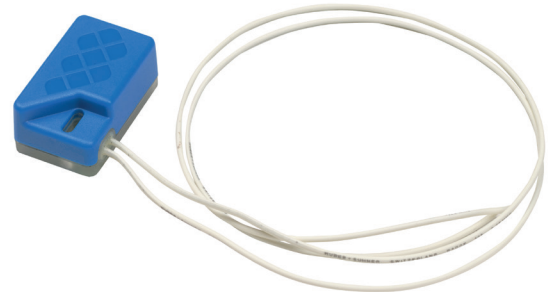


# Neuron PT100

## Neuron PT100 High Temperature

The Neuron PT100 is designed to be connected to a PT100-element and will transfer the measured temperature to the Neuron Cloud.

The sensor comes with 40 cm wires and is easily connected to new or existing PT100-element/probe.



### 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

### Typical Applications

- Water temperatures
- Air temperatures
- Industry processes
- Cooling of 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

### Essentials

	PT100	PT100HT
PT100 Measuring Range	-50°C to +250°C	-100°C to +650°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

## General Description


The Neuron PT100 and PT100 High Temp reads the PT100-elements resistance and convert it into a digital temperature measurement. The sensor comes with 40 cm wires and is easily connected to new or existing PT100 sensors.

Due to wireless transmission of the signal, it is also easy and timesaving to install. The product is available in two version, PT100 and PT100 High Temp.

## 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	PT100 HT
PT100 Measuring Range	-50°C to +250°C	-100°C to +650°C
Resolution	0.1°C	
Accuracy***	± 0.5°C @ -50°C to 100°C	± 0.5°C @ -100°C to 100°C
	± 1°C @ 100°C to +250°C	± 1°C @ 100°C to 650°C
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*	2°C change in measurement	10°C change in measurement
Electronics 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

\*\*\* Accuracy for electronics only



### Physical Specification

Materials	POLYblend 65 FS / TPU
Connection Type	2 x 40cm RADOX 155 0.25 mm <sup>2</sup>
Dimensions LxWxH	37x23x14mm

### Ordering Information

	Europe/The Middle East/Africa Part number	North America/Australia/New Zealand Part number
PT100 (-50°C to +250°C)	422233	422445
PT100 High Temp (-100°C to +650°C)	422234	422447

### Regulatory

Certifications	Directives/Standard
	RED 2014/53/EU Radio Equipment Regulations 2017
	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](https://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.



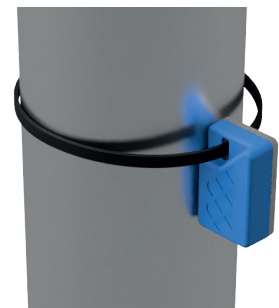
Place elevated with distance to fixed objects



Keep antenna clear off the metallic surface



Sensors with IP21 Enclosure



Sensors with IP67 Enclosure

## Dimensions

