Manuals+ — User Manuals Simplified.

Thingsee Gateway Plug and Play IoT Gateway Device Installation Guide

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Welcome to use Thingsee

Congratulations on choosing Haltian Thingsee as your IoT solution. We at Haltian want to make IoT easy and accessible for everyone, so we have created a solution platform that is easy to use, scalable and secure. I hope our solution will help you achieve your business goals!

Pasi Leipälä

CEO, Haltian Oy

Thingsee GATEWAY

Thingsee GATEWAY is a plug & play IoT gateway device for large scale IoT solutions. It can be connected anywhere where 2G cellular support is available. The main role of Thingsee GATEWAY is to ensure that data flows continuously, reliably and safely from the sensors to the cloud.

Thingsee GATEWAY connects a mesh of a few to hundreds of wireless sensor devices to Thingsee Operations Cloud. It exchanges data with the mesh network and sends data to cloud backends.
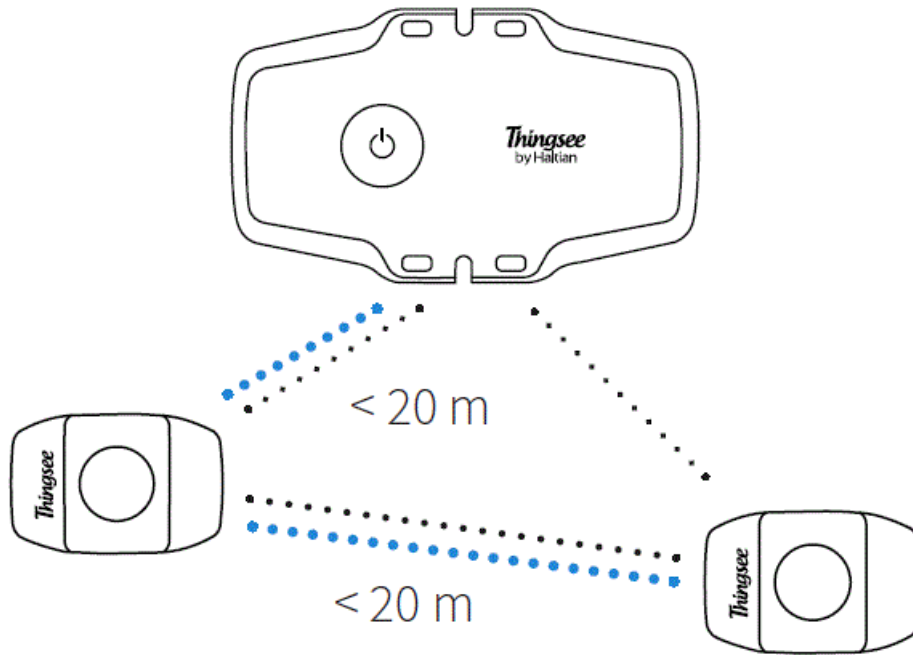
Sales package content

- Thingsee GATEWAY
- Includes SIM card and managed SIM subscription
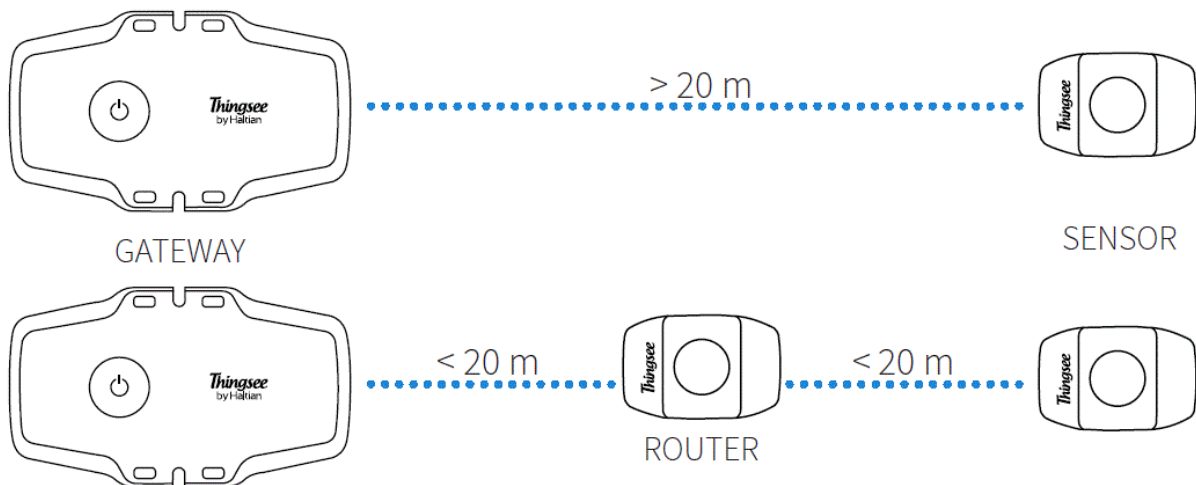- Power supply unit (micro-USB)

Note before installation

Install the gateway to a secure location. In public places, install the gateway behind locked doors.

To ensure strong enough signal strength for data delivery, keep the maximum distance between mesh network
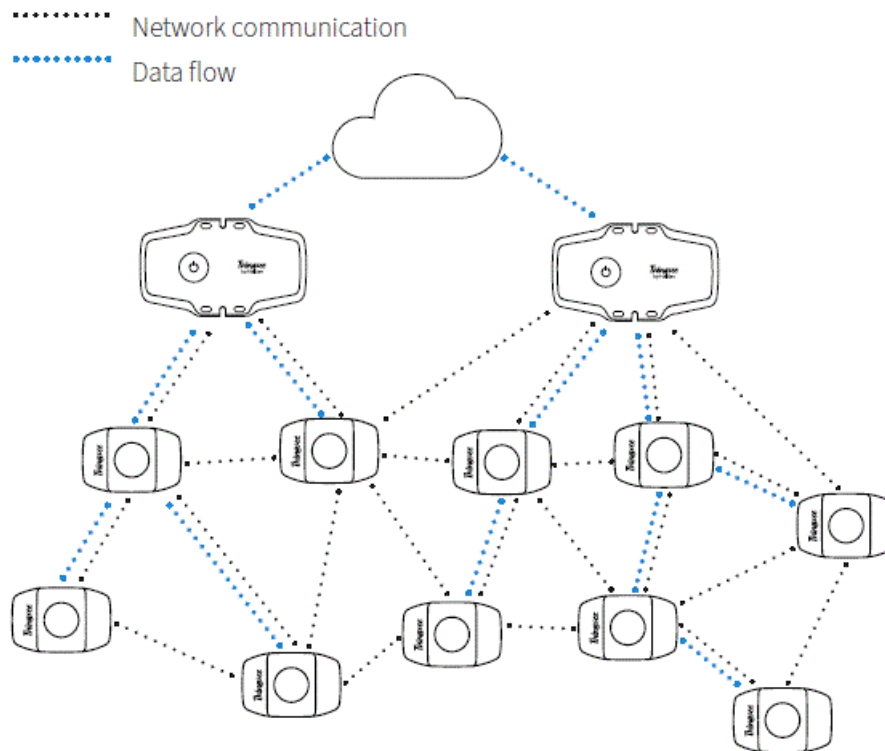
devices under 20 m.

If the distance between a measuring sensor and the gateway is > 20m or if the sensors are separated by a fire door or other thick building materials, use extra sensors as routers.

Thingsee installation network structure

Thingsee devices build a network automatically. Devices communicate all the time to adjust the network structure for effective data delivery. Sensors create subnetworks for data delivery by choosing the best possible route based on signal strength. The subnetwork chooses the strongest possible gateway connection for data delivery to the cloud. The customer network is closed and secure. It cannot be harmed by third party connections.

The amount sensors per one gateway varies depending on the sensors' reporting time: the longer the reporting time, the more sensor can be connected to one gateway. The usual amount is from 50-100 sensors per gateway to even up to 200 sensors.
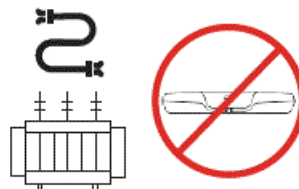
To ensure mesh network data flow, a second gateway can be installed on the other side of the installation site.
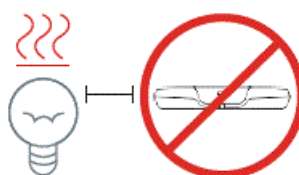
Things to avoid in installation

Avoid installing the Thingsee products near the following: Escalators
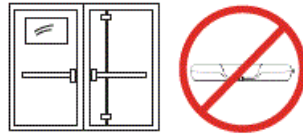

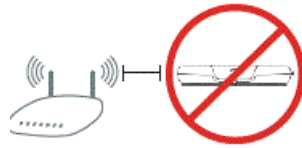Electrical transformers or thick electrical wires

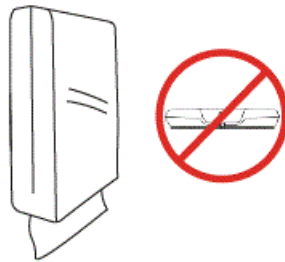Nearby halogen lamps, fluorescent lamps or similar lamps with hot surface

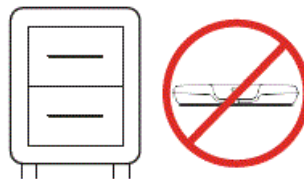Thick concrete structures or thick fire doors

Nearby radio equipment like WiFi routers or any other similar high power RF transmitters

Inside metal box or covered with a metal plate

Inside or underneath a metal cabinet or box

Near elevator motors or similar targets causing a strong magnetic field
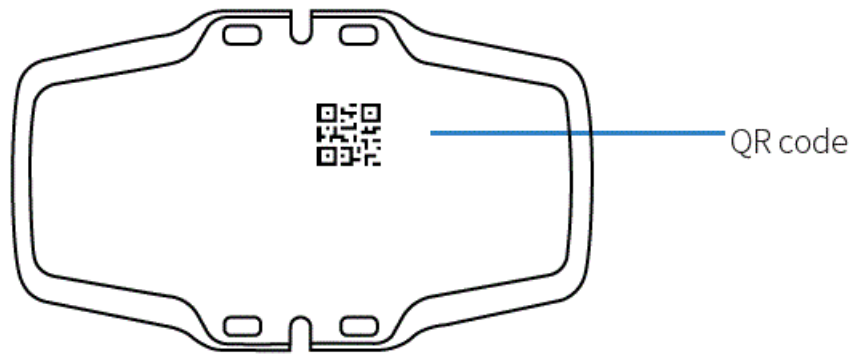

Data integration

Make sure that data integration has been properly setup prior to the installation process. See link **https://support.haltian.com/howto/aws/Thingsee** data can be pulled (subscribed) from the Thingsee Cloud live data stream, or the data can be pushed to your defined endpoint (e.g. Azure IoT Hub before you install the sensors.)

Installation

Please make sure the Thingsee GATEWAY is installed before you install the sensors.
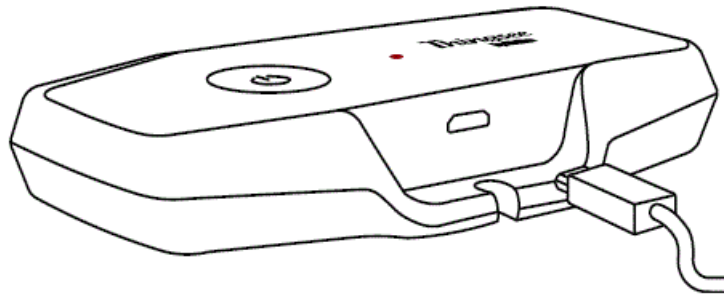To identify the gateway, read the QR code on the backside of the device with a QR code reader or Thingsee installation application on your mobile device.
Identifying the device is not necessary, but it will help you keep track of your IoT installation and help Haltian support to solve possible issues.
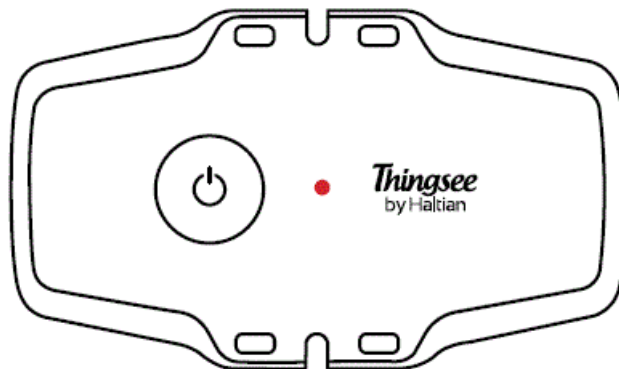
QR code

To identify the device over Thingsee API, please follow the link for further information:
https://support.haltian.com/api/open-services-api/api-sequences/

Connect the power source to the gateway and plug it into a wall socket with 24/7 power.
Note: Always use the power source included in the sales package.

Note: The socket-outlet for the power source shall be installed near the equipment and shall be easily accessible.
Thingsee GATEWAY is always cellular-connected:
LED indication is used to provide gateway status information.
The LED on top of the device starts to blink:

- RED blink – the device is connecting to a mobile network

- RED/GREEN blink – the device is connecting to Thingsee cloud

- GREEN blink – the device is connected to the mobile network and Thingsee cloud and is operating correctly

To close the device press the Power button for 3 seconds.
When released, the device starts the shutdown process, red LED indication 5 times during a 2 second period.
When in shutdown state, no LED indication.
To restart the device press the power button once and the LED sequence starts again.

Maximum transmit power

Supported radio networks	Operating frequency bands	Max. transmitted radio frequency power
2G GPRS/EGPRS	900 MHz	+33 dBm
2G GPRS/EGPRS	1800 MHz	+30 dBm
Wirepas mesh	ISM 2.4 GHz	ISM 2.4 GHz

Device info

Recommended operating temperature: 0 °C … +40 °C Operating humidity: 8 % … 90 % RH non-condensing
Storage temperature: 0°C … +25 °C
Storage humidity: 5 % … 95 % RH non-condensing
IP rating grade: IP40
Indoor office use only
Certifications: CE and RoHS compliant
BT with Wirepas mesh network support
Radio sensitivity: -95 dBm BTLE
Wireless Range 5-25 m indoor, up to 100 m Line of Sight Cellular networks

- E-GSM 900 MHz
- DCS 1800 MHz

    Micro SIM card slot
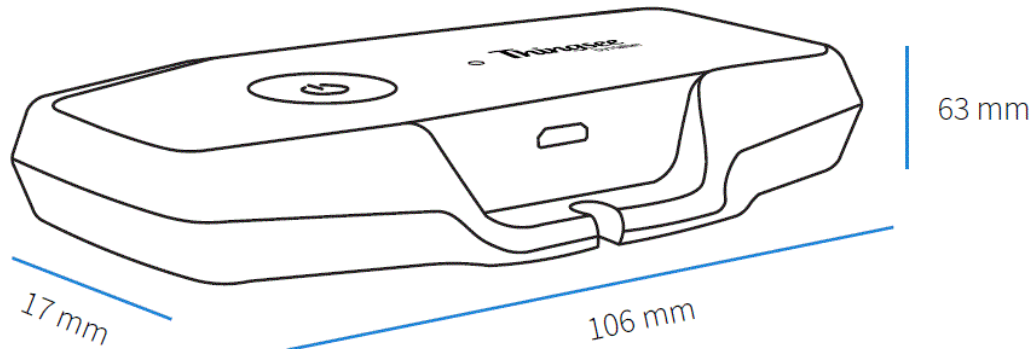
- Includes SIM card and managed SIM subscription

LED indication for device status
Power button
Micro USB powered

Device measurements

Weight:
43 g (including batteries)

63 mm

17 mm

106 mm

CERTIFICATION INFORMATION EU DECLARATION OF CONFORMITY

Hereby, Haltian Products Oy declares that the radio equipment type Thingsee GATEWAY is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: **www.haltian.com**
Thingsee GATEWAY operates at Bluetooth® 2.4 GHz frequency, GSM 900 MHz and GSM 1800 MHz bands. Maximum radio-frequency powers transmitted are +4.0 dBm, +33.0 dBm and +30.0 dBm, respectively.

Manufacturer name and address:
Haltian Products Oy
Yrttipellontie 1 D
90230 Oulu
Finland

SAFETY GUIDE
Read these simple guidelines. Not following them may be dangerous or against local laws and regulations. For further information, read the user guide and visit https://www.haltian.com
Usage
Do not cover the device as it may prevent the device from operating properly.
Safety distance
Due to radiofrequency exposure limits the gateway should be installed and operated with a minimum distance of 20 cm between the device and the body of the user or nearby persons.
Care and maintenance
Handle your device with care. The following suggestions help you keep your device operational.

- Do not open, dismantle or modify the device. Unauthorized modifications may damage the device and violate regulations governing radio devices. If the device is opened by an unauthorized representative, the warranty will be null and void.
- Do not store the device in wet or humid conditions.
- Do not drop, knock, or shake the device. Rough handling can break it.
- Only use a soft, clean, dry cloth to clean the surface of the device. Do not clean the device with solvents, toxic chemicals or strong detergents as they may damage your device and void the warranty.
- Do not paint the device. Paint can prevent proper operation.
- Failure to comply with the instructions may cause damage to the device.

Damage
If the device is damaged contact **support@haltian.com**. Only qualified personnel may repair this device.

Small children
Your device is not a toy. It may contain small parts. Keep them out of the reach of small children.
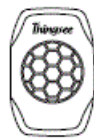

Interference with medical devices
The device may emit radio waves, which could affect the operation of nearby electronics, including cardiac pacemakers, hearing aids and defibrillators. If you have a pacemaker or other implanted medical device, do not use the device without first consulting your doctor or the manufacturer of your medical device. Maintain a safe distance between the device and your medical devices and stop using the device if you observe a persistent interference with your medical device.

RECYCLING

Check the local regulations for proper disposal of electronic products. The Directive on Waste Electrical and Electronic Equipment (WEEE), which entered into force as European law on 13th February 2003, resulted in a major change in the treat-ment of electrical equipment at end-of-life. The purpose of this Directive is, as a first priority, the prevention of WEEE, and in addition, to promote the reuse, recycling and other forms of recovery of such wastes so as to reduce disposal.
The crossed-out wheelie-bin symbol on your product, battery, literature, or packaging reminds you that all electrical and electronic products and batteries must be taken to separate collection at the end of their working life. Do not dispose of these products as unsorted municipal waste: take them for recycling. For info on your nearest recycling point, check with your local waste authority.
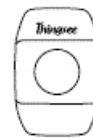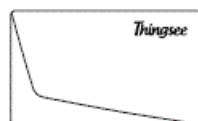

Get to know other Thingsee devices

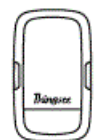Thingsee PRESENCE   Thingsee ENVIRONMENT   Thingsee DISTANCE
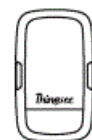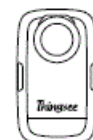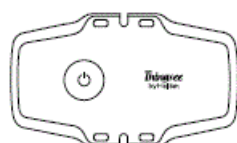
Thingsee AIR   Thingsee BEAM

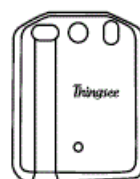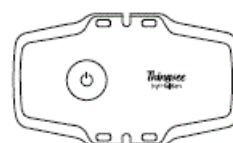Thingsee ENVIRONMENT RUGGED   Thingsee LEAKAGE RUGGED   Thingsee ANGLE RUGGED

Thingsee GATEWAY GLOBAL   Thingsee GATEWAY LAN   Thingsee GATEWAY

For all devices and more information, visit our website **www.haltian.com** or contact **sales@haltian.com**

Documents / Resources

Thingsee **GATEWAY** User and Installation Guide v.20.03 ⚠ Haltian	**Thingsee Gateway Plug and Play IoT Gateway Device** [pdf] Installation Guide Gateway Plug and Play IoT Gateway Device, Gateway, Plug and Play IoT Gateway Device

References

- ⚠ **Connected solutions for successful businesses | Haltian**
- ⚠ **How to connect to AWS API Gateway - Haltian Support**
- ⚠ **Connected solutions for successful businesses | Haltian**

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