

# Neuron PT100 Bolt M6

# Neuron PT100 HT Bolt M6

# Neuron PT100 HT Average Bolt M6

The PT100 Bolt M6 is perfect for measuring liquid temperatures in pipes and other applications.

The sensor comes ready to use out of the box and are fitted with a M6x10mm bolt sensor element for easy installation to many objects. Fitted with 2-meter cable between electronics and sensor. Suited for monitoring bearings and motor temperatures.

## 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 Bolt M6                                                                                      | PT100 HT Bolt M6 | PT100 HT Average Bolt M6                                                                            |
|--------------------------|----------------------------------------------------------------------------------------------------|------------------|-----------------------------------------------------------------------------------------------------|
| 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

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## Typical Applications

- Machine Monitoring
- 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

Neuron PT100 Bolt M6 reads the temperature and convert it into a digital measurement.


The sensor comes with a M6x10mm bolt sensor element and 2-meter cable between electronics and 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 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 Bolt M6                                                                                                            | PT100 HT Bolt M6           | PT100 HT Average Bolt M6                                                                   |
|-----------------------------------------|--------------------------------------------------------------------------------------------------------------------------|----------------------------|--------------------------------------------------------------------------------------------|
| 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.                                |                            | Reports every 10 min. Or immediately if trigger for critical data transmission is reached. |
| Reported value                          | Reports last reading                                                                                                     |                            | Reports average of 12 last readings                                                        |
| Trigger for Critical Data Transmission* | 2°C change in measurement                                                                                                | 10°C change in measurement |                                                                                            |
| Electronics Operating Environment       | Ambient temperature: -40 - 85 °C<br>Relative humidity: 0-100%<br>Altitude < 2000m above sea level<br>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



### Physical Specification

|                    |                                                         |
|--------------------|---------------------------------------------------------|
| Materials          | POLYblend 65 FS / TPU<br>PT100-element: Stainless Steel |
| Connection Type    | 200 cm PFA insulated twisted wires                      |
| Process Connection | M6x10mm bolt                                            |
| Dimensions LxWxH   | Sensor: 37x23x14mm<br>PT100 element: M6x10mm bolt       |

### Ordering Information

|                      | Europe/The Middle East/Africa Part number | North America/Australia/New Zealand Part number |
|----------------------|-------------------------------------------|-------------------------------------------------|
| PT100 Bolt M6        | 422427                                    | 422450                                          |
| PT100 HT Bolt M6     | 422671                                    | 422613                                          |
| PT100 HT Bolt M6 Avg | 422637                                    | 422639                                          |

### 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.



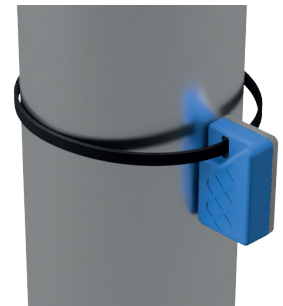
Place elevated with distance to fixed objects



Keep antenna clear off the metallic surface



Sensors with IP21 Enclosure



Sensors with IP67 Enclosure

## Dimensions

