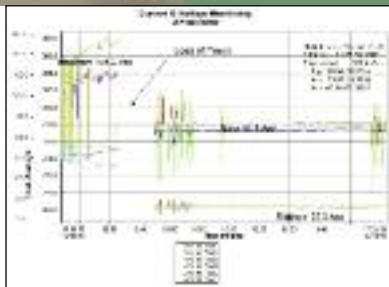


Thermo Scientific SmartView 180 SmartView 180 Multibank 180 mm Paperless Data Acquisition System

Intuitive, scalable and easy-to-maintain, Thermo Scientific SmartView 180 paperless data acquisition systems streamline the collection, distribution and analysis of critical process data. With a 180 mm screen and capacity for up to 80 inputs, these systems optimize operations for a variety of industries, including power, water, wastewater, petrochemical and pharmaceutical, ensuring maximum process efficiency and greater profitability.



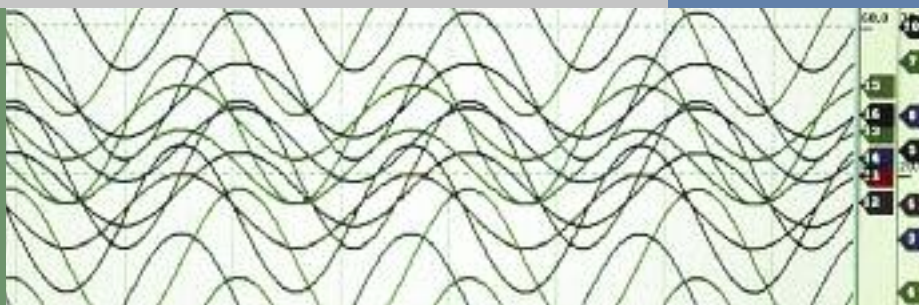
Remote or direct retrieval of process data in electronic format



Data analysis and report generation software for process efficiency improvements

Features and Benefits

- Versatile for existing or new installation
- Touch-screen controls provide the simplest programming available and give fast and easy access to process information
- Customizable display allows viewing of data in a preferred format
- Easy front panel access allows effortless expansion and upgrades as needed
- Remote access and viewing of real-time and historical data
- Networkable for seamless plant-wide data distribution and storage
- 10 CFR50 Appendix B in-house nuclear program



Seamless Integration

Thermo Scientific SmartView 180 paperless data acquisition systems enable plants to collect, distribute and analyze critical process data in real time. When combined with plant historians and human machine interfaces (HMI), these advanced systems provide a comprehensive data acquisition and management solution for any application, ensuring flexible configurations for improved process monitoring, seamless integration with existing control systems, and enhanced data analysis and management.

Powerful, Efficient & Scalable

Designed around Intel® Pentium® technology, the processing power of the SV180 systems coupled with the touch-screen interface, network awareness, large input/output handling capacity, and field upgradeable firmware allows users to efficiently monitor and manage new and existing application parameters while leaving room for future expansion. As a stand-alone unit, the SV180 accepts up to 80 direct process signals with the added capacity of configuring and displaying calculated points

(i.e., averages, peaks, flow totals, equations, etc.), bringing the complete total to 999 points. The SV180 may also be used in conjunction with the Thermo Scientific SM100 smart multiplexer to accept up to 999 direct process signals to maximize process efficiency.

Intuitive One-Touch Access

Capable of over 2.2 million touches, the versatile touch screen interface offers the most convenient method for quickly configuring the system and accessing process information. The heart of the interface lies in the "operator task bar" at the bottom of each screen. Unlike hot keys, thumbwheels, and navigational keypads, the operator task bar is straightforward and allows secure access to all features with virtually one touch of the screen to increase productivity.

Flexible Display Modes

The bright, 12.1 inch TFT, free-format display of the SV180 makes monitoring the process that much easier. Additionally, the various screens can be customized to display selected point groups. A ninth screen is reserved as a four-quadrant display which can be setup to show a scaled down version of any four configured screens.

User-Friendly Programming

The touch-screen technology in combination with the easy-to-use menu structure makes the SV180 simple to program, allowing for quick setup. Programming and operational proficiency is achieved in minimal time even without the manual.

Overview



Horizontal bargraphs



Vertical bargraphs



Horizontal trends



Vertical trends



Alarm/event



Digital values



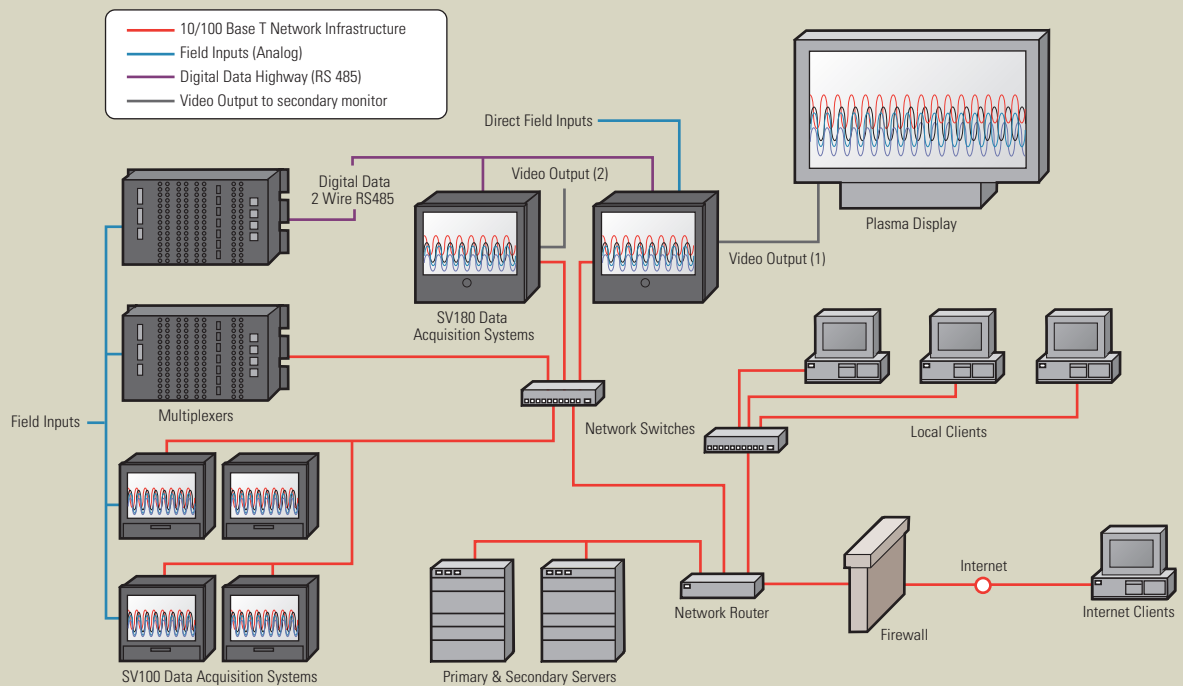
Circular chart



Four-quadrant split screen



Plant Networking



Data Management

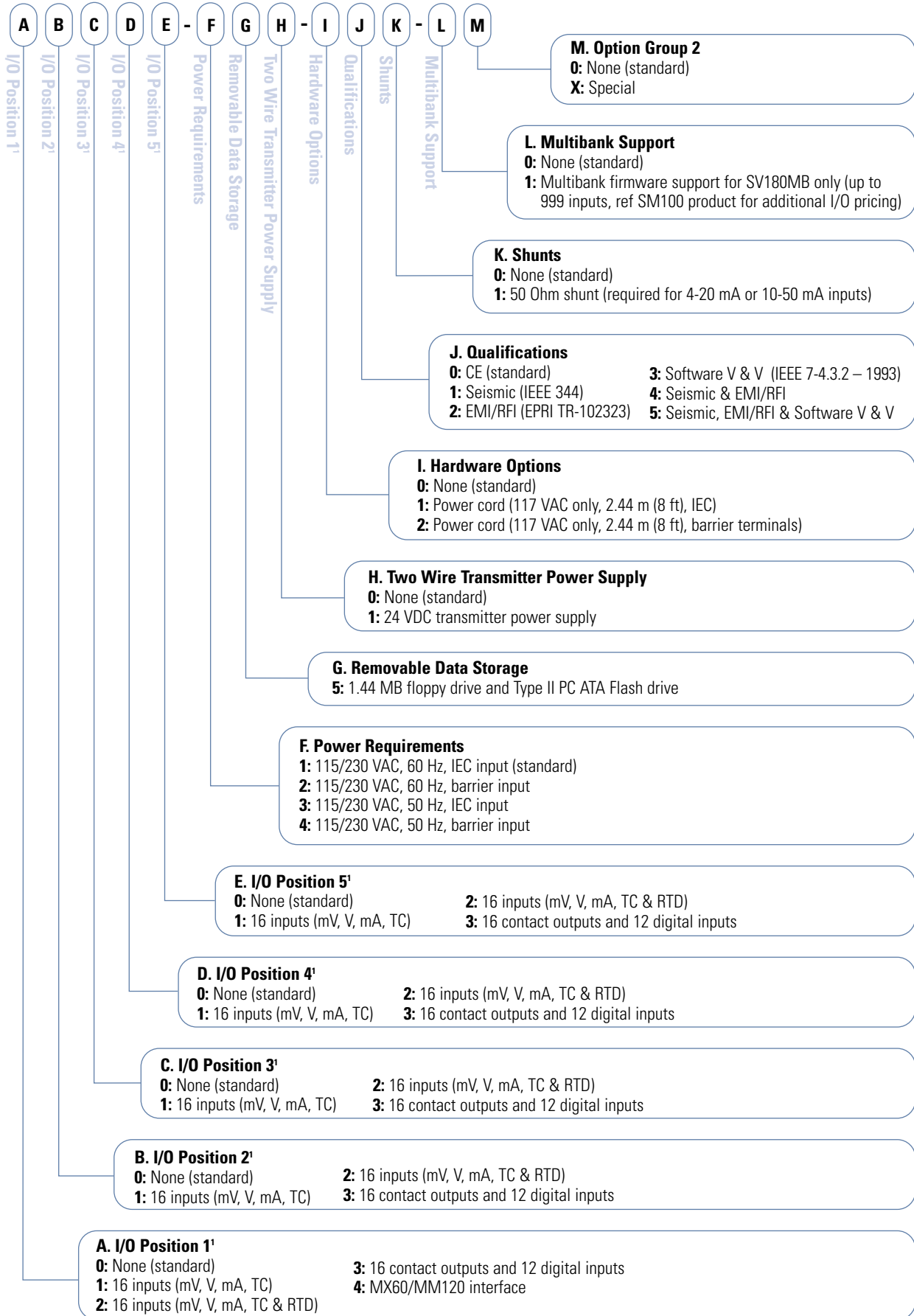
One or several SmartView data acquisition units with supporting PC application software can be easily integrated into an existing plant-wide data collection system or built from the ground-up. Flexible and scalable, the system provides unsurpassed cross-platform functionality, and is loaded with an array of communications capabilities to easily reduce the costs associated with managing and distributing process information throughout the enterprise.

Thermo Scientific SmartView 180 (SV180) / Thermo Scientific SmartView 180MB (SV180MB)

SV180 – 180 mm Paperless Data Acquisition System

SV180MB – 180 mm Paperless Data Acquisition System with Multibank Support (SM100 multiplexers ordered separately)

SV180 / SV180MB –



Notes: ¹Shunt resistor required for each current input. See model selection category K.

Thermo Scientific SmartView 180 / Thermo Scientific SmartView 180 Multibank

Inputs	
Number	16, 32, 48, 64, or 80 isolated direct analog inputs (up to 999 total points including calculated and external inputs)
Type	DC Voltage: Linear and square root programmable to 10 VDC (50 mV, 100 mV, 200 mV, 1 V, 5 V and 10 V bipolar ranges) DC Current: Linear, square root and log programmable to 4-20 mA, 10-50 mA and dry contact T/C: J, K, T, E, R, S, B, C, Nicrosil Nisil and Nickel/Nickel Moly RTD: 10 Ω Cu, 100 Ω Pt 385, 100 Ω Pt 392, 200 Ω Pt 385, 200 Ω Pt 392 and 120 Ω Ni External: SM100, DCS, PLC, SCADA or computer generated
Accuracy	Voltage: $\pm 0.05\%$ of programmed range; Current: $\pm 0.1\%$ using external shunt resistor T/C: $\pm 1^\circ\text{C}$ for J, K, T, E, Nicrosil-Nisil and Nickel/Nickel Moly; $\pm 3^\circ\text{C}$ for R, S, and C; $\pm 4^\circ\text{C}$ for B; RTD: $\pm 0.5^\circ\text{C}$
Resolution	0.006% of full scale
Impedance	>10 M Ω
Common Mode Voltage	300 VAC p-p
Common Mode Noise Rejection	120 dB at 50/60 Hz
Normal Mode Noise Rejection	60 dB at 50/60 Hz
Scan Rates	All points scanned once a second
Recording	
Rate	User programmable 1 sec to 24 hours
Format	ASCII or Binary
Internal Memory	64 MB RAM, 500 KB non-volatile RAM, 8 MB Flash
Storage Media	1.44 MB (3.5-in) floppy disk, Type II PC card ATA Flash and/or Compact Flash with adapter
Data Storage Methods	Data may be saved to storage media as instantaneous, average, max or min values Data may be saved based on user-defined interval, alarm or external trigger
File Type	Data file, alarm/event file, configuration file
Display	
Type	12.1-in Color active matrix TFT LCD (800x600)
Display Modes	Up to 9 user-defined screens (vertical trend, horizontal trend, vertical bargraph, horizontal bargraph, digital, overview, alarm/event, circular and four-quadrant split); up to 32 points per trend screen; 1 user defined quadrant screen
Display Colors	Up to 40 colors
Virtual Chart Speed	User programmable in mm or inches per hour
Virtual Chart Scales	User programmable
Video Output	External VGA port (VGA 800x600)
Math Package	
Formulas	Algebraic equations, conditional, moving average, hi/lo peak, timer, rate of change, totalize, timed average, programmable linearization curve and logarithmic
Alarm Functions	
Number of Alarms	Up to 5 alarm setpoints per point
Alarm Types	High, low, rate of change and abnormal
Contact Output/Input	16 isolated Form A or B contact outputs and 12 digital inputs per card (1 Amp @ 117 VAC or 26 VDC resistive, 0.5 Amp @ 230 VAC resistive, 0.4 Amp @ 250 VDC resistive); up to 5 input/output cards 1 common alarm (100 mA @ 250 VDC/VAC)
Deadband/Failsafe	User selectable
Power	
Requirements	115/230 VAC (50 to 60 Hz)
Consumption	120 VA max (powering 80 transmitters); 40 VA (no transmitter powered)
Power Fail Protection	Programmed parameters stored in nonvolatile memory; clock battery
Transmitter Power Supply	24 VDC at 2 Amps (60 VA or 120 VA maximum with option)
Communications	
Serial Ports	RS232 and/or RS485 communication w/ Modbus (RTU or ASCII)
Parallel Printer	Text data logs to external printers
Network Type	Ethernet (10/100 Base T), Modbus/TCP protocols, OPC/PI compliant, FTP client/server, web-enabled
Realtime Monitoring & Data Historian	ProView Plus, ProServer OPC and Modbus (RTU and ASCII) support
Environmental	
Operating Temperature	-10 $^\circ\text{C}$ to +50 $^\circ\text{C}$ (-14 $^\circ\text{F}$ to +122 $^\circ\text{F}$)
Operating Humidity	10% to 90% RH non-condensing
Enclosure	NEMA 4/IP65 Front Panel
Dimensions	Bezel: 288 mm x 288 mm (11.4 in x 11.4 in); Cutout: 282 mm x 282 mm (11.1 in x 11.1 in); Depth: 232 mm (9.1 in)
Weight	9.8 kg max (21.6 lbs.)
Qualifications	
Commercial	CE
Nuclear Qualifications	Seismic (IEEE 344-1987), EMI/RFI (EPRI TR-102323 Rev 2), Software V&V (IEEE std. 7-4.3.2-1993), 10 CFR21, 10 CFR50 Appendix B and IEEE 323-1983 (mild environment)

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