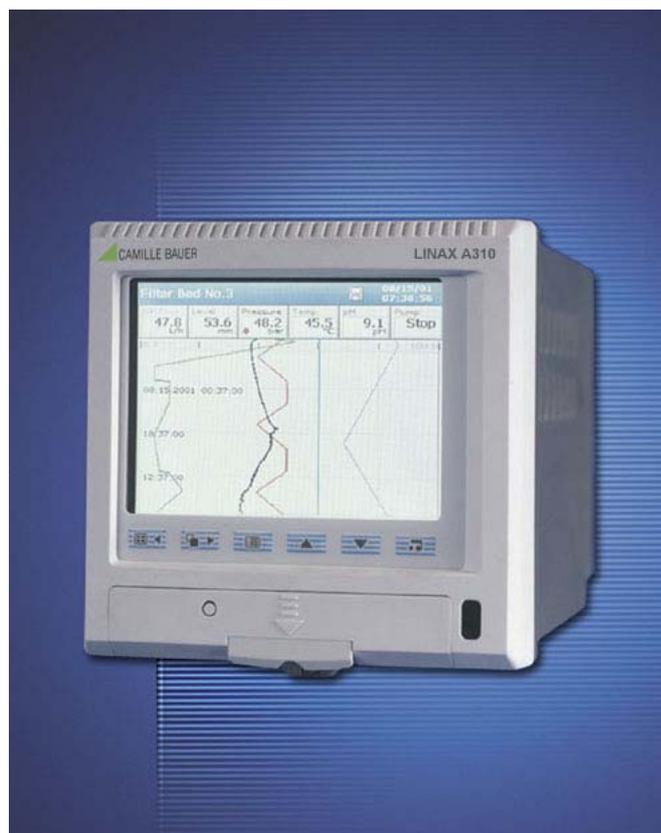


- **Ideal replacement for paper recorder**
  - simple, cost-effective solution
- **Robust and convenient archive storage**
  - low cost, high reliability, Compact Flash options
  - high capacity
- **Secure data recording**
  - internal Flash memory for 12 recording channels and logs
  - no battery back-up required
  - compliant with 21 CFR Part II
- **Intuitive user interface**
  - dedicated tactile operator keys and Windows™-style menus
- **Unsurpassed environmental protection**
  - hosedown to IP66 and NEMA4X standards
- **Remote monitoring/access**
  - Ethernet communications, embedded web protocols/server



**Simplicity without Compromise**

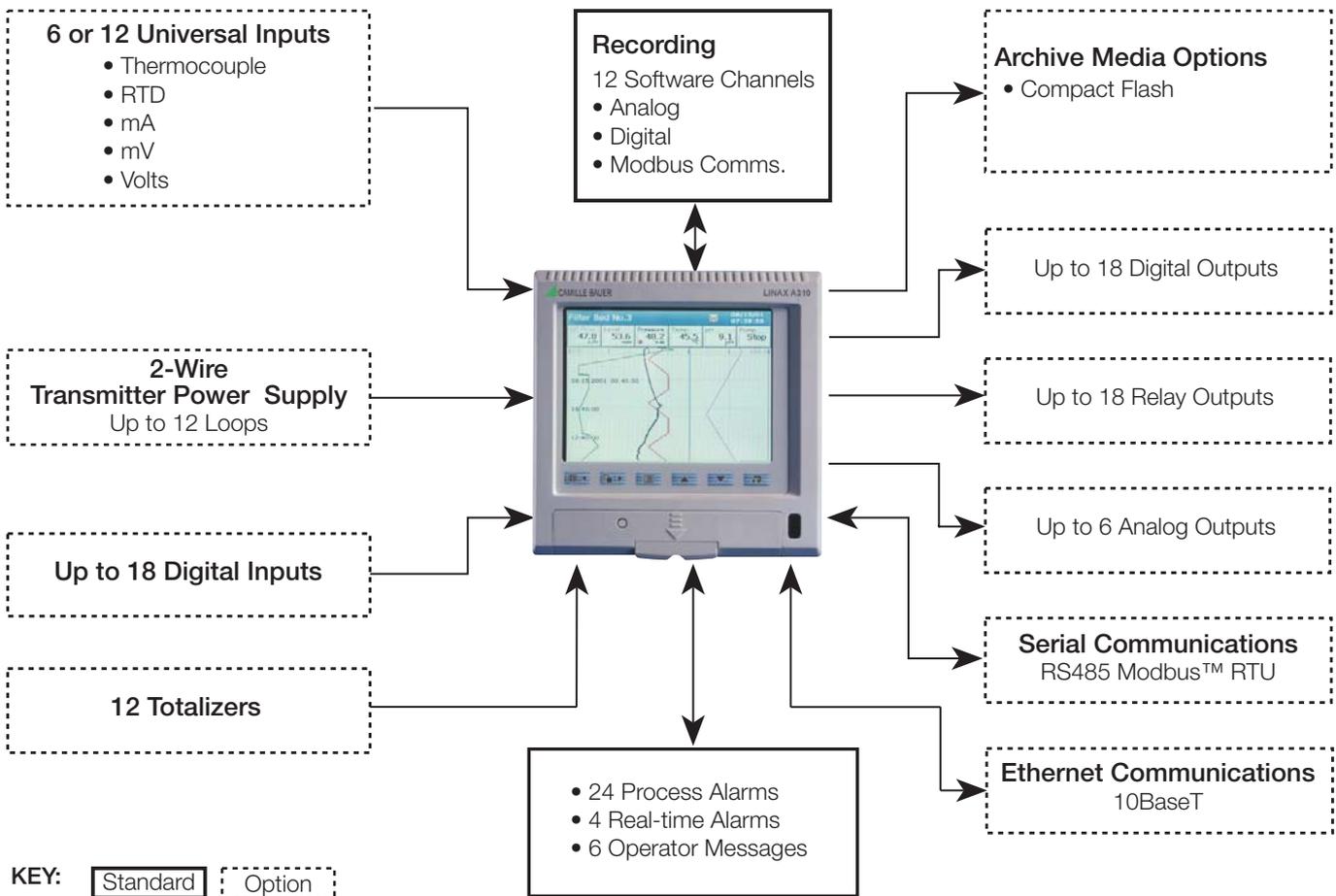
## A310

The A310 is a state-of-the-art solution to recording and data storage. It provides 12 recording channels and up to 12 universal analog inputs which can be viewed in a variety of display formats: chart, bargraph, digital indicator and process summary. Historical logs are provided for recording alarms, operator and system events and totalizer values.

The A310 has onboard Flash memory for secure storage of process data.

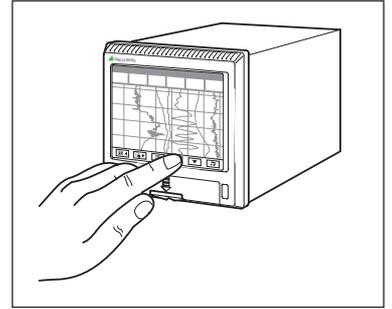
### Application areas include:

- Water treatment plants
- Cold storage
- Stack gas monitoring
- Environmental monitoring
- Autoclaves
- Food, Dairy & Beverage processing
- Furnaces
- Heat treatment
- Pulp & Paper



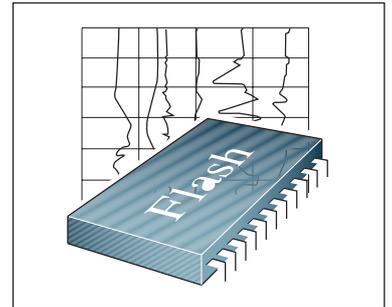
## Simplicity of Use

- Six dedicated tactile keys are used for all aspects of operation and configuration of the A310.
- During everyday operation each key has a specific function ensuring simplicity of use.
- The use of a Windows-style pop-up menu and configuration screens ensures that the operation of the A310 is exceptionally easy and instantly familiar.



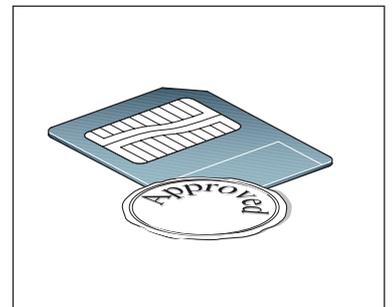
## Guaranteed Data Integrity

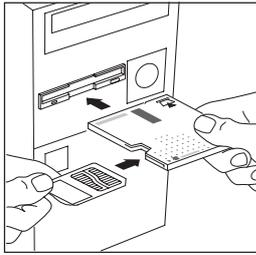
- The use of Flash memory technology ensures that the A310 is not reliant on batteries to preserve stored data during a power failure.
- In the internal memory, data is stored in small blocks with each block containing a checksum to ensure the integrity of that data.
- Internal flash memory is provided for buffering of process data. At any time the complete memory can be reviewed in the Chart View of the A310. Once this memory is full it automatically wraps-around and overwrites the oldest data, ensuring that the latest process data is always captured.
- 12 recording channels are provided, as standard, which can be used to record any analog, digital or communications (via Modbus™) signal. Two sample rates can be pre-set in the configuration of the A310; a primary and a secondary (fast or slow). Automatic switching between these two sample rates allows detailed information to be stored under specific process conditions, for example, critical process states or alarm conditions. Through the use of pre-storage filters it is possible to record the average, max./min. or instantaneous value of any analog data.



## Industrial Standard, Robust, Archive Storage

- Compact Flash memory cards can be used for archiving purposes. The solid state nature of these devices ensures that the A310 can truly operate in ambient temperatures up to 50°C (122°F), whereas traditional electro-mechanical floppy disk drives can operate only in temperatures up to 40°C (104°F).
- Every write to the archive storage media is verified to ensure the integrity of the data.
- Process data can be archived to the removable media in either of two configurable formats, comma separated variable or binary encoded. In addition to the analog/digital recording channels, the alarm event, totalizer (if fitted) and audit logs can also be archived to the removable media.
- Security of all process data stored to the memory card is always ensured. Files stored in comma separated variable format are attributed with an Encrypted Digital Signature and files stored in binary format are securely encoded with inbuilt integrity checks. Both formats of data storage are compliant with FDA standard 21 CFR Part II.
- A Media door lock is fitted as standard to prevent unauthorized access to the removable media.

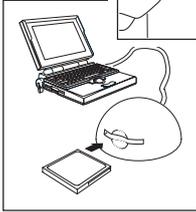




### PC Interface for Archive Storage Media

Through the use of PC adapters for Compact Flash, both options provide the advantages of very robust, solid-state storage with the convenience-of-use previously found only with floppy disks.

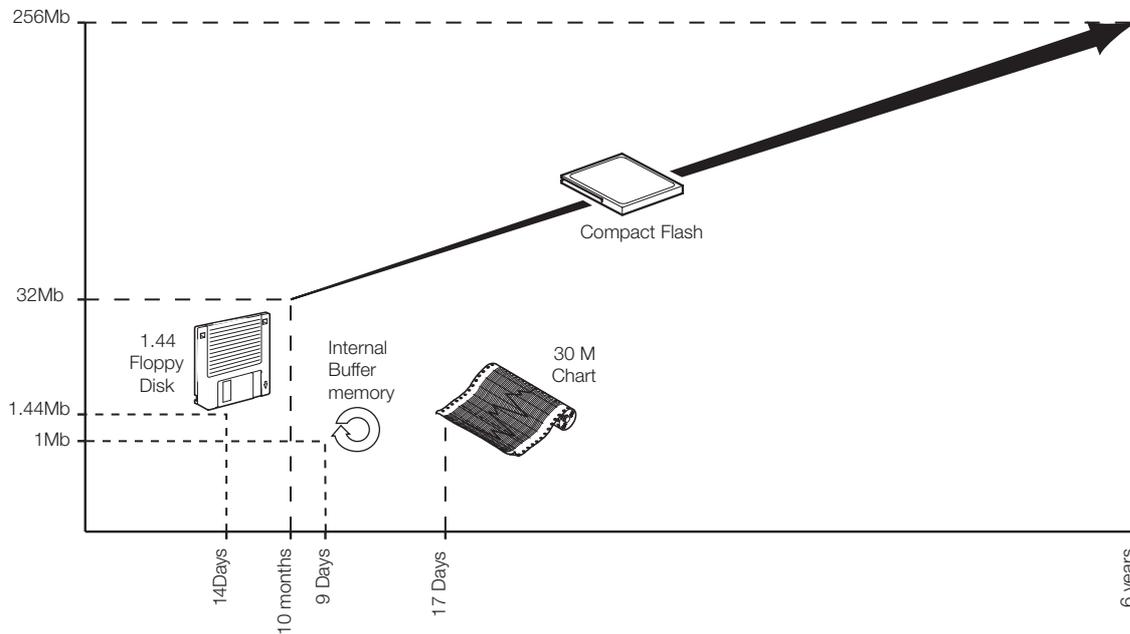
- Archives stored on Compact Flash can be accessed via a reader which plugs into the USB port of a desk/lap-top computer.



### Low Cost of Ownership

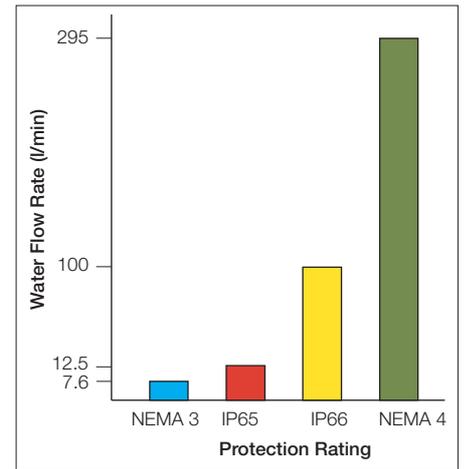
The large capacity of the storage media used on the A310 ensures that the requirement for operator intervention to transfer the data to a PC on a regular basis is greatly reduced. Older floppy disk technology, used by many other manufacturers of graphical recorders, limits storage capability significantly, sometimes to levels below the ability of a traditional paper recorder.

See below for an example of how memory storage times vary depending on the media device. The example shows the recording duration for a 6-channel recorder with a sample time of 10s configured to use binary archiving. Also included in the example is how these storage times compare with a traditional paper recorder.

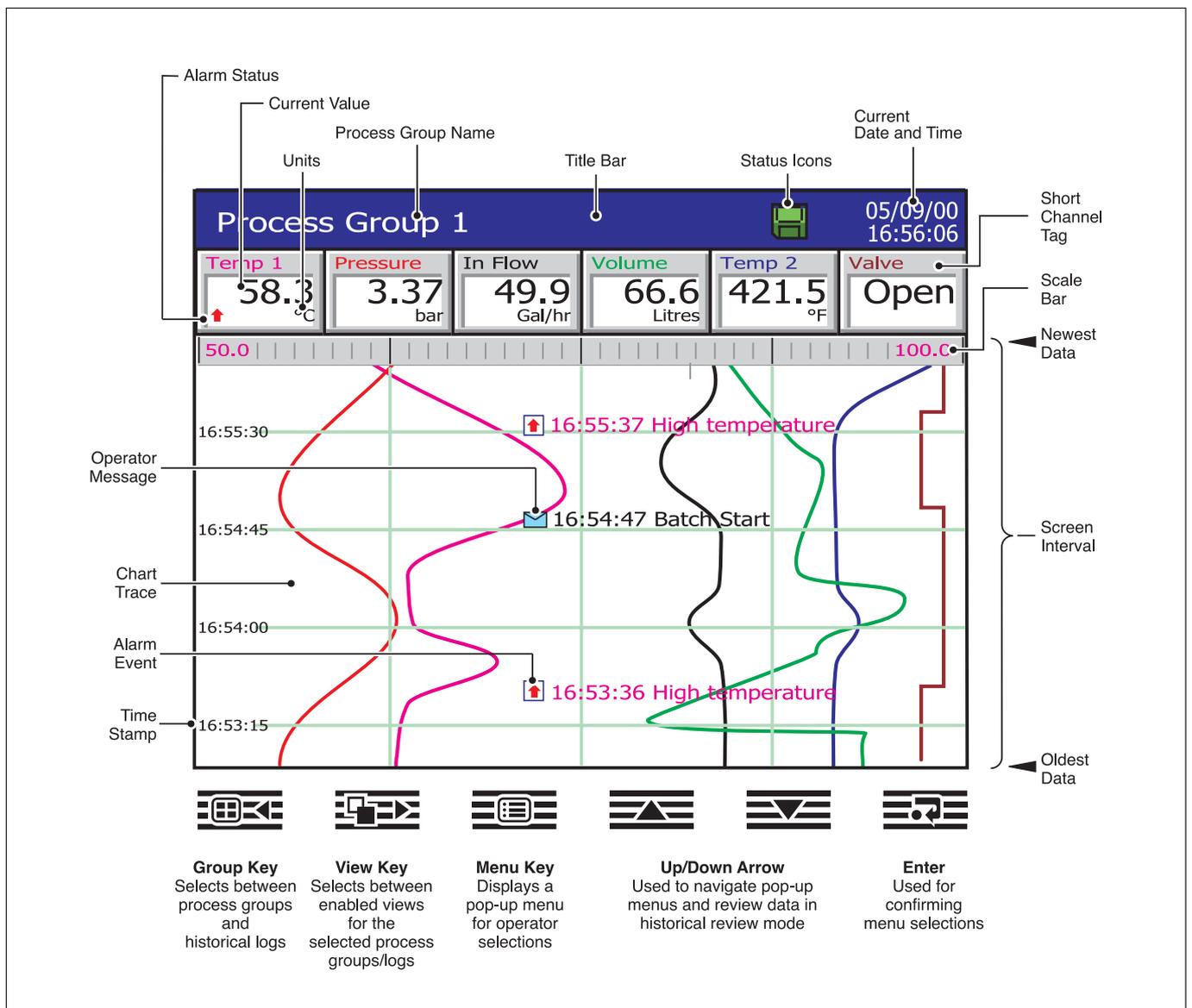


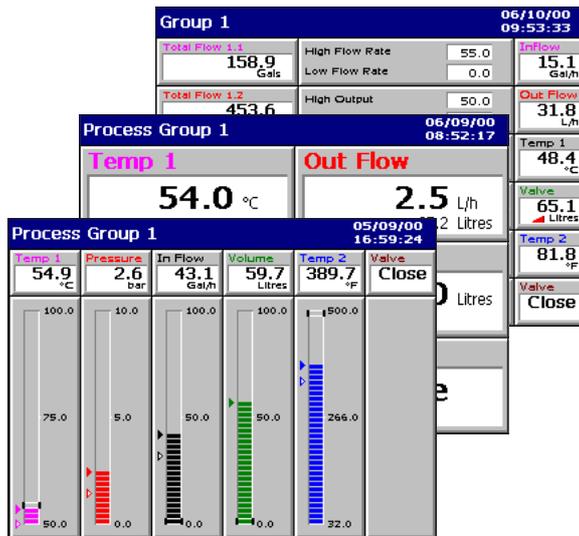
### Unsurpassed Environmental Protection

Unique to this type of product, the A310 has unrivalled protection ratings of IP66 and NEMA4X and includes a fully-sealed, lockable media door. This enables the A310 to be installed, without additional protection, in applications that require frequent hosedown. With industrial standard noise emission and immunity protection, the A310 also operates effectively in high electrical-noise environments.



### Intuitive User Interface





Totalizer Log				
No	Tag/Value	Source Tag	Date	Time
42	Total Flow 1.1	I/P A.1	16/10/00	09:26:20
Σ	0.0 Litres			

Alarm Event Log				
No	Event Tag	Source Tag	Date	Time
36	Max Capacity	Volume	06/09/00	09:03:04
37	High temperature	Temp 1	06/09/00	09:03:16
38	High			
39	High			

Audit Log				
No	Event/Tag	OP ID	Date	Time
00	Config Changed	Oper 2	05/10/00	12:43:20
01	Power failure		05/10/00	12:43:39
02	Touch Screen Calib		05/10/00	12:43:39
03	Power Recovery		05/10/00	12:43:39
04	Media Read Error		05/10/00	12:44:18
05	File Created		05/10/00	12:45:18
06	Config Changed	Oper 4	05/10/00	12:45:31



## Operator Views

In addition to the standard chart view, a number of other operator views are available:

### Process View

Provides an at-a-glance summary of each channel including alarm, totalizer and statistical (max./min.) information.

### Digital Indicator View

Process value, engineering units, channel tag, associated totalizer (if fitted), and alarm status are all shown. Auto-sizing always ensures the clearest possible display.

### Bargraph View

Horizontal or Vertical format which includes min./max. and alarm trip point markers.

## Historical Logs

Providing functions unavailable in paper based recorders, three historical logs ensure complete validity of the recorder and its data. Any or all of these logs can be exported to the removable media:

### Alarm Event Log

Complete display of all acknowledged and unacknowledged alarms, alarm state changes and operator messages.

### Audit Log

Displays time, date and ID stamped system data including configuration, calibration changes, system errors and operation actions. This provides comprehensive evidence of the integrity, validity and traceability of the A310 and its measured data.

### Totalizer Log

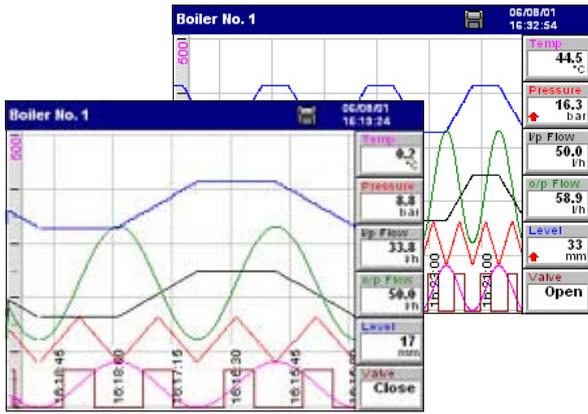
Independent log intervals for each channel, enabling total, average, maximum and minimum readings to be time and date stamped.

## Configuration

A simple Windows-style structure provides an exceptionally simple approach to the set up of the recorder. Text and numerical information is very quickly entered via an on-screen keyboard. Navigation of the configuration menus is performed via the cursor keys and the pop-up menu.

The configuration mode is protected via a user-specific password system. All configuration changes are logged in the Audit log complete with operator ID's.

It is also possible to configure the A310 with a Windows-based PC configuration package.



### On-line Data Review

The A310 provides a number of unique features to provide a clear view of your process.

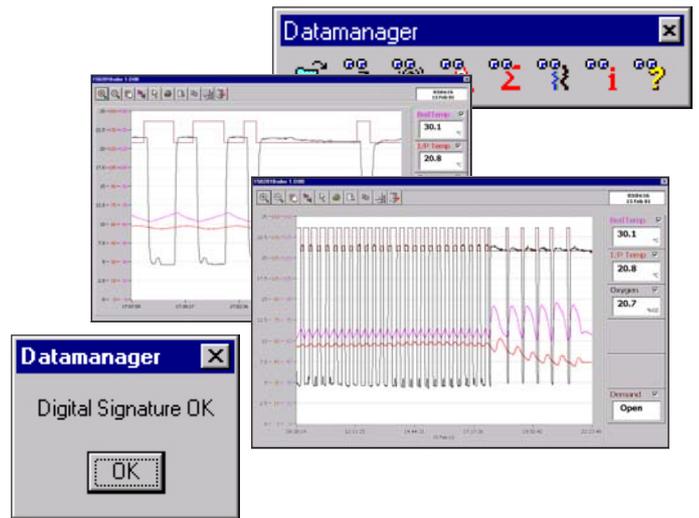
- The screen interval can be altered to display between 18s and 7 days of information, without it affecting the sample rate. This gives you the ability to 'zoom in' to a close-up view of the most current data or 'zoom out' and get the big picture.
- Individual traces can be removed temporarily from the screen to enable clear comparison of two or more channels.
- The instrument can easily review all historical data in the internal buffer memory at the touch of a button. During this time, recording of the process data to the internal memory remains unaffected.

### Off-Line Review and Analysis

Using the DataManager software, archived process data and historical logs recorded to a removable media card can be easily reviewed.

- Database management of data files provided by DataManager ensures simple, secure long-term storage and retrieval of historical data.
- The graphing capabilities provided by DataManager ensure easy interrogation of process data.
- The validity of all data files is always checked by DataManager during the storage and retrieval process ensuring maximum data integrity.

For further information on the capabilities of DataManager, refer to data sheet 153651.



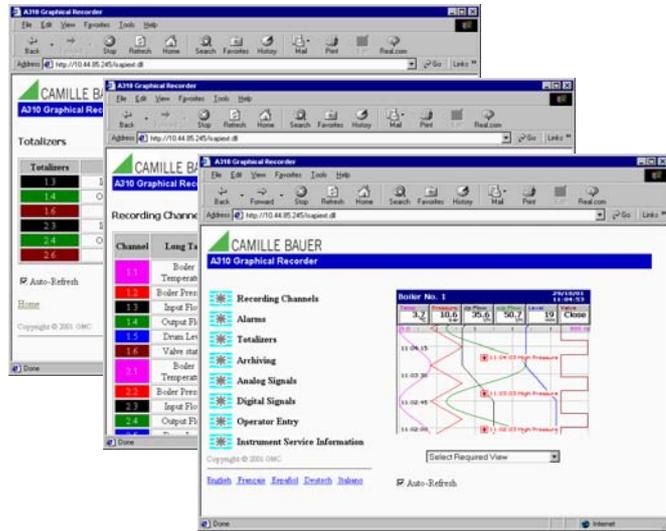
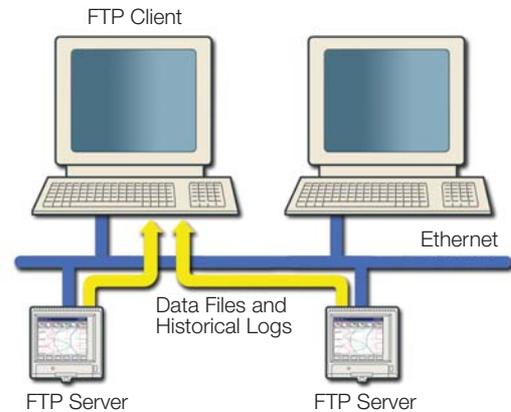
## Ethernet Communications

The A310 can provide 10BaseT Ethernet communications via a standard RJ45 connector and uses industry-standard protocols TCP/IP, FTP and HTTP. The use of standard protocols enables easy connection into existing PC networks.

### Data File Access via FTP (File Transfer Protocol)

The A310 features FTP server functionality. This functionality provides high-speed access via Ethernet to data archived by the recorder.

- Using a standard web-browser or other FTP clients, data files contained within the A310's internal memory and memory card can be accessed remotely and transferred to a PC or network drive.
- Four individual FTP users can be programmed into the A310. Access rights can be configured for each user specifying their access level.
- All FTP log-on activity is recorded in the audit log of the A310.
- Using the FTS data file transfer scheduler program, data files from multiple recorders can be automatically backed-up to a PC or network drive for long term storage ensuring the security of valuable process data and minimizing the operator intervention required.



### Embedded Web Server

Contained within the A310 is an embedded web-server allowing access to web pages created within the recorder. The use of HTTP (Hyper Text Transfer Protocol) enables standard web browsers to view these pages.

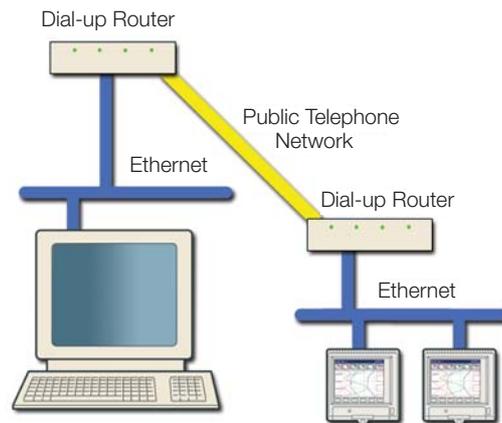
- Detailed with the web pages is the current display of the recorder, detailed information on process signals, alarm conditions, totalizer values and other key process information.
- The historical logs stored in the A310's internal buffer memory can be displayed in full from within the web pages.
- Operator messages can be entered via the web server allowing comments to be logged to the recorder.
- All of the information displayed on the web pages is regularly refreshed enabling them to be used as a process supervision tool.

### Remote Access/Monitoring

Ethernet communications can provide a link to recorders installed in remote locations. Via the use of a dial-up router an A310 can be installed in a remote location and accessed via a public telephone network when required.

### Email Notification

Via the A310's inbuilt SMTP client the recorder is able to email notification of important events. Emails triggered from process alarms or other critical process events can be sent to multiple recipients. The recorder can also be programmed to email reports of the current process status at specific times during the day, the content of which can be tailored to suit your specific process needs.



## Specification

### Operation and Configuration

#### Configuration

Via tactile membrane switches on front panel or PC Configuration  
Multiple configuration files can be stored in internal (up to 16 files) or external memory (with removable media option fitted)

#### Security

4 individual passwords for each user/class of user  
Two security modes: Password protection; Internal security switch protection  
Provision for tamper-proof seal to prevent unauthorized changing of the configuration mode when using the internal security switch mode  
Lock on media door as standard

#### Configuration ports

3.5mm jack socket for connection to RS232 port on a PC via an adapter

#### Display

Color, passive matrix, liquid crystal display (LCD) with built-in backlight and contrast adjustment  
125mm (5 in.) diagonal display area,  
76800 pixel display\*

\*Note. A small percentage of the display pixels may be either constantly active or inactive. Max. percentage of inoperative pixels <0.01%.

#### Language

English, German and French  
(Italian and Spanish pending)

#### Dedicated operator keys

- Group select/left cursor
- View select/right cursor
- Menu key
- Up/Increment key
- Down/Decrement key
- Enter key

#### Chart screen intervals

Selectable from 18s to 7 days

#### Chart divisions

Programmable for up to 10 major and 10 minor divisions

#### Chart annotation

Alarm and operator messages may be annotated on the chart  
Icons to identify the type of event, time of occurrence and tag are displayed

### Operator Views

Contents	Views Available			
	Chart	Bargraph	Digital Indicator	Process*
Instantaneous values/states	✓	✓	✓	✓
Units of measure	✓	✓	✓	✓
Short tags	✓	✓	✓	✓
Long tags				✓
Alarm status	✓	✓	✓	✓
Alarm trip markers		✓		
Alarm trip values				✓
Max./Min. markers		✓		
Analog bargraphs		✓		
Totalizer values & units of measure			✓	✓
Totalizer tags				✓
Max., min. and average batch values				✓
Graphical view of historical data	✓			

\*If Totalizer option is fitted and selected

## ...Specification

### Standard Functionality

#### Operator Messages

**Number**

6

**Trigger**

Via front panel or digital signals

**Recording in alarm/event log**

Can be enabled or disabled on configuration

---

### Process Alarms

**Number**

24 (2 per recording channel)

**Types**

High/Low process, latch & annunciator

Rate fast/slow

**Tag**

20-character tag for each alarm

**Hysteresis**

Programmable value and time hysteresis (1 to 9999s)

**Alarm enable**

Allows alarm to be enabled/disabled via a digital input

**Alarm log enable**

Recording of alarm state changes in the alarm/event log can be enabled/disabled for each alarm

**Acknowledgement**

Via front panel or digital signals

### Real-time Alarms

**Number**

4

**Programmable**

Day of the week, 1<sup>st</sup> of month, start and duration times

---

### Custom Linearization

**Number**

2

**Number of breakpoints**

20 per linearizer

## Recording to Internal Memory

### Data Channels

#### Internal buffer memory

1Mb Flash memory provides storage for 512k samples  
 Oldest data is automatically overwritten by new data when memory is full

#### Data integrity checks

Checksum for each block of data samples

#### Independent process groups

2

#### No. of recording channels

12 (6 per group)

#### Sources

Analog inputs, Modbus™ inputs, any digital signal

#### Filters

Programmable for each channel to allow recording of: instantaneous values, average, max., min. and max. & min. value over sample time

#### Primary/secondary sample rates

Programmable from 0.1s to 12 hours for each process group

#### Primary/secondary sample rate selection

Via any digital signal or from password protected menu

#### Recording start/stop control

Via any digital signal or from password protected menu

## Recording Duration

Approximate duration calculated for continuous recording of 6 channels of analog data (for 12 channels divide by 2, for 3 channels multiply by 2 etc.)

Sample Rate	1s	10s	40s	60s	120s	480s
1Mb Internal Flash buffer memory	23 hours	9 days	38 days	57 days	4 months	1 year

## ...Specification

### Historical logs

#### Types

Alarm/Event, Totalizer and Audit logs

#### No. of records in each historical log

Up to 200 in internal memory

Oldest data is automatically overwritten by new data when log is full

### Historical Logs

Log Type	Alarm/Event Log		Totalizer Log*		Audit Log	
Log Entry Events Information Recorded in Log	<ul style="list-style-type: none"> <li>Alarm state changes</li> <li>Operator messages</li> </ul>		<ul style="list-style-type: none"> <li>User defined logging intervals</li> <li>Totalizer stop/start, reset, wrap</li> <li>Power up/down</li> </ul>		<ul style="list-style-type: none"> <li>Configuration/calibration changes</li> <li>System events</li> <li>Errors, operator actions</li> </ul>	
	In Log	On Screen	In Log	On Screen	In Log	On Screen
Date & time of event	✓	✓	✓	✓	✓	✓
Type of event	✓	✓	✓	✓	✓	✓
Tag	✓	✓	✓	✓		
Source tag	✓		✓			
Alarm trip value & units of measure	✓					
Alarm state	✓	✓				
Alarm acknowledgement state	✓	✓				
Operator ID	✓				✓	✓
Description					✓	✓
Batch total and units of measurement*			✓	✓		
Max., min. and average values plus units*			✓	✓		
Secure total			✓			

\*If Totalizer option fitted and selected

### Archiving to Removable Media

#### Removable storage media options

- None
- Compact Flash

#### Data that can be saved to removable media

- Recorded data for group 1 & 2 channels
- Alarm event log data
- Totalizer log data
- Audit log data
- Configuration

#### File structure

Configurable as either binary encoded or comma-separated

#### Filename

20-character tag, prefixed with date/time

#### Data verification

Carried out automatically on all writes to removable-media files

### File Structure

	Binary	Comma-separated
File protection	Secure binary format with data integrity checks	Encrypted digital signature
New file generation interval	Automatic	Programmable for automatic file generation every hour, day or month
Archive sample rates	Programmable from 0.1s to 12 hours for each process group*	Programmable from 1s to 12 hours for each process group

\*For sample rates faster than 1s the performance of the analog input card must be considered. For more information on this please refer to page 14 of this data sheet. Further information is also available from your local representative.

### Recording Duration

Approximate duration calculated for continuous recording of 6 channels of analog data (for 12 channels divide by 2, for 3 channels multiply by 2 etc.)

### Binary Encoded File

Sample Rate	1s	10s	40s	60s	120s	480s
16Mb Compact Flash	14 days	20 weeks	20 months	30 months	5 years	20 years
32Mb Compact Flash	1 month	10 months	40 months	5 years	10 years	40 years
64Mb Compact Flash	2 months	20 months	6 years	10 years	20 years	80 years
128Mb Compact Flash	4 months	40 months	13 years	20 years	40 years	110 years

### Comma-separated File

Sample Rate	1s	10s	40s	60s	120s	480s
8Mb Compact Flash	40 hours	17 days	2 months	3 months	7 months	2 years
32Mb Compact Flash	7 days	2 months	9 months	13 months	2 years	9 years
64Mb Compact Flash	13 days	4 months	18 months	2 years	4 years	18 years
128Mb Compact Flash	27 days	9 months	3 years	4 years	9 years	35 years

## ...Specification

### Analog Input Modules

#### General

##### Number of inputs

6 per board, max. of 12 inputs

##### Input types

mA, mV, voltage, resistance, THC, RTD

##### Thermocouple types

B, E, J, K, L, N, R, S, T

##### Resistance thermometer

PT100

##### Other linearizations

$\sqrt{x}$ ,  $x^3/2$ ,  $x^5/2$ , custom linearization

##### Digital filter

Programmable 0 to 60s

##### Display range

-999 to 9999

##### Common mode noise rejection

>120dB at 50/60Hz with 300 $\Omega$  imbalance resistance

##### Normal (series) mode noise rejection

>60dB at 50/60Hz

##### CJC rejection ratio

0.05 $^{\circ}$ C/ $^{\circ}$ C

##### Sensor break protection

Programmable as upscale or downscale

##### Temperature stability

0.02%/ $^{\circ}$ C or 2 $\mu$ V/ $^{\circ}$ C

##### Long term drift

<0.2% of reading of 20 $\mu$ V annually

##### Input impedance

>10M $\Omega$  (millivolts inputs)

500k $\Omega$  (voltage inputs) externally mounted divider

10 $\Omega$  (mA inputs) externally mounted on terminals\*

\*Hart transmitters require a minimum 250 $\Omega$  loop impedance. A voltage divider board fitted with a 250 $\Omega$  shunt resistor (153312) can be used to meet this requirement. In such cases the input should be programmed for 1 to 5V.

### Standard/High Specification Analog Input Modules

Linear Inputs	Standard Analog Input	High Specification Analog Input	Accuracy (% of reading)
Millivolts Milliamps Volts Resistance $\Omega$	0 to 2000mV 0 to 50mA 0 to +20V* 0 to 5000 $\Omega$	-1000 to +1000mV -100 to +100mA -50 to +50V* 0 to 2000 $\Omega$	0.1% or $\pm$ 10 $\mu$ V 0.2% or $\pm$ 2 $\mu$ A 0.2% or $\pm$ 10mV 0.2% or $\pm$ 0.08 $\Omega$
Sample Interval	100ms per sample (2 modules are processed in parallel) gives worst case update times as follows: 600ms for 6 or 12 channels – mV, mA, voltage 800ms for 6 or 12 channels – THC 1100ms for 6 or 12 channels – resistance, RTD	100ms per sample (2 modules are processed in parallel) gives worst case update times as follows: 100ms for 6 or 12 channels – all input types	
Input Isolation	35V DC channel-to-channel	500V DC channel-to-channel	
Isolation from Rest of Instrument	Galvanically isolated to 500V DC	Galvanically isolated to 500V DC	

\* Requires external voltage divider board Part No. 153312

### Analog Input Types

Thermocouple	Maximum Range $^{\circ}$ C	Maximum Range $^{\circ}$ F	Accuracy (% of reading)
B	-18 to 1800	0 to 3270	0.1% or $\pm$ 2 $^{\circ}$ C (3.6 $^{\circ}$ F) (above 200 $^{\circ}$ C [392 $^{\circ}$ F])
E	-100 to 900	-140 to 1650	0.1% or $\pm$ 0.5 $^{\circ}$ C (0.9 $^{\circ}$ F)
J	-100 to 900	-140 to 1650	0.1% or $\pm$ 0.5 $^{\circ}$ C (0.9 $^{\circ}$ F)
K	-100 to 1300	-140 to 2350	0.1% or $\pm$ 0.5 $^{\circ}$ C (0.9 $^{\circ}$ F)
L	-100 to 900	-140 to 1650	0.1% or $\pm$ 1.5 $^{\circ}$ C (2.7 $^{\circ}$ F)
N	-1200 to 1300	-325 to 2350	0.1% or $\pm$ 0.5 $^{\circ}$ C (0.9 $^{\circ}$ F)
R	-18 to 1700	0 to 3000	0.1% or $\pm$ 1 $^{\circ}$ C (1.8 $^{\circ}$ F) (above 300 $^{\circ}$ C [540 $^{\circ}$ F])
S	-18 to 1700	0 to 3000	0.1% or $\pm$ 1 $^{\circ}$ C (1.8 $^{\circ}$ F) (above 200 $^{\circ}$ C [392 $^{\circ}$ F])
T	-250 to 300	-400 to 550	0.1% or $\pm$ 0.5 $^{\circ}$ C (0.9 $^{\circ}$ F)

RTD	Maximum Range $^{\circ}$ C	Maximum Range $^{\circ}$ F	Accuracy (% of reading)
PT100	-200 to 600	-325 to 1100	0.1% or $\pm$ 0.5 $^{\circ}$ C (0.9 $^{\circ}$ F)

## Modules

### 3- or 6-relay Output Modules

#### Number of relays

3 or 6 per module

#### Type and rating

Relay type	single-pole changeover	
Voltage	250V AC	30V DC
Current	5A AC	5A DC
Loading (non-inductive)	1250VA	150W

**Note.** The total load for all relays within the instrument must not exceed 36A.

---

## Hybrid Module

### Digital I/O

Number	6 inputs and 6 outputs per card
Type	Volt-free switching inputs
Polarity	Negative i.e. closed switch contact or 0V = active signal
Digital input min. pulse	100ms
Digital output voltage	5V
Isolation	500V DC from any other I/O

### Analog output

Number	2 isolated
Configurable current range	0 to 20mA
Max. load	750Ω
Isolation	500V DC from any other I/O
Accuracy	0.25%

---

## 2-wire Transmitter Power Supply Module

### Number

2 isolated supplies per module

### Voltage

24V DC nominal

### Drive

45mA per supply, i.e. each module can drive  $2 \times 2 = 4$  loops

## Ethernet Module

### Physical medium

10BaseT

### Protocols

TCP/IP, ARP, ICMP, FTP (server), HTTP

### FTP server functions

Directory selection & listing  
File upload/download  
Four, independently configurable users with full or read-only access

### Web server functions

Operator screen monitoring/selection. Remote monitoring of recording channels, analog/digital signals, alarms, totalizers and archiving.

---

## RS485 Serial Communications Module

### Number of ports

1 as option

### Connections

RS485, 2- or 4-wire

### Protocol

Modbus™ RTU slave

---

## Totalizer (optional)

### Number

12 (1 per recording channel) 10-digit totals

### Type

Analog or digital, batch and secure totals

### Statistical calculations

Average, maximum, minimum (for analog signals)

---

## EMC

### Emissions & immunity

Meets requirements of:  
EN50081-2  
EN50082-2  
EN61326 for an industrial environment

## ...Specification

### Electrical

#### Power supply

85V min. to 265V max. AC 50/60Hz  
24V DC  $\pm$ 4V (optional)

#### Power consumption

35VA max.

#### Power interruption protection

No effect for interrupts of up to 20ms

---

### Safety

#### General safety

EN61010-1  
Overvoltage Class III on mains, Class II on inputs and outputs  
Pollution category 2

#### Isolation

500V DC to earth (ground)

---

### Environmental

#### Operating temperature range

0 to 50°C (32 to 122°F) with Compact Flash

#### Operating humidity range

5 to 95%RH (non-condensing)

#### Storage temperature range

-10 to 60°C (14 to 140°F)

#### Front panel sealing

IP66 and NEMA4X

#### Rear panel sealing

IP40 (with rear cover)  
IP20 (without rear cover)

#### Vibration

Conforms to EN60068-2

### Physical

#### Size

144mm (5.67in.) x 144mm (5.67in.) x  
195mm (7.68 in.) depth behind panel

#### Weight

2.6kg (5.6 lb) approx. (unpacked)

#### Panel cutout

138mm (5.43 in.) x 138mm (5.43 in.)

#### Case material

10% glass-filled polycarbonate

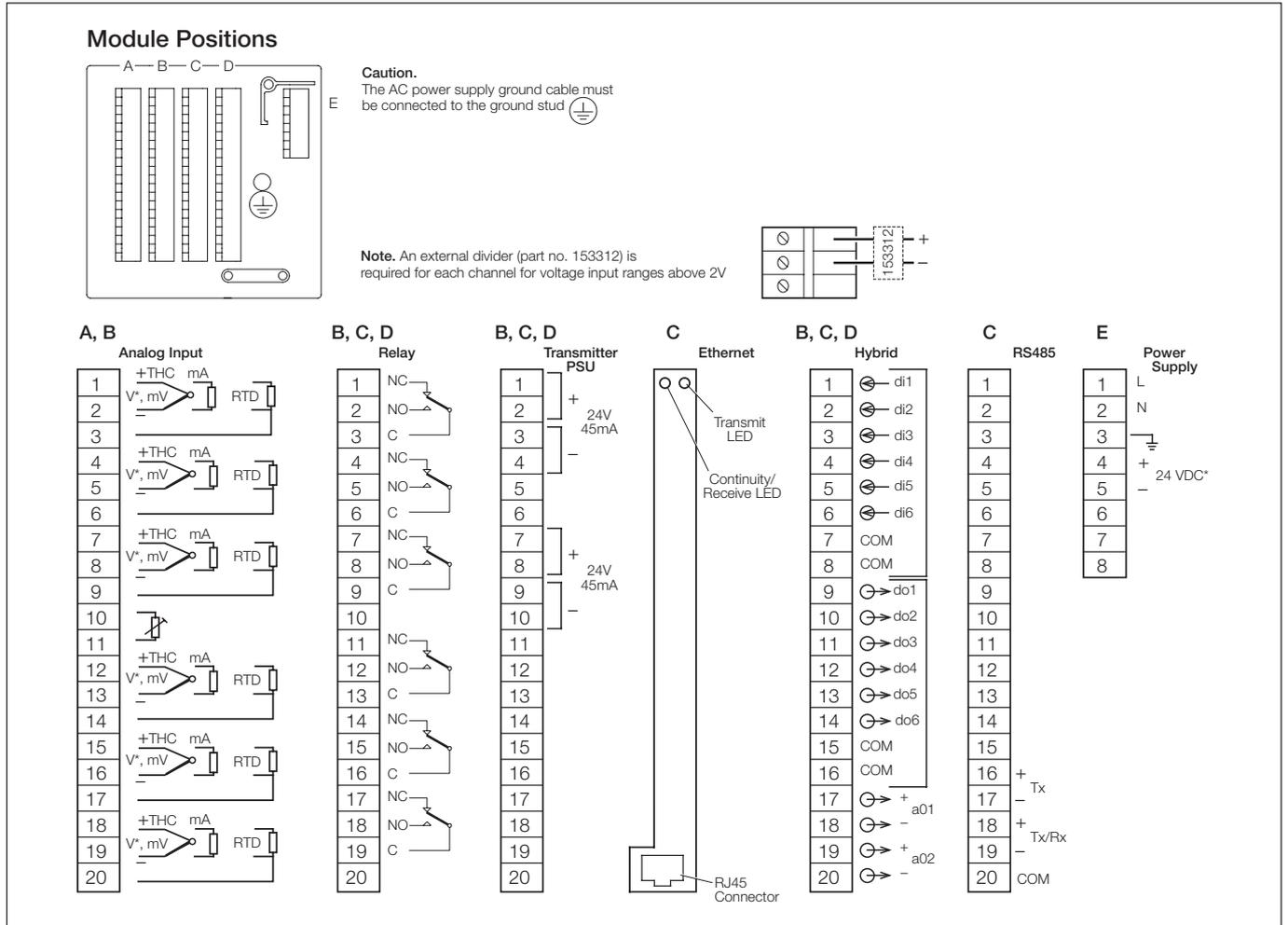
#### Display housing material

40% glass-filled polycarbonate

#### Membrane switch

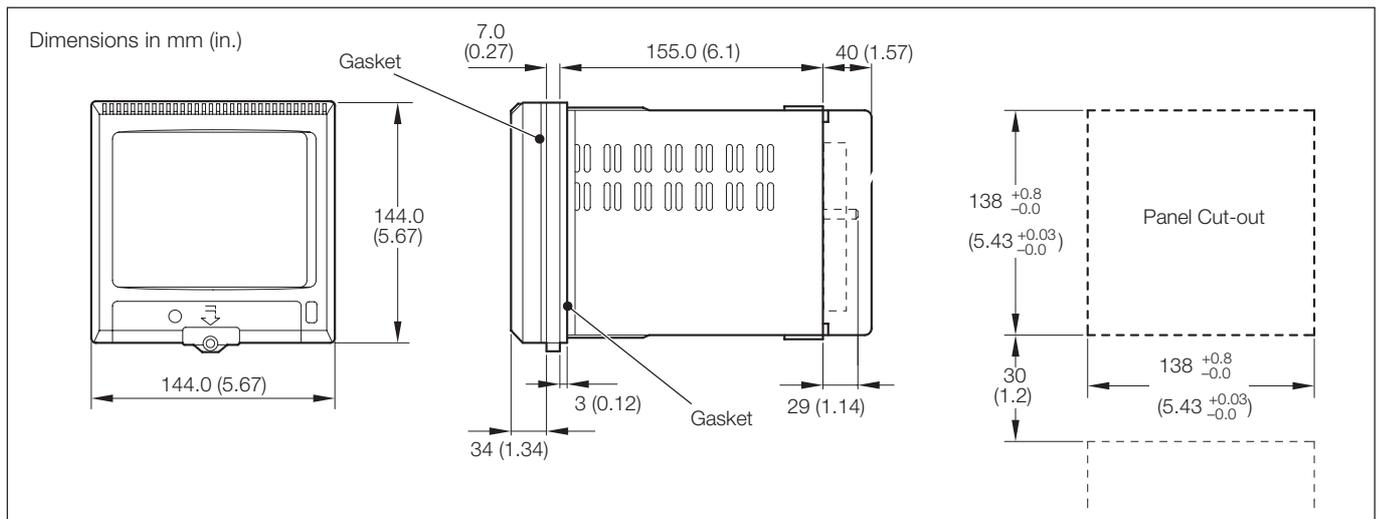
Polyester, metal dome, tactile feel

## Electrical Connections



\*Note. 24V DC instrument power supply must be specified when ordering.

## Overall Dimensions



**Ordering Information**

LINAX A310 Videographic Recorder		A310	X/	X	X	X/	X	X	X	X/	X	X/	X	X
<b>Universal Analog Inputs</b>														
None		0												
6		1												
12		2												
<b>Build Option</b>														
Standard		0												
<b>Archive Media</b>														
None – (internal flash memory only)		0												
SmartMedia		1												
Compact Flash		2												
<b>Software Option</b>														
None		0												
Totalizers		1												
<b>Option Modules</b>														
<b>Position A</b>	None	0												
	Standard 6 Channel i/p Board	1												
	High Spec 6 Channel i/p Board	2												
<b>Position B</b>	None	0												
	Standard 6 Channel i/p Board	1												
	High Spec 6 Channel i/p Board	2												
	3 relays	3												
	6 relays	6												
	Hybrid	H												
	2-wire transmitter power supply	T												
<b>Position C</b>	None	0												
	3 relays	3												
	6 relays	6												
	Ethernet (10BaseT) communications	E												
	RS485 Modbus serial communications	S												
	Hybrid	H												
	2-wire transmitter power supply	T												
<b>Position D</b>	None	0												
	3 relays	3												
	6 relays	6												
	Hybrid	H												
	2-wire transmitter power supply	T												
<b>Case</b>														
	Without terminal compartment	0												
	With terminal compartment	1												
<b>Power Supply</b>														
	85V min. to 265V max. AC												A	
	24V DC												B	
<b>User Guide Language</b>														
	English													E
	German													D
<b>Special Features</b>														
	Standard													0

**Optional Accessories****Part No.      Description****Compact Flash Cards**

153396	Compact Flash Card (64Mb)
153403	Compact Flash Card (128Mb)

**Card Readers**

153437	Compact Flash Reader (USB Interface)*
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**Other**

153312	Voltage divider board (2 to 20V) – per voltage input channel
153320	Voltage divider board fitted with 250 $\Omega$ shunt resistor
153346	DataManager Software

\* Compatible with Windows 98/98se, ME, 2000 & XP

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