Neuron Cellular Gateway

Neuron Cellular Gateway connects your Neuron sensors to Neuron Cloud. The gateway comes with integrated eSIM and connects both to cellular network and Neuron Cloud automatically. The robust IP67 enclosure enables you to install it in rough wet and dusty environments.
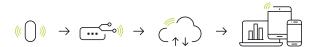
Features

- Collects continuous measurement from all Neuron sensors
- Measurements are uploaded to the cloud via the gateways mobile network
- Integrated eSIM that roams freely between all avilable networks and selects operator based on the best signal strenght.
- Easily connect the gateway to the system with the QR-code on the gateway. Ensures immediate and accurate measurements to the Neuron Cloud, and to the the app on your phone/PC/tablet
- No need for configuration, only need to connect power.
- IP67
- Neuron PSU for Cellular Gateway IP21 included.

Typical Applications

- For mounting in dusty, damp or wet conditions
- For easy installation without the need to set up an Ethernet connection

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 Ethernet Gateway is a powerful and versatile device designed to provide coverage for the Neuron suite of sensors. With its cellular connectivity, it provides a bridge between connected sensors and the internet, enabling users to view data in the Neuron app.

With its simple plug-and-play design the Cellular Gateway is an ideal solution for a wide range of applications in industrial automation, building automation, smart agriculture, energy management and remote monitoring and control.

The gateway has the ability to be managed and configured remotely which makes it easy to maintain and upgrade. All in all, this gateway offers a powerful and flexible solution for connecting your devices and systems to the internet, providing you with real-time data and control.

Principle of Operation

The broad range of Neuron Sensors connect to the cloud using the Neuron Cellular Gateway over the Neuron proprietary sub-GHz radio protocol. The advantage of these low frequency bands is that they travel farther and penetrate obstacles better than higher frequency bands, which results in a more reliable, low-power communication between devices.

The gateway translates the data and commands it receives from the sensors into a format that can be understood by the internet, i.e. TCP/IP and MQTT. The data is sent to the Neuron Cloud, where data is processed to be viewed by the user in the Neuron app.

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

Operating voltage	10-32 VDC, Max. 5W
Operating Environment	Temperature: -40 - 75 ℃ Relative humidity: 0-100% Altitude < 2000m above sea level Pollution degree 4 IP67, wet conditions, indoor use
Radio Frequency	863-870 MHz (902-928 MHz)

Physical Specification

Materials	Nylon 6/6
Dimensions LxWxH	131 x 115 x 33mm
Cleaning	Wipe clean with a damp cloth

Ordering Information

	Europe/The Middle East/Africa Part number	North America Part number	Australia/ New Zealand Part number
Neuron Cellular Gateway	422210	422470	422280
Neuron PSU for Cellular Gateway IP 21 (included)			

Accesories

Neuron PSU for Cellular Gateway IP 67	422336 (EU plug) 422519 (UK plug)	422526	422518
Neuron Cellular Mounting kit	422335	422335	422335
Neuron Power Cable for Cellular Gateway (If DC power source is already present)	422339	422339	422339

Regulatory

Certifications	Directives/Standard
C€ UK CA	RED 2014/53/EU Radio Equipment Regulations 2017
FC ▮◆▮ Industry Canada ⬙	FCC Part 15C
Safety	IEC 61010-1:2010

Installation

The device is delivered ready for use and will only need 10-32 VDC to operate. Seamless roaming ensures that the gateway always connects to the best available cellular network. The gateway comes with a power supply for indoor use. However, the gateway is water resistant (IP67) and can be mounted in wet areas together with PN 422336 Neuron PSU (IP67) or by the use of PN 422339 Neuron Power Cable (IP67).

You can find all you need to get started with Neuron Sensors at our support site:
support.el-watch.com
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Mounting

To ensure the best possible signal strength it is important to mount the gateway with some distance to fixed objects. This applies for all sides of the gateway including the back of the unit.

At least 5 cm between the wall and the gateway should be obtained to achieve optimal coverage. This can be achieved with PN 422335 Gateway Mounting kit, or other methods creating necessary space, see picture below.
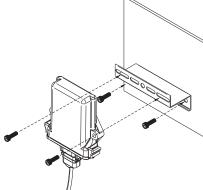
It is also important to place the gateway high up, this normally gives less obstacles in the nearby surroundings.
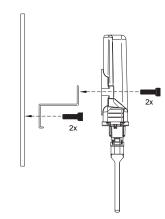
Note: Remember to position the equipment so that it is not difficult to disconnect the power supply if necessary.
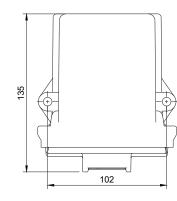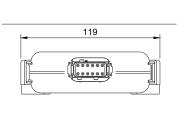
Gateway with mounting kit. Do not mount directly on wall or other structures. Connect the power plug (from the Neuron PSU or Neuron Power Cable) to the power inlet on the gateway. The power inlet is the lower part of the gateway in the picture on the left above.
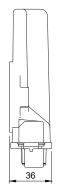
Dimensions

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