

Neuron PT100 High Temperature

The Neuron PT100 HT Rugged is designed to be connected to a PT100-element and will transfer the measured temperature to the Neuron Cloud. The sensor is optimized for high temperature applications and can operate in ambient temperatures up to 85°C. The sensor comes with a standard IEC miniature connector for easy connection to any PT100 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

Essentials

Measuring Range	-100 °C - +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

Typical Applications

- Collector bar monitoring
- Industry processes
- Predictive 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


General Description

The Neuron PT100 HT reads the PT100-elements resistance and convert it into a digital temperature measurement. The sensor comes with a standard IEC miniature connector for easy connection to any PT100 probe.

Due to wireless transmission of the signal, it is also easy and timesaving to install. 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 makes it a very powerful device, ideal for use in predictive maintenance and monitoring.

Principle of Operation

The Neuron PT100 HT 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

Measuring Range	-100°C to + 650°C
Resolution	0.1°C
Accuracy*	± 0.5°C @ -100°C to +100°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**	10°C change in measurement
Electronics Operating Environment	Ambient Temperature: -40 - 85 °C Relative Humidity: 0-80% Altitude < 2000m above sea level Pollution degree: 3
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

* The accuracy specification does not include the error of your probe. Please see your probe manufacturers datasheet for details.

** Adjustable on request.

*** IP grade does not include sensing probe and its connector.

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



Physical Specification

Materials	Polyurethane
Connection Type	IEC Miniature Connector RTD
Dimensions LxWxH	53x71x14 mm

Ordering Information

	Europe/The Middle East/Africa Part number	North America/Australia/ New Zealand Part number
Neuron PT100HT Rugged	422688	422696

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.

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

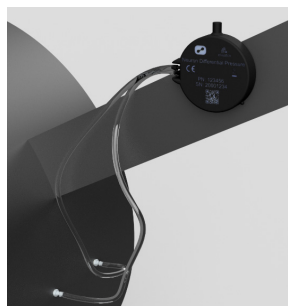
The small, compact blue Neuron sensors are fitted with fastening holes for use with cable ties. The sensors are also delivered with double-sided tape that may be used for fastening of the sensors.

All the black/grey Neuron sensors, like the Neuron Thermocouple 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.

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



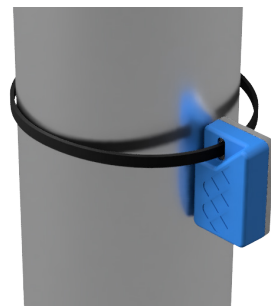
Place elevated with distance to fixed objects



Keep antenna clear off the metallic surface



Sensors with IP21 Enclosure



Sensors with IP67 Enclosure

Dimensions

