



DIRECT DATA TECHNOLOGIES INC.

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DD-1000 20 Channel Data Monitor

■ Features

- Twenty input channels total:
 - 8 single ended precision analog inputs or 4 differential analog inputs (24-bit A/D)
 - 5 single ended standard analog inputs (10-bit A/D)
 - 3 frequency inputs
 - 4 digital (on/off) inputs
- Precision analog inputs can be paired and used for differential signal
- Digital inputs can be configured as counters
- Cellular, spread spectrum and WiFi wireless communication options
- Ethernet, RS-232 and RS-485 wired communication options
- Low power consumption
- 4 MB non-volatile flash memory

■ Operational Description

Providing laboratory accuracy, Direct Data Technologies DD-1000 Data Dolphin data logger is designed for use in harsh field environments. The 8 single ended or 4 differential high precision inputs give a resolution to 90 nanovolts. The built-in analog and digital filters allow you to eliminate external signal conditioning. In addition, four lower precision inputs accept pulse, on/off status, event start/stop, and analog signals.

The DD-1000 uses non-volatile flash memory for long term data storage without requiring batteries to preserve the memory. By using a database structure, inputs can be added or deleted and even the sampling rate can be changed on the fly without a restart.

Designed for field use, all inputs incorporate lightning and static protection. To maintain logging and the internal clock, the DD-1000 includes a backup power pack. Low operating power gives these batteries a very long life. Note, however, that these batteries do not provide power to external sensors.

The Data Dolphin software allows setup of the data logger and viewing of its current status. In addition, it generates graphs of the data and exports it for use in other programs.

■ Applications

- Oil wells
- Pump to surface units
- Gas wells
- Disposal wells
- Production facilities

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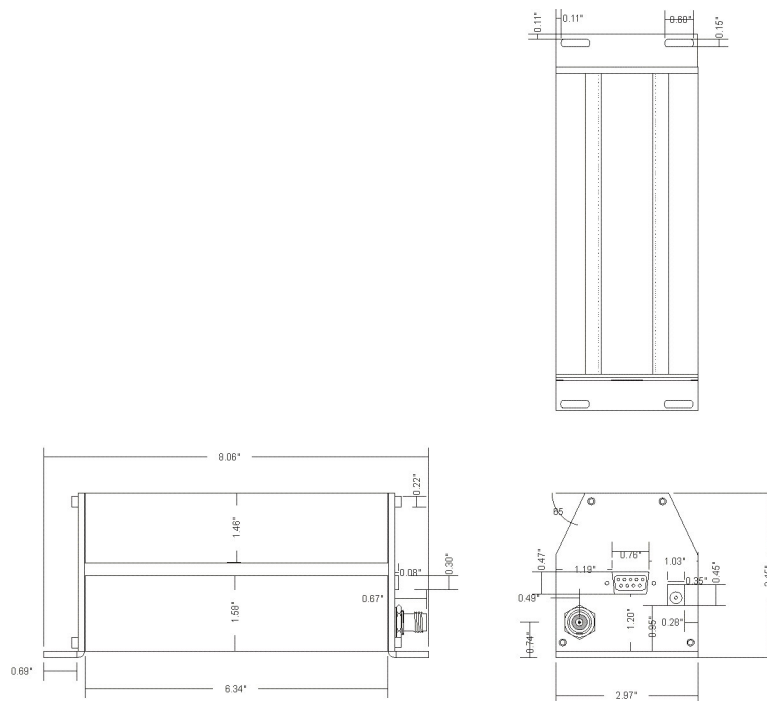
■ Technical Specifications

Analog Inputs			
• Channels	8 24-bit single ended analogs or 4 differentials or any combination of both (1 differential = 2 single ended)		
	5 10-bit single ended analog 2 Totalizers		
• Maximum Input Voltage	0 V to +2.5 V (0-20mA*)		
• Analog Voltage Resolution	1 μ V		
• A/D Bits	24		
• Analog Input Impedance	1 MOhm		
• Scan Interval	3 to 100 Hz		
• Excitation Channels	2		
• Excitation Voltage 1	+2500 mV		
• Excitation Voltage 2	+5000 mV		
Digital Inputs / Outputs			
• Counter or Status or Event Start/Stop or Pulse Channels	4		
• Input Impedance	20 Gohm		
Frequency Inputs			
• Channels	3		
• Input Impedance	20 GOhm		
Calculated Inputs			
• Inputs can have additional calculations applied to provide user selectable results.			
Alarms (High Precision & DST Only)			
• High and low (toggled)			
• Tracking window			
• On-site & email with individual set points			
Memory			
• Flash Memory	4 MB		
• If Recording time, 1 precision and 1 standard input, the memory would be filled after 352,256 readings or as for the days shown below:			
Sample Rate (Minutes)	Days	Years	
5	1222	3.4	
10	2446	6.8	
15	3668	10.1	
30	7336	20.2	

Power Requirements	
• Quiescent Current	70 μ Amp
• Processing Current	13 mA
Environmental	
• Standard	-40 to 140°F (-40 to 60°C)
• Extended	-67 to 176°F (-55 to 80°C)
Physical	
• Enclosure	Extruded aluminum
• Size (inches)	8 x 3 x 3.5
• Size (cm)	20.32 x 7.62 x 8.89
• Weight	
- DD-1000 w/ Battery	0.778 kg (1.715 lbs)
- DD-10 Alone	0.564 kg (1.243lbs)
Communications Options	
• Direct cable RS-232 (Included)	
• Direct cable RS-485	
• Ethernet	
• Cellular modem (CDMA1X)	
• Cellular modem (GSM/GPRS)	
• Spread spectrum radio (1 – 1000mW)	
• WiFi (802.11B)	
Software	
• Comes with Data Dolphin Standard Windows configuration, display, communication,	
Computer Requirements	
• Computer	486 or higher
• Operating System	Microsoft Windows 98, NT, 2000, XP
• RAM	16MB or higher
• Monitor	VGA; SVGA recommended
• Hard Disk Space	25MB Install / 35MB Rec.
Options	
• See options page	
Approvals	
• Class 1 Div 2 Groups C, D, T3	
• CSA Std C22.2 No 213, 14, E79-15-95	

Specifications are subject to change without notice.

■ Enclosure Dimensions



■ Ordering Information

Model	Description
DD-1000-ETH	DD-1000 with Ethernet communications
DD-1000GSM	DD-1000 with GSM/GPRS cell phone communications
DD-1000-CDMA1X	DD-1000 with CDMA1X cell phone communications
DD-1000-RS232	DD-1000 with RS-232 communications
DD-1000RS485	DD-1000 with RS-485 communications
DD-1000-SS	DD-1000 with spread spectrum radio communications
DD-1000-WiFi	DD-1000 with WiFi-B communications

Options

Power Supply Options: AC Power Supply, Batteries, Solar Panel Packages

Antennas: Wireless communications require an antenna. Optimum offers rubber duck, whip, low profile, yagi, manhole cover, in-road antennas. See options for details.

Enclosures: Steel or fiberglass with power supply and backup battery, predefined for mounting the data monitor.