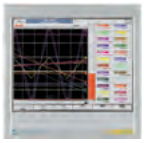
Eurotherm®

Models 6100XIO, 6180XIO

Distributed Graphic Recorders

Specification Sheet

Each 6000XIO instrument has an intuitive, touch screen display to enable operators to clearly view process data in varying formats. All have onboard Flash data storage capability, Ethernet communication and Compact Flash Card. Data is stored in a tamper-resistant binary format that can be used for secure, long term records of your process. The 6000XIO is truly designed for today's networked world and can be accessed via a Local Area Network, dial-up connection, Intranet or Internet.

Available features		
	6100XIO	**6180XIO**
Display	5.5" 1/4 VGA	12.1" XGA
Comms channels (standard)	18	48
Additional virtual channels*	36, 96, 128	
Groups	6 standard (12 optional)	
Auditor features	Auditor or Audit Trail	
Timers	Fitted as standard	
Alarms	4 per channel	
Batch	Optional	
Bridge – Remote viewing software	Lite as standard (Full optional)	
Screen builder	24 screens (optional)	
Security	Unlimited unique user names with configurable access permissions and passwords	
Configuration software	Standard	
Review/Quickchart Lite software	Standard	
Standard views	Vertical and horizontal trending Vertical and horizontal Bargraphs, Circular Trend and Numeric Values	
Modbus slaves	16 Standard (32 optional)	

* Virtual channels can be configured as Maths, Totalisers, Counters or Comms

- Color touchscreen display
- Modbus master
- 96MB non-volatile Flash memory
- Ethernet TCP/IP
- Serial comms
- Compact Flash
- USB 'plug & play'
- Web server
- EtherNet/IP server
- Multi-language support (including Chinese, Korean, and Cyrillic)

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Data logging and archiving

The 6000XIO recorders have internal Flash memory for secure data storage. They are also able to accept various removable media types (compact flash or USB memory stick). Data stored within the internal memory can be archived to the removable media on demand or at preset intervals. The 6000XIO will give indication of how long its internal memory and that of the removable media installed will last according to the configuration of the recorder.

All 6000XIOs have Ethernet capability. The 6000XIO can be configured to archive to the removable media and / or over Ethernet. Archiving files over Ethernet effectively gives a secure, infinite archiving capacity.

Approximate duration for continuous recording of one Group of six channels, high compression:

Archive Media	Sample Rate						
	0.125s	0.5s	1s	5s	10s	30s	60s
32Mb Internal Flash (approx. 4 million samples)	2.83 days	11.3 days	22.6 days	113 days	226 days	1.86 yrs	3.7 yrs
64Mb CF Card or USB memory stick (approx. 8 million samples)	5.66 days	22.6 days	45.3 days	226 days	1.2 yrs	3.7 yrs	7.4 yrs
256Mb CF Card or USB memory stick (approx, 32 million samples)	22.6 days	90.6 days	181 days	2.4 yrs	4.9 yrs	14.8 yrs	20 yrs
1Gb CF Card or USB memory stick (approx. 125 million samples)	88 days	354 days	1.9 yrs	9.6 yrs	19 yrs	58 yrs	116 yrs
8Gb CF Card or USB memory stick (approx. 1000 million samples)	1.9 yrs	7.8 ys	15.2 yrs	76.8 yrs	152 yrs	464 yrs	928 yrs
16Gb CF Card or USB memory stick (approx. 2000 million samples)	3.8 yrs	15.6 yrs	30.4 yrs	153.6 yrs	304 yrs	928 yrs	1856 yrs
Ethernet (FTP Server)	Infinite						

Time synchronisation (SNTP)

The 6000XIO support Simple Network Time Protocol which, when enabled, updates the instrument time every 15 minutes from the configured SNTP server. The unit can also act as a Unicast SNTP server on the network, allowing client instruments to synchronise with the 6000XIO to a resolution of one millisecond.

Batch recording

Up to ten user-defined fields can be used to enter batch specific data.

Field Descriptor	Operator entered batch information
– up to 20 characters	– up to 60 characters

The user can choose to log any number of the given fields on start and / or stop of a batch. The information will appear on the chart as a message and cannot be separated from the process data to which it relates.

Auditor features

Auditor

Designed to meet the requirements of the FDA Regulation 21 CFR Part 11 for Electronic Records and Signatures, this software option provides the 6000XIO with additional security such as password ageing, electronic signatures and time stamped audit trail.

Audit trail

A sub-set of the Auditor which provides the 6000XIO with a time stamped audit trail. It does not include password ageing and electronic signatures.

Mircosoft® Active Directory® directory service

A utility intended for User Access Administration of PCs. It is a tool used by the IT administrators to manage user access across the company wide network. It allows users to be given access according to their functions by allocating them to a group with defined privileges. It also includes the necessary features such as password expiry, auto-logout, minimum length password, etc. It allows the users to manage their password from any node on the system.

Modbus master

Allows users to view data from multiple instruments connected either by a local Network connection using Modbus TCP, or a Serial connection using Modbus RTU.

Reports

Fitted as standard the Reports option provides the 6000XIO with the ability to generate up to 10 simple reports that can be displayed as part of the recorded data. Reports, triggered by an event/job can be configured to contain parameters such as time and date, batch names, process values and user defined messages.

Dynamic Host Configuration Protocol (DHCP)

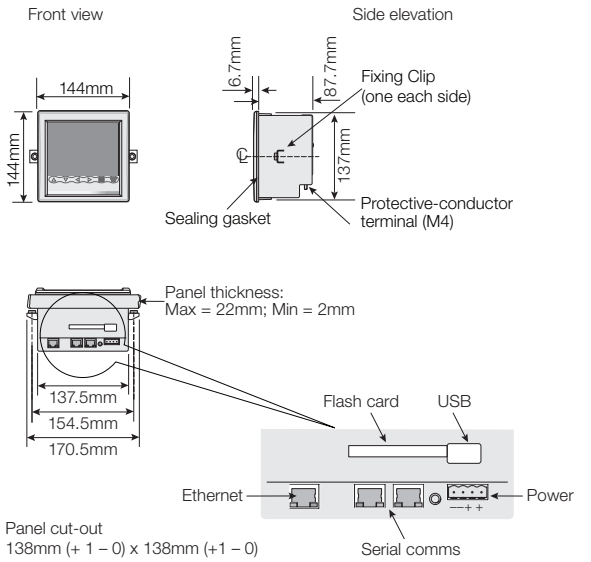
Dynamic Host Configuration Protocol, the successor to BootP, allows a 6000XIO host to obtain Network parameters, such as IP address, Subnet Mask, default gateway and DNS server address dynamically. The implementation of DHCP on the 6000XIO significantly reduces the overhead for maintaining a network of instrumentation.

Specification

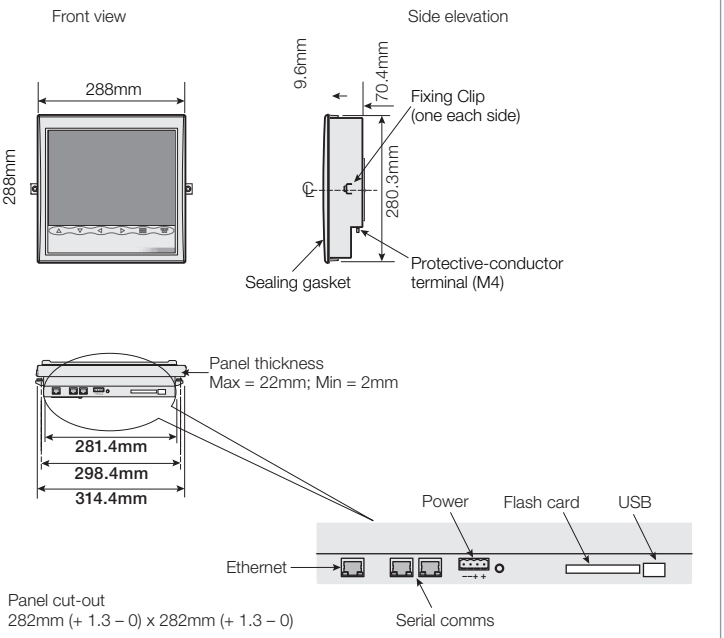
Environmental performance		
Temperature limits	Operation: Storage:	0 to +50°C –20 to +60°C
Humidity limits	Operation: Storage:	5% to 80% RH (non condensing) 5% to 95% RH (non condensing)
Protection	Bezel and display: Sleeve (rear of panel):	IP65 IP20
Vibration	(10Hz to 150Hz):	1g peak
Approvals		
Electromagnetic compatibility CE, (EMC)		
Emissions and immunity		BS EN6132
Electrical safety		
BS EN61010:		Installation cat. II; Pollution degree 2
INSTALLATION CATEGORY II The rate impulse voltage for equipment on nominal 230V mains is 2500V. POLLUTION DEGREE 2 Normally, only non-conductive pollution occurs. Occasionally, however, a temporary conductivity caused by condensation shall be expected		
Physical		
Panel mounting:		DIN43700
Panel mounting angle:		Vertical
6100XIO	Bezel size: Panel cutout dimensions: Depth behind panel: Weight:	144 x 144mm 138 x 138mm (both –0/+1mm) 87.7mm 1.5kg
6180XIO	Bezel size: Panel cutout dimensions: Depth behind panel: Weight:	288 x 288mm 282 x 282mm (both –0/+1.3mm) 70.4mm 3.7kg
Operator interface		
Type:		Colour TFT LCD, with cold cathode backlight, fitted with resistive, analogue, towuch panel
Size and resolution	6100XIO: 6180XIO:	1/4VGA (320 x 240 pixels) 5.5” XGA (1024 x 768 pixels) 12.1”
Power Requirements		
Supply voltage:		19.2 to 28.8V dc (24V dc nominal)
Power consumed	6100XIO: 6180XIO:	20W 24W
Fuse:		No user replaceable fuses
Inrush current:		10A max
Ethernet communications		
Ethernet Port:		10/100Mbps Auto Sensing
Protocols:		TCP/IP, FTP, DHCP, BOOTP, SNTP, MODBUS, SMTP, ICMP, EtherNet/IP
Cable	Type: Maximum length: Termination:	CAT5 100 metres RJ45 (shielded)
Serial communications		
No. of Ports:		2
Protocol:		Modbus RTU Master and Slave
Transmission standard:		EIA422 or EIA485 Half Duplex
Back-up battery		
Type:		
Support time (RTC):		Poly-carbonmonofluoride/lithium (BR2330)
Replacement period:		3 years
Stored data:		Time; values for totalisers, counters and timers; batch data; Fvalue, Rolling average, Stopwatch etc.

Mechanical Details

6100XIO



6180XIO



Panel Mounting Details

Installed panel angle: Vertical panels only

Minimum inter-unit spacing: 50mm vertical or horizontal

Note: Where multiple units are mounted in close proximity with one another, steps must be taken to ensure that the resulting ambient temperature does not exceed the specified maximum operating temperature of 50 degrees Celsius.

Ordering Codes

Basic Product	
6100XIO	6100XIO 100mm TFT 1/4VGA Display
6180XIO	6180XIO 180mm TFT XGA Display

1	Internal Memory
096M	096M byte for history

2	Non-Standard Option
XXXXXX	Default

3	Memory Card Size
NOMC	None
002G	2GB Card CF
004G	4GB Card CF
008G	8GB Card CF
016G	16GB Card CF

4	USB Memory Stick Size
NOMS	None
002GMS	2GB
004GMS	4GB
008GMS	8GB
016GMS	16GB

5	Warranty
XXXXX	Standard
WL005	5 Year

6	Bridge
BLITE	Lite (standard)
BFULL	Full

7	Review and QuickChart
RLITE	Lite (standard)
RFULL	Full

8	Auditor
NOADT	None
ALITE	Audit Trail
AFULL	Auditor

9	Security Manager
NOSM	None
SECMAN	Security Manager (inc. Active Directory)

10	Groups
06GROUP	6 (standard)
12GROUP	12

11	Maths, Totalisers & Counters
MTC00	None
MTC36	36 virtual chs
MTC96	96 virtual chs
MTC128	128 virtual chs

12	Batch
NOBATCH	None
BATCH	Batch

13	Screen Builder
NOSB	None
ADSB	Advanced

14	Modbus Master Comms
MSTR16	16 Slaves (standard)
MSTR32	32 Slaves

17	EtherNet Communications Protocol
NONE	Not fitted
ESERV	EtherNet/IP server

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