NEULOG FLOW LOGGER SENSOR GUIDE

NeuLog flow logger sensor
NUL-224

The NeuLog flow sensor can be used for any science experiment which involves a liquid flow rate such as in the fields of Environmental Science, Ecology, Earth Science, Biology, Chemistry, Physics, etc.

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

Among hundreds of possible experimental subjects that can be studied with the NUL-224 sensor are: stream velocity and health, turbidity, density verses flow rate, fluid pressure and flow relationships, etc.

The flow sensor's measurement units are:

- Meters per second (m/s)
- Milliliter per second (ml/s)
- Milliliter per minute (ml/minute)

Connecting to the flow sensor:

There are a few options for connecting the probe attachment to a water source:

1. directly to a faucet using the threaded inlet and outlet pipes. 2. connecting the inlet and outlet pipes to the sample being tested through the rubber hosing. 3. connecting the probe to a ruler and submerging it directly into water (a river for instance) to take flow measurements. The flow sensor is meant to be used for liquids and not air.

Included with the sensor:

- NeuLog General Guide
- Flow sensor probe attached directly to the sensor's body by a durable rubber-coated wire

Sensor specifications			
Range and operation modes	0 to 5 m/s	0-133 ml/sec	0-8000 ml/min
ADC resolution	Digital		
Resolution	0.08 m/s	2 ml/sec	33 ml/min
Max sample rate (S/sec)	100		

Experiment Duration: 1 second to 31 days.

Sensor's features:

- Fully digital data
- Rugged plastic ergonomic case
- Flow rate probe attached to the sensor's body by a durable rubber-coated wire
- Push button switch for Start/Stop experiments in off line mode and LED indicator of experiment status (blinks while collecting data)

Note: NeuLog products are intended for educational use.

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Videos and experiment examples:

- Videos, literature and other probes can be found at www.NeuLog.com.
- In order to access the flow sensor's page, choose "Products" on the main menu and then "Flow logger sensor".
- In order to access the flow sensor's experiments, choose "Example Labs":
    - Flowing Water (P-43)

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 (^{o}C, ^{o}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 the provided firmware update.
The flow sensor houses an internal water wheel; as liquid flows through the probe the wheel rotates at the same velocity as the liquid's. The water wheel does not connect directly to the walls of the sensor but instead, floats on a bearing to lower the friction of the system allowing for the water wheel to take the velocity of the water passing through it more accurately.

Maintenance and storage:

- Never submerge the NeuLog sensor's plastic body in any liquid.
- Do not allow liquid into the flow sensor's body.
- After use, gently wipe away any foreign material.
- 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

Flexible, simple, fast, forward thinking.
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V2015.5