MADGETECH
WE BUILD DATA LOGGERS

Product Information Card

SVR101

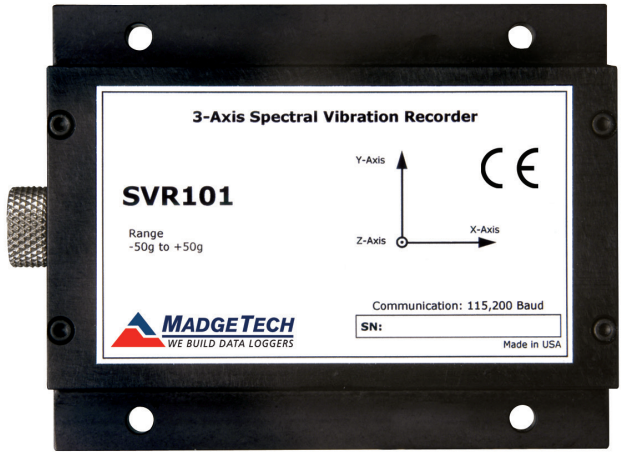
Description	SVR101
Acceleration Sensor	MEMS semiconductor
Acceleration Range	±50 g
Acceleration Resolution	0.05 g
Calibrated Accuracy	±1 g
Sample Rate	256Hz (decimated to 128Hz)
FFT Range	0 to 128Hz in 1Hz bins (significant math errors occur at 0-1.5Hz)
FFT Window Period	2 seconds
FFT Sampling Period	2 seconds to 4 hrs
Memory	16Mbit (3,971 samples)
Sample Rate	2 seconds up to 4 hours
Required Interface Package	IFC200
Baud Rate	115,200
Typical Battery Life	60 hours (9V lithium)
Operating Environment	–20 °C to +60 °C, 0 to 95%RH
Material	Anodized aluminum
Dimensions	3.5" x 4.4" x 1.0" (89 mm x 112 mm x 26 mm)
Weight	12 oz (340 g)
Approvals	CE

IMPORTANT: The SVR101 data logger requires MadgeTech 2 Data Logger Software and is **NOT** compatible with MadgeTech 4 Data Logger Software.

Battery Warning

WARNING: FIRE, EXPLOSION, AND SEVERE BURN HAZARD. DO NOT SHORT CIRCUIT, CHARGE, FORCE OVER DISCHARGE, DISASSEMBLE, CRUSH, PENETRATE OR INCINERATE. BATTERY MAY LEAK OR EXPLODE IF HEATED ABOVE 60 °C (140 °F).

Specifications subject to change.
See MadgeTech's terms and conditions



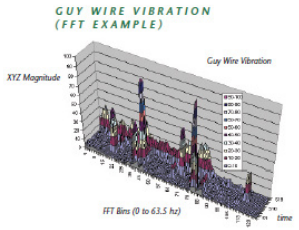
SVR101
Spectral Vibration and Recorder

WessexPower
Solutions for High-tech Instrumentation
www.wessexpower.co.uk

LSTechnology
E-commerce Instrumentation
www.loggershop.co.uk

Telephone: +44 (0) 1929 459 459 | Email: Sales@WPLS.co.uk

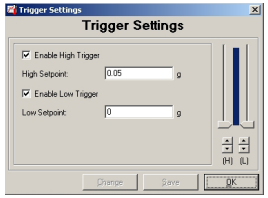
Product Notes



The SVR101 monitors frequencies from 0Hz to 63.5Hz, up to a magnitude of 50 g's. Using a Fast Fourier Transform (FFT), the data output is presented in a 3-dimensional graph, when copied to Excel®. The result is a spectrum of magnitudes broken down into frequency bins of "energy" over time.
The SVR101 utilizes trigger settings when monitoring vibration. Once a trigger setting is exceeded, the SVR101 samples at 128Hz and every 2 seconds, a "window", places the samples into bins. The "bins" are categorized into 0.5Hz intervals.
The selected reading rate defines how many 2 second bin samples will be averaged. With a faster reading rate, more noise is shown in the FFT. By using a slower reading rate, the noise is averaged out.
If the frequency being monitored is occurring less than once per second, the SVR101 would not sense the vibration. Math errors occur doing the computing of 0-1.0Hz bins, therefore in the SVR101 the first 3 bins (0, 0.5, 1.0), represent 0Hz.
Once the data is downloaded to the software, use the Copy Data to Excel® function to view the 3-D graph.

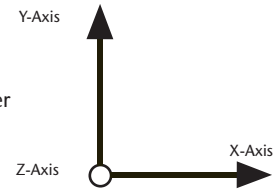
Trigger Settings

To edit trigger values, when the device is connected, click the **Device Menu**, then **Start Device**. Click **Yes**, then select the T**rigger Settings** box. Click the **Change** button. The trigger values can be typed in manually, or changed by using the slide control. An individual high or low trigger may be enabled, or both. Click **Save** to save the changes.



Axis Orientation

When the Shock101 is laying flat with the label facing up, the x-axis reads left to right on a horizontal plane, and will read ~0 g's when still. The y-axis reads top to bottom on a horizontal plane and will read ~0 g's when still. The z-axis reads perpendicular to the other two axis's, and will read around ~1 g's_ when still.



Installation Guide

Installing the Interface cable

- IFC200:
  Insert the device into a USB port. The drivers will install automatically.

Installing the software

Insert the Software CD in the CD-ROM Drive. If the autorun does not appear, locate the drive on the computer and double click on **Autorun.exe**. Follow the instructions provided in the Wizard.

Connecting the data logger

- Once the software is installed and running, plug the interface cable into the data logger.
- Click the **Communication Menu**, then **Auto Configure Port**.
- After a moment, a box will appear stating a device has been found.
- Click **OK**. The **Device Status** box will appear. Click **OK**.
- At this point, communications have been configured for your logger. These settings can be found under the **Communication Menu**.

Note: For additional installation instructions refer to your "Data Logger & Software Operating Manual".

Device Operation

Starting the data logger

- Click **Device Menu** then **Start Device**.
- Choose the desired start method.
- Choose the start parameters by selecting a **Reading Rate** suitable for your application.
- Enter in any other desired parameters and click **Start**.
- A box will appear stating the data logger has been started. Click **OK**.
- Disconnect the data logger from the interface cable and place it in the environment to measure.

Note: The device will stop recording data when the end of memory is reached or the device is stopped. At this point the device cannot be restarted until it has been re-armed by the computer.

Downloading data from a data logger

- Connect the data logger to the interface cable.
- Click the **Device Menu** then **Read Device Data**. This will offload all recorded data onto the PC.

Device Maintenance

Battery Replacement

Materials:

3/32" HEX Driver (Allen Key)

Replacement Battery (U9VL-J)

- Remove the cover from the device by unscrewing the four screws.
- Remove the battery from its compartment and unsnap it from the connector.
- Snap the new battery into the terminals and verify it is secure.
- Replace the cover taking care not to pinch the wires. Screw the enclosure back together securely.

Note: Be sure not to over tighten the screws or strip the threads.

Recalibration

The SVR101 standard calibration is performed at 0 g on the x-axis, 0 g on the y-axis, and 1 g on the z-axis.

WessexPower
Solutions for High-tech Instrumentation
www.wessexpower.co.uk
LSTechnology
E-commerce Instrumentation
www.loggershop.co.uk
Telephone: +44 (0) 1929 459 459 | Email: Sales@WPLS.co.uk