# Neuron PT100 Surface Patch

Neuron PT100 Surface Patch is perfect to measure surface temperature on objects and transmit the data to Neuron Cloud. The sensor comes with 2 meter cable between the sensor and the surface patch. The patch has adhesive on the back for easy installation.

## Features

- Integrated 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

| PT100 Measuring Range | -50°C to +150°C |
|---|---|
| Measuring Frequency | Every 3 sec |
| Report Frequency | Every 2 min, or immediately after measurement if trigger for critical data transmission is reached |
| Expected Operating Time* | Up to 10 years |

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

## Typical Applications

Surface temperature on:
- Pipes
- Electronics
- Motors and transformers

## 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

# General Description

The Neuron PT100 Surface Patch reads the surface temperature from the patch and convert it into a digital measurement.

The sensor comes with a 2-meter wire between the surface patch and the sensor.

Due to wireless transmission of the signal, it is also easy and timesaving to install.

# Principle of Operation

The Neuron PT100 measures every third seconds and transmits every second minute.

Should the trigger for critical data transmission be reached between two transmissions, the sensor transmits immediately after measurement.

*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

| | |
|---|---|
| PT100 Measuring Range | -50ºC to +150ºC |
| Resolution | 0.1ºC |
| Accuracy | 0.5 ºC + 0.002 x t |
| Measuring Frequency* | Every 3 sec |
| Report Frequency* | Reports every 2 min. Or immediately if trigger for critical data transmission is reached, see below |
| Trigger for Critical Data Transmission* | 2ºC change in measurement |
| Electronics Operating Environment | Ambient temperature: -40 - 85 ºC 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-SOCl2, 3.6V |
| 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 | POLYblend 65 FS / TPU |
| Connection Type | 200 cm PFA insulated twisted wires |
| Dimensions LxWxH | Sensor: 37x23x14mm Patch: 37x16mm |

## Ordering Information

| | Europe/The Middle East/Africa Part number | North America/Australia/ New Zealand Part number |
|---|---|---|
| PT100 Surface Patch | 422337 | 422448 |

## 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**
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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.
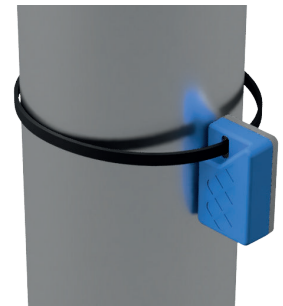


*Place elevated with distance to fixed objects*



*Keep antenna clear off the metallic surface*



*Sensors with IP21 Enclosure*



*Sensors with IP67 Enclosure*

# Dimensions

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

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