T820

MODEL

Mono Graphic Operator/Control Panel

Specification Sheet

Features

- **128 x 64 pixel Mono Graphic Display**
- **LED Backlight**
- **25 Function Keys**
- **4 Programmable Keys**
- **Password Protection**
- **Data recording**
- **Recipes**
- **Alarm History**
- **10/100Mbps Ethernet**
- **Modbus Master/Slave**
- **Small panel size**

The T820 provides an ideal operator interface for setting and displaying data. It can also control, monitor and record a wide range of PLC's, data acquisition and I/O control systems such as the T2550 and 2500 Programmable Automation Controllers.

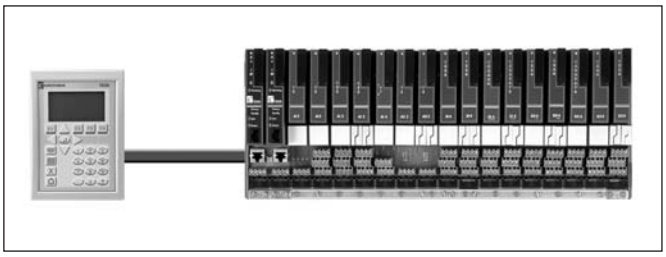
Although compact, the T820 is constructed from a substantial zinc diecast and sheet case with a sealed membrane keypad through which the display is viewed. Easily sealed to the panel to IP66 the unit provides a secure panel mounted interface or remote mounted equipment.

Dynamic text, help messages and easy to use function keys provide the operator with rapid access to the acquired variable data. The function keys can be programmed for direct access to displays, alarms and recipe download or simply toggle a variable.

The programming software LINtools is simple to use and can run on most Windows operating systems.

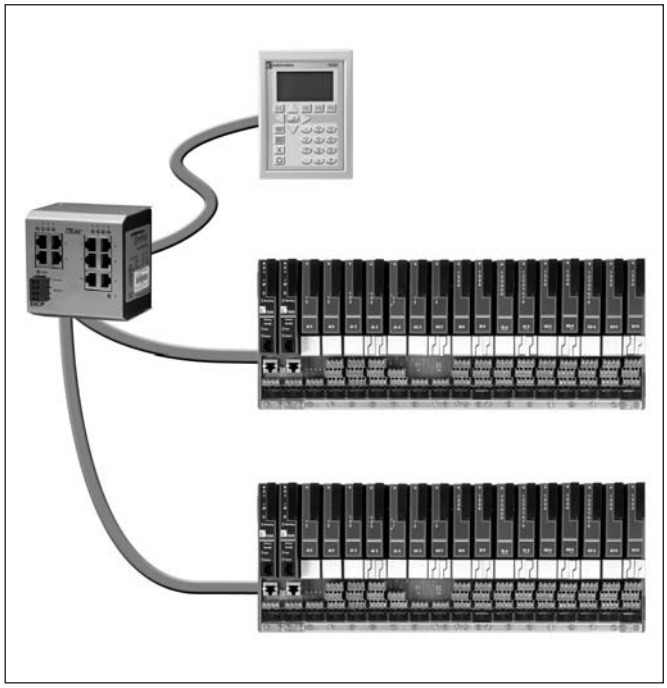
T820 Terminal unit – Serial connection

The Terminal version of the T820 is supplied without a processor and is connected directly to the serial port of the T2550 Programmable Automation Controller using proprietary communications protocol. All configuration parameters for the T820 terminal unit are stored on the T2550 PAC. The T820 is supported by both Simplex and Duplex base options.



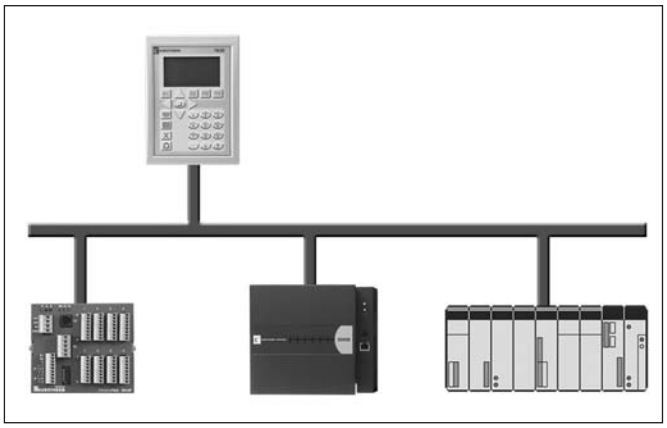
T820 Control Unit – ELIN Network

The control version of the T820 is fitted with an integral processor, providing additional features such as the ability to run a local LIN database, connect to an ELIN network, as shown below. As standard the T820 is a Modbus (serial or TCP) slave



T820 Control Unit – Modbus Master

The T820 Control panel can also be used as a simple HMI to any device that supports Modbus (TCP or Serial) including third party devices by the addition of the Modbus Master option.

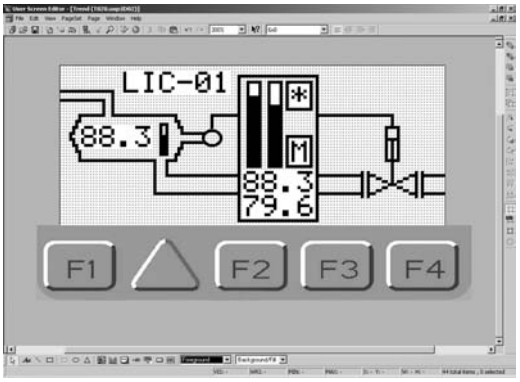


Modbus Gateway Facility

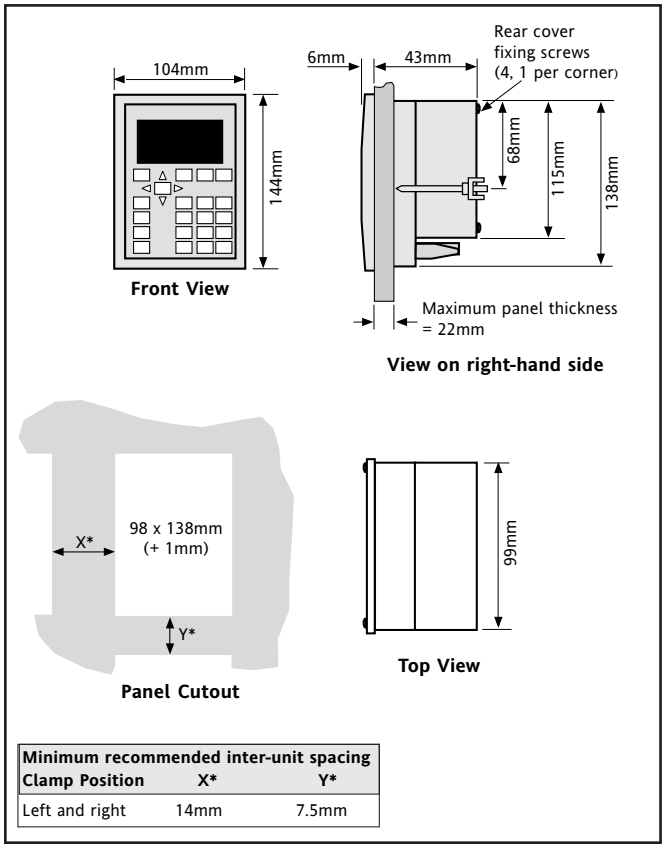
The Modbus Gateway facility provides a Modbus interface to the LIN Database. By using the techniques of LIN function block caching, the Modbus Gateway facility can access data in other nodes distributed on the LIN, as well as LIN function blocks in the local LIN database.

User definable function keys

A unique feature of the T820 series is the user definable keys which can be configured as required using User Screen Editor Software package. As standard the T820 has four user definable keys that can be configured to perform specific actions such as navigating between process screens.

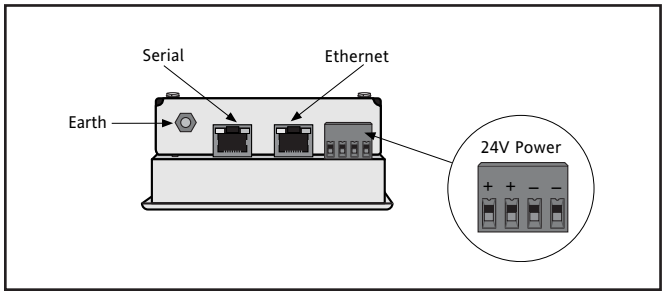


Mechanical Details



Minimum recommended inter-unit spacing		
Clamp Position	**X***	**Y***
Left and right	14mm	7.5mm

Wiring Details



Recording and Archiving (Control unit only)

The T820 Control Panels have internal non-volatile flash memory for secure tamper resistant data storage, providing for local Data Logging. In addition all T820 Control Panels support Ethernet connectivity. As such, Data stored within the internal flash memory can be configured to periodically archive to primary, secondary and tertiary FTP Servers. Archiving files to FTP servers effectively provides a secure, infinite archiving capacity.

Data Recording

Data Recording is the terminology used to describe the storage of PV's, message and alarm information in the internal Flash memory of the product in order to generate historical data in the form of a set secure tamper resistant history files.

The following example provides estimated memory duration based on logging 16 Parameters to a single group.

Recording Interval (Update A)	Estimated Duration	
	Min/Max Off	Min/Max On
1s	60 hrs	31 hrs
5s	12 days	6 days
10s	25 days	13 days
20s	50 days	26 days
60s	150 days	77 days

Data Archiving

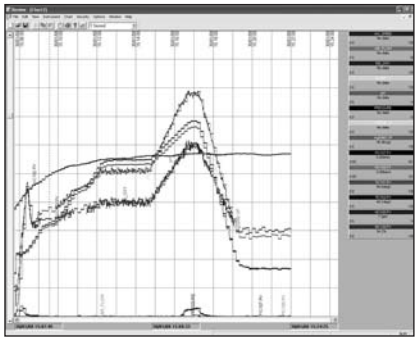
Data Archiving is the terminology used to describe the copying of selected parts of the history i.e. one or more history files (.uhh) to Primary, Secondary or Tertiary FTP Servers.

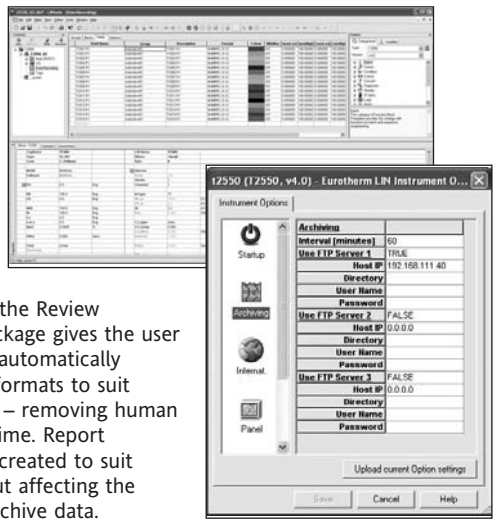
FTP Push

For efficiency historical data files are automatically deleted on a first in first out (FIFO) basis from the internal flash memory of the T820 (7Mb for history). In order to ensure longevity of data the T820 is able to push historical data files (.uhh) to Primary, Secondary or Tertiary FTP servers at user defined intervals. Thus, depending on the archive strategy chosen, data is never lost. As an alternative Eurotherm Review can be used to pull data directly from the T820.

Review Full

Review Full Software provides additional functionality and flexibility for the user. Data can be viewed in spreadsheet format or a whole chart copied to the clipboard for direct pasting into another document. A complete batch chart can be automatically printed to a specified printer without the need for operator intervention.





Report

Report is an add-in for Excel that will directly access encrypted files in the Review Database. This package gives the user total flexibility to automatically create reports in formats to suit every department – removing human error and saving time. Report templates can be created to suit every need without affecting the secure, primary archive data.

General specification

Display

Type:	Mono Graphic FSTN LCD
Back lighting:	LED, reflective
Resolution:	128 x 64 pixels
Rows x characters:	6 x 21
Text characters (pixel):	8 x 6 or 16 x 12
Font sets:	ASCII
Graphical objects:	Bargraph, dynamic bitmaps, circle, triangle, rectangle, line
Contrast Adjustment:	Configurable

User Interface

Operator keys:	25
Function keys:	4
Alphanumeric keys:	12

Main Features

Language support:	English, French, German, Italian, Spanish and Portuguese.
Additional languages:	Via Dictionary file
Passwords: Standard:	4
Additional:	User Configurable
Max no. of pages:	99
Variables per page:	Unlimited
Variable formats:	Integer, Floating point, Binary, BCD, ASCII Text
Alarm list:	250 Alarms
Real time clock:	Battery backed

Continuous Database Resources

Number of function blocks:	255 max
Number of templates:	50 max
Number of libraries:	28 max
Number of EDBs:	32 max
Number of FEATTs:	255 max
Number of TEATTs:	128 max
Number of servers:	6 max
Number of connections:	255
Control database size:	102KB max

Sequence Control Resources

Sequence memory:	
Program data:	59KB
SFC resources:	53KB
Independent sequence tasks:	68 simultaneously active
Steps:	212
Action associations:	848
Actions:	424
Transitions:	318

Power Requirement

Main supply:	Voltage range:	18-28.8V dc
	Supply ripple:	2Vp-p max
	Consumption:	3.5W max
	Surge current:	200mA max

Communications

Ethernet port:	10/100Mbps Auto Sensing
Protocols:	LIN peer to peer. Modbus TCP Master/Slave
Serial port (Auxiliary):	RS485 (to IOC) or Modbus RTU
Isolation:	50V dc

Battery Backup

Type:	Poly-carbonmonofluoride/lithum (BR2032)
Support time:	1 year min with unit unpowered
Replacement period:	3 years
Stored data:	Realtime clock and hot start parameters

Physical

External:	104mm (W) x 144mm (H)
Panel cut out:	98mm (W) x 138mm (H) (+1mm)
Case material:	Zinc diecast and sheet metal
Weight:	1kg max
Safety earth connection:	M4 earth stud on rear cover

Environmental

Temperature:	Storage:	–10 - +85°C
	Operating:	0-50°C
Humidity:	Storage:	5-95%RH (non-condensing)
	Operating:	5-85%RH (non-condensing)
RFI:	EMC emissions:	BS EN68136
	Susceptibility:	BS EN68136
Safety specification:		BS EN61010-1:2001 Installation category II, Pollution degree 2
Shock:		BS EN60068-2-31; BS EN60873, section 2.1.3
Protection:	Front panel:	IP66
	Rear of panel:	IP20

ORDER CODE

T820	1	2	3	4	5	6	7	8	9	10	11	12	13
						-		SL					

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ENG

Basic Product

T820	Operator terminal

1 Processor

TERMINAL	No Processor, Conn to T2550
CONTROL	IOC fitted
UPGRADE	IOC supplied separately

2 IOC and Software L = Standard License D = Data Logging

	Foundation	Standard	Control	Advanced
L10/D10	Unbounded	0	0	off
L20/D20	Unbounded	50	4	off
L30/D30	Unbounded	100	8	off
L40/D40	Unbounded	Unbounded	4	off
L50/D50	Unbounded	Unbounded	16	off
L60/D60	Unbounded	Unbounded	24	off
L70/D70	Unbounded	Unbounded	32	off
L80/D80	Unbounded	Unbounded	Unbounded	off
L90/D90	Unbounded	Unbounded	Unbounded	on

3 Blank Field

-	Not used

4 Modbus Master Communications

SLAVE	Modbus-TCP & Serial-Slave communication
MASTER	Modbus-TCP & Serial-Master communication

5 Battery

NBAT	Battery not fitted
BATT	Battery fitted

6 Blank Field

-	Not used

7 Keyboard

EUR	Eurotherm
OEM	OEM

8 Case Colour

SL	Silver

9 Mounting

STD	Std through panel
DIN	Std through panel +DIN mounting kit

10 Applications

NONE	None
XXXXXX	Preconfigured (enter ref. no.)

11 Manuals

NOMAN	No manuals
CDM	CD with manuals
MAN	Paper manuals

12 Technical Support Charge

TS1	1 Hour (default)
TS2	2 Hour
TS4	4 Hours
TS8	8 Hours

13 Warranty

XXXXX	Standard
WL005	5 Year extended

14 Installation Guide Manual

ENG	English

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