DataChart

2000 SERIES PAPERLESS RECORDERS











DATA-CHART 2000 SERIES

Paperless Recording Systems

Industry demands a higher level of reliability, better efficiency, more flexibility and lower costs. These industry requirements were kept clearly in focus when we designed our fourth generation of Paperless Recording Systems:

The Data-Chart 2000 Series

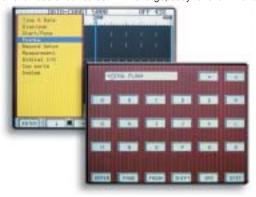
Because your data is so important Data Chart recorders were designed to be ultra-reliable. We chose the finest components available and combined them with a robust modular mechanical structure. Our optimized design means fewer components are needed. Fewer components means fewer failures.

Up to 2 Megabytes of non-volatile memory keeps your data safe. You will never lose recorded data, even during a power outage. Data is downloaded automatically to your choice of removable media: 3.5" 1.44 Meg disk or CompactFlash™ card (up to 2 Gig in size).

Time is Money! Corporate downsizing and cost cutting leaves you with less time to accomplish your goals. Data-Chart recorders are virtually maintenance free. No paper or pens to replace, no mechanical parts to wear out and because they are digital instruments, they requires less time to calibrate. This allows you to use your time more efficiently.

Simple Setup

Our intuitive touchscreen control makes configuring the DC2000 a breeze. We make full use of our screen with a large, easy to follow menu system.



Outstanding Viewability

The DC2000 has a brilliant 5.6" TFT active matrix color LCD display which is the largest of any 144mm square recorder. We've even added a special anti-glare coating to optimize viewability under any conditions.

Companion Software is a powerful and intuitive Windows based application that allows you to monitor real time data or review previously recorded data in graphic or tabular format, search files for specific events, link alarm and event files to trended data, print graphic or tabular files and export files to spreadsheet applications such as Excel.

Recorder configurations are easily generated using Companion Software and can be downloaded to your recorders storage media and transferred to the recorder or transfrerred directly over ethernet or serial line communications. Monitor, configure and control up to 32 units with the RS485 Modbus option or control from remote locations using a modem connection. Whatever the application, Companion Software puts you in complete control.

We're Flexible. Data Chart recorders are unparalleled in providing the highest level of flexibility of any paperless recorder made in the world. Universal inputs, networking capability, powerful math packages and a multitude of display choices allow you to display, record and communicate your data the way you want.

Display Modes

You can choose from more than 20 different display modes including trends, bargraphs and colors, background colors and



Guardian Software allows you to create a complete single station data supervisory and storage system. If you need to monitor data in real time or if you require redundant data storage to a PC, Guardian Software is the solution.

Multiple Data-Chart 2000's can be placed on a standard ethernet or Modbus network along with your other plant instruments and monitored in real time. In addition, data can be stored on your local PC greatly improving data management and security!



DATA-CHART 2000 SERIES

Specifications

Operating

Thermocouple:

Input Signals DC Voltage: Linear, Industrial square root, logarithmic

+/- 150mV, +/-1.25V, +/- 2.5V Accuracy: 0.06%

+/- 12.5V and +/- 25V Accuracy: 0.1%

Dry Contact: Open = 0, Closed = 1

External: Signals can be input via serial port (Modbus).

Accuracy: 0.15% using external 50 ohm 0.1% shunt.

DC Current: 4-20mA, 0 to 20mA and 10 to 50 mA.

Resolution: 0.1°C, CJR accuracy: 0.5°C (0 ot 50°C)

Thermocouple burnout detection.

RTD: Base accuracy 0.2% or 0.5°C (1°F). Resolution 0.1°C 2 or 3 wire connection.Cable compensation to +/- 50 ohm

Accuracy Type +/-3.0°F 0.1% -101 to 1200°C +/-1.5°C -150 to 2190°F open and short circuit detection. K** 0.1% -101 to 1372°C +/-1.5°C -150 to 2500°F +/-3.0°F 10 ohm Cu -70 to 170°C -94 to 338°F T** +/-1.5°C -150 to 750°F 100 ohm Pt 385 -220 to 850°C 0.2% Т -101 to 400°C +/-3.0°F -364 to 1560°F E** -101 to 1000°C +/-1.5°C -150 to 1832°F 100 ohm Pt 392 -180 to 820°C -292 to 1500°F 0.11% Ε +/-3.0°F R -50 to 1768°C +/-3.0°C -58 to 3200°F +/-6.0°F 200 ohm Pt 385 0.16% R -220 to 400°C -364 to 750°F 200 ohm Pt 392 S 0.17% -180 to 400°C S -50 to 1768°C +/-3.0°C -58 to 3200°F +/-6.0°F -292 to 750°F В 0.22% В 0 to 1820°C +/-4.0°C 32 to 3300°F +/-7.0°F 120 ohm Ni -70 to 300°C -94 to 570°F С 0.13% С 0 to 2400°C +/-3.0°C 32 to 4350°F +/-6.0°F 1000 ohm Ni -60 to 209°C -76 to 408°F N** -101 to 1300°C 0.10% Ν +/-1.5°C -150 to 2372°F +/-3.0°F (DIN 43760)

* (+/-2.5°C -210 to -100°C) **(+/-2.5°C -270 to -100°C)

Input Resolution 0.0015% of full scale, 16 bit unless otherwise stated

Input Impedance > 10 Meg on 150mV, 1.25V and 2.5V ranges, >100 K on 5, 12.5, 25 Volt ranges.

 Input Channels
 2, 4, or 6 direct

 Max Input
 50 Vdc

 CMNR
 >100db, 50/60 Hz

Measurement Rate Measures all direct input channels every 125 milliseconds (each channel 8 times/second independent of no. of channels).

Math Functions +, -, x, /, logarithms, totalization, powers, averages, timers, and custom equations.

EMC Compliance Meets or exceeds the requirements of EMC 89/336/EEC

Recording

Recording Rates Selectable from 8/sec. to 10 minutes

Data Format Proprietary binary format for data security.

Data Storage Data stored in non-volatile RAM and recorded automatically, or on demand, to on board removable media.

Full media format and verify capability.

 Media
 Measurements
 Capacity

 Removable
 3.5" Disk
 700.000
 1.44Mb

CompactFlash Card 496million (Up to 2 GB in size).

Internal 1 Mb RAM (Non-Volatile) 2 Mb RAM (Non-Volatile)

File Types Data files, Alarm and Event files, Configuration files, Language files.

Multiple files of different names on a single disk.

Display

Display Type Color CCFL backlit Active Matrix TFT Liquid Crystal Display (5.6 inch) with touchscreen control.

Resolution 320 x 240 pixels.

Display Type Mono CCFL backlit STN Liquid Crystal Display (5.0 inch) with touchscreen control.

Resolution 240 x 128 pixels.

Display Modes Graphics (Trending vertical or horizontal), Bar Graphs (vertical or horizontal), Digital Meters, Alphanumeric Alarm and Event

Data or combinations on a split screen. Review trended data. Search by time, date or signal value.

Virtual Chart Speed Programmable from 0.5in/hr to 600in/hr or 10mm.hr to 15,000mm/hr. Chart speed is independent of storage rate.

Display WindowsTime/Date, Graphics (Bars, Large Digital, Trends), Disk Status, Systems Status, Menu Button Bar, Unit Indentification,

Alarms/Events.

Power Requirements 100 to 240Vac, 50/60Hz or 125 to 300Vdc, 35VA max.

Optional 24Vdc +/-15%.

Power Fail Protection Programmed parameters stored in non-volatile memory. Clock battery backed. Data retention time without power >12 months.

Chart and alarm browse buffers stored in non-volatile memory.

Safety UL (3111-1) cUL (IEC1010-1) CE low voltage directive 73/23/EEC. Complies with EN 61010-1.

Operating Environment

Temperature 5°C to 40°C per UL3111-1/IEC1010-1 with disk drive. -10°C to 50°C with PCMCA drive or ZIP™ Drive.

Humidity 10% to 80% RH per UL3111-1/IEC1010-1.

Wash Down IP65 Front panel only.

Options

Alarm Contacts 3 or 6 isolated Form C, 3 amp @ 250Vac or 26 Vdc.

Solid State Relays 3 or 6, 0.5 amp @ 30Vdc.

Remote Inputs 3 isolated inputs, user selectable as dry contact or 5 to 12 Vdc (mech. relay), 12 to 24 Vdc (SS relay) activated.. Inputs

share a common. Configurable for chart control, alarm acknowledge/reset, event markers, totalizer reset or logic input.

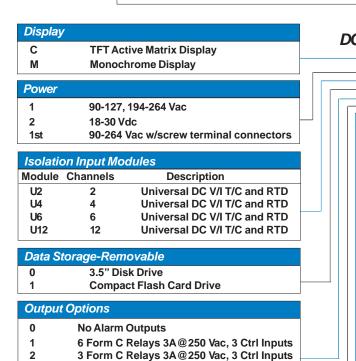
Communications ESD protected RS232 with full hand shaking. Supports modem or isolated RS485 port.

Protocol: MODBUS RTU, MODBUS ASCII or serial printer port. Ethernet: 10BaseT. Unit may be remotely configured.

Printer Port Parallel printer port (25 pin D shell connector).

DATA-CHART 2000 SERIES

Ordering Information



Communications		
0	None	
1	RS485 / RS232 - Isolated	
2	Ethernet - 10BaseT	

6 SS Relays 0.5A@30Vdc, 3 Ctrl Inputs

3 SS Relays 0.5A@30Vdc, 3 Ctrl Inputs

Data Storage - Internal				
0	1 Mbyte			
1	2 Mbyte			

Printer Port				
0	None			
1	Parallel Printer Port (25 Pin D Shell)			

Example Model Numbers:

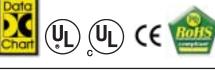
3

DC - 2C1 - U4 - 11200 DC - 2M1 - U12 - 00000

Data		
Chart	€	RoHS

Accessories 50 ohm precision external shunt MAS50R resistor for current inputs (+/-0.05%). External USB port card reader. Includes cable and CR-3 SW-3T Software. Companion Software for Windows SW-3T 95. 98.NT. XP and 2000. **Guardian Software for Windows GUARDIAN** 95, 98, NT, XP and 2000. Portable maintenance kit. Includes: PMK-2 folding legs and carry handle. (factory installed) Nylon padded carrying case with shoulder strap. Will hold recorder, CC-8 power cable and diskettes. 64MB, 128MB or 256 MB Industrial 64MBCF Grade CompactFlash™ memory cards. 128MBCF 256MBCF DIN rail mount pulse conversion module converts 5 volt TTL or 3-12 P1-EXT volt pulse signals into a linear 0-10 volt proportional signal. The ROS-W (Remote Optical Sensor) generates a TTL pulse that can ROS-P be directly input into the P1-EXT module. **DC-2000 Installation Dimensions**

6.45 (118)



Distributed by:

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