# Neuron Vibration RMS High Temperature

The Neuron Vibration RMS HT measures vibration level and surface temperature every two minutes. The sensor comes with an extended probe enabling measurements on equipment up to 105 degree Celsius. The radio transmitter has an embedded magnet at the back for easy installation.

## Features

- Long life battery - up to 10 years lifetime
- Continuous measurement and instant alarm
- Adjustment of parameters such as measurement frequency on request
- Define your own alarm levels in the Neuron app
- Receive alerts as push notifications, emails or SMS
- Easily connect the sensor to the system with the QR-code on the sensor. Ensures immediate and accurate registration in the app on your phone/PC/tablet
- The sensor transmits data to your nearby Neuron Gateway which then again communicates with the Neuron Cloud

## Typical Applications

- Anomaly detection and predictive maintenance
- Machine status and optimalization
- Uptime hours and usage-based maintenance
- Structural health monitoring

## Neuron System Benefits

Sensor - Gateway - Cloud - App

- **Robust sensors**
  Suitable for rough environments
- **Wireless**
  Wireless sensor with integrated battery
- **Long lifetime**
  Typical 10 years battery life
- **Quick installation**
  Wireless, installed and operational in minutes
- **Collect and deliver data**
  Data delivery through API and app
- **Broad offering**
  More than 50 different sensor types available

## Essentials

| | |
|---|---|
| Measuring Range | 0 - 12 g RMS acceleration (sum of X,Y and Z axis) |
| Measuring Frequency | 80ms every 2 min |
| Report Frequency | Every 2 min |
| Expected Operating Time* | Up to 10 years |

**Depends on measurement frequency, amount of critical data transmissions and ambient temperature*

sensorpartners.com

## General Description

Neuron Vibration RMS HT is a battery-powered, wireless device that senses and transmits RMS acceleration processed from its triaxial accelerometer to the Neuron Cloud. The sensor provides a measurement range of 0 – 12 g RMS in a resolution of 1 mg. It also has a temperature sensor mounted, measuring the object's ambient temperature over the range -40 to 105°C. To avoid heat impact on the radio transmitter, the cable between the radio transmitter and the sensor probe can be extended up to 5 meters.

The device is housed in an IP67 rated enclosure that provides protection against dust and water ingress, making it suitable for use in harsh industrial environments. It's small size and light weight, paired with its easy mounting makes it a very powerful device, ideal for use in predictive maintenance and monitoring of vibration levels on a variety of industrial equipment and machinery.

## Principle of Operation

Neuron Vibration RMS HT measures acceleration across three axes during a period of 80 ms every 2 minutes. The sensors calculates the RMS g value of the acceleration and transmits the data, including the temperature data, to a nearby Neuron Gateway. The gateway sends the data to the Neuron Cloud, where the user can view and analyze the vibration data across their assets.

## Technical Specification

### Operational Specification

| | |
|---|---|
| Measuring Range* | 0 - 12 g RMS acceleration (sum of X,Y and Z axis) |
| Measuring Frequency* | 80 ms every 2 min |
| Bandwidth* | 1600 Hz |
| Measuring Range Temperature | -40 - +105°C |
| Resolution | 0.001 g / 0.1 °C |
| Report Frequency* | Reports every 2 min |
| Operating Environment | Ambient radio transmitter: -40 - +85 °C<br>Ambient probe: -40 - + 105 °C<br>Relative humidity: 0-100%<br>Altitude < 2000m above sea level<br>Pollution degree: 4 |
| IP Grade | IP 67, wet conditions, indoor use. |
| Cleaning | Wipe clean with a damp cloth |
| Radio Frequency | 863-870 MHz / 902-928 MHz |
| Battery Type | Lithium Manganese Dioxide, 3.0V |
| Expected Operating Time** | Up to 10 years |

** Adjustable on request*

*** Depends on measurement frequency, amount of critical data transmissions and ambient temperature*

### Physical Specification

| | |
|---|---|
| Materials | Radio Transmitter: Polyurethane / Neodymium magnet<br>Vibration probe: Aluminium casing |
| Dimensions DxH | Radio Transmitter: 50x15 mm<br>Vibration probe: 45x26 mm<br>Cable: 2 m standard, can be extended to 5 m |

### Ordering Information

| | **Europe/The Middle East/Africa** Part number | **North America/Australia/ New Zealand** Part number |
|---|---|---|
| Neuron Vibration RMS HT | 422705 | 422706 |

### Accessories

| | Part number |
|---|---|
| Neuron M12 extension cable, 3 m | 422707 |

### Regulatory

| **Certifications** | **Directives/Standard** |
|---|---|
| CE UKCA | RED 2014/53/EU Radio Equipment Regulations 2017 |
| FC Industry Canada | FCC Part 15C |
| Safety | IEC 61010-1:2010 |

## Installation

Neuron sensors are ready for use out of the box and will start logging data after registering the sensor in the app. Even though Neuron sensors deliver great range and long battery life, following some simple guidelines for mounting of the sensor and gateway can greatly improve signal coverage and lifetime of the sensor.

To ensure optimal antenna performance and signal strength, the sensor should be placed elevated with some distance to fixed objects. Keep in mind that RF-signals are greatly affected by close metallic surfaces.

For sensors with an external antenna, the antenna should be clear off the metallic surface.

For sensors operating in environments with greatly varying temperatures, care should be taken to avoid putting the sensor in unnecessary stress. Very high or low temperatures will affect the battery life and the signal strength of the sensor. While some sensors must be close to the source of heat or cold, other sensors have external probes which allow the sensor to be placed at a distance.

### Fastening

Neuron Vibration RMS HT probe is easily attached to the object with an M6 bolt provided with the sensor. The radio transmitter is fitted with a strong magnet at the back for easy fastening. The probe comes with a 2 meter cable, that can be extended up to max. 5 meters with an extension cable, see accessories section on page 2.

## Dimensions