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Find the *Monarch Instrument DC1250-U00* at our website: ***Click HERE***

DataChart 1250
Paperless Data Acquisition System
Technical information





MONARCH INSTRUMENT

CE

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DataChart 1250 Overview

The DC1250 is a feature rich digital recording system offering 2 universally configurable inputs for measuring DC voltage, DC current, thermocouples and RTD's as well as frequency and pulse inputs. 4 internal alarm setpoints, 2 alarm relay outputs and 1 digital control input are all standard. Combining small package size with extreme flexibility make the DataChart 1250 a powerful, yet economical, digital data recording system.

A maximum sample storage rate of 100 samples per second can be set for both channels allowing for capture of short duration process signals anomalies. CompactFlash™ cards up to 2 Gigabyte size can be used allowing many data points to be stored over long periods of time.

With intuitive operation, flexible input configuration and large memory capability, the DataChart 1250 is a powerful, compact digital recorder.



DataChart 1250 Paperless Recorder

DataChart 1250 Features

Communicate

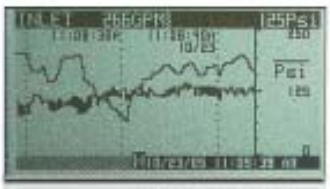
Communication options include Ethernet or USB. When used with Navigator software the user has full remote control of all recorder functions. Data can be transferred from the CompactFlash™ card to the PC or can be viewed in real-time graphic format and stored to a remote hard drive.



Ethernet Port

Bright and Clear Display

The DC1250 has a highly reflective twisted nematic LCD display with a bright white LED backlight. The graphic user interface can be configured to display real time data in digital or trend format. Configuring the 1250 is an intuitive process which uses an easy to follow menu system.



Dual Trend



Split Screen



Dual Digital Inversed



Dual Digital

Versatile Power

The DC1250 is supplied with a universal wall transformer power supply that can operate from 100 to 240Vac 50/60Hz. It includes interchangeable plugs for North America, Australia, UK and Europe.

An optional isolated input power of 12-24Vdc is also available for use with instrument power supplies or external batteries.

The DC1250's real time clock and internal RAM have a battery back-up to preserve data in the event of a power loss.

If losing data during a power outage is a concern, the user can add the rechargeable battery pack option. With the battery pack option installed, the DC1250 automatically keeps the rechargeable NiMH batteries charged to capacity. In the event of a power loss, the DC1250 automatically switches over to internal battery power. All functions continue to operate as normal for up to 6 hours! This option is also great for using the DC1250 in areas where no AC or DC power is available.



Internal rechargeable NiMH battery pack

Measure RPM

The DC1250 can be used in conjunction with many of Monarch's speed measurement sensors. Power for sensors is provided from the DC1250 rear terminals. Measure, display and record RPM ranges from 5 - 600,000. Choose the sensor best suited for your application or take your existing signal directly into the 1250.



ROS-W Remote Optical Sensor

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DataChart 1250 Specifications

Input Power:
- **Standard:** 9 Vdc +/- 0.5Vdc @ 5VA (depends on external loads) provided by external AC wall transformer (provided), non-isolated. 100-240Vac 50/60Hz
- **Option:** Isolated 12-24 Vdc input power available (not compatible with internal battery pack option below).
- **Option:** Internal battery pack provides uninterrupted operation and controlled shutdown during blackout. 6Vdc, 2400mAH NiMH - Backup Time; 6 hours typical (depends on external load).

Output: 2 outputs 5Vdc @ 50mA to power external sensors.

Number of Channels: 2 universal, user programmable.

Isolation: 300V AC/DC channel input to chassis ground

DC Input:

<u>Voltage</u>
- **Ranges:** 0-250mV; 0-1.25V; 0-2.5V; 0-5V; 0-12.5V; 0-25V
- **Accuracy:** 0.1% of reading
- **Resolution:** 0.025% of full scale

<u>Current</u>
- **Ranges:** 0-20mA; 4-20mA; 0-50mA; 10-50mA
- **Accuracy:** 0.1% of reading excluding 250 ohm external shunt (required).
- **Resolution:** 0.025% of full scale

Thermocouple:
- **Accuracy:** 0.3% of full scale (typical).

Ambient Temperature Sensor Accuracy: ±1.5°C

Type	Range
J	-100 to 760°C ±2°C (-148 to 1400°F ±3°)
K[1]	-100 to 1000°C ±2°C (-148 to 1832°F ±3°)
K[2]	0 to 1370°C ±2°C (32 to 2498°F ±3°)
T	-240 to 400°C ±2°C (-480 to 750°F ±3°)
E	-80 to 400°C ±2°C (-112 to 750°F ±3°)



RTD:
- **Accuracy:** 0.3% of full scale (typical).
- **Resolution:** 0.1°C
- **Internal current source:** 1mA

Type	Range
100 Ohm Pt 385	-100 to 750°C (-148 to 1380°F)
100 Ohm Pt 392	-100 to 750°C (-148 to 1380°F)

2 or 3 wire.



Frequency Input (Hz)/ Speed Input (RPM):
- **Range:** 0 - 10,000 Hz / 0 - 600,000 RPM
- **Accuracy:** Freq: ±1 Hz; RPM: ±1 RPM below 9,999 RPM; ±10 RPM above 9,999 RPM
- **Input:** Low <1.0Vdc; High >3.0 <12.0Vdc
- **Pulse width:** 10 microsecond minimum.

Input Impedance: >100k ohms

Measurement Rate: Up to 100 samples/sec per channel.

Math Function: Y = mx + b; average, hi peak, low peak, totalization.

Media: Compact Flash to 2 GB.

Display: LCD Graphics, 160 x 80 pixels, black FSTN with white LED backlight. User controlled backlight level and contrast adjust (electronic).
2 3/4" W x 1 1/2"H x 3 1/4" Diag.

Display Modes: Trending (horizontal), Large dual digital readout, mixed mode.

User Interface: 5 button keypad (dual function buttons).

Clock: Auto leap year and daylight savings adjustment. Internal battery back-up.

Relay Output: Two alarm outputs: 30V 0.5A Form A relays

Opto-isolated Input: One input, 5 to 12Vdc activation @ 10mA typical.

Audible: Internal beeper (multiple tones).

Dimensions: Front panel: 96mm x 96mm (1/4 DIN) x 152mm (3.78 x 3.78 x 6 inches).

Environmental:
Indoor Use Only
Installation Category II per IEC 664
Pollution Degree Level II per IEC61010-1
Temperature: -10°C to 50°C operating per IEC 61010-1
Humidity: maximum relative humidity 80% for temperatures up to 31°C, decreasing linearly to 50% relative humidity at 40°C.

Electrical Safety: Meets EN61010-1Ed.3.0 2010. Power supply certified UL, cUL.

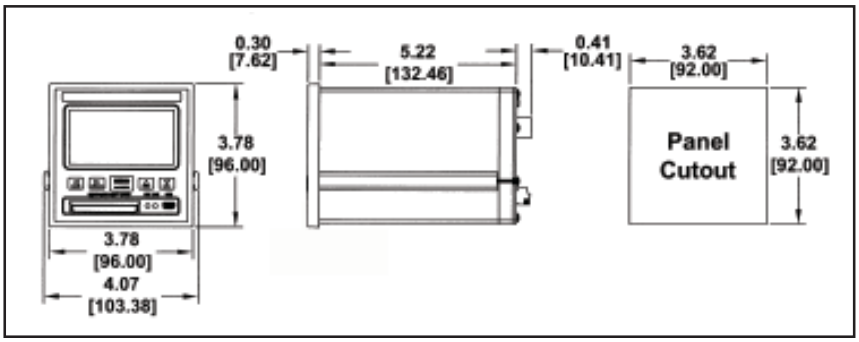
Optional

USB: Front panel USB 2.0 slave port for data and remote real-time display when using Navigator software.
Ethernet: Real time data display, historic data transfer, remote control and recorder configuration when using Navigator Software. Built in web server displays current measured values. Rear panel port.



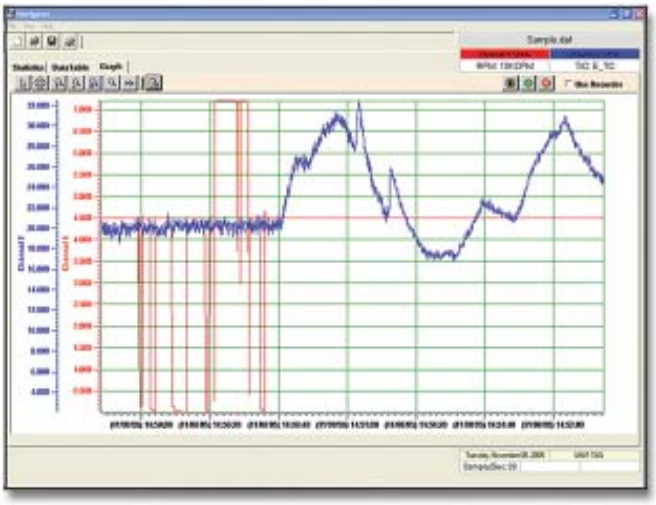
Rear Panel

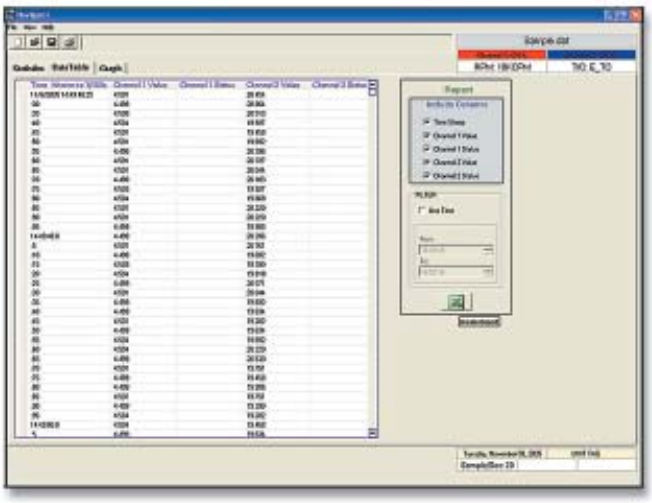
DataChart 1250 Dimensions



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DataChart Navigator Software





DataChart Navigator software makes reviewing, printing and exporting data easier than ever. Simply start the program, double click the data file and **Navigator** does the rest. Your data file is displayed in one graphic window complete with the scales as programmed in the DC1250 as well as date and time stamps. You can expand, compress or use the box zoom to display specific areas of data as needed. The print preview feature allows review prior to printing. With the optional USB or Ethernet communications, Navigator turns your computer into a real-time data acquisition system as graphical data is streamed in and displayed. These "snap-shot" files can be saved in addition to files being stored on the DC1250. The built in Ethernet webserver allows you to view real-time data using only a web browser. Exporting data is as simple as clicking the Excel™ Icon in the Data table export window. **Navigator** automatically converts the historic data, starts up Excel™ and loads your data into an organized spreadsheet.

Minimum system Requirements: PC running Windows® 2000 or XP, 40 MB free disk space and CD ROM Drive.

DataChart 1250 Ordering Information

DC1250 - [ ] [ ] [ ]

0	None	
1	USB Comms.	Mini-USB port for downloading data directly to PC. Front access.
2	Ethernet	10/100BaseT Ethernet, rear access RJ45 connector. Allows network access to recorder.

0	None	
1	Battery Backup*	Rechargeable NiMH battery pack will operate recorder up to 6 hours in the event of power loss.

U	Universal AC Adapter	100-240Vac wall adapter with interchangeable Plug Set (North American, U.K., AUS and Euro).
D	DC Input Power	12-24Vdc input power Isolated

*Not Available with Option "D" DC Input Power.

DataChart 1250 Accessories

Model No.	Description
Navigator	Windows Compatible Software for graphic analysis, printing, transfer, real-time trending and exporting.
CFCR	CompactFlash™ Card Reader USB 2.0 compatible
MAS250R	250 ohm Precision Resistor for current inputs. 0.1% 0.25 watt
NIST-1250	N.I.S.T. Calibration with data

CompactFlash™ Memory Cards

MC512MBCF	512 Megabyte
MC1024MBCF	1 Gigabyte
MC2048MBCF	2 Gigabyte

Nema 4X Kit
Hinged NEMA enclosure with removable clear front cover



Sensors (Plug and Play)

THP-W	Temp/Humidity Probe with 8 foot cable
ROS-W	Remote Optical Sensor with 8 foot cable, mounting bracket and 12 inches of reflective tape
MT-190W	Magnetic Trigger Sensor/Amplifier with 8 foot cable
IRS-W	Infrared Sensor with 8 foot cable, tinned wires and mounting bracket



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