

Sentinel

Intelligent Battery Transducer

The Sentinel is a state of the art, System on Chip (SoC) sensor designed to monitor, VRLA, gel, or flooded stationary battery systems. Through the continuous monitoring and evaluation of each cell or monobloc's key electrical parameters, the risk of costly system downtime is minimized. Data is transmitted over a dedicated communications bus to proprietary and non-proprietary devices.

Measures:

Cell Terminal voltage
Cell Internal (Post) Temperature
Cell Internal Impedance



Electrical data

Supply voltage range (3 models)	+1.5 to 18V
Voltage measurement range (3 models)	+1.5 to 18V
Temperature measurement range	-10 + 70°C
Impedance measurement range	0 to 50mΩ
Current Consumption @ 6V	20mA
Current Consumption in Sleep Mode (6V)	< 3mA

Performance Data

Voltage accuracy @ 20°C	± 0.25 %
Temperature accuracy @ 20°C	± 0.5 °C
Impedance accuracy @ 20°C	± 1 %
Analogue to digital conversion (max)	14bit
Communications (kbaud)	9,600 / 19,200

General Data

Ambient operating temperature	- 5 to + 75 °C
Ambient storage temperature	- 25 to + 85 °C
Mass	35 g
Dimensions (Maximum)	64 x 50 x 25 mm
Compliance	CE ; UL61010B-1; EN50178

Features

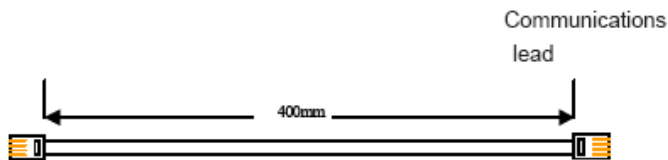
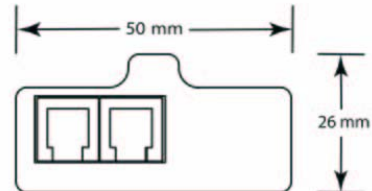
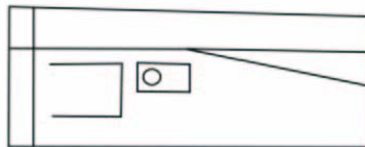
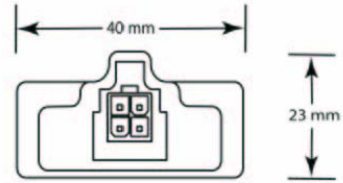
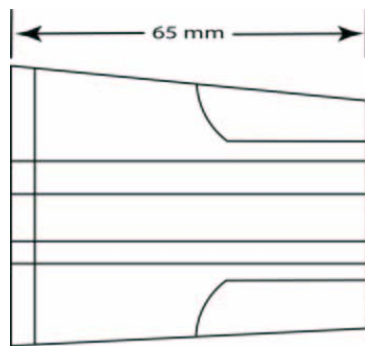
- § Isolated to 600 volts
- § Comms isolation 3.7KV
- § Compact Design
- § Fast, simple fitting
- § Easily interfaced with OEM equipment
- § Sleep mode
- § LED indication

Advantages

- § Excellent sensitivity
- § Good accuracy
- § High current stimulation for secure impedance measurement
- § High immunity to electrical Interference

Applications

- § UPS
- § Telecommunications
- § Utilities
- § Traction & Trackside
- § Fire & Safety systems
- § Standby Applications
- § Remote Monitoring

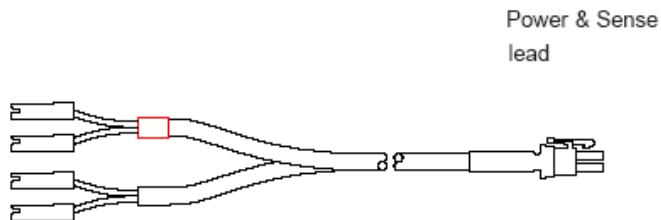


Ancillary Sentinel Equipment

Communications Leads

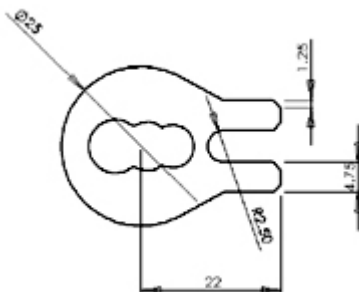
400mm, 2M, 5M, 10M, 15M

Power & Sense Leads,
250mm, 400mm



Kelvin Washers
Accommodates 8, 10, & 12mm hardware

Proprietary Bus Converter
OEM Interface & Data Concentrator



Kelvin washer

Additional system components

Monitors / data loggers with optional

Serial & *TCP/IP Interface

Float charge current sensors

Discharge current sensors

*Future Development

*All products are subject to change
in physical appearance and circuitry
which will not alter performance.

Sentinel component descriptions and part numbers

(Sentinel modules and kits highlighted)

DESCRIPTION		PART (CLEM)	Product Line	Product Group	Product family
		Number			
Sentinel 2- LV, 1-2V		66.61.05.000.0	BMGTU	BMGT	Sentinel
Sentinel 2- MV, 4V		66.61.07.000.0	BMGTU	BMGT	Sentinel
Sentinel 2 - HV, 6-12V		66.61.14.000.0	BMGTU	BMGT	Sentinel
Micro Guard 2	24 V - RS232	66.71.98.000.0	BMGTU	BMGT	MicroGuard
Micro Guard Gateway 2	24 V - RS232	66.72.98.000.0	BMGTU	BMGT	MicroGuard
Micro Guard 2 / SP1	RS 232 or RS 485	66.71.98.001.0	BMGTU	BMGT	MicroGuard
Micro Guard Gateway 2 / SP1	12, 24, 36-72 Volt	66.72.98.001.0	BMGTU	BMGT	MicroGuard
Sentinel 2 Kit LV, 1-2V 0.2m		66.97.05.002.0	BMGTU	BMGT	Sentinel
Sentinel 2 KIT MV, 4V 0.2m		66.97.07.002.0	BMGTU	BMGT	Sentinel
Sentinel 2 Kit HV, 6-12V 0.2m		66.97.14.002.0	BMGTU	BMGT	Sentinel
Sentinel 2 Kit LV, 1-2V 0.4m		66.97.05.004.0	BMGTU	BMGT	Sentinel
Sentinel 2 KIT MV, 4V 0.4m		66.97.07.004.0	BMGTU	BMGT	Sentinel
Sentinel 2 Kit HV, 6-12V 0.4m		66.97.14.004.0	BMGTU	BMGT	Sentinel
BM Cable comm 0.4m Type 1		66.30.98.001.0	BMGTU	BMGT	Sentinel
BM Cable comm 1.0m Type 1		66.30.98.002.0	BMGTU	BMGT	Sentinel
BM Cable comm 2.0m Type 1		66.30.98.003.0	BMGTU	BMGT	Sentinel
BM Cable comm 5.0m Type 1		66.30.98.004.0	BMGTU	BMGT	Sentinel
BM Cable comm 15.0m Type 1		66.30.98.009.0	BMGTU	BMGT	Sentinel
BM Cable comm 10m Type 1		66.30.98.005.0	BMGTU	BMGT	Sentinel
BM Cable power 0.25m Type 2		66.30.98.011.0	BMGTU	BMGT	Sentinel
BM Cable power 0.4m Type 2		66.30.98.012.0	BMGTU	BMGT	Sentinel
BM Bus converter - US kit		66.32.01.602.0	BMGTU	BMGT	MicroGuard
BM Bus converter		66.81.98.001.0	BMGTU	BMGT	MicroGuard
BM I-Link (I-Sentinel)		66.80.98.001.0	BMGTU	BMGT	I-Link
BM I-Link		66.82.98.000.0	BMGTU	BMGT	I-Link
BM washer - Type 2		66.30.98.013.0	BMGTU	BMGT	Sentinel
BM washer - Type 3		66.30.98.014.0	BMGTU	BMGT	Sentinel
BM washer - Type 4		66.30.98.015.0	BMGTU	BMGT	Sentinel
BM washer - Type 5		66.30.98.016.0	BMGTU	BMGT	Sentinel

For further information & sales please contact any LEM sales office; details available at www.lem.com

Technical information centres:

LEM USA Inc.
6643 West Mill Road
Milwaukee, WI 53218
USA

Tel: (414) 353-0711
Fax: (414) 353-0733

LEM UK Ltd.

West Lancs Business Centre
Whitemoss Business Park
Skelmersdale, Lancs WN89TG
United Kingdom

Tel: 0044 (0) 1695 712560
Fax: 0044 (0) 1695 712561