NeuLog Relative Humidity Logger Sensor Guide NUL-207

NeuLog relative humidity logger sensor NUL-207

The NeuLog relative humidity sensor can be used for any science experiment which requires an accurate relative humidity reading such as in the fields of Biology, Physiology, Chemistry, Environmental Science, Earth Science, Weather Science, Botany, etc.

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

Among hundreds of possible experiments that can be performed with the NUL-207 sensor are: perspiration, photosynthesis rates, insect behavior, water vapor emitting chemical reactions, desiccants, ecological studies, animal behavior, and weather patterns.

Relative humidity is a measurement which examines the ratio of water vapor present in the air compared with the maximum amount of water vapor that the air can hold for a specific temperature.

Data is presented as a percentage which is the ratio of the amount of water vapor in the air versus the maximum amount that could be allowed at a given temperature.

Included with sensor

- NeuLog General Guide.

Sensor specifications	
Range and operation modes	0 to 100% RH
ADC resolution	16 bit digital
Accuracy	±3% RH
Resolution	0.1%
Max sample rate (S/sec)	100

Experiment Duration: 1 second to 31 days.

Sensor's features

- Fully digital data.
- Rugged plastic ergonomic case.
- Pushbutton 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 relative humidity sensor's page, choose "Products" on the main menu and then "Relative humidity logger sensor".
- In order to access the relative humidity sensor's experiments, choose "Example Labs":

  Thermoregulation and Perspiration (B-9)
  Relative Humidity Conditions (C-29)
  Microclimates and GPS (E-7)
  Temperature and Relative Humidity (E-9)

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 (for example: ^{o}C, ^{o}F, Lux, %, ppm).

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 relative humidity sensor's casing houses a capacitive polymer which reacts with water vapor present in the air. The reaction with the polymer produces a voltage which is relative to the concentration of water vapor in the air.

Maintenance and storage

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

Warranty

We promise to deliver our module free of defects in materials and workmanship for a period of 2 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 module will be repaired or replaced.

Thank you for using NeuLog.