

# MadgeTech Voltage Data Recorder User's Guide

MadgeTech's family of voltage data loggers are available in several models with various voltage recording ranges to choose from. Many of the features among these different models are similar and all operate with MadgeTech software and interface cables. In the table below you will find the various common and different features among these MadgeTech data loggers. (Volt101, Volt110, QuadVolt and OctVolt)

Part Number	Volt 101	Volt110	QuadVolt	OctVolt
Range	See Table Inside Cover*			
Resolution	See Table Inside Cover*			
Accuracy	See Table Inside Cover*			
Memory	32,767	32,767	32,767/channel	16,383/channel
Sample Rate	1 second up to 12 hours			
LED Indicator	Red	Red	None	None
Channels	1	1	4	8
Req. Interface	IFC110 or IFC200	IFC110 or IFC200	IFC110 or IFC200	IFC110 or IFC200
Baud Rate	2,400	57,600	2,400	2,400
Battery Life	1 year	10 years	1 year	1 year
Operating Environment	-40 to +80°C 0 to 95%RH non-condensing	-40 to +80°C 0 to 95%RH non-condensing	-40 to +60°C 0 to 95%RH non-condensing	-40 to +60°C 0 to 95%RH non-condensing
Material	ABS plastic	ABS plastic	Anodized aluminum	Anodized aluminum
Dimensions	1.4" x 2.5" x 0.6" (36mm x 64mm x 16mm)	1.7" x 2.7" x 0.8" (44mm x 69mm x 21mm)	3.5" x 4.4" x 1.0" (89mm x 112mm x 26mm)	3.5" x 4.4" x 1.5" (89mm x 112mm x 39mm)
CE Approval	Yes	Yes	No	No

Specifications subject to change. Consult the product data sheet for complete specifications.

## Battery Replacement

Note: Before replacing the battery, be sure to stop and download the data from the logger. This will ensure that the date and time stamp of the data set is accurate.

### Volt101 and Volt110

Open the case by puncturing the label in the center with a Phillips screwdriver and removing the screw on the back of the case. Remove the battery from the friction fit battery sockets. If necessary, trim the new battery leads to match the length of the existing batter leads. Replace the battery with a lithium LTC-7PN. Close the case and secure with the screw.

\* A Volt110 can sustain a 10 year battery life when logging only 15 minutes or more between readings.

**BATTERY WARNING: FIRE, EXPLOSION, AND SEVERE BURN HAZARD. DO NOT RECHARGE, DISASSEMBLE, HEAT ABOVE 212°F, INCINERATE OR EXPOSE CONTENTS TO WATER.**

### QuadVolt and OctVolt

Open the case by removing the four screws on the top of the case. Disconnect the battery from the battery connector. Replace the battery with a Lithium U9VL-J. Close the case and secure with screws, making sure that the wires for the battery connector do not get pinched between the cover and the case.

**BATTERY WARNING: DISCARD USED BATTERY PROMPTLY. KEEP OUT OF REACH OF CHILDREN. DO NOT DISPOSE OF IN FIRE, RECHARGE, PUT IN BACKWARDS, DISASSEMBLE, OR MIX WITH OTHER BATTERY TYPES. MAY EXPLODE, FLAME OR LEAK AND CAUSE PERSONAL INJURY.**

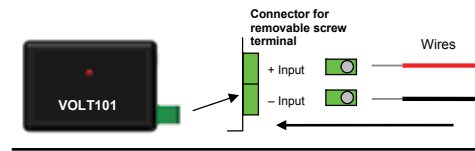
\*Volt101, Volt110, QuadVolt & OctVolt Range, Resolution and Calibrated Accuracy

Nominal Range	±100mV	0 to 2.5V	0 to 15V	0 to 30V
Measurement Range (VDC)	±150mV	-0.25 to 2.75	-1 to 16	-2 to 32
Accuracy	±0.01%FSR	±0.01%FSR	±0.10%FSR	±0.10%FSR
Resolution (mV)	5µV	0.1	0.5	1.0
Common Mode Input Range	0 to 2.5V	0 to 2.5V	0 to 2.5V	0 to 2.5V

For full specifications of products please visit our web site at [www.madgetech.com](http://www.madgetech.com)

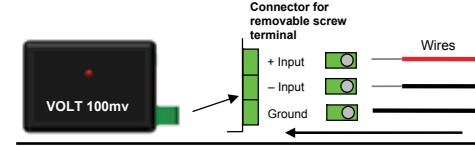
### Volt101 & Volt110 Single Ended Wiring

Two-position removable screw terminal connections; accepts 2-wire configurations.



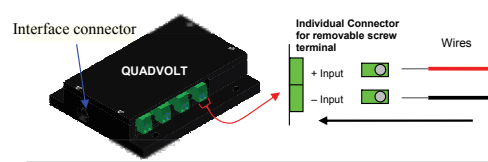
### Volt101 & Volt110 \*Differential Wiring

Two position removable screw terminal connections, accepts 3 wire configurations.



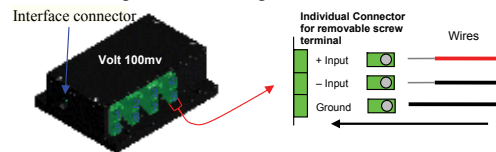
### QuadVolt & OctVolt Single Ended Wiring

Four, two-position removable screw terminal connections; accepts 2-wire configurations.



### QuadVolt & OctVolt \*Differential Wiring

Eight, two-position removable screw terminal connections; accepts 3-wire configurations.

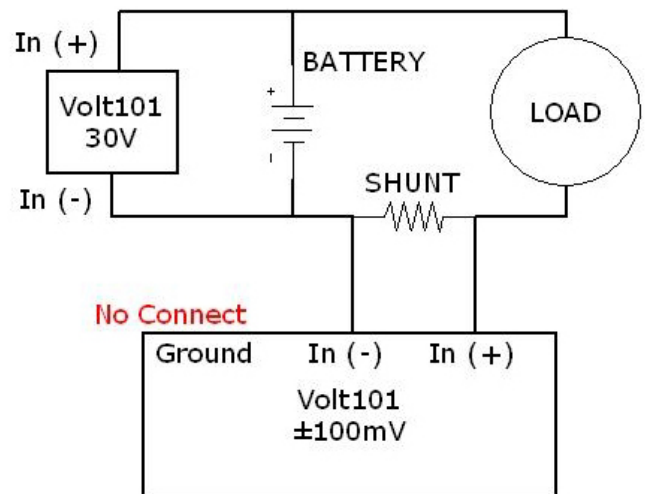


To start the MadgeTech logger refer to the software manual. After starting, the logger will start recording data. The device will stop recording when the end of memory is reached or the device is stopped. At this point the device cannot be restarted until it has been re-armed by the computer. The logger allows for user defined units to be programmed into the device. Insure that the device that is to be measured can be connected to the logger input by selecting an output connection with lead wires, or by attaching an adapter that will allow you to connect wire leads to the device to be measured. For a two-wire connection, connect IN+ to positive signal (typically the red wire) and IN- to the negative signal (typically the black wire).

\*100mv models have 3 position removable screw terminal connection. Ground is not required. See back page for diagram.

For warranty information please consult our web site.

## Example Circuit Diagram for Measuring Voltage and Current



### Warnings:

Do not connect the ground terminal of the Volt101 ± 100mv data logger to ANYTHING. Doing so will cause damage to the logger

Disconnect data logger from the circuit BEFORE connecting data loggers to PC Interface cable.

PO Box 50 • 201 Route 103 West, Warner, NH 03278  
Phone 603.456.2011 • Fax 603.456.2012  
[www.madgetech.com](http://www.madgetech.com) • [info@madgetech.com](mailto:info@madgetech.com)