

NEULOG BATTERY MODULE GUIDE



NeuLog Battery module BAT-200

The NeuLog battery module provides more flexibility for conducting experiments away from the lab bench. The battery plugs directly into the side of all NeuLog sensors and NeuLog accessories (RF communication, WiFi, and both viewers) to provide power while collecting data without being directly tethered 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.

Using the NeuLog battery module:

The NeuLog battery module is used to power other NeuLog devices through experimentation; every sensor works while plugged into the battery as well as all of the NeuLog accessories. Sensors and accessory modules can be chained while plugged into the battery. A fully charged battery will last roughly 75 minutes but varies depending on which sensor(s) you're using and at which sampling rate. The battery can be plugged into any charging device during data collection to prolong its charge.

Offline mode:

Offline mode is where 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.

To set experimental parameters on the sensor(s):

Prior to experimentation you may want to change the experimental parameters such as sampling rate, experiment duration, and which units you want your data to be collected in.

1. Download the completely free NeuLog software from <http://www.neulog.com/Download/SoftwareandApplication.aspx>
2. Connect a sensor directly to a USB module and open the NeuLog software.
3. Once your sensor(s) have been detected, click on the "Offline Experiment" button.
4. Click on the sensor icon located on the left side of the screen.
5. Set the experimental parameters (sampling rate, experiment duration, and range) to your desired specifications.

6. Unplug your sensor from the USB module.

Note: The experimental parameters have been saved on the sensor's software and can be used until they are changed again. It is also possible to use multiple sensors with all different experimental parameters.

Using sensors in offline mode:

Now that the sensor's have your desired parameters selected; collecting data is as simple as pushing a button. Each sensor will store its own collected data, up to 5 experiments can be stored at a time.

1. Connect all sensors you wish to use together and then into the left side of a charged battery module.
Note: When you press the button on the front of a battery module a green light will turn on if the battery is above 40%. If no light turns on than you should continue charging the battery.
2. When you are ready to collect data press the "Start/Stop" button (the blue button on the sensor's face plate) on each sensor you wish to collect data with.
3. A red light will blink every time a sample is collected for the duration of the experiment though you can stop the experiment at any time by pressing the "Start/Stop" button once more.
Note: For experiments with a high sampling rate the red indicator light will appear as if it is continuously on.

Uploading the results of an offline experiment:

1. Disconnect the sensors from the battery module and reconnect them to the USB module.
2. Plug the USB module back into your smart device which has the NeuLog software.
3. Open the NeuLog software, when the sensor(s) are detected click the "Offline Experiment" button.
4. Next click on the "Load Experiment" button, a dropdown menu will appear.
5. Select which experiment you want to upload.
Note: By default the most recent experiment is selected. The icon with the green background is the experiment number that is currently selected.
6. Click "Load Experiments" to load the data from the selected experiment.
Note: You can load multiple experiments on the same graph. Experiments will remain on the sensor's internal memory until they are overwritten 5 experiments later.

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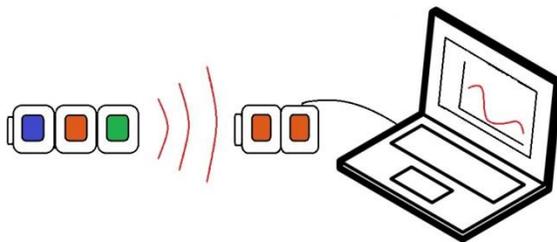
Using the battery with RF modules:

Using NeuLog RF modules with battery modules 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.

Once you have paired two RF communication modules to the same RF ID number (1 through 9) you can begin connecting NeuLog modules and sensors together. Again it may be easiest to imagine the RF communication modules as a long cable between the sensor and the USB module.

1. Connect a USB module into a smart device using the included USB to mini USB cable.
2. Connect one of the paired RF modules to the left side of the USB module.
3. Separately, connect the second RF module into the left side of a charged battery module.
Note: press and hold the button on the front of the battery module: if a light comes on, than the battery has sufficient power. If no light comes on, than you must charge the battery some more.
4. Connect whichever sensors you wish to use into the left side of the second RF module (which is connected into the battery).
Note: You can conduct experiments with up to 5 NeuLog sensors using the RF modules.
5. Open the NeuLog software, it will automatically search for sensors.
6. Once your sensors are detected you are ready to begin collecting data wirelessly!

For reference, the image below demonstrates roughly how your setup should appear.



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.

1. Connect the battery module directly into the right side of a WiFi module.
2. Plug any sensors you wish to use into the left side of the WiFi module.
Note: Each sensor's instruction guide as well as the WiFi module instruction guide has a full tutorial on how to use the WiFi module.
3. Connect up to 5 smart devices (computers, tablets, smart phones) to the WiFi network emitted from the WiFi module.
Note: The WiFi module's network title will be "NeuLog XXXX" where the "XXXX" are the numbers located on the back of your WiFi module.
4. Have one device click on "Control Mode" while the others select "View Mode".
Note: Control mode has control of the experiment setup while view mode has the ability to manipulate only their data.
5. Click "Online Experiment" and then "Run Experiment" to collect data.

Included in the package:

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

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.

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 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.

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Thank you for using NeuLog!



Flexible, simple, fast, forward thinking.

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