

## TOUCHSCREEN PAPERLESS VIDEOGRAPHIC RECORDING AND DATA ACQUISITION

Rapidly changing processes often necessitate a high sampling rate in order to provide a detailed data record. With a maximum record rate of 8 samples per second, the Sixth Sense Datagraph VX series provides high speed storage for applications with rapidly changing process variables such as pressure and-flow.

The VX series is available with a vivid 5.6" color display or a more economical 5.0" monochrome display. It offers 2, 4, 6, or 12 direct universal inputs as dc voltage, dc current (with external shunt resistor), 9 different types of thermocouples, 6 types of RTD's, or dry contact (event input).

Fast sampling capability calls for high capacity storage. The VX answers the call with the optional compact flash memory card drive. Recording a single input at 8 samples/second, a 1.44MB floppy diskette would fill in about one day of continuous recording. Contrast that to a 512MB compact flash memory card, which would last over 352 days under the same recording conditions.

In addition to the RS-232 and RS-485 communication options, the VX can alternatively provide an ethernet port (10Base T) so data can be transferred over LAN/WAN using the optional Companion or Guardian software.

Featuring an easy-to-use touchscreen programming interface and an IP65 rated bezel, the VX paperless chart recorder is the solution to applications requiring fast data acquisition, low channel count and low-cost.



### FEATURES

- **High Speed Sampling**

Record as many as 8 samples per second — ideal for recording process signals that change quickly, such as pressure

- **Brilliant Color Display**

The 5.6" active matrix TFT touchscreen display is the largest in its class. With the special anti-glare coating, the viewability is second to none

- **Economical**

Available in a low-cost 2 input, monochrome display version

- **High Capacity Storage Option**

For recording large amounts of data choose the compact flash card drive option for a maximum storage capacity of 2.0 gigabytes

- **Communications**

Use the optional RS-232C comm port and a modem to access and download data remotely. The RS-485 option allows installation of the VX into an existing Modbus network or you can connect up to 31 units in series. Connect to LANs and WANs with the ethernet port option; TCP/IP protocol means you can transfer data over the Internet

- **15-Channel Recording Capability**

- **Two-Year Warranty**

Protects you against factory defects

# DATAGRAPH VX, CONTINUED

## SPECIFICATIONS

### GENERAL SPECIFICATIONS

<b>POWER REQUIREMENTS</b>	100 to 240V AC $\pm 10\%$ , 50/60Hz, 125V DC, 17 watts max. Optional 24V DC $\pm 15\%$
<b>POWER FAIL PROTECTION</b>	Programmed parameters stored in non-volatile memory. Clock battery backed. Retention time without power > 12 months. Chart and alarm browse buffers preserved
<b>EMC COMPLIANCE</b>	Meets or exceeds EMC 89/336/EEC

### DISPLAY

<b>DISPLAY TYPE AND RESOLUTION</b>	Monochrome: CCFL backlit STN LCD, 240 x 128 pixels, 5.0". Color: CCFL backlit active matrix TFT LCD, 320 x 240 pixels, 5.6"
<b>DISPLAY MODES</b>	Graphics (trending, vertical, or horizontal), bar graphs, large digital display, alphanumeric alarm and event data, or combinations on a split screen
<b>VIRTUAL CHART SPEED</b>	Programmable: 0.5 inch/hour to 600 inch/hour. Chart speed is independent of storage rate
<b>VIRTUAL CHART SCALES</b>	2 sets of 8 scales
<b>DISPLAY WINDOWS</b>	Time/date, graphics (bars, large digital, trends), disk status, system status, menu button bar, Unit ID, alarms/events

### INPUT AND ACCURACY

<b>INPUT SIGNALS</b>	Thermocouple: J, K, T, E, R, S, B, C, N RTD: 10ohm Cu, Pt100 (385, 392), Pt200 (385, 392), 120ohm Ni, 1000ohm Ni DC Voltage: $\pm 150\text{mV}$ , $\pm 1.25\text{V}$ , $\pm 2.5\text{V}$ , $\pm 12.5\text{V}$ , $\pm 25\text{V}$ ; linear, square root, logarithmic DC Current: 0 to 20mA, 4 to 20mA, 10 to 50mA with external 50ohm shunt resistor
<b>INPUT ACCURACY</b>	Voltage: $\pm 0.05\%$ of programming range Current: $\pm 0.1\%$ using external shunt resistor Thermocouple: $\pm 1.5^\circ\text{C}$ for J, K, T, E, N. $\pm 3^\circ\text{C}$ for R, S, C. $\pm 4^\circ\text{C}$ for B RTD: 0.2% or 0.5°C
<b>INPUT CAPACITY</b>	2, 4, 6, or 12
<b>SCAN RATE</b>	All points scanned every 125ms

### RECORDING

<b>RECORDING RATES</b>	User programmable for each channel from 8 samples per second to 1 sample every 600 seconds (10 minutes). Data stored in non-volatile RAM and recorded periodically to internal removable media
<b>FORMAT</b>	MSDOS compatible file system. Proprietary binary format for data security. User file naming
<b>STORAGE CAPACITY</b>	3-1/2 inch floppy diskette: approximately 700,000 samples for a 1.44 megabyte diskette. Flash memory cards: approximately 256 million samples for a 512 megabyte card

<b>FILE TYPES</b>	Up to 15 point (data) files*, Alarm and Event file, Configuration file. Multiple files of different names on a single disk. Full media format and verify capability
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### FEATURES

<b>TOUCH SCREEN</b>	Touch sensitive screen for simplified programming and easy operation
<b>MATH PACKAGE*</b>	Algebraic equations (basic math, powers, roots, natural and base 10 logarithms, exponentiation), peak monitoring, differentials, true moving averages, time averages, gated timing, conditionals (Boolean logic), totalization, logarithmic scaling. 15 programmable constants
<b>BUFFER</b>	Internal 1 MB buffer memory enables real time browsing of historic chart data independent of recorded data; Allows user to "hot-swap" media while record mode is active
<b>FILE BROWSE</b>	Browse trend data of any data file on removable media or browse data in buffer memory, even with the unit in record mode. User can search trend data by time, date or signal value
<b>ALARM/EVENTS</b>	User defined alarm points and input events can be saved to an alarm/event table and, if desired, recorded on diskette and routed to a contact closure. Five programmable alarms per channel.
<b>IP65 BEZEL</b>	Front bezel rated for use in wet and dusty environments

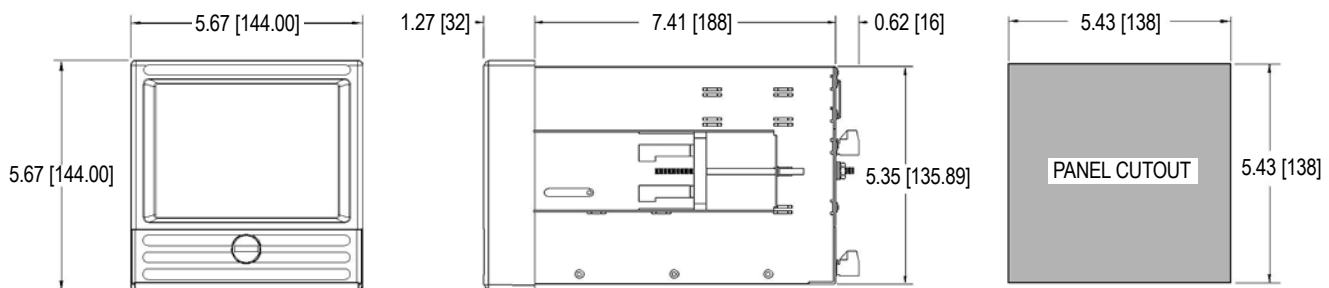
### OPTIONS

<b>ALARM CONTACTS</b>	3 or 6 isolated form C, 3 amp @ 250VAC or @26V DC; SSR, 0.5 amp @ 30VDC
<b>REMOTE INPUTS</b>	Three isolated inputs, user selectable as dry contact or 5-12V DC activated. Inputs share a common. Configurable for chart speed control, record on/off, record rate selection, alarm acknowledge/reset, event markers, totalizer reset.
<b>COMMUNICATIONS</b>	Serial: ESD protected RS-232 with full hand shaking. Supports modem, or Isolated RS-485 port. Serial Protocol: MODBUS RTU or MODBUS ASCII. Ethernet: 10BaseT. Unit may be remotely configured (using Companion Software)
<b>PRINTER PORT</b>	Parallel printer port, DB25 female

### OPERATING AND STORAGE CONDITIONS

<b>OPERATING TEMPERATURE</b>	5 to 40°C (Floppy Disk) -10 to 50°C (PCMCIA Card or flash card drive)
<b>OPERATING HUMIDITY</b>	10% to 80% RH non-condensing
<b>SAFETY &amp; CONFORMITY</b>	UL (3111-1), C-UL (IEC1010-1) CE low voltage directive 73/23/EEC. Complies with EN 61010-1

\* Number of channels available for calculations = 15 - (# of direct inputs)



DIMENSIONS ARE IN INCHES [MM]

Weight: 7 lbs.

## DATAGRAPH VX, CONTINUED

### DATAGRAPH SOFTWARE

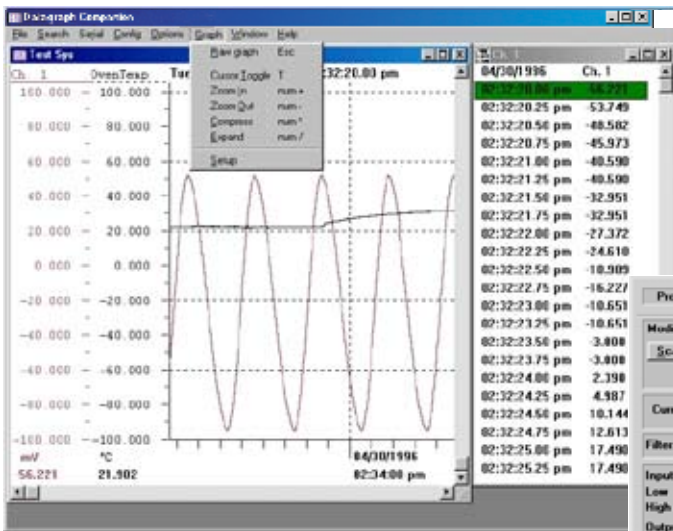
#### FREE GETDATA Software

Every Datagraph recorder is shipped with a free copy of GETDATA software. This Windows™-based utility program is required to translate the proprietary structure of the recorded data into an ASCII file. Any program that can read an ASCII file can then be used to view the recorded information (programs such as Excel, Lotus 1-2-3, etc.).



#### Optional Companion Software

The optional COMPANION software is a powerful and intuitive Windows-based application program that allows you to monitor real time data in digital format, or review previously recorded data in graphical (trend) or tabular format. Data files can be transferred from Datagraph recording media to your local hard drive and then reviewed. A user can quickly search files for specific events, link alarm and event files to trended data, print trend or tabular information, and export files to spreadsheet applications such as Excel. The COMPANION software can easily generate Datagraph configuration files, which can then be saved to recording media or transferred directly to the recorder via communication lines (RS-232, RS-485 and Ethernet).

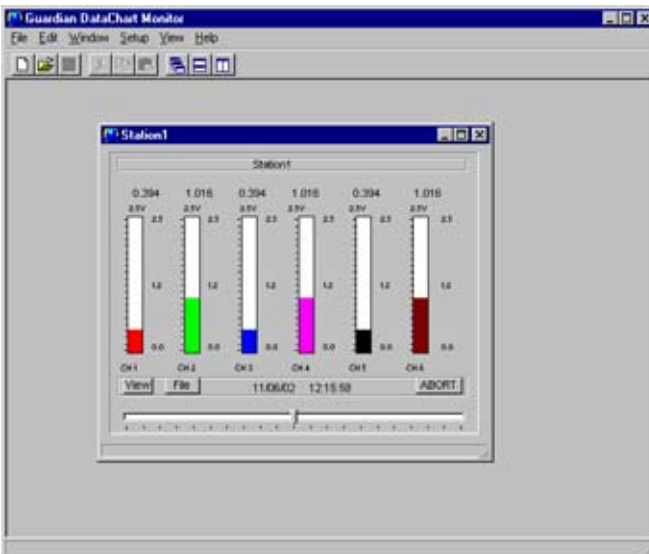


The real power of the COMPANION software is when it is used in conjunction with a serial communications link with the Datagraph recorder. Users can monitor, configure and control up to 31 recorders with the RS485 MODBUS option or control remote locations via a MODEM link to the recorder RS-232 interface. Whatever the application, the COMPANION software puts you in complete control.



#### Optional Guardian Software

GUARDIAN software allows real-time monitoring of Datagraph VX series recorders using modbus protocol over an Ethernet connection. Data is displayed within the program windows in bar-chart or pen-trending format. The GUARDIAN software also allows the user to record data simultaneously to a PC hard drive. Sampling rates are from two per second to one every 10 minutes.



## DATAGRAPH VX, CONTINUED

### DATAGRAPH VX ORDERING INFORMATION

V X A A — B B — C D E F G

To create an ordering code fill in the boxes above with the appropriate number and/or letter from the corresponding box below.

#### Box A: Base Instrument

M2 = 2-channel monochrome	\$ 1,395
M4 = 4-channel monochrome	1,495
M6 = 6-channel monochrome	1,595
M12 = 12-channel monochrome	1,895
C2 = 2-channel color	1,995
C4 = 4-channel color	2,095
C6 = 6-channel color	2,195
C12 = 12-channel color	2,495

#### Box B: Input Power

A1 = 100–240V AC	N/C
A2 = 100–240V AC, ST (screw terminal power connect)	25
D1 = 24V DC (screw terminal power connect)	225

#### Box C: Data Storage — Removable

0 = 3-1/2" Disk drive (standard)	N/C
3 = Compact Flash Card Drive	N/C

#### Box D: Data Storage — Internal

0 = 1 MB RAM (standard)	N/C
1 = 2 MB RAM	\$ 150

#### Box E: Output/DI Options

0 = None	N/C
1 = 6 Relay Outputs / 3 Digital Inputs	295
2 = 3 Relay Outputs / 3 Digital Inputs	195
3 = 6 Solid State Relays / 3 Digital Inputs	295
4 = 3 Solid State Relays / 3 Digital Inputs	195

#### Box F: Communications

0 = None	N/C
1 = RS-485/RS-232	150
2 = Ethernet	150

#### Box G: Printer Port

0 = None	N/C
1 = Parallel Port	150

## ACCESSORIES

CFCR-USB	Compact flash card reader. (Plugs into PC USB port)	\$ 85
SW-3T	Companion software for record configuration, data file transfer, storage, printing, and export to spreadsheets, etc. (RS-232, RS-485 and Ethernet)	199
ASSY SHUNT 50	50Ω External shunt resistor (0.1% accuracy). One required for each current input requiring 0.1% accuracy.	4.25
MANUAL	Datagraph Manual (One w/ each unit at no charge)	50
CF-256MB	256 Megabyte Compact Flash Memory Card	65
CF-512MB	512 Megabyte Compact Flash Memory Card	95
CF-1024MB	1.0 Gigabyte Compact Flash Memory Card	135
CF-2048MB	2.0 Gigabyte Compact Flash Memory Card	195
GUARDIAN	Software for remote unit monitoring and local data recording (via Ethernet only)	149
SP-0324	24V DC, 3W DIN rail mount power supply	69
PI-EXT	Frequency/Pulse Input Modules (0-10V output), DIN Rail Mount	150
RSFC24-W	RS485 to RS232 Converter	135