

# NeuLog Battery module BAT-200

The NeuLog battery module provides more flexibility for conducting experiments by allowing users to collect data while away from the lab bench. The battery module plugs directly into the side of all NeuLog sensors and NeuLog accessories to provide power while experimenting without needing a direct connection to a smart device.

NeuLog batteries can be easily recharged using a standard USB to micro USB cable (which comes with the USB module) plugged directly into most any device with USB ports including computers, tablets, and wall chargers.

# NeuLog battery module uses:

The NeuLog battery module is used to power other NeuLog devices during experimentation; every sensor works while plugged into the battery as well as all of the NeuLog accessories. Sensors and accessory modules can be chained (up to 5 sensors at a time) while plugged into the battery.

The life of the battery varies depending on a few factors: How many sensors, which sensors, and what sampling rate are the biggest influences. For example the temperature sensor uses the least amount of power while the  $CO_2$  sensor uses the most power. With five sensors plugged in with maximum sampling rates you can expect the battery to last for several hours running non-stop. With one temperature sensor plugged in the battery can last for several days up to weeks. For general usage you can expect a fully charged NeuLog battery module to last for more than one day.

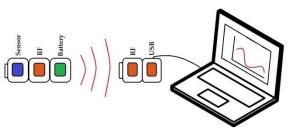
At any time you can press the button on the front of the battery module to check its life – a green/yellow light will turn on if the life is above 40%.

#### Offline mode:

Offline mode is when you collect data directly onto the sensor's internal memory for later usage with the NeuLog software. Each sensor can store up to 5 experiments at a time that can later be uploaded into the NeuLog software using a USB module. This requires only a sensor and a charged battery module to collect data.

#### Using the battery with RF modules:

Using NeuLog RF modules with a battery module and sensors provides a much more flexible system in which students can collect data from anywhere within 20 meters of their lab bench while wirelessly streaming data in realtime to the NeuLog software on a desktop or laptop.



#### Battery with a WiFi module:

The NeuLog battery module can be used with the NeuLog WiFi module to stream data to multiple smart devices that have wireless capabilities. This setup is a great option for classrooms or labs where students are working in groups – each student can have their own set of data for analysis and reports while only using one set of sensors.

### **NEULOG BATTERY MODULE GUIDE**



# Charging the NeuLog battery:

The NeuLog battery module is charged using a USB to micro USB cable (comes with USB-200 modules) that is plugged directly into a wall adapter, computer, or other power supply. With most chargers (above 0.5A) the battery will only take 2 hours to become fully charged.

For power supplies other than computers, ensure that the voltage does not exceed 7V, currents exceeding 0.5A are OK as the battery is protected from strong currents. The battery will charge with power sources that are lower than 0.5A, though it will take longer than 2 hours.

#### **Included in the package:**

- NeuLog battery module (BAT-200)
- NeuLog battery module instruction guide (this document)

Battery Specifications	
Charging	< 7 volts
Specifications	$\geq 0.5$ amperes (for best results)
Charge time	2 hours (with 0.5A supply)
Туре	Polymer lithium-ion
Sensors	Any 5 sensors at a time
Duration on a full	Several hours up to days (See
charge	NeuLog battery module uses
	section)

### Maintenance and storage:

- Never submerge the NeuLog plastic body in any liquid.
- After use, gently wipe away any foreign material from the RF module
- Store in a box at room temperature out of direct sunlight.

**NOTE:** The NeuLog battery module uses a polymer lithium-ion cell so please be sure to follow proper disposal procedures (when the time comes).

# Warranty:

We promise to deliver our sensor free of defects in materials and workmanship for a period of 3 years from the date of purchase. Our warranty does not cover damage of the product caused by improper use, abuse, or incorrect storage. Sensors with a shelf life such as ion selective proves 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!



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