Neuron Infrared 380

The Neuron Infrared 380 sensor measures surface temperature on the object it is directed towards. It is designed for industrial temperature measurements, capable of measuring up to 380°C with an accuracy of up to ±1°C. It has a wide spectral range and 6° field of view.

Features

- Long life battery - up to 7 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

- Temperature on rotation machinery
- Saw blade temperature

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

Measuring Range	-40 - 380°C
Measuring Frequency	Every 2 min
Report Frequency	Every 2 min
Expected Operating Time*	Up to 7 years

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

General Description

The Neuron Infrared 380 is an energy efficient solution for infrared temperature measurement. The sensor is a high-performance temperature measuring device that uses infrared technology to detect and measure temperatures. One of the key features of this sensor is its ability to measure high temperature objects, with a range of -40°C to 380°C. This makes it suitable for use when the temperature sensor cannot physically connect to the measurement object, i.e. rotating equipment and saw blades.

Due to wireless transmission of the signal, it is also easy and timesaving to install, and sticks to the surface by a magnet at the backside of the sensor.

Principle of Operation

This infrared sensor is a high-performance temperature measuring device that uses infrared technology to detect and measure temperatures. It works by detecting and measuring the infrared radiation emitted by an object or environment. This radiation is then converted into an electrical signal, which is then processed to determine the temperature.

The sensor measure temperatures every 2 minutes and transmits this data to the Neuron Cloud through a Neuron Gateway.

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	-40 to 380 °C
Resolution	0.1°C
Accuracy	+/-1°C Object temperature at 0 - 60 degrees and sensor temperature at 0 - 50 degrees. +/- 5 °C worst case at high temp
Measuring Frequency*	Every 2 min
Overpressure/Burst pressure	10 / 300 PSI
Report Frequency*	Reports every 2 min
Trigger for Critical Data Transmission*	3°C change in measurement
Field of view / D: S	6 degrees / 8:1
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.
Cleaning	Wipe clean with a damp cloth
Radio Frequency	863-870 MHz / 902-928 MHz
Battery Type	Li-SOCl2, 3.6V
Expected Operating Time**	Up to 7 years

** Adjustable on request*

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

Physical Specification

Materials	Polyuretan / Neodymium magnet
Dimensions LxWxH	51x15mm

Ordering Information

	Europe/The Middle East/Africa Part number	**North America/Australia/ New Zealand** Part number
Neuron Infrared 380	422307	422420

Regulatory

Certifications	**Directives/Standard**
CE UKCA	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.

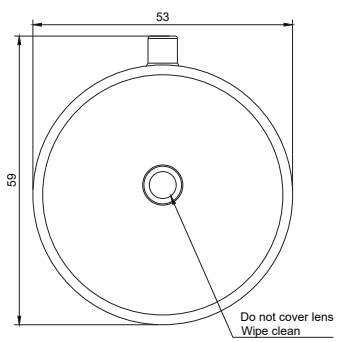
Place elevated with distance to fixed objects

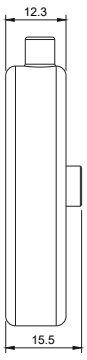

Keep antenna clear off the metallic surface

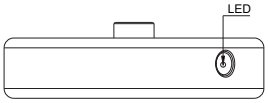

Sensors with IP21 Enclosure


Sensors with IP67 Enclosure

Dimensions







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