

NEULOG VOLTAGE LOGGER SENSOR GUIDE



NeuLog voltage logger sensor NUL-201 Part# NL-2010

The NeuLog voltage sensor can be used for any science experiment which utilizes voltage readings. It is used in the fields of Physics, Electronics, Chemistry, Biology, etc.

The sensor comes pre-calibrated so you can start experimentation right out of the box using this guide.

Hundreds of possible experimental subjects that can be performed with the NeuLog Voltage Sensor. Examples are: Fuel cells, battery chemistry, electrical parallel circuits, electrical series circuits and electronics.

The voltage sensor's measurement units are:

Volts (V): The SI derived unit for electrical potential difference across two determined points.

Included with sensor:

- NeuLog General Guide
- Red (positive probe) and black (negative probe) wires with 4 mm plugs connected directly to the sensor's body.

Sensor's specifications	
Range and operation modes	± 20 V
ADC resolution	12 bit
Accuracy	1%
Resolution	0.01 V
Max sample rate (S/sec)	3000

Experiment Duration: 50 milliseconds to 31 days.

Sensor's features:

- Fully digital data.
- Rugged plastic case.
- 4 mm plugs for easy connectivity
- Push button switch for Start/Stop experiments in off line mode.
- LED indicator of experiment status (blinks while collecting data).
- Pre-calibrated sensing equipment.

Note: NeuLog products are intended for educational use.

Videos and experiment examples:

- Videos, literature and other probes can be found at www.neulog.com
- In order to access the voltage sensor's page, choose "Products" on the main menu and then "Voltage logger sensor".
- In order to access the voltage sensor's experiments, choose "Example Labs":
 - Ohm's Law (P-10)
 - Producing Electricity (C-1)
 - Circuits and Series Resistance (P-24)

Technical background:

The philosophy behind NeuLog's plug and play technology is based on each sensor's ability to store its own data due to an internal flash memory chip and micro-controller in each plastic NeuLog body. This technology allows the sensor to collect and then store the digital data in the correct scientific units ($^{\circ}\text{C}$, $^{\circ}\text{F}$, Lux, %, ppm, for example).

The sensor is pre-calibrated at the factory. The built-in software in the logger can be upgraded for free at any time using provided firmware update.

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The sensor is based on very fast, high input impedance differential operational amplifier with protected inputs.

Maintenance and storage:

- Never submerge the NeuLog plastic body in any liquid.
- Do not allow liquid into the voltage sensor's body.
- After use, gently wipe away any foreign material from the sensor.
- Store in a box at room temperature out of direct sunlight.

Warranty:

We promise to deliver our sensor free of defects in materials and workmanship. The warranty is for a period of 3 years from the date of purchase and does not cover damage of the product caused by improper use, abuse, or incorrect storage. Sensors with a shelf life such as ion selective probes have a warranty of 1 year. Should you need to act upon the warranty, please contact your distributor. Your sensor will be repaired or replaced.

Thank you for using NeuLog!

NeuLog 

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