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.

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).

Recalibration

The TSR101 standard calibration is performed at 0g for the X-axis, 0g for the Y-axis and 1g for the Z-axis.

Pricing:

Recalibration	$46.00

Additional:

As Found Data	$15.00 per channel
Non-NIST Traceable certificate	$30.00

***To send the devices back, visit www.madgetech.com, select* Services *then* RMA Process.**

MADGETECH
WE BUILD DATA LOGGERS

Product Information Card

TSR101

Part Number	TSR101
Acceleration Sensor	Shock (3 axes)
Accelerometer Type	MEMS Semiconductor
Acceleration Range	*See Table for Details
Acceleration Resolution	
Calibrated Accuracy	
Memory	349,471/channel
Reading Rate	1,024Hz to 1 second
Frequency Response	0Hz to approximately 400Hz (50, 100g)
Typical Battery Life	7 days
Required Interface Package	IFC110 or IFC200
Baud Rate	115,200
Operating Environment	–20 to +60°C, 0 to 95%RH (non-condensing)
Dimensions	3.5" x 4.4" x 1.0" (89mm x 112mm x 26mm)
Materials	Anodized aluminum
Approvals	CE

*TSR101 Acceleration Range, Resolution and Accuracy

Range (g)	±5	±50	±100
Resolution (g)	0.01	0.05	0.1
Accuracy (g)	±0.2	±1	±2

Specifications subject to change.
See MadgeTech's terms and conditions at www.madgetech.com

TSR101
Tri-Axial Transient Shock Recorder

MadgeTech, Inc.
PO Box 50 • Warner, NH 03278
Phone 603.456.2011 • Fax 603.456.2012
www.madgetech.com • info@madgetech.com

REV D 2009.06.12

MADGETECH
WE BUILD DATA LOGGERS

To view the full MadgeTech product line, visit our website at www.madgetech.com.

Product Notes

How it Works

Once the logger is started samples are taken on each axis (X, Y and Z) every 1024Hz (1ms). These samples are compared with the trigger values and if it crosses the threshold value then it records the timestamp and starts logging the triggered data.

If the samples are not above the threshold value then it is logged as the pre-trigger data. Since only 50 pre-trigger values can be recorded the data gets overwritten if the logger is not triggered within 50 pre-trigger values.

The sampling frequency is the same for all reading rates therefore the samples are skipped based on the reading rate. For example: if the reading rate is 512Hz the samples are taken every 1ms but every other sample gets logged instead of logging every sample.

Trigger Settings

Below is a table of default trigger values based on the range of the logger. All axis are enabled to check for triggers at these g levels.

Range	5g	50g	100g	250g
Trigger Value	2.5g	25g	52.5g	120g

To edit trigger values click the change button. Each axis can be set to trigger at a certain g force level. Check the **Enable Trigger** box to enable the trigger for that axis. The values can be typed in manually or configured by using the slider control. Click **Save** to save the changes.

Installation Guide

Installing the Interface cable

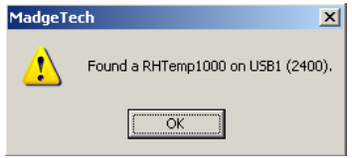
- IFC200, IFC202 or IFC300
  Refer to the "Quick Start Guide" included in the package.
- IFC110, IFC102 or IFC103
  Plug the serial cable into the port and verify it is secure.
- USB-1 or USB-101
  Install the USB drivers from the CD provided in the kit, than plug the USB cable into the computer and the serial cable into the serial port.

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 similar to the following will appear;

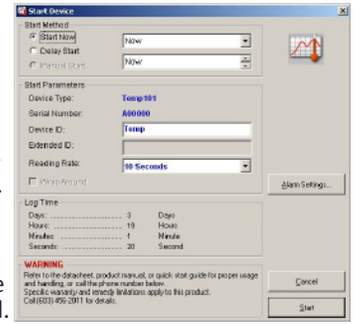


- Click **OK**. The **Device Status** box will appear. Click **OK**.
- At this point, communications have been configured for your logger. These settings can be found under the **Communication Menu**.

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.

Technical Support

Visit www.madgetech.com, or call (603) 456-2011. Technical support is also available by e-mailing support@madgetech.com

Additional product information is available by e-mailing info@madgetech.com.