Neuron PT100 Process Connection

The PT100 Process Connection sensor comes ready to use out of the box and are fitted with a 6x100mm sensor element and 1 meter cable between electronics and sensor. Suited for liquid temperatures in pipes.

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 +250°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

- Cooling water
- Industry Processes
- Cooling liquid in 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 Process Connection reads the temperature and convert it into a digital measurement.

The sensor comes with a 1-meter wire between the PT100-element 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	-50°C to +250°C
Resolution	0.1°C
Accuracy	0.5 °C + 0.005 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*	2°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-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	Sensor: POLYblend 65 FS / TPU PT100-element: 316 Stainless Steel
Connection Type	100 cm PFA insulated twisted wires
Process Connection:	¼" BSPP
Dimensions LxWxH	Sensor: 37x23x14mm PT100 element: 6x100mm

Ordering Information

	Europe/The Middle East/Africa Part number	**North America/Australia/ New Zealand** Part number
PT100 Process Connection	422338	422449

Regulatory

Certifications	**Directives/Standard**
CE UK CA	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.

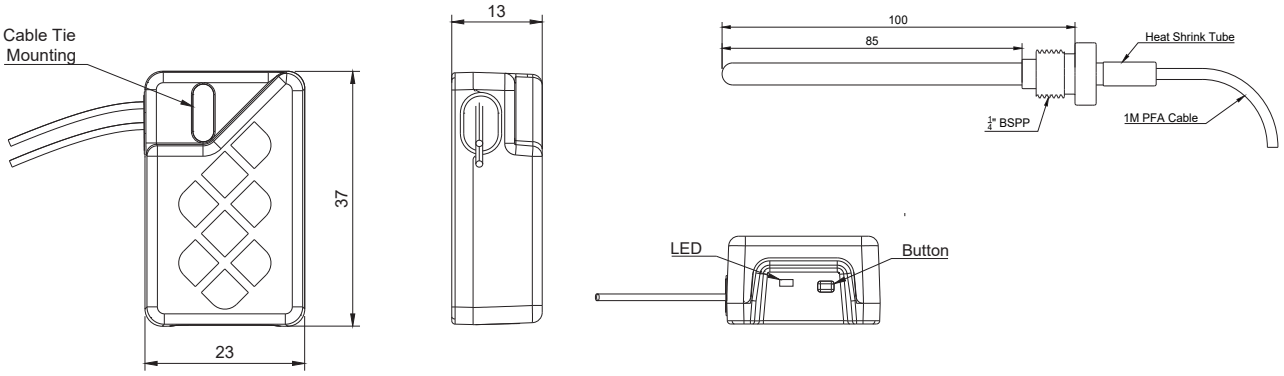
Place elevated with distance to fixed objects

Keep antenna clear off the metallic surface

Sensors with IP21 Enclosure

Sensors with IP67 Enclosure

Dimensions



El-Watch AS • Rindalsvegen 6 • 6657 Rindal • (+47) 71 66 69 08

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