

# Neuron PT100 25 cm Probe

# Neuron PT100 HT 25 cm Probe

# Neuron PT100 HT Average 25 cm Probe

The PT100 25cm Probe sensor comes ready to use out of the box and are fitted with a 25 cm stainless steel probe, perfect for measuring temperatures in cabinets and rooms with the PT100 element inserted thru the wall and leaving the sensor outside. The sensor comes with 100 cm cable between sensor and PT100 probe element, and the HT option comes with a 200 cm Fibre glass insulated wire. The probe is only 3 mm in diameter 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 25cm Probe	PT100 25cm Probe HT	PT100 25cm Probe HT Average
PT100 Measuring Range	-50°C to +250°C	-100°C to +650°C	-100°C to +650°C
Measuring Frequency	Every 3 sec		Every 10 sec
Report Frequency	Every 2 min, or immediately after measurement if trigger for critical data transmission is reached		Every 10 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

- Cold rooms
- Freezers
- Heating cabinets

## 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

Neuron PT100 25cm Probe reads the temperature and convert it into a digital measurement.


The sensor comes with a 250x3 mm probe PT100 element and 100 cm cable between element and sensor. The HT option comes with a 200 cm Fibre glass insulated wire. Due to wireless transmission of the signal, it is also easy and timesaving to install.

The product is available in three versions, PT100 25cm Probe, PT100 25cm Probe High Temp and PT100 25cm Probe High Temp Average.

## Principle of Operation

The Neuron PT100 measures every third second and transmits every second minute with standard config. The sensor also comes in a version where the sensor measures every ten seconds and transmits the average of the twelve last measurements every ten 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 HT Average
PT100 Measuring Range	-50°C to +250°C	-100°C to +650°C	-100°C to +650°C
Resolution	0.1°C		
Accuracy	0.5°C + 0.005 x t		
Measuring Frequency*	Every 3 sec		Every 10 sec
Report Frequency*	Reports every 2 min. Or immediately if trigger for critical data transmission is reached, see below		Reports every 10 min. Or immediately if trigger for critical data transmission is reached, see below
Reported value	Reports last reading		Reports average of 12 last readings
Trigger for Critical Data Transmission*	2°C change in	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-SOCl <sub>2</sub> , 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 PT100 probe: 316 Stainless Steel
Connection Type	100 cm FEP/FEP insulated twisted wires or 200 cm Fibre glass insulated wire.
Process Connection:	250x3 mm Probe
Dimensions LxWxH	Sensor: 37x23x14mm Probe: 250x3 mm (Other dimensions on request)

### Ordering Information

	Europe/The Middle East/Africa Part number	North America/Australia/New Zealand Part number
PT100 25cm Probe -50°C to 250°C	422523	422530
PT100 25cm Probe HT -100°C to 650°C	422523	422602
PT100 25cm Probe HT Average -100°C to 650°C	422672	422674

### 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.



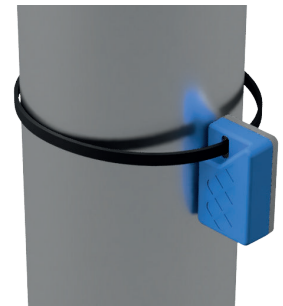
Place elevated with distance to fixed objects



Keep antenna clear off the metallic surface



Sensors with IP21 Enclosure



Sensors with IP67 Enclosure

## Dimensions

