EUROTHERM® FLEXIBLE SOLUTIONS

# 6000

SERIES DATA MANAGEMENT...

invensys®
EUROTHERM®

# EASY

## Easy to Install, Easy to Configure, Easy to Use ...

The features and functions of this innovative range have been designed with 'ease of use' in mind. Taking advantage of the latest technologies while maintaining a secure environment, the 6000 Series feels familiar and is easy to use.

### Brightness and Clarity

High screen definition always ensures maximum clarity as the 6000 Series uses state of the art digital TFT display technology. A separate display processor always optimises screen refresh rates to ensure 'Operator' efficient viewing of all screens.

- High resolution XGA display
- Digital display technology
- Bright and sharp images
- 16-bit colour
- 8 Hz trend speed update
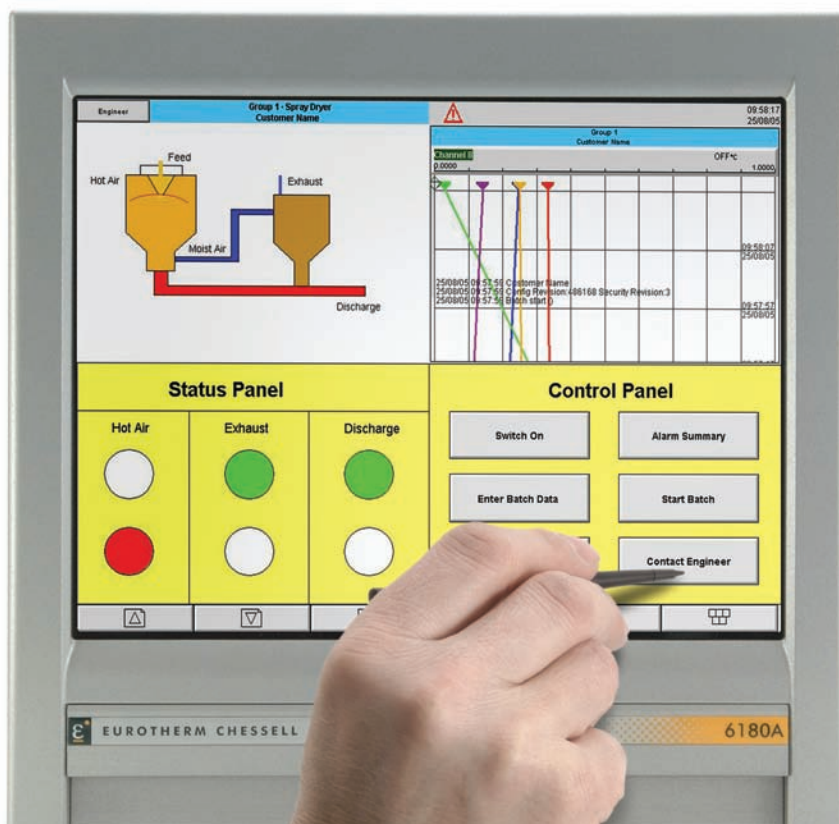
### Touch Screen Display

The 6000 Series HMI is easy and intuitive to use ensuring faster productivity and minimal learning requirements. It also incorporates a 'Pop Up' full 'QWERTY' keyboard to facilitate easy data or message entry.

- No complicated button presses
- Create operator buttons anywhere on display
- Intuitive drop-down menus
- Consistent navigation
- Pre-defined 'Soft' keys
- Integral stylus for 6100A and 6180A

### Easy fit to your process

The 6000 Series fits a wide spectrum of applications by offering fully featured software options and flexible I/O, which can be added to at any time. A unique 'trial mode' feature removes the constraints of the purchased options, allowing you to simply 'try before you buy'.

- Extensive maths, totalisers, counters, timers, groups, log scales, batch
- Multiple views - standard and custom
- 6100A and 6180A have 0-48 input channels
- Up to 36 relays and 24 event inputs in 6100A and 6180A versions
- Compact Flash or Secure Digital (6100XIO and 6180XIO Compact Flash only) removable media options

## Built-in Data Protection and Traceability

Your most valuable asset is the data collected for process and legislation purposes. The 6000 Series offers the 'best in class' security environment so you can be sure that your data is protected and secure.

- Electronic lockable media flap on 6100A and 6180A
- Audit Trail for **21CFR Part 11 and Nadcap**
- Unlimited, unique user names and passwords
- Recorded login
- Multiple archiving strategies
- Selectable internal Flash memory size
  - up to 96Mb for history (12 million samples) in 6100A and 6180A
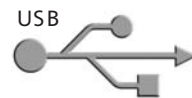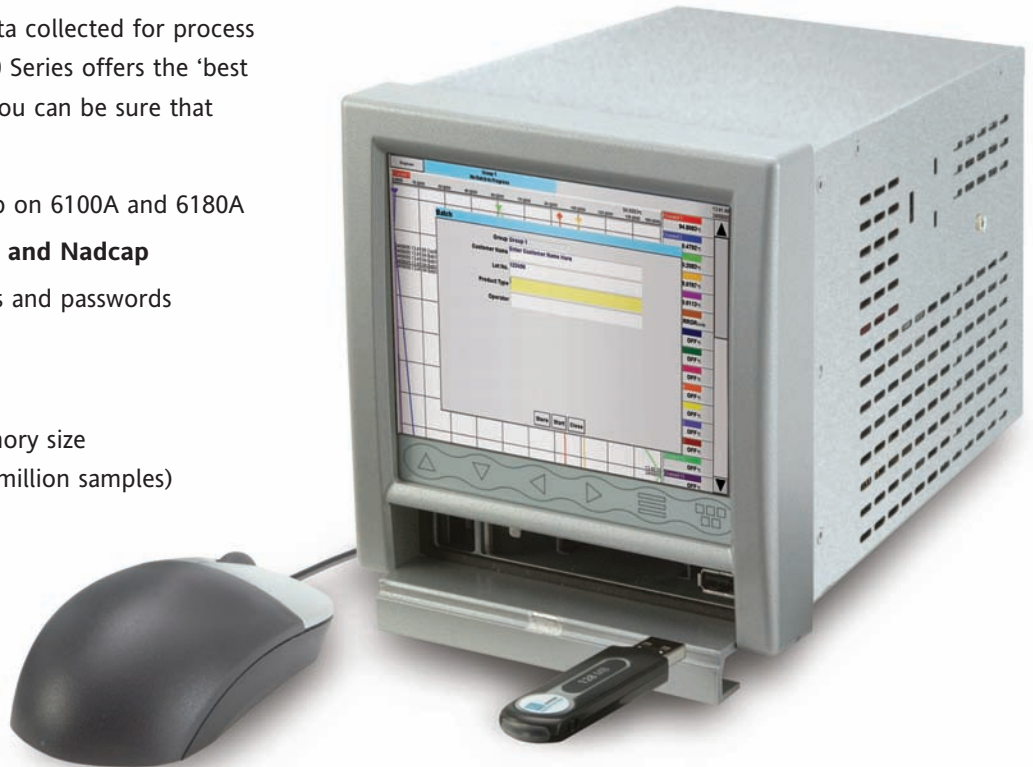
## Easy Communications

Communications flexibility is the cornerstone of solutions in today's challenging Global market, where data is required to be communicated locally and/or globally. The 6000 Series meets these challenges by offering a wide range of communications options.

- 10/100baseT auto-sensing Ethernet as standard
- 6100A/6180A uses 2 serial ports - 232/422/485
- 6100XIO/6180XIO uses 2 serial ports - 422/485
- Modbus TCP and RTU master and slave
- FTP client and server
- DHCP, BootP or fixed IP addressing
- SNTP client and server
- Remote viewing, operation and configuration
- Remote software upgrade
- Centralised security using Security Manager

## Local Printing

Locating a 'local' printer to the 'job' or work in progress can sometimes be a primary criteria. This requirement is met by the 6100A and 6180A in an easy to configure manner.

- Local serial ticket printer for batch/event reporting

## USB 'Plug and Play'

'Plug and Play' peripherals allow the 6000 Series to be connected in an easy and familiar manner so you can configure and operate the 6000 Series based on specific application requirements.

- Keyboard
- Mouse
- Memory Stick
- Bar code scanner

# SECURE
## Your data has value and we can give you peace of mind...

Security is an integral part of the 6000 Series. Data logging, data archiving and user access are all designed to give you peace of mind while still providing 'ease of use'. Process data and Metadata values are continually logged to the large, internal, non-volatile FLASH memory. Records are stored in a secure, binary, check summed format to protect data integrity.

- Password controlled, electronic media flap on 6100A and 6180A
- Integral audit trail
- Specific user access permissions, configurable for each user
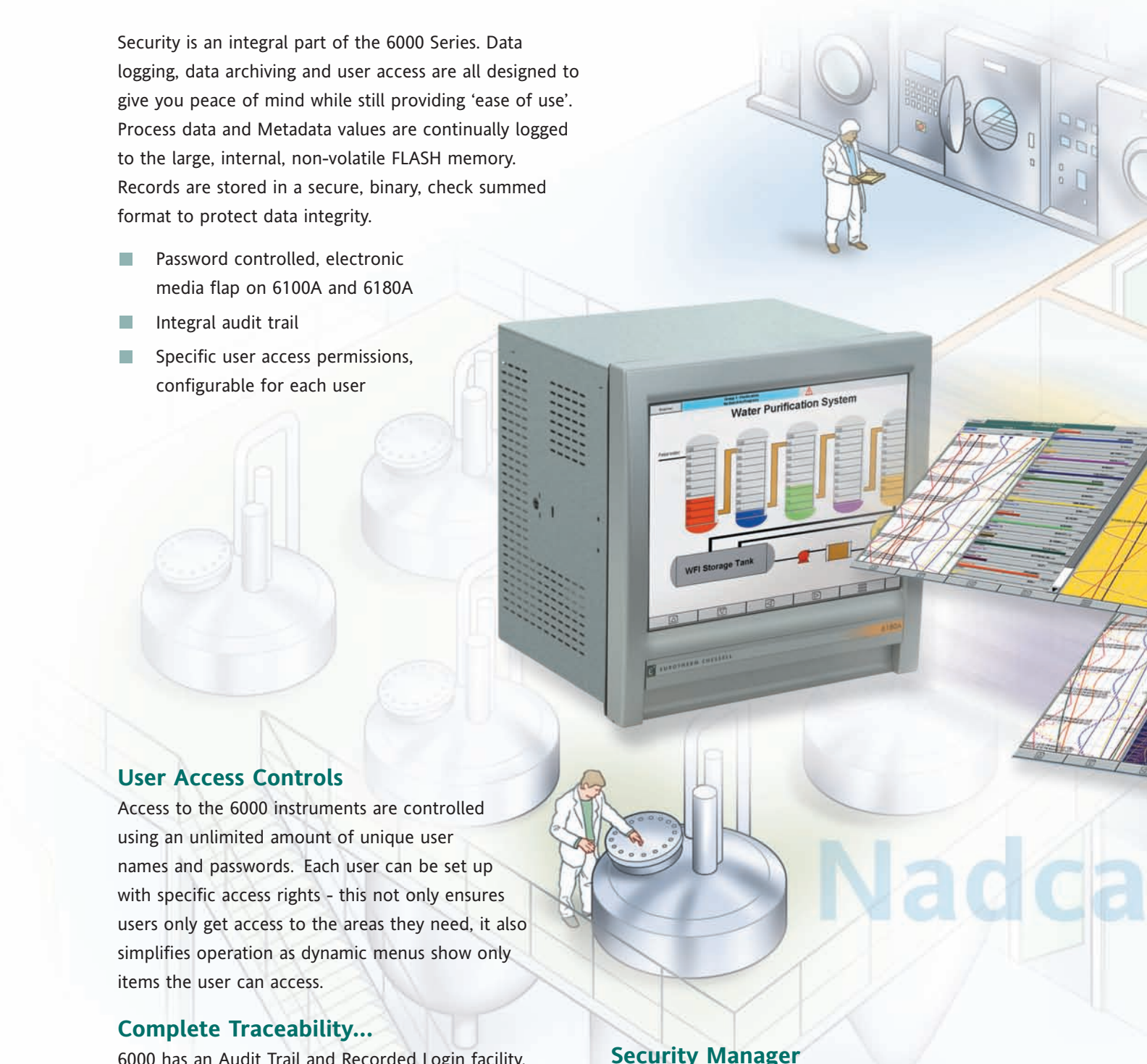
### User Access Controls
Access to the 6000 instruments are controlled using an unlimited amount of unique user names and passwords. Each user can be set up with specific access rights - this not only ensures users only get access to the areas they need, it also simplifies operation as dynamic menus show only items the user can access.

### Complete Traceability...
6000 has an Audit Trail and Recorded Login facility. Every time a user logs on, completes an operation or makes a change to the configuration this is recorded. The Audit Trail is time-stamped and incorporates the operator details along with the changes made. It is stored with the process data and cannot be modified or removed.

### Security Manager
Security Manager offers significant operation cost savings and ease of use by providing maintenance of user accounts and passwords from one or multiple locations. If a user needs to change their password they can do so on a local instrument or PC and this will be automatically distributed across all systems to which they have access.
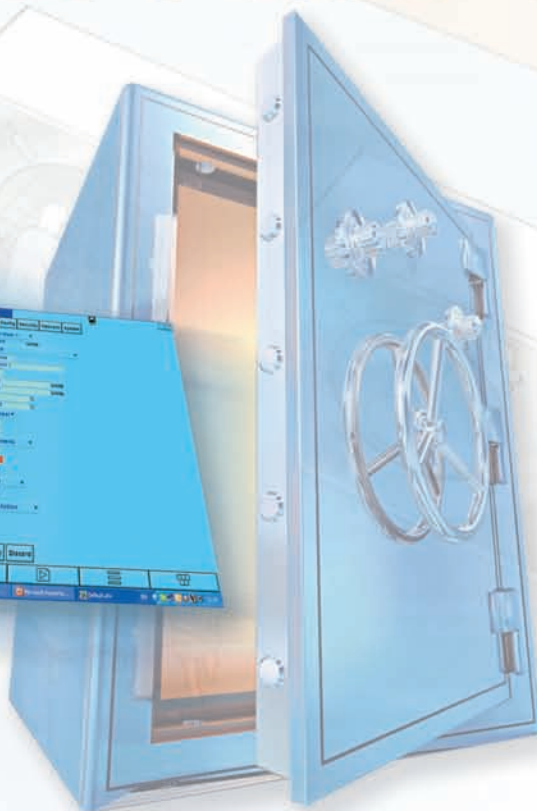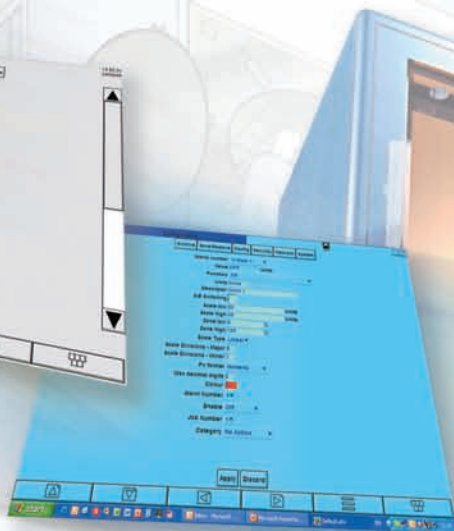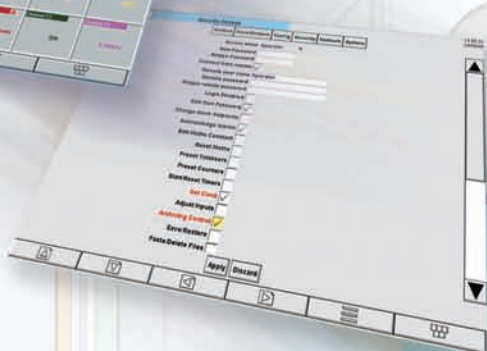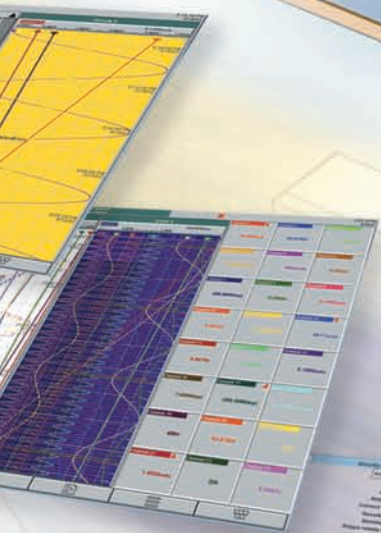
## Electronic Signatures

The 6000 Series support Electronic Signatures in accordance with 21 CFR Part 11. All user actions can be configured to require signing or signing and authorisation. The ability to sign or authorise is configured on a user by user basis and incorporates signature element controls. Unique users are ensured by retiring and not deleting accounts.

- ■ Electronic signing and authorisation
- ■ User specific access according to authority level
- ■ Signature element controls - password expiry, minimum password length, automatic log-off, automatic disabling and notification on failed login attempts
- ■ Unlimited, unique user accounts and passwords

21CFR Part 11

# ADAPTABLE
## Adaptable features, flexible solutions...

The 6000 Series offers much more than just secure data recording. They provide many options that can be used in stand alone applications or can be easily integrated into a wider system.
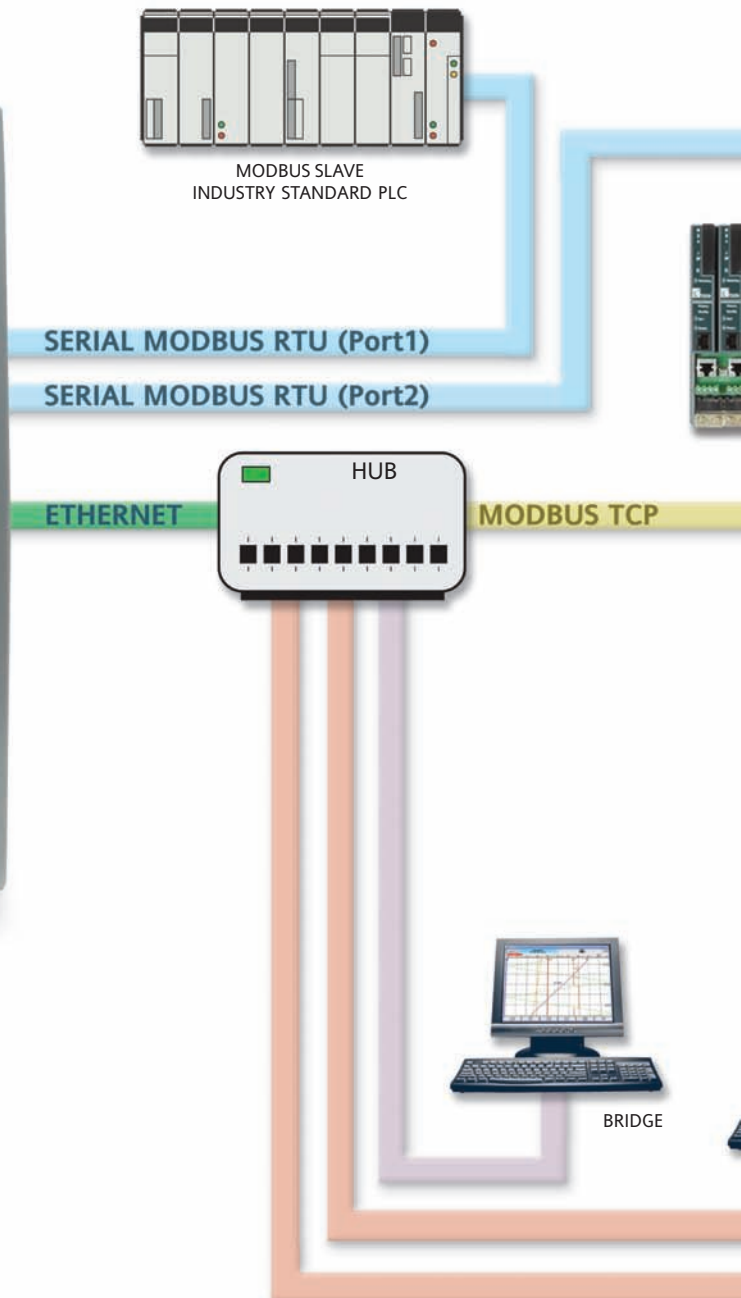
Adaptable functionality incorporated in the 6000 instruments will meet the most demanding of solution requirements. With their ease of use and configuration, you can be sure to maximise your return on investment.

### Communications Made Easy

The 6000 Series can be a Modbus Master and Slave over both Serial and Ethernet connections at the same time. Slave devices can be connected to any of the ports and data recorded and made available to supervisory systems over the Ethernet network. Custom screens can be easily created to give the operator the best view of the process and easier operation of connected devices via the touch screen display.
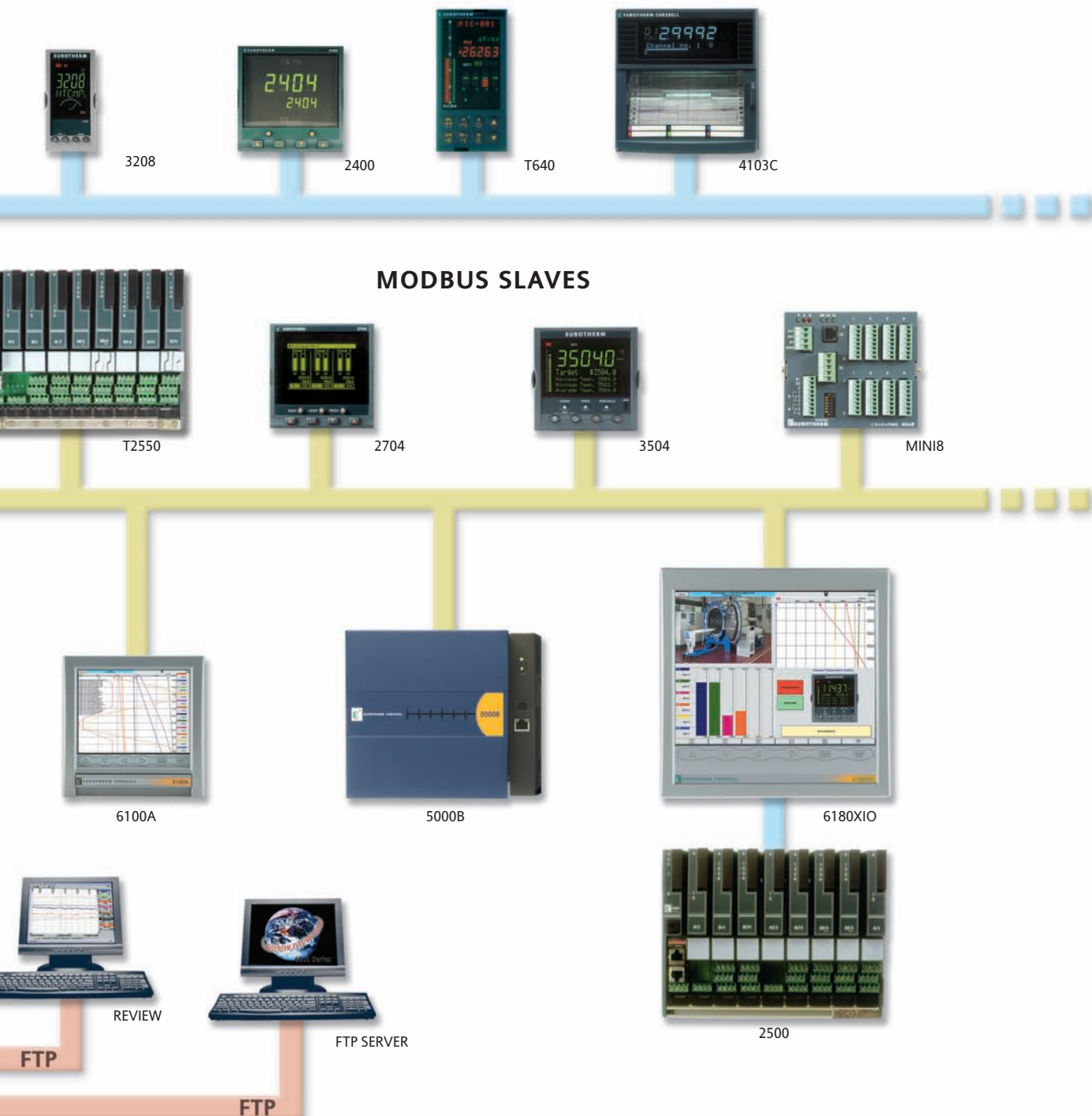
MODBUS SLAVE
INDUSTRY STANDARD PLC

SERIAL MODBUS RTU (Port1)

SERIAL MODBUS RTU (Port2)

ETHERNET

HUB

MODBUS TCP

**MODBUS TCP
and RTU MASTER**

BRIDGE

# ...more than a box

- 10/100baseT Ethernet
- Modbus master and slave
- Dynamic Host Configuration Protocol (DHCP)
- Alarm/event notification via email/SMS
- Remote viewing, operation and configuration
- Automatic printing functionality

- Up to 12 independent Groups (effectively 12 recorders in one box)
- Adaptive recording to store max and min values at 8Hz-even at slower recording rates
- Simple reporting

3208    2400    T640    4103C

## MODBUS SLAVES

T2550    2704    3504    MINI8

6100A    5000B    6180XIO

REVIEW

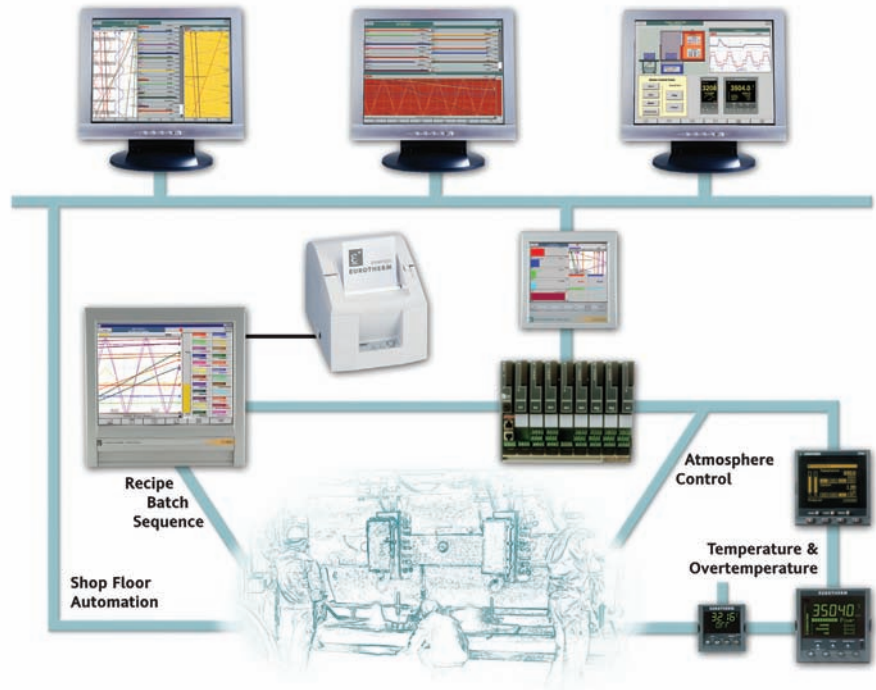FTP SERVER

2500

FTP

FTP

# Real-world applications

HMI functionality can be used to provide a total solution environment for secure recording and operator interface. Combining the adaptable features with ease of implementation, the 6000 Series is the first choice to provide this functionality.

## BATCH

6000 Series has powerful batch functionality and, combined with its groups, can run up to 12 simultaneous batches. Batches can be started and stopped independently and actions (e.g. printing a report or driving a relay) triggered by the start or stop of a batch. Each batch has up to 10 fields to enter data about the batch. These can be stored or entered by the operator on batch start manually or using a USB bar code scanner. Start/Stop times Elapseed Time and Field1 of all batches can be seen in the Batch Summary view.

Using the groups and the batch functionality the 6000 can easily be configured to manage multiple batches or multiple zones within a machine.
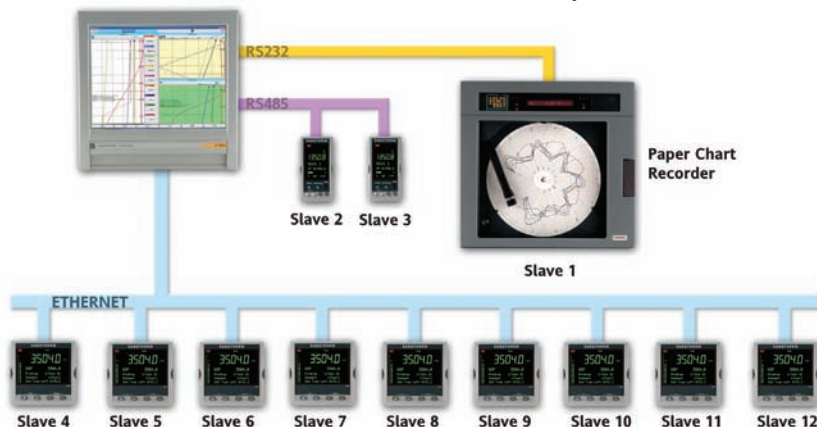
## EXTENDED INPUT CAPABILITY

Each 6000 can communicate with up to 32 slave devices, providing up to 176 inputs. These process values can be divided between up to 12 different groups to provide sensible viewing and reporting of data.
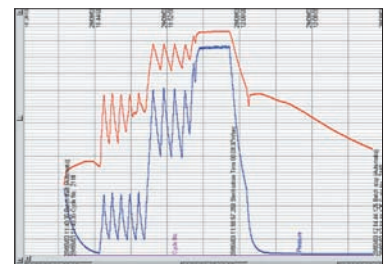
Slave devices could be used for:

- Additional data acquisition
- To provide operators remote access to legacy product data
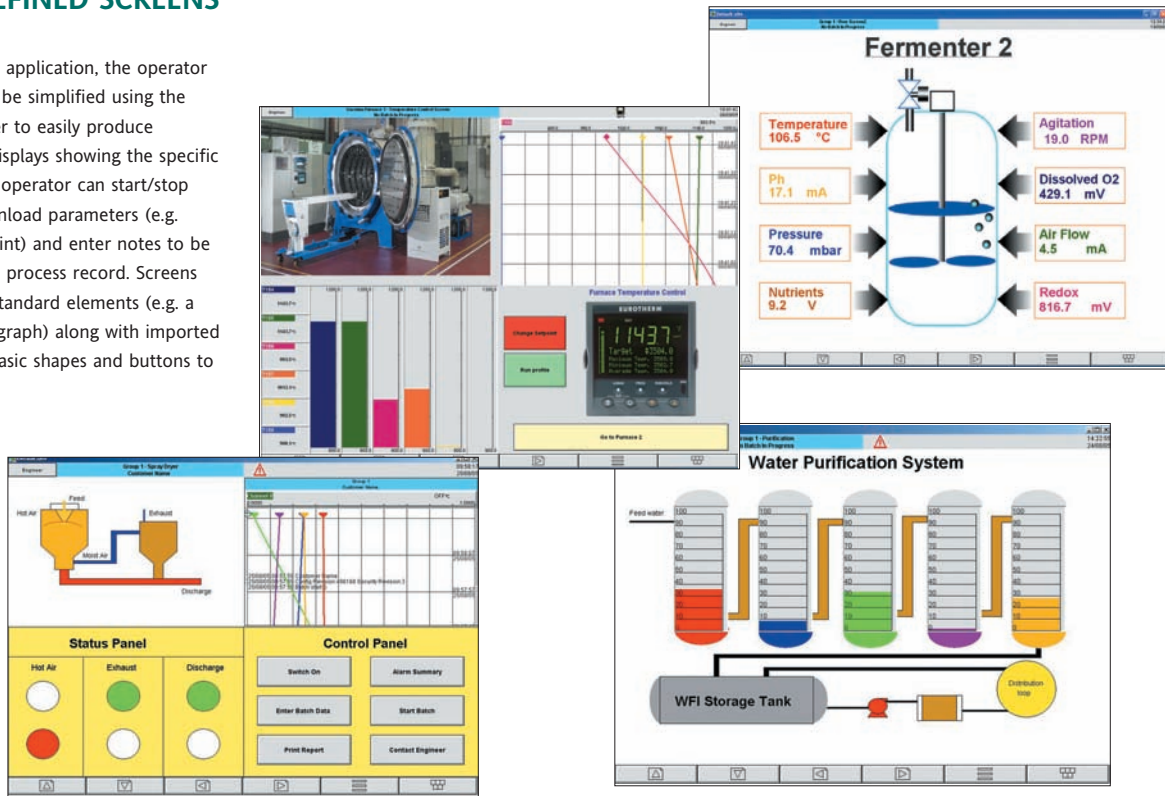- Combined recording and control functionality

## STERILISATION PROCESS

- Lethality (F0) calculation
- Automatic batch start on event
- Batch reporting
- Automatic, local, batch printing for 'dirty' side
- Configurable to indicate pass/fail
- Easy operator interface
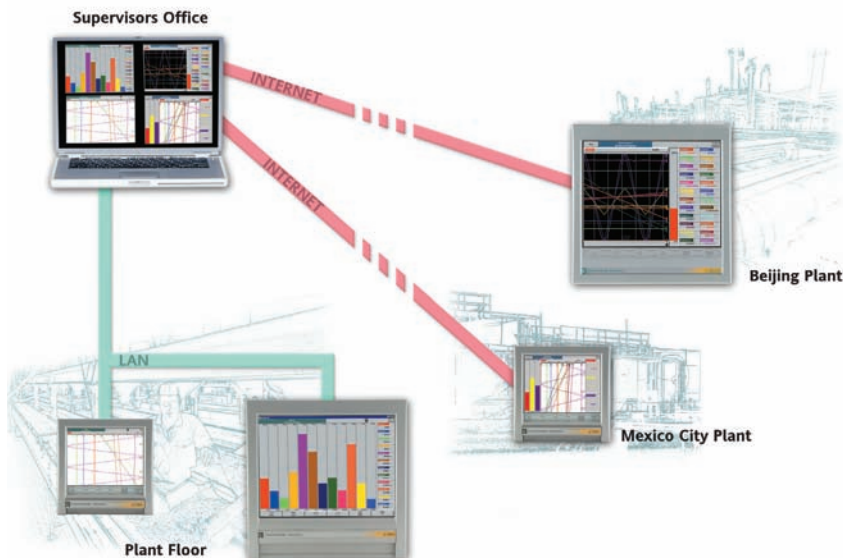
## USER DEFINED SCREENS

Whatever the application, the operator interface can be simplified using the Screen Builder to easily produce customised displays showing the specific process. The operator can start/stop batches, download parameters (e.g. control setpoint) and enter notes to be included with process record. Screens can contain standard elements (e.g. a trend or bar graph) along with imported image files, basic shapes and buttons to drive events.



## REMOTE MONITORING

Bridge software gives the user complete access to the 6000 instrument from a PC anywhere in the world with access to the local network. Security is maintained using unique user names and passwords. Recorders can be situated in remote locations and accessed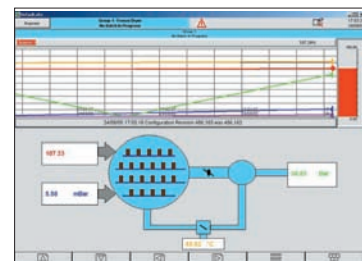 when required to monitor status, access recorded data or change configuration - potentially saving a costly site visit. Combined with Master Communications the 6000 could also provide information to other local devices that would previously be unaccessible over the network.



## ENVIRONMENTAL AND STABILITY CHAMBER MONITORING

Secure recording in accordance with 21 CFR Part 11, remote operation and viewing, standard maths equations and multiple alarm/event alert strategies make the 6000 ideal for environmental monitoring applications.

- Local logging capability
- Easy integration into multiple room system
- Mean Kinetic Temperature (MKT) equation
- Selectable stability testing period
- Selectable sampling frequency
- Sophisticated alarm functionality
- SMS or email alerts triggered by alarms or events

# Get your data in the way you need it...

The 6000 itself provides great flexibility in its application and it is supported by a number of PC-based tools to get data to you in the way you need it.

## Bridge Software

Bridge software gives complete remote access to the recorders (both the 6000 Series and the 5000 Series). The software can be installed on any number of PCs and can connect to multiple recorders via a local network, dial-up connection or the Internet. Each 6000 instrument can have 10 concurrent, independent, remote users connected to it and viewing live data from the recorder. Ease of operator use is maintained as the displays and operation at the PC are the same as on the 6000 instruments. Data security is maintained with the use of specific user names and passwords.

## Review and Review QuickChart

Review software acts as an efficient and secure library for data from which charts can be reviewed, printed and

exported to other PC packages if required. Archive files from a 6000 are stored in an encrypted, binary, check summed format and Review uses this format to enable chart view on a PC – ensuring integrity of both historical and new data. Review can access data from the recorder via a local network, dial-up connection, the Internet or directly from the 6000's removable media. Its Archive Management will help you to maintain growing data archives and manage files effectively.

Review QuickChart provides a very quick and simple way of viewing historical data. It recreates the chart on the PC - the user can then add comments if they wish and re-save the chart, securing the comments. QuickChart files can be viewed independently of the recorded process data and, as such, can be simply emailed for viewing by other users.

## Report Software

Report is a powerful Microsoft Excel™ Add-in for use with Eurotherm secure, "UHH" files. The user can create as many templates, styles and formats as required - providing different users or departments with the exact format of the process data to best meet their needs. A number of standard templates are included with this software - these can be used straight away or modified as required.

B R I D G E

# Selection guide and technical specifications

| | 6100A | 6180A | 6100XIO | 6180XIO | 6100E |
|---|---|---|---|---|---|
| **Display** | 5.5" 1/4 VGA 16-bit colour with touch screen | 12.1" XGA 16-bit colour with touch screen | 5.5" 1/4 VGA 16-bit colour with touch screen | 12.1" XGA 16-bit colour with touch screen | 5.5" 1/4 VGA 16-bit colour with touch screen |
| **Memory for history** | 32 or 96 Mbyte | | 32 Mbyte | | 8 Mbyte |
| **Recording formats** | UHH and/or CSV | | | | |
| **Recording destinations** | Internal Flash, removable media and remote FTP– all at the same time: Triple Safe Data | | | | |
| **Recording speed** | Up to 8Hz, all channels | | | | Up to 1Hz all channels |
| **Trend speed** | Up to 8 Hz | | | | Up to 1Hz |
| **Removable media** | USB memory stick and Secure Digital or Compact Flash | | USB memory stick and Compact Flash | | |
| **Ethernet** | 10/100baseT, Auto-sensing | | | | |
| **USB** | Up to 3 ports | | 1 port | | |
| **Serial Communications** | Up to 2 ports, 9 pin D-type, EIA232 or 422/485, software selectable | | 2 ports 422/485, selectable | | None |
| **Protocols** | Modbus TCP and RTU Master and Slave FTP Client and Server SNTP, DNS, SMTP (EMAIL), ICMP, Serial ASCII | | | | Modbus TCP and RTU Slave, FTP Client and Server SNTP, DNS, ICMP |
| **Network addressing** | DHCP, BootP, Fixed IP | | | | |
| **Web server** | Fixed as standard | | | | |
| **Inputs** | Up to 18 universal | Up to 48 universal | None | | Up to 6 |
| **Relays** | Up to 16 | | None | | Up to 3 |
| **Event inputs** | Up to 24 | | None | | |
| **Analogue outputs** | Up to 8 | | None | | |
| **Maths, totalisers and counter** | Up to 128 | | | | Up to 12 |
| **User Screens** | Up to 24 | | | | None |
| **Timers** | 12 fitted as standard | | | | 6 |
| **Reports** | Up to 10 | | | | None |
| **Communication input** | Up to 146 (using maths and input channels) | Up to 176 (using maths and input channels) | 18 Standard Up to 146 (using maths channels) | 48 Standard Up to 176 (using maths channels) | Up to 18 (using maths and input channels |
| **Event Triggers (eg. batch start, alarm, media % full)** | Up to 96 | | | | 3 |
| **Groups** | 6 or 12 | | | | 1 |
| **IP Rating** | IP66 | | IP65 | | IP66 |
| **Approvals** | CE, cUL (Emissions and Immunity BS EN61326, UL file number e57766) | | | | |

# KeiSon
## P R O D U C T S

Thank you for reading this data sheet.

For pricing or for further information, please contact us at our UK Office, using the details below.

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