Neuron Dry Contact

The Neuron Dry Contact is a small and compact sensor for detecting Open/Closed electrical contact in potential free loops. The sensor can be used in humid areas due to IP67 encapsulation.

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	Open/Closed Loop
Measuring Frequency	Every 3 sec
Report Frequency	Every 2 min, or immediately after change in status open/closed loop
Expected Operating Time*	Up to 10 years

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

Typical Applications

- Position of valves, switches, circuit breakers etc.
- Open/Closed door and gate
- Motor Protection
- Count Status Changes

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

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General Description

The Neuron Dry Contact sensor is an electronic device that detects the presence or absence of electrical contact in potential-free loops.

The sensor is designed to be used in a wide range of industrial and commercial applications, automation systems, and process maintenance. They are typically used to detect the position of mechanical parts, such as doors, valves, and machine components.

The Neuron Dry Contact sensor has a wide operating range from -40 - 85 °C and has a robust IP67 enclosure for mounting in rough conditions.

The sensor has an internal battery which will last up to 10 years**.

Principle of Operation

The Neuron Dry Contact consists of a pair of wires that measures the electrical potential between them. When the two wires are connected through the valve, door or similar, an electrical circuit is completed, signalling that the contact has been activated. Conversely, when the contact points are separated, the circuit is open, signalling that the contact has been deactivated.

Every three second the sensor measures the loop contact and if the loop status has changed since the last transmission, the sensor reports immediately. Otherwise, it reports every 2 minutes.

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***	Open/Closed Loop
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*	Change in status open/closed loop
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*

*** *Applying a voltage over the inputs may permanently damage the device*

Physical Specification

Materials	POLYblend 65 FS / TPU
Connection Type	2 x 40 cm RADOX 155 0.25 mm²
Dimensions LxWxH	37x23x14mm

Ordering Information

	Europe/The Middle East/Africa Part number	North America/Australia/ New Zealand Part number
Neuron Dry Contact	422235	422435

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.

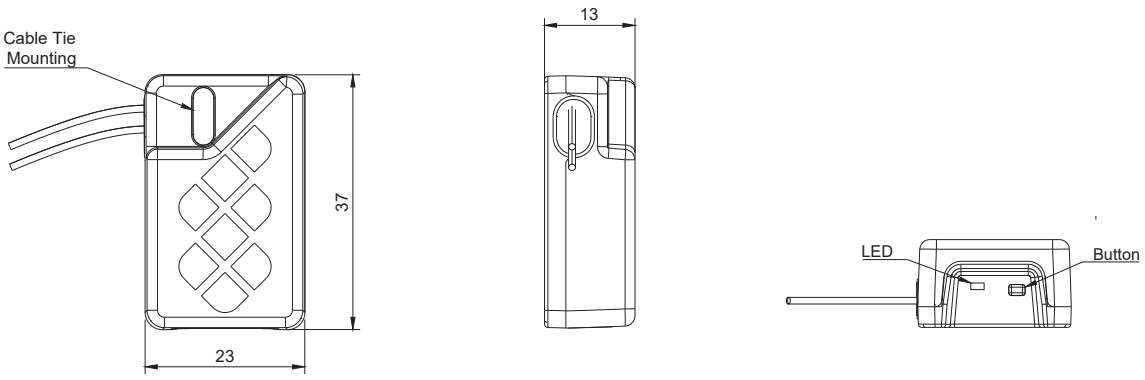
Place elevated with distance to fixed objects


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