Microedge Instruments Inc.

iLog Strain Gauge/Bridge *Data Logger Specifications*

OVERVIEW

The iLog for Strain Gauge/Bridge is a battery-powered, stand-alone data logger records the Strain Gauge/Bridge signals. Data are stored in 4MB non-volatile flash memory for later retrieval.

The logger supports 6-wire wheatstone bridge configuration by providing excitation power and excitation wire compensation for most accurate requirements.

It offers wide input range selections suitable for applications such as strain gauge, load cell and pressure sensor etc.

Its aluminum enclosure makes it excellent in the harshest industrial environment. Plug & Play USB port and versatile custom equation simplify communications and engineering unit conversion.

Its 16-bit ADC makes iLog data loggers well suited for science and laboratory applications where precise and accurate measurements are critical.

FEATURES

High Data Resolution:
The 16-bit analog-to-digital converter meets most high-resolution requirements.

Large Memory Size:
The 4-Mega-Byte Memory stores years of measurements.

Wide Input Ranges:
The logger offers several input ranges for selection:
$\pm$ 8mV, $\pm$ 16mV, $\pm$ 32mV, $\pm$ 65mV, $\pm$ 130mV, $\pm$ 260mV, $\pm$ 520mV

Multiple Communication Interfaces:

The iLog data loggers can be accessed via USB, Serial Port, MODEM, or Ethernet (USB-Ethernet Converter required) connections with auto baud rate of up to 115200 bps.

Its on-board TTL serial port and USB interfaces meet most communication requirements.

USB Port   TTL Serial Port
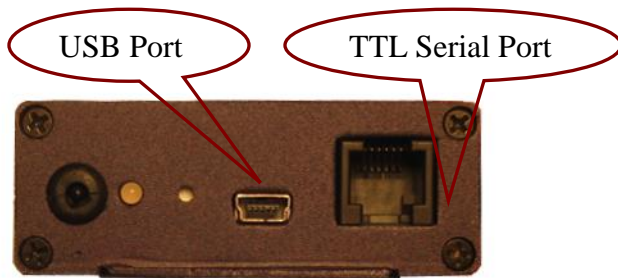
10-Year Battery Life:

The internal lithium battery provides over 10 years of instantaneous logging operation when sampling at an interval of one minute with 1000Ω load.

Fast Sampling Mode:

The iLog data loggers can log data with the sampling interval as fast as 30 milliseconds, replacing data acquisition devices.

Alarm and Excitation Output:

The iLog data logger notifies the alarm condition over alarm terminal strips or communication lines. (USB, Serial Port, MODEM)

Excitation control turns on the power of external transmitter/transducer only when the logger is sampling.

Alarm & Excitation Control

Rugged Physical Design:

The rugged aluminum enclosure and coated PCB makes the Site-Log data loggers perfect in the harshest industrial environment.

Aluminum Case
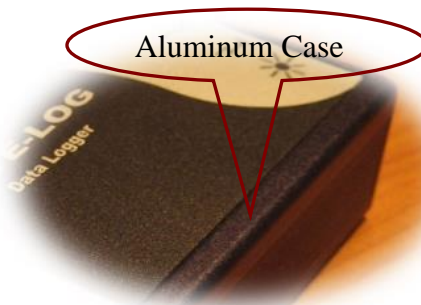
SITEVIEW SOFTWARE FEATURES

SiteView is a Windows-based application which works with iLog Series data loggers for downloading, configuration, data analyzing and plotting.

Its user-friendly graphic interface plus powerful functionalities fit both novice and advanced users.

Besides basic data logger configuration, downloading, SiteView includes other powerful features like:

❖ Multiple Communications Interfaces: USB, Serial Port, Ethernet…

- ❖ Custom Equation Editor with C# language meet any complicated measurement requirements

- ❖ Multiple Data Views and Custom Formatting of Axis, Line, Annotation & Comments.

- ❖ Real-Time Chart View/Recording and User Calibration

- ❖ Export to CSV, TEXT, BMP, JPG, TIF, PNG, GIF file format.

SPECIFICATIONS

Product Identification	
Product Name	iLog Strain Gauge/Bridge Data Logger
Model	iBG-[range] Where [range] represents: "8" for ±8 mV input range "16" for ±16 mV input range "32" for ±32 mV input range "65" for ±65 mV input range "130" for ±130 mV input range "260" for ±260 mV input range "520" for ±520 mV input range

Connections	Pluggable terminal block for:
	    Excitation Voltage Output, 2.5VDC (Max load current: 5mA)
	    Excitation Sense Input
	    Strain/Bridge Input
	    Alarm and excitation control outputs.

Inputs	
Channels	One strain gauge/bridge, one Excitation Sense channels: CH1: Excitation Sense voltage input. CH2: Bridge input. Available ranges to order for CH2: ± 8 mV, ± 16 mV, ± 32 mV, ± 65 mV, ± 130 mV, ± 260 mV, ± 520 mV Support full 6-wire wheatstone bridge wiring.
Resolution	0.0018%
Accuracy	$\pm 0.2\%$ @ 25°C for iBG-8, $\pm 0.1\%$ @ 25°C for iBG-16 $\pm 0.05\%$ @ 25°C for iBG-32, $\pm 0.025\%$ @ 25°C for iBG-65 $\pm 0.025\%$ @ 25°C for iBG-130, $\pm 0.025\%$ @ 25°C for iBG-260 $\pm 0.025\%$ @ 25°C for iBG-520

Alarms	
Channel Alarms	Two editable alarm thresholds per channel.
Alarm Outputs	ALARM1 & A2/EXT terminal strips can be configured as alarm outputs. Alarm-On: MOSFET(N-Channel) switch on. Alarm-Off: MOSFET(N-Channel) switch off. Max Power: 200mA @ 24VDC. With purchase of SiteView software, the Site-Log can report alarm status to host PC via USB, Modem or Ethernet Device Server.
Alarm-On Delay:	Programmable 0 - 10 minutes delay with 1-minute increments.
Alarm Indicator	On-board LED lights in red when in alarm condition.

On-board Memory	
Capacity	4 Mega bytes (2 Mega measurements).
Data Retention	Over 20 years.

Sampling & Logging	
Sampling Interval	30 milliseconds to 12 hours user selectable.
Logging Mode	Stop recording or FIFO when memory is full.
Logging Activation	Programmable instant, start delay or field push-button activation.
Communications	
Interface	USB(USB cable included). AUX(RJ11) for direct TTL level communications. With purchase of Site USB DeviceServer, the Site-Log logger can be connected to Ethernet for remote access.
Baud Rate	Auto-detect baud rate from 2400 to 115200 bps on both USB and AUX ports.
Battery	
Power	Built-in 3.6V Lithium Battery.
Life Cycle	10 years based on 1 minute sampling interval, 1000Ω load
Software	
Site View (Sold Separately)	Configuration, downloading, plotting, real-time view, custom calibration and custom equation.
Software Requirements	Computer with 1.0 GHz or faster processor 256 MB Memory or higher 1.0 GB of available hard-drive space or higher Windows XP with SP2 or later, Vista, Window 7 At least one USB port or one COM port
Physical	
Material	Aluminum enclosure.
PCB Treatment	Conformal coating.
Dimension	88 X 64.2 X 24 mm (3.46 X 2.53 X 0.95 inches)
Weight	200g.
Mounting	Probe/Wall-mount holes for hanging/mounting.
Others	
LED Indicator	Tri-Color LED: (can be disabled for power saving) Normal Sampling: green when sampling Alarm: red when sampling Low Battery: amber when sampling.
Excitation Control	A2/EXT terminal strip can be configured as excitation control output for driving the power of connected devices. Warm-up delay Interval settings: 10 to 240 seconds with 10-second increments.
Operating Environment	-40 ~ +70°C (-40°F ~ 158°F), 0~95%RH non-condensing.
Clock Accuracy	± 1 minute per month.
Approvals	CE, FCC

LOGGING CAPACITY TABLE

Sampling Interval	Logging Capacity	Sampling Interval	Logging Capacity
1 minute	727 days	1 second	12 days
10 seconds	121 days	100 ms	28 hours

ORDERING INFORMATION

Model	Description
iBG-8	±8 mV iLog Strain Gauge/Bridge Data Logger
iBG-16	±16 mV iLog Strain Gauge/Bridge Data Logger
iBG-32	±32 mV iLog Strain Gauge/Bridge Data Logger
iBG-65	±65 mV iLog Strain Gauge/Bridge Data Logger
iBG-130	±130 mV iLog Strain Gauge/Bridge Data Logger
iBG-260	±260 mV iLog Strain Gauge/Bridge Data Logger
iBG-520	±520 mV iLog Strain Gauge/Bridge Data Logger