



Precision Current Loop & Voltage Data Logger

Spectrum 4000



- 12-Bit Resolution for outstanding accuracy over wide measurement ranges
- Easy to scale recorded data into user-defined units
- Up to four input channels for analog current loop and voltage signals
- Adjustable logging intervals with multi-year data capacity
- Removable terminal block for quick and convenient wiring connections

Powerful Convenience

Palm-sized and self-powered, Spectrum 4000 data loggers record signals from industry-standard transducers, transmitters and sensors to help you quickly and flexibly acquire your important information. Available in single and multi-channel versions for logging dc voltage or 4-20 mA current loop signals, each model is based on the proven Spectrum 12-bit logger platform that provides superb resolution and accuracy over even the widest measurement ranges.

Ease-of Operation

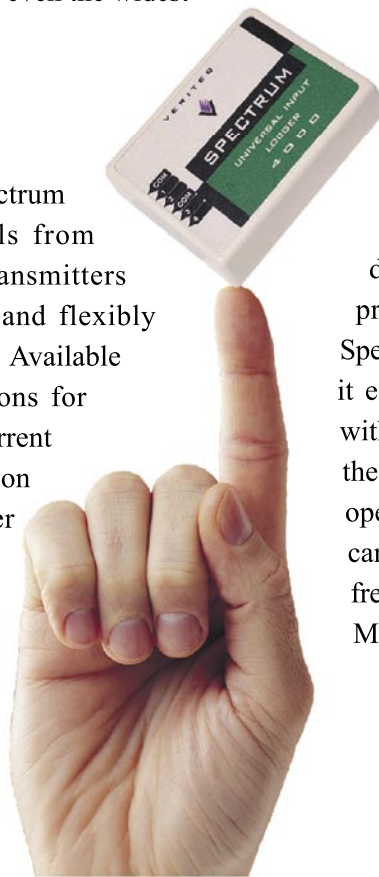
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Monitoring Applications

- Pressure
- Flow
- Fluid level
- PH
- Gas (CO2 and others)
- Particle count

Simple yet Powerful Software

Spectrum software makes it easy to work with your Spectrum 4000 data logger. With just a few keystrokes, you can create outstanding graphic and tabular representations of your data, overlay graphs from different loggers, display data in real-time and export files to your favorite programs. For more advanced applications, the Spectrum Application Program Interface (API) makes it easy to write custom software to communicate with your data loggers. This allows you to merge the Spectrum recording system into your existing operations, procedures and programs. The logger can also be used with the Spectrum Excel add-in, a free utility program designed to work directly within Microsoft Excel.



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SPECIFICATIONS

General

Size

2.8 x 2.1 x 0.7" (71x53x18mm);
60g (2.2 oz.)

Operating Range

-40 to 85° C. (-40 to 185° F.) & 0-100% RH

Interfaces

RS-232 serial port; half-duplex; 19,600 baud.

Mounting

Magnetic strips; velcro optional.

PC Software

Designed for use with Spectrum Software (refer to separate data sheet for summary). Compatible with Windows 95, 98, ME, 2000, NT 4.0 or XP.

Clock

Accuracy: +/- 1 min./month at 0 to 50° C.

Electromagnetic Interference

Meets FCC Part 15 for digital devices; meets CE requirements for radiated emissions, electrostatic discharge, & radiated susceptibility.



Power Source

Internal lithium battery with life of 10 years at 1 min. sampling rate.

Current Loop & Voltage Inputs

Input Type	Available Range(s)	Precision	Accuracy	Input Impedences	Isolation	Overload Protection
Current Loop	0 to 22mA	5.5 microamps	0.15% F.S. at 25 C.	50 ohms	One common per logger.	60mA max. (reverse-polarity protected)
Analog Voltage	1, 5, 10 Vdc	0.025% F.S.		>1 M ohm		+/- 30 volts max. (reverse-polarity protected)

Memory

Memory Type

Non-volatile 32K x 8 EEROM

Data Sample Capacity

70,000 12-bit samples

Memory Modes

User-selectable: 1) Wrap when memory full, or 2) Stop when memory full.

Memory Protection

Data retention > 20 years backup without power.

Sampling Rates

User-selectable (in intervals of 10 seconds) from once every 10 seconds to once every 24 hours.

Recording span

Recording span depends on sample interval selected. Adjacent chart details typical sampling rates and length of time logger will retain data in memory before wrapping around or stopping (see Memory Modes).

Sample Interval	Recording Span				
	1 channel	2 channels	3 channels	4 channels	5 channels
10 seconds	60 hours	30 hours	19.9 hours	14.9 hours	11.9 hours
1 minute	14.9 days	7.4 days	4.9 days	3.7 days	2.9 days
15 minutes	7.5 months	3.7 months	2.4 months	1.8 months	1.5 months
1 hour	2.4 years	1.2 years	9.9 years	7.4 months	5.9 months

Ordering Guide

MODEL	DESCRIPTION
SP-4000-1CW	One channel: one 4-20mA input with XPS Excitation Control Switch
SP-4000-101	One channel: one switchable (1 Vdc or 10 Vdc) input
SP-4000-411	Four channels: two 10 Vdc inputs plus two switchable (1 Vdc or 10 Vdc) inputs
SP-4000-4CW	Four channels: all inputs 4-20mA; two channels with XPS; single common
SP-4000	Five channels: Two channels for 4-20mA with XPS; two channels with switchable 0-1 Vdc or 10 Vdc inputs; plus one channel for ambient temperature; single common
SOFTWARE	
PC-SFW-IC	Spectrum Software with PC interface cable. (required with initial purchase)
PC-SFW-API	Software API for direct logger interface from other Windows programs
PLM-SFW-IC	Palm software and cable (specify Palm PDA model #)
EXCEL ADD-IN	Free download from website allows users to work within Microsoft Excel

XPS Excitation Control Switch

XPS switch is available on selected current loop data logger models. The switch conserves external transducer power by opening loop circuit between readings. Refer to separate data sheet for information.

Guarantee / Warranty

30-day return guarantee; 2 year limited warranty.

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