SpotSee®

ShockLog® Cellular GL Data Sheet

The ShockLog® Cellular GL Impact Recording and Tracking System combines advanced tri-axial piezoelectric accelerometer technology with sophisticated electronics and software to offer an advanced shock and vibration data logger with real-time tracking. When a programmed impact level is exceeded, a detailed event curve will be recorded, and the ShockLog Cellular GL module will send a real-time alert letting you know when and where a potentially damaging impact has occurred. Benefit from knowing where your asset is with location messages sent on a user programmable interval (1 hour to 24 hours).

ShockLog Impact Recording Device Specifications

Operating Temperature Range	-40°C to 85°C / -40°F to 185°F
Dimensions	4.8 in x 3.1 in x 2.2 in 123 mm x 78 mm x 55 mm
Weight	1.1 lbs / 515 g without batteries
Batteries	5 x 1.5V AA Alkaline or 5 x 1.5V AA Lithium/Iron Disulfide or 5 x 3.6V AA Lithium Thionyl Chloride
Battery Life*	Up to 18 months
Case Material	Aluminum
Case Rating	IP68
Web Hosted Application	Supported on Chrome, IE & Firefox
ShockLog Desktop Software	Functions on Windows XP, Vista, 7, 8, 10
Communications / Interfaces	Cellular / USB 2 / iButton
A-D Converter Resolution	12 bits
Flash Memory for Data	4096 kbytes

ShockLog Data Collection

Event Processor Wake-up Delay	0.25 ms
Timeslot Interval	10 to 3,600 seconds
Samples per Channel per Event	512 to 4096 (user defined)
Maximum Number of Events (detailed)	108 to 870 (user defined)
Event Duration	1 to 128 seconds (user defined)

*Battery Tips
- Always use lithium batteries for journeys where the temperature may be outside the -5°C to +50°C range.
- The capacity of alkaline batteries drops dramatically when exposed to temperatures below 10°C.
- If using a lithium battery and the ShockLog will be traveling by air, make sure the battery is approved for air cargo.
- If the batteries are accidentally installed with the wrong polarity, the ShockLog will not be damaged; however, the life of the battery may be severely affected.

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ShockLog Accelerometers

Low Frequency Cutoff (-3dB 10g – 100g)	0.1 - 0.5 Hz
High Frequency Cutoff (-3dB)	250 – 300 Hz
Hardware Filters (Programmable)	10 Hz, 40 Hz, 50 Hz, 90 Hz, 120 Hz and 250 Hz
Resolution (% of full scale) 1% for Peaks	0.1%
Scale Factor Accuracy at 5G (event record)	±2%
Additional Error Other Ranges	±2%
Additional Error Peak Capture	±5%
Change of Scale Factor over Temperature	±4%
Acceleration Ranges	+/- 1G to +/- 200G
Wake-up Threshold (% of range)**	5 to 95%
Warning and Alarm Thresholds (% of range)**	7 to 95%

Humidity / Temperature Option Specifications*

Temperature Measuring Range	-40 to 85° C / -40 to 185° F
Temperature Accuracy	±2° C / ±4° F
Temperature Resolution	0.1° C
Humidity Measuring Range	0 - 100% RH
Humidity Accuracy	±3% RH
Humidity Resolution	0.1% RH
Dew Point Measuring Range	-40°C to 85° C / -40° F to 185° F 0 - 100% RH
Dew Point Relative Accuracy (-20 to 70°C, 25 to 75% RH)	±2° C / ±4° F
Dew Point Resolution	0.1° C

Tilt & Roll Option Specifications

Tilt Range Monitored	±180°
Resolution	0.1°
Transverse Sensitivity	5%

**Recommend 2% minimum difference between wake up and warning and between warning and alarm

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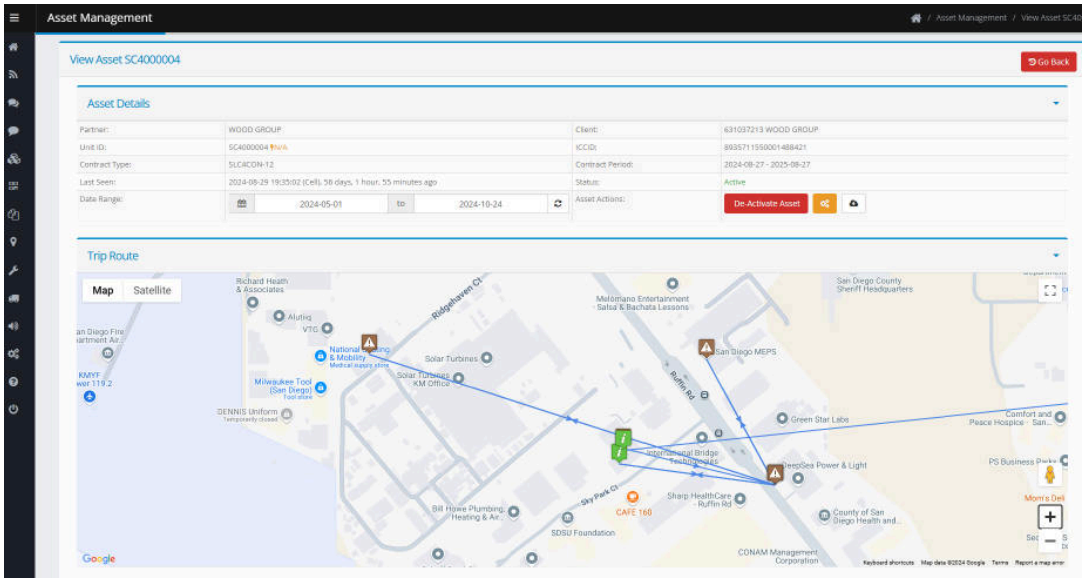
ShockLog Cellular GL Module Specifications	
Operating Temperature Range*	-40°C to 85°C / -40°F to 185°F
Dimensions	6.75 in x 4.75 in x 2.2 in 171.5 mm x 120.7 mm x 55.9 mm
Weight	1.41 lbs / 640 grams with batteries 1.23 lbs / 560 grams without batteries
Case Rating	IP67
Battery Type*	5 x 1.5V AA Alkaline or 5 x 1.8V AA Ultimate Energizer or 5 x 3.6V AA Lithium Thionyl Chloride
Battery Life*	Up to 37 months (1 message per day) Up to 4 months (1 message per hour)
ShockLog Firmware Requirements	Version 30 or greater
Connectivity	Wi-Fi / Global 4G-LTE, 3G, and 2G Cellular Connectivity
Message Buffer (when no cellular network available)	30 messages
Bands	LTE-FDD: B1/B2/B3/B4/B5/B7/B8/B12/B13/B18/B19/B20/B25/B26/B28 LTE-TDD: B38/B39/B40/B41 WCDMA: B1/B2/B4/B5/B6/B8/B19 GSM: B2/B3/B5/B8
Global Certifications Obtained and In-Process	FCC, CE, UKCA, ISED, ANATEL, & SRRC Please inquire about country certification status.

*Lithium cells required for long battery life or low temperature operations

SpotSee Cloud

The cloud-based software can be accessed anywhere with a secure login. Chrome, IE, and Firefox are supported browsers. Each user has a secure account access. Data from the ShockLog Cellular GL is stored in the cloud where journey information such as location of trip route, trip history, and an impact histogram is located.



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ShockLog Desktop Software

The ShockLog software runs on a desktop or laptop PC using the Windows XP, Vista, Windows 7, Windows 8, Windows 10, or Windows 11 operating systems.

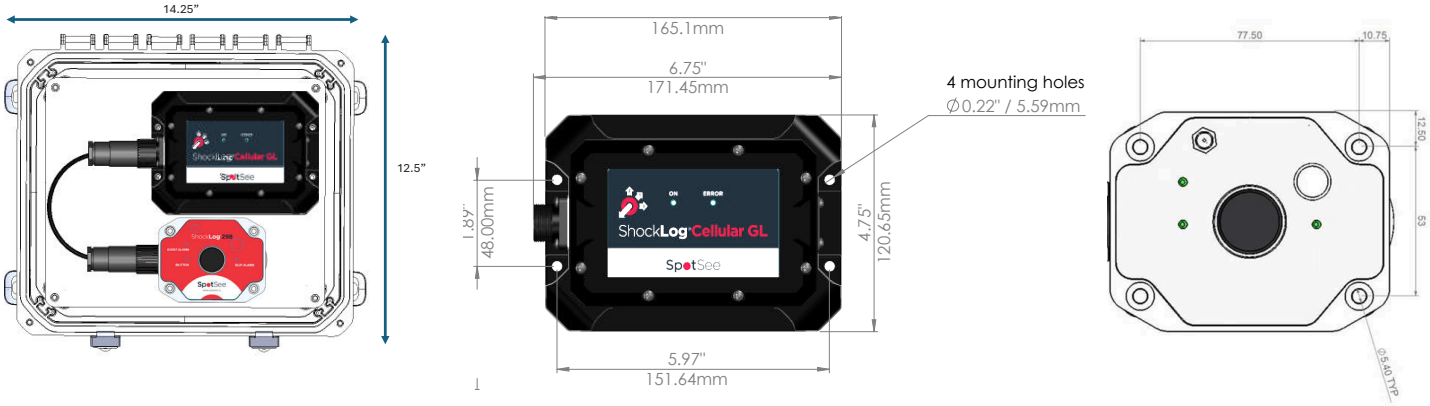
The software allows the operator to configure the ShockLog Cellular GL and to extract and examine data records from the instrument.

Reports may be viewed on screen and selected data exported to other applications. Six different reports are available: download, summary, events summary, event details, time slot, and log data.

Review your ShockLog Cellular device journey through the simple Windows®-based desktop software program. The software allows for configuration of the ShockLog, data extraction, and analysis. The ShockLog Report View provides users with an overview of the entire journey. ShockLog software provides peak acceleration values for all three axes reported on a time basis as well a detailed impact curve. Additional environmental conditions can be monitored and displayed, if desired. Users are able to zoom in for a closer view, or export data into programs such as Excel and MatLab for more detailed analysis.

Mounting Options

The ShockLog Cellular GL Impact Recording and Tracking System can either be mounted directly to an asset or housed in an IP 67 rated enclosure for mounting (14.25” x 12.5” x 5.125”).



Accessories and Related Products

New users of the ShockLog product line must purchase an accessory kit which contains the following items (thumb drive containing ShockLog desktop software; ShockLog Quick Start Guide; USB Communication Cable; iButton Set: start, stop, download, setup, and clock iButtons; USB Connection BUS and Cable).

The software is required for setting up the ShockLog Cellular GL and for downloading the full data set.

Additional software licenses, iButtons, and cables may be ordered separately.

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