SM Series Videographic Recorders

A clearer view of your process

- High visibility process displays
- Easy remote access and operation via Ethernet communications
- High specification 21 CFR Part 11 compliant process data security
- Automated process data management
- Heightened reliability through solid state memory card options
- Hose down protection to NEMA 4 & IP66 Standards

ABB

SM Series Videographic Recorders

The SM Series of Videographic Recorders provide solutions for electronic data recording and analysis. Features include a fully solid state design, clear operator displays and an intuitive user interface. Ethernet communications allow wide access to process information and historical data while high specification security features ensure the security of data at all times.

SM500F Field Mountable Videographic Recorder

The world's first field mountable videographic recorder can be used anywhere, anyhow and by anyone. The SM500F is a four-channel recorder that can be installed even in the most hostile environments. It takes recording out of the control room and offers local access to operational data.

A choice of mounting options means that the SM500F can be installed in virtually any location – from panel to wall and pipe mounting.

The SM500F helps users protect their operation critical activities, while providing reduced costs of ownership compared to paper chart recorders. To reduce cost even further, the SM500F is also available in a monochrome version.

"Innovative, simple, reliable recording"

World First

SM1000
Videographic Recorder

The SM1000 features the state of the art technology inherent across the SM Series, yet is very simple to use. Solid-state Compact Flash memory cards provide storage capability far greater than typically found on a recorder of this price level. The SM1000's ability to record up to 12 process signals also means that it can do the work of two similarly priced recorders.

"Raising the standards of data storage"

SM2000
Advanced Videographic Recorder

The SM2000 Advanced Videographic Recorder provides advanced functionality recording and high specification hardware features, making it suitable for almost any recording application.

The Windows™ style operator interface is simplified further by the SM2000's touch sensitive display, effortlessly guiding the operator through the configuration and enabling the rapid entry of text information using an on-screen keyboard. The high clarity of the TFT display ensures maximum visibility of process information.

A high capacity 8Mb internal memory allows the operator to review large amounts of process data history on-screen. Optional math and logic capabilities and advanced configuration mode enable the SM2000 to take on demanding applications with ease.
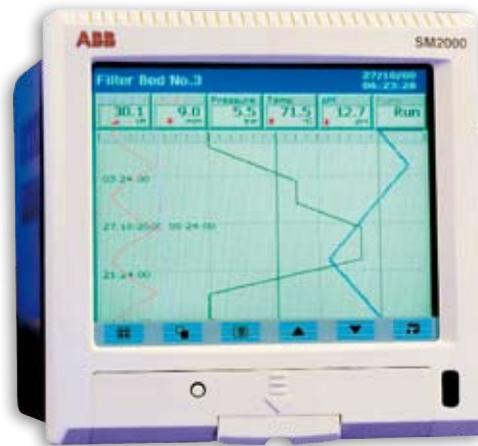
SM3000
Multi-point Videographic Recorder

Multipoint process monitoring is made simple by the SM3000. Up to 36 channels can be recorded - each channel features 4 process alarms and 2 flow totalizers. 6 process groups are provided, allowing channels to be grouped together and individual displays created for different processes.

The large 31cm (12.1in), bright and clear display maximizes visibility of process data. It allows the use of a wide variety of displays, including a circular chart format and an overview of all 6 process groups.

Secure, Precise, Reliable Recording

Intuitive User Interface

All operation of the SM Series is done via Windows style menus and dialogs that effortlessly guide the operator through the functions they require. A channel-by-channel approach to the configuration layout ensures simple and fast setup.

The SM500F features detailed on-line help facilities, further simplifying setup and operation.

Thriving in Real Process Conditions

Uniquely for a product of this type, the SM Series has a protection rating of NEMA 4X & IP66. This enables it to be installed, without additional protection, in applications that require frequent hose-down.

Industrial Standard, High Capacity, Robust Archive Storage

Either Compact Flash or SD memory card options are available for storage of process data. The solid-state nature of these devices provides maximum reliability, while their large storage capacity ensures minimum operator intervention to retrieve process data.

The graph below shows the time that a memory card will last when recording 6 channels at a sample rate of 10 seconds.

1Gb

128Mb

8Mb

Internal Buffer memory

SD Card

Compact Flash

1.44 Floppy Disk

30 M Chart

1.44Mb

14 Days

17 Days

55 Days

3 Years

26 Years
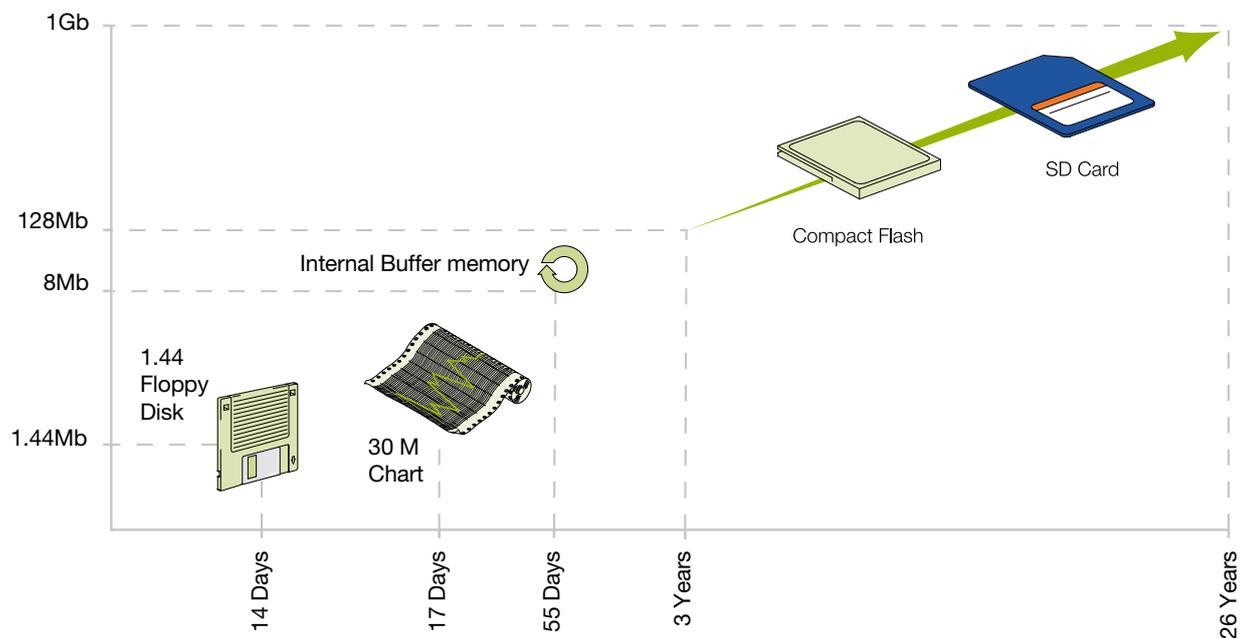
A Clear View of Your Process

Multiple display formats, including strip and circular charts, bar graph, digital indictor and process displays, provide a clear view of process information.
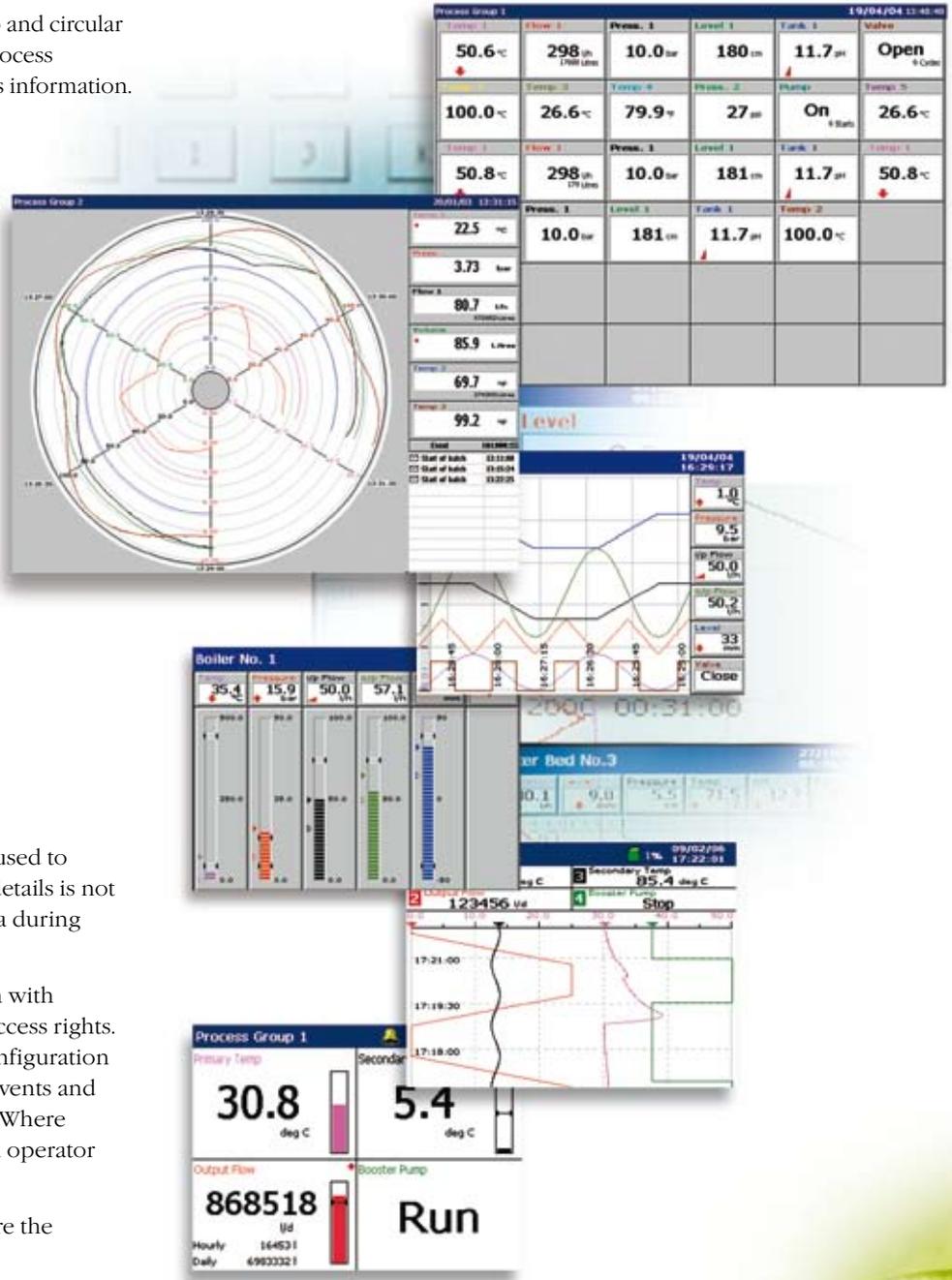
Guaranteed Data Security

The recorder's internal flash memory used to store process data and configuration details is not reliant on battery backup to retain data during power failures.

Multiple users can be configured, each with individual user name, password and access rights. A comprehensive audit log records configuration changes, calibration changes, system events and many other items key to data security. Where applicable, all entries are detailed with operator identification.

A media door lock is available to ensure the security of the memory card.

The SM Series' standard compliment of security features ensure that it is fully compliant to the requirements of 21 CFR Part 11.

Ethernet Communications

It is very simple to connect an SM Series Recorder into existing plant networks via Ethernet communications. Once connected, remote process monitoring, access to archived data and email facilities become instantly available. Via the use of modem router or GSM technologies the SM Series' labour saving Ethernet features can still be used when a recorder is in a remote location.
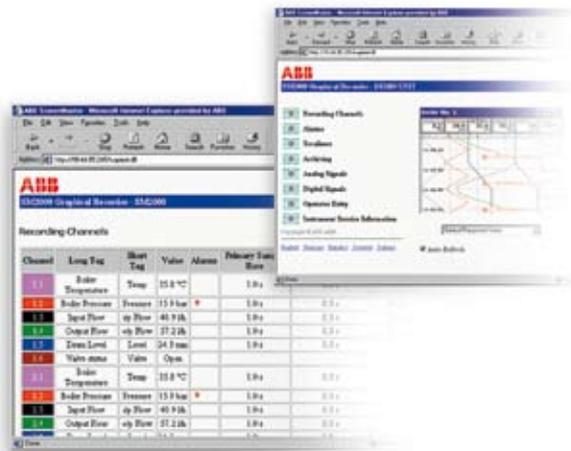
Remote Process Monitoring

Remote access to an SM Series is possible via the use of any standard web browser. Detailed real-time information is available for current alarm and totalizer conditions, memory card status and many other key process details.

For an on-line demonstration of this feature enter, http://217.33.207.105 in the address bar of your web browser.

Email Notification

Any Ethernet equipped SM Series Recorder is capable of sending email notification of important events. Emails can be triggered from process alarms or other key events and can be sent to multiple recipients. Detailed process reports can also be emailed at scheduled times.

Automatic Data File Collection

All process data files created by an SM Series Recorder can be remotely accessed via its Ethernet connection. Using ABB's File Transfer Scheduler software it is possible to automatically collect data files from any number of records.

Real-time Data Bridging

Via the use of MODBUS TCP protocol, an SM Series recorder can communicate the process values being monitored to a DCS, SCADA, PLC or other similar system.

DataManager

Analysis of process data archived by an SM Series Recorder can easily be performed using DataManager advanced analysis software. In addition to charting process data and the validation of file security, DataManager provides database management of all data files and historical logs archived by any number of recorders. This enables secure long-term storage and simple retrieval of process data.

SM Series Videographic Recorders

| Model	SM500F	SM1000	SM2000	SM3000
General Features				
Display	120mm (4.7 in) Mono STN or 140mm (5.7 in) TFT	125mm (5 in) STN	140mm (5.7in) TFT	310mm (12.1in) TFT
Operator Interface	Tactile Keys	Tactile Keys	Touchscreen	Tactile Keys
Internal Memory	8Mb Flash	1Mb Flash	8Mb Flash	8Mb Flash
Memory Card	SD	Compact Flash	Compact Flash	Compact Flash
Number of Software Recording Channels	8	12	12	36
Process Groups	2	2	2	6
Input				
Universal Analog/Digital Inputs		6 or 12	6 or 12	up to 36
High Specification Analog/Digital Inputs	1 to 4	•	•	•
2 Wire Transmitter Power Supply	2 loops optional	8 Loops optional	2 loops standard, 8 optional	2 loops standard, 8 optional
Additional I/O				
Relays	1 standard, 2 optional	18 optional	18 optional	24 optional
Digital Inputs		18 optional	18 optional	24 optional
Digital Outputs		18 optional	18 optional	24 optional
Analog Outputs		6 optional	6 optional	8 optional
MODBUS RS485		•	✓	•
10BaseT Ethernet	•	•	•	✓
Advanced Processing				
Alarms	32	24	24	144
Totalizers	16 optional	12 optional	12 standard	72 standard
Advanced Math/Logic	•		•	•
PC Configuration	Free of Charge	Free of Charge	Free of Charge	Free of Charge
Data Security	21 CFR Part 11 Compliant	21 CFR Part 11 Compliant	21 CFR Part 11 Compliant	21 CFR Part 11 Compliant
Physical Attributes				
IP Rating	NEMA 4X & IP66	NEMA 4X & IP66	NEMA 4X & IP66	NEMA 4X & IP66
Panel Cut Out	138x138mm (5.43x5.43in)	138x138mm (5.43x5.43in)	138x138mm (5.43x5.43in)	281x281mm (11.06x11.06in)
Power Supply	85-265V ac or 10-36V dc	85-265V ac or 24V dc	85-265V ac or 24V dc	85-265V ac or 24V dc
Overall Size	144x144x79mm (5.67x5.67x3.1in)	144x144x239mm (5.67x5.67x9.4in)	144x144x239mm (5.67x5.67x9.4in)	288x288x245mm (11.34x11.34x10in)
Mounting Options	Panel, Wall or Pipe	Panel	Panel	Panel

• = Optional   ✓ = Standard
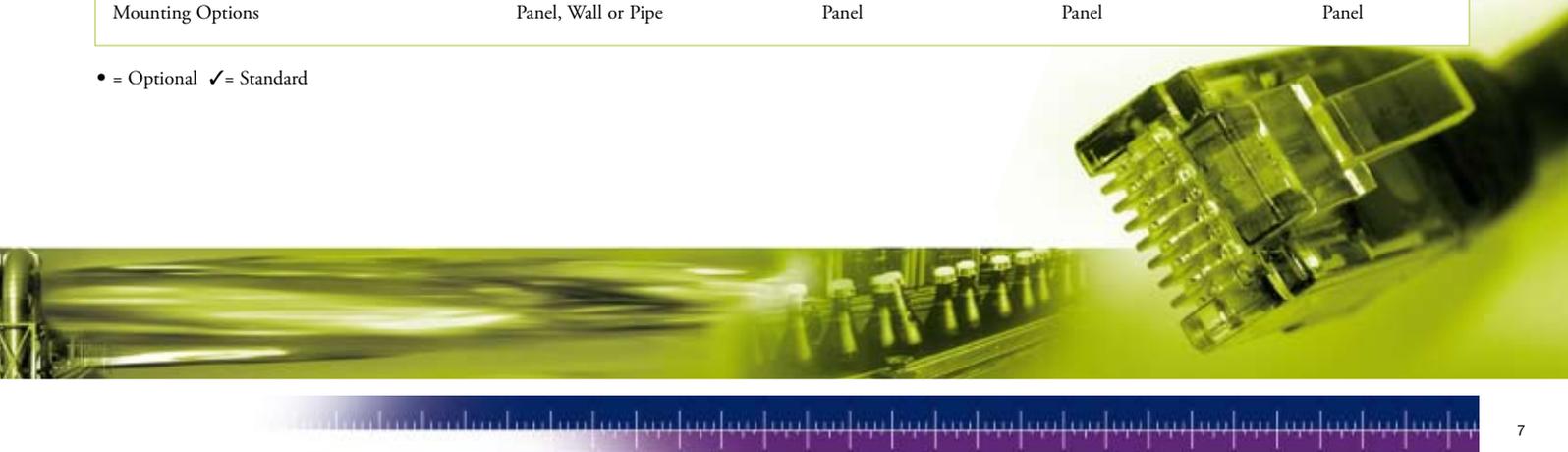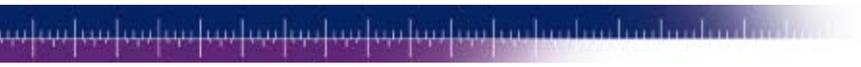
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