

# Neuron Open/Closed sensor

The Neuron Open/Closed is a small and compact magnetic sensor suited to monitor status of doors, windows and gates among others. Area of use is an overview and notification of both unwanted and other traffic in doors and windows, as well as control of whether doors, windows and other mechanical devices have the desired position. The sensor is attached with double-sided tape or strips.

## Features

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

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



## Typical Applications

- Monitor doors and windows
- Position of industry gates
- Roof windows
- Count change in position

## 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 Open/Closed is an energy efficient solution for measuring opening state for doors, windows, gates, enclosure lids etc. The sensor is attached with double-sided tape or strips. Magnet is included.

Due to wireless transmission of the signal, it is also easy and timesaving to install.

## Principle of Operation

The Neuron Open/Closed measures the state every 3 seconds. If the state has changed more 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
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
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-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
Dimensions LxWxH	37x23x14mm

### Ordering Information

	Europe/The Middle East/Africa Part number	North America/ Australia/New Zealand Part number
Neuron Open/Closed*	421867	422425

\* Magnet is included

### Regulatory

Certifications	Directives/Standard
 	RED 2014/53/EU Radio Equipment Regulations 2017
  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](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.

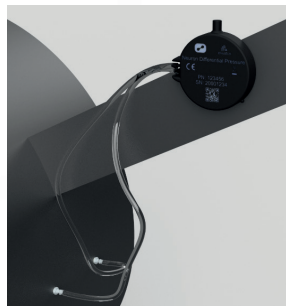
## Fastening

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.



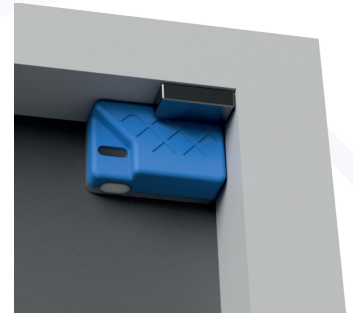
Place elevated with distance to fixed objects



Keep antenna clear off the metallic surface



Open/Closed sensor with IP67 Enclosure  
Recommended position of sensor and magnet



Open/Closed sensor with IP67 Enclosure  
Alternative position of sensor and magnet

## Dimensions

Maximal distances with optimal positioning.  
(Mounted on non-magnetic surface)

