



# DataChart DC-1250

## 2 Channel Vibration Monitor/Recorder

*Record vibration trends to help diagnose failures and faults.*

The DC1250 is a feature rich digital recording system offering 2 universally configurable channels. As a 2 channel Vibration Monitor/Recorder, the DC1250 is ideal for use on typical rotating machinery such as motors, pumps fans, turbines, compressors, cooling towers and chillers.

The Vibration Transmitter provides a 4-20 mA signal proportional to the vibration in velocity (ips) and the DC1250 records and trends the data at a sample rate up to 100/sec. per channel. The fast sample rate allows the DC1250 to capture transients and record them to the available CompactFlash™ card.

Two User configurable Alarm Relays provide for remote indication to a DCS or PLC system. An audible internal alarm is also provided.



### DataChart DC1250 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; 8 HRS. typical (depends on external Load).

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

**Number of Channels:** 2 universal, user selectable.

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

#### **DC Input:**

##### Voltage

**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

##### Current

**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

#### **Frequency Input (Hz)/ 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 9,999RPM

**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.

**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

#### **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° to 50°C operating per IEC 61010-1

**Humidity:** max RH 80% for temperatures up to 31°C, decreasing linearly to 50% RH at 40°C.

#### **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.

## LP202 Loop Powered Velocity Sensor Specifications

<u>Performance Specifications</u>	English	Metric
<b>Output: 4-20 mA</b>		
<b>Measurement Range</b>	0 to 1 IPS RMS	0 to 25.4 mm/sec. RMS
<b>Frequency Range:</b>	600-60K CPM	10-1000 Hz
<b>Electrical</b>		
<b>Settling Time (Turn on Time) @ Room Temp (68°F/20°C)</b>	<60 Seconds	<60 Seconds
<b>Power Requirement (Loop Powered)</b>		
<b>Voltage Source</b>	15-30 VDC	15-30 VDC
<b>Electrical Case Isolation</b>	>10 <sup>8</sup> ohm	>10 <sup>8</sup> ohm
<b>Environmental</b>		
<b>Temperature Range</b>	-40 to 185° F	-40 to 85° C
<b>Electromagnetic Sensitivity</b>	<b>CE</b>	<b>CE</b>
<b>Sealing</b>	Welded, Hermetic	Welded, Hermetic
<b>Submersible Depth (LP202-XXX-2A)</b>	500 ft.	152 m
<b>Physical</b>		
<b>Sensing Element</b>	English PZT Ceramic	Metric PZT Ceramic
<b>Sensing Structure</b>	Shear Mode	Shear Mode
<b>Weight (without cable)</b>	2.9 oz.	82 grams
<b>Case Material</b>	316L Stainless Steel	
<b>Mounting Hole</b>	1/4-28	1/4-28
<b>Size (height x diameter)</b>	2.1" x 0.8"	53.3mm x 20.3 mm
<b>Integral Cable (LP202-XXX-2A)</b>		
<b>Mechanical</b>		
<b>Mounting Torque</b>	2 to 5 ft. lbs.	2.7 to 6.8 Nm
<b>Supplied Accessories</b>		
<b>Mounting Hardware</b>	1/4-28 Stud	
<b>Calibration Certificate</b>	Current Output @ 100 Hz	

## AC to DC Power Supply Specifications

<b>Input Voltage:</b>	105-125 VAC, 47 to 420 Hz, single phase.
<b>Output Voltage:</b>	24 VDC.
<b>Output Current:</b>	1500 mA.
<b>Line &amp; Load Regulation:</b>	±1%
<b>Ripple:</b>	150 mV P-P
<b>Operating Temperature:</b>	-20 to +60°C.
<b>Storage Temperature:</b>	-40 to +85°C.
<b>Size/Weight:</b>	3.7 x 3 x 2.2 inches / 9.5 oz.

## Ordering Information

Part Number	Description
DC1250-U00	DC1250 2-channel Paperless Recorder
MAS250R	250 Ohm Precision Resistor
LP202	Loop-powered Vibration Transmitter with 20 foot integral cable
LP202PS	AC to DC power Supply

DC1250 Vibration Monitor Data Sheet. 07/2010  
 PRICES AND SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.



The purpose of the 4-20 mA analog current loop is to transmit the signal from an analog vibration sensor over a distance in the form of a current signal. The LP202 has an output current that is proportional to the overall (RMS) vibration of the equipment or machinery that is being monitored.

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