

Getting started with Quantified

Congratulations with your purchase! Thank you for choosing Quantified.

Please note: Quantified can only guarantee full end to end functionality when all components in the network are supplied by Quantified. The use of third-party data platforms to view your data are no problem.

LoraWAN

The communication protocol that is used by the Quantified sensor nodes is called LoRaWAN. It is comparable with protocols like Bluetooth and wifi but can transit over long ranges with very low power usage. This makes it possible to transmit wireless on a battery. For reference find the table below.

Technology	Wireless Communication	Range	Power Usage
Bluetooth	Short range	10 m	2.5 mW
Wifi	Short range	50 m	80 mW
3G/4G	Cellular	5 km	5000 mW
LoRa	LPWAN	2-5 km (urban / cities) 5-15 km (rural / villages) > 15-80 km (open field)	20 mW

Installing the Gateway

The data generated by the Quantified sensor nodes is transmitted using the wireless LoRaWAN protocol. The Gateway receives the sensor node messages and sends the data to the Internet. The gateway can be connected to the internet with an ethernet cable or via a Wifi connection. The use of an Ethernet cable is highly recommended. In any case, the supplied antenna must be screwed onto the gold-colored connector of the gateway. To do this, first remove the yellow cap. The gateway must be placed in a dry environment as near as possible to the sensor nodes.

Ethernet connection

Use the ethernet port for plugging in the ethernet cable. For correct operation, it is necessary that port 1700 on your router and network provides unhindered (no Fire Wall) access to the internet.

Wifi connection

The gateway can also be connected to a Wi-Fi network. The Gateway can be pre-programmed by Quantified to work directly with the wifi network name, security protocol and password you specified. WARNING: The gateway will NOT work on other wifi networks and will need to be reprogrammed. A separate "one pager" is available on our website to help you with this change.

NOTE: If your Wi-Fi network name or your password changes, the connection to the Internet will no longer work and your data will no longer be sent. You can then change the settings in the gateway yourself. A separate instruction is available to help you with this change.

The gateways physical ports and lights



Figure 1: ports on the gateway

From left to right:

- Power (PWR) USB Type 3 port 5v-2A
- Ethernet RJ45 host port
- USB 2.0 connector
- Toggle button for resetting gateway (do not use without expert knowledge)

Lights on the gateway

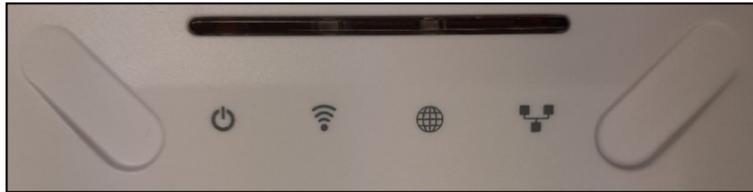
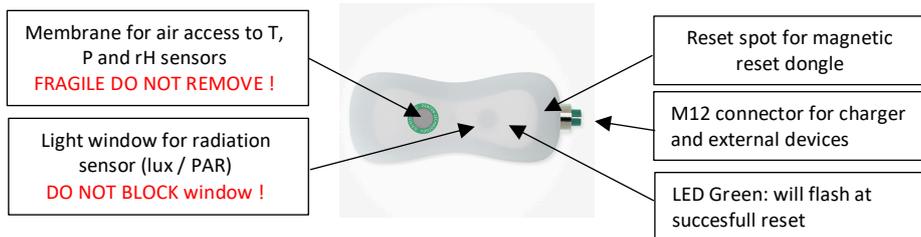


Figure 2: lights on the top of the gateway

From left to right:

- Power light is red when the gateway has power.
- Wireless connectivity light flashes green when connecting and becomes solid green when connected to the wifi-router. After a while the light turns off.
- Internet connectivity light is solid red when the gateway is not connected to the internet. Once an internet connection has been established the light turns blue. A flickering blue light indicates network activity.
- LoRa connectivity light flashes when connected to ethernet.

Installing the sensor nodes (first install the Gateway!)



The sensor nodes are shipped in “safe mode” to preserve battery life. To get started you need to **reset** every single sensor node by swiping the Quantified magnetic reset dongle over the indicated spot just above the connector. The LED-indicator will flash twice when the reset is successful.

When the nodes have been reset the nodes will send the data via internet to the Quantified Insight platform. Depending on the sample rate of your sensor nodes it will take up to 30 minutes before Insight will receive the first data.

Each sensor node is provided with an identification number. Use this number to record the position of the sensor node, so you can always link the data to the sensor position. Ensure that the connector is always shielded with a cap to prevent corrosion and internal damage. Therefore, always place the sensors horizontally or with the connector facing down.

Connecting to the Quantified data platform “Insight”

With your order you received your login and password for logging onto Insight.

To connect to Insight please use either [Google Chrome](#) or Firefox. WARNING: Insight will not work correctly using other browsers like Internet Explorer or Safari. Go to www.quantified.eu and use the “Log in” button in the right top corner of the website to connect to Insight and access your data. We advise you to change the password you received from Quantified. Several roles have been identified within Insight. The employee of your choice will be registered as administrator. This person can change settings and add new users.

We use Amazon Webservices for our data flows and visualization. Your data is handled with the greatest care and we comply with the highest standards. Privacy statement: <https://aws.amazon.com/compliance/data-privacy-faq/>

Using external visualization systems

When you would like to see your data exported to other platforms you can use our API to do so.

API <https://insight.quantified.eu/api/>
Swagger UI <https://insight.quantified.eu/api/doc>