# el·watch

Neuron Hour Meter

Neuron Hour Meter enables you to digitize hour counting on use of equipment. The sensor comes with 40 cm wires and connects to 4-30VDC to measure elapsed time. The sensor stores elapsed time internally and will work even if out of range of a gateway. When within reach of a gateway the elapsed time will be sent to Neuron Cloud. All measurements are easily accessible from web, app. Due to IP67 encapsulation the sensor can be used in humid areas.
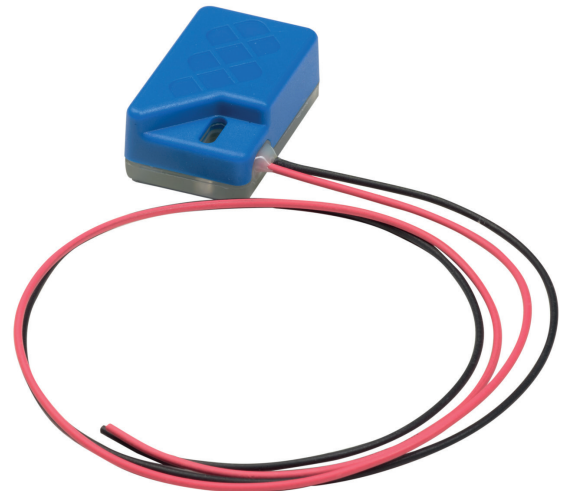
Features

- 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

Essentials

Measuring Range	Elapsed time when applied 4-30VDC
Measuring Frequency	Every 10 sec
Report Frequency	Every 2 min
Expected Operating Time*	Up to 10 years

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

Typical Applications

- Monitor use and up-time of equipment
- Leasing
- Maintenance

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

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General Description

The Neuron Hour Meter counts elapsed time when connected to 4-30VDC. This makes it suited for hour counting on for example vehicles and machinery for maintenance purposes.

Continuous measurement and instant alarm. Duplex communication enables adjustment of parameters such as measuring frequency. Alarm levels are easy to set in the app and alerts can be received as push notification, emails or SMS. QR-code on the sensor ensures easy and accurate registration in the app.

Principle of Operation

The Neuron Hour Meter stores the elapsed time internally and do not need to be in range of a gateway at all time. When within reach of a gateway the elapsed time is transmitted to Neuron Cloud. The sensor measures every 10th second and transmits every second minute.

The symbol ⚠ on the product label refers to this data sheet for important information regarding intended use, requirements for the operating environment etc. If the equipment is used in a manner not specified by El-Watch, the protection provided by the equipment may be impaired.

Technical Specification

Operational Specification

Measuring Range***	Counts elapsed time, in hours, when voltage applied (4-30VDC)
Accuracy	20 ppm @ 25 °C
Measuring Frequency*	Every 10 sec
Report Frequency*	Reports every 2 min
Operating Environment	Ambient temperature: -40 - 85 °C Relative humidity: 0-100% Altitude: < 2000m above sea level Pollution degree: 4
IP Grade	IP 67, wet conditions, indoor use.
Radio Frequency	863-870 MHz / 902-928 MHz
Battery Type	Li-SOCI2, 3.6V
Expected Operating Time**	Up to 10 years

*　Adjustable on request

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

***　Applying a voltage over the inputs may permanently damage the device

Physical Specification

Materials	POLYblend 65 FS / TPU
Connection Type	2 x 40 cm RADOX 155 0.25 mm²
Dimensions LxWxH	37x23x14mm

Ordering Information

	Europe/The Middle East/Africa Part number	North America/Australia/ New Zealand Part number
Neuron Hour Meter	422286	422440

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.

> **You can find all you need to get started with Neuron Sensors at our support site:**
> **support.el-watch.com**   »

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

The small, compact blue Neuron sensors are fitted with fastening holes for use with cable ties. The sensors are also delivered with double-sided tape that may be used for fastening of the sensors.

All the black Neuron sensors, like the Neuron IR380 and Neuron Vibration, are fitted with a strong magnet at the back for easy fastening. If there is no magnetic surface, then double-sided tape is a good solution.
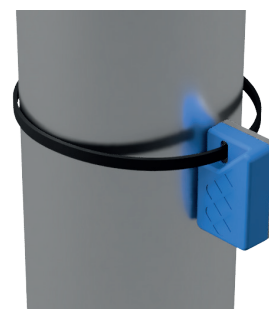
Place elevated with distance to fixed objects   *Keep antenna clear off the metallic surface*

Sensors with IP21 Enclosure   *Sensors with IP67 Enclosure*

Dimensions

Cable Tie Mounting

13

37

23

LED   Button

Additional information about Neuron sensors, installation, userguides, and more at our support website: support.el-watch.com