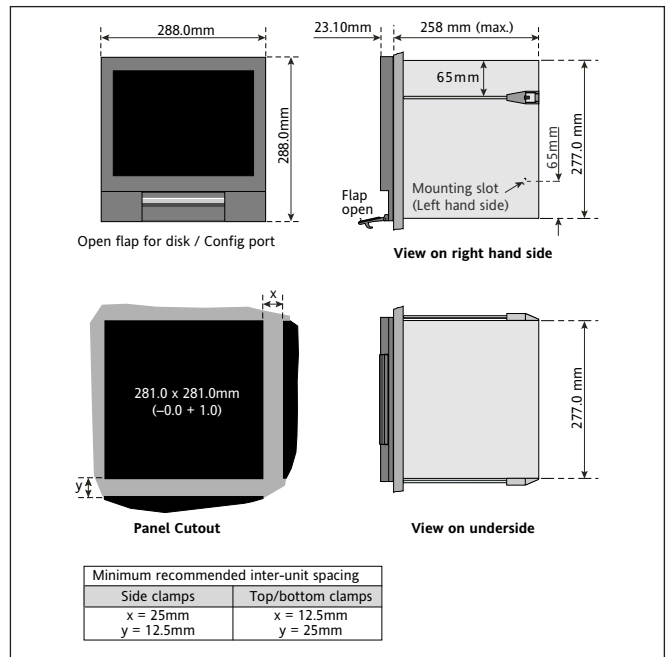
Modbus TalkThru

TalkThru is a facility provided on the Visual Supervisor to enable use of Eurotherm iTools package to configure 2500 controllers without having to disconnect them from the Visual Supervisor. TalkThru enables connection via the Modbus or Modbus TCP slave ports to the Modbus or Profibus DPV1 master ports for either Modbus or Profibus DPV1 2500 controllers.

Small Frame 1/4 VGA Installation



Large Frame SVGA Installation



Eurotherm: International sales and service

Understanding and providing local support is a key part of Eurotherm's business. Complementing worldwide Eurotherm offices are a whole range of partners and a comprehensive technical support team... a soothing melody to ensure you get a service you will want to go back to.

AUSTRALIA Sydney
Eurotherm Pty. Ltd.
Telephone (+61 2) 9838 0099
Fax (+61 2) 9838 9288
E-mail info@eurotherm.com.au

AUSTRIA Vienna
Eurotherm GmbH
Telephone (+43 1) 7987601
Fax (+43 1) 7987605
E-mail eurotherm@eurotherm.at

BELGIUM & LUXEMBURG Huy
Eurotherm S.A./N.V.
Telephone (+32) 85 274080
Fax (+32) 85 274081
E-mail sales@eurotherm-belgium.be

BRAZIL Campinas-SP
Eurotherm Ltda.
Telephone (+5519) 3707 5333
Fax (+5519) 3707 5345
E-mail eurothermltda@eurothermltda.com.br

DENMARK Copenhagen
Eurotherm Danmark A/S
Telephone (+45 70) 234670
Fax (+45 70) 234660
E-mail info@eurotherm.se

FINLAND Abo
Eurotherm Finland
Telephone (+358) 22506030
Fax (+358) 22503201

FRANCE Lyon
Eurotherm Automation SA
Telephone (+33 478) 664500
Fax (+33 478) 352490
E-mail ea@automation.eurotherm.co.uk

GERMANY Limburg
Eurotherm Deutschland GmbH
Telephone (+49 6431) 2980
Fax (+49 6431) 298119
E-mail info@regler.eurotherm.co.uk

HONG KONG & CHINA
Eurotherm Limited North Point
Telephone (+85 2) 28733826
Fax (+85 2) 28700148
E-mail eurotherm@eurotherm.com.hk

Guangzhou Office
Telephone (+86 20) 8755 5099
Fax (+86 20) 8755 5831

Beijing Office
Telephone (+86 10) 6567 8506
Fax (+86 10) 6567 8509

Shanghai Office
Telephone (+86 21) 6145 1188
Fax (+86 21) 6145 1187

INDIA Chennai
Eurotherm India Limited
Telephone (+91 44) 24961129
Fax (+91 44) 24961831
E-mail sales@eurothermdel.com

IRELAND Dublin
Eurotherm Ireland Limited
Telephone (+353 1) 469180
Fax (+353 01) 4691300
E-mail info@eurotherm.ie

ITALY Como
Eurotherm S.r.l
Telephone (+39 31) 975111
Fax (+39 31) 977512
Telex 380893 EUROTH I
E-mail info@eurotherm.it

KOREA Seoul
Eurotherm Korea Limited
Telephone (+82 31) 2738507
Fax (+82 31) 2738508
E-mail help@eurotherm.co.kr

NETHERLANDS Alphen a/d Ryn
Eurotherm B.V.
Telephone (+31 172) 411752
Fax (+31 172) 417260
E-mail sales@eurotherm.nl

NORWAY Oslo
Eurotherm A/S
Telephone Oslo (+47 67) 592170
Fax (+47 67) 118301
E-mail info@eurotherm.se

SPAIN Madrid
Eurotherm España SA
Telephone (+34 91) 6616001
Fax (+34 91) 6619093
E-mail ventas@iberica.eurotherm.co.uk

SWEDEN Malmo
Eurotherm AB
Telephone (+46 40) 384500
Fax (+46 40) 384545
E-mail info@eurotherm.se

SWITZERLAND Freienbach
Eurotherm Produkte (Schweiz) AG
Telephone (+41 55) 4154400
Fax (+41 55) 4154415
E-mail epsag@eurotherm.ch

UNITED KINGDOM Worthing
Eurotherm Limited
Telephone (+44 1903) 268500
Fax (+44 1903) 265982
E-mail info@eurotherm.co.uk
Web www.eurotherm.co.uk

U.S.A Leesburg VA
Eurotherm Inc.
Telephone (+1 703) 443 0000
Fax (+1 703) 669 1300
E-mail info@eurotherm.com
Web www.eurotherm.com

ED44

© Copyright Eurotherm Limited 2006

Invensys, Eurotherm, the Eurotherm logo, Chessell, Mini8 and Wonderware are trademarks of Invensys plc, its subsidiaries and affiliates. All other brands may be trademarks of their respective owners.

All rights are strictly reserved. No part of this document may be reproduced, modified, or transmitted in any form by any means, nor may it be stored in a retrieval system other than for the purpose to act as an aid in operating the equipment to which the document relates, without the prior written permission of Eurotherm limited.

Eurotherm limited pursues a policy of continuous development and product improvement. The specifications in this document may therefore be changed without notice. The information in this document is given in good faith, but is intended for guidance only. Eurotherm Limited will accept no responsibility for any losses arising from errors in this document.

