

Thingsee GATEWAY GLOBAL User Guide



Product description

Thingsee GATEWAY GLOBAL is a plug & play IoT gateway device for large scale IoT solutions. It can be connected anywhere in the world with its LTE Cat M1/NB-IoT and 2G cellular support. The main role of the Thingsee GATEWAY GLOBAL is to ensure that data flows continuously, reliably and safely from the sensors to cloud.

Thingsee GATEWAY GLOBAL 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. It is connected to the internet by LTE Cat M1/NB-IoT or 2G connection.

Sales package content

Thingsee GATEWAY GLOBAL
Power supply unit SYS1561-1105 (micro-USB)
AC-plug

DEVICE INFO

Recommended operating temperature 0°C ... +40°C
Operating humidity 8% ... 90% RH non-condensing
Storage temperature -20°C ... +85°C
Storage humidity 5% ... 95% RH non-condensing
IP rating grade: IP20
Indoor office use only
Certifications: CE, FCC, ISED and RoHS compliant
BT with Wirepas mesh network support
Radio sensitivity: -95dBm BTLE
Wireless Range 5-25m indoor, up to 100m Line of Sight
Cellular support

- GSM 850 MHz
- E-GSM 900 MHz
- DCS 1800 MHz
- PCS 1900 MHz
- LTE Cat M1/NB-IoT

Micro SIM card slot
Includes SIM card and managed SIM subscription
LED indication for device status
Power button
Micro USB powered
Size: width 105.8mm, length 62.8mm, height 16.5mm
Weight: 43g

Maximum transmit power

Supported radio networks	Operating frequency bands	Max. transmitted radio-frequency power
2G GPRS/EGPRS	850/900 MHz	+33/27 dBm
2G GPRS/EGPRS	1800/1900 MHz	+30/26 dBm
LTE Cat M1	2, 3, 4, 5, 8, 12, 13, 20, 26, 28	+23 dBm
LTE NB-IOT	2, 3, 4, 5, 8, 12, 13, 20, 26, 28	+23 dBm
Wirepas mesh	ISM 2.4 GHz	+4dBm

DEFAULT FUNCTIONALITY

Thingsee Gateway is always cellular connected: Led indication is used to provide gateway status information

Normal operation, when connected to the network:

Green blinking once in every two seconds

Searching for network connection:

Red blinking once in every two seconds

Creating connection to Thingsee Operations cloud:

Red and green led blinking Power button:

If pressed continuously over 3 seconds, device shuts down:

Red led blinking for some time.

THINGSEE OPERATION CLOUD CONFIGURATION AND COMMANDS

Firmware update (Firmware Over-The-Air)

Wirepas network diagnostic

Gateway's cellular location in 2G mode

INSTALLATION (Check Easy Trial User Guide)

Connect the power source to the gateway and plug it on into the wall socket with 24/7 power.

Note: The socket-outlet for the power source shall be installed near the equipment and shall be easily accessible.

On top of the device is LED that starts to blink:

RED blink – device is connecting to mobile network

RED/GREEN blink – device is connecting to Thingsee cloud

GREEN blink – device is connected to mobile network and Thingsee cloud and operates ok.

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

Maximum distance between mesh network devices is 20 m.

If the distance between a measuring sensor and the Gateway is > 20 m, use extra sensors as routers.

If sensors are separated by fire door or other thick building materials, use extra sensor as a router

Maximum amount of sensors per one Gateway varies between 50 to 100 pcs, depending on the mesh network traffic load.

To ensure mesh network data flow, a second Gateway can be installed on the other side of the installation site.

To close the device press the Power button for 3 seconds. When released, device starts to shutdown process, red led indication 5 times during 2 second period.

When in shutdown state, no led indication.

Avoid installing the Gateway near the following:

escalator

electrical transformer

thick electrical wire

fluorescent lamp

fire door thick

concrete structure

CERTIFICATION INFORMATION

EU DECLARATION OF CONFORMITY

Hereby, Haltian Products Oy declares that the radio equipment type MTXG is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: thingsee.com

Haltian Products Oy vakuuttaa, että radiolaitetyyppi MTXG on direktiivin 2014/53/EU mukainen. EU-vaatimustenmukaisuusvakuutuksen täysimittainen teksti on saatavilla seuraavassa internetosoitteessa: thingsee.com

MTXG operates at Bluetooth® 2.4 GHz frequency, GSM 850/900 MHz, GSM 1800/1900 MHz bands and LTE Cat M1/ NB-IoT 2, 3, 4, 5, 8, 12, 13, 20, 26, 28 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

FCC REQUIREMENTS FOR OPERATION IN THE UNITED STATES

FCC Information for the User

This product does not contain any user serviceable components and is to be used with approved, internal antennas only. Any product changes or modifications will invalidate all applicable regulatory certifications and approvals.

FCC Guidelines for human Exposure

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 20 cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

FCC Radio Frequency Interference Warnings & Instructions

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following methods:

- Increase the separation between the equipment and the receiver.
- Connect the equipment into an electrical outlet on a circuit different from that which the radio receiver is connected
- Consult the dealer or an experienced radio/TV technician for help
- Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

FCC compliance statement:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Innovation, Science and Economic Development Canada (ISED) regulatory information

This device complies with RSS-247 of the Innovation, Science and Economic Development Canada (ISED) Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Ce dispositif est conforme à la norme CNR-247 d'Innovation, Sciences et Développement économique Canada applicable aux appareils radio exempts de licence. Son fonctionnement est sujet aux deux conditions suivantes: (1) le dispositif ne doit pas produire de brouillage préjudiciable, et (2) ce dispositif doit accepter tout brouillage reçu, y compris un brouillage susceptible de provoquer un fonctionnement indésirable

Radiation Exposure Statement:

This device complies with ISED radiation exposure limits set forth for an uncontrolled environment. This equipment must be installed and used with a minimum distance of 20 cm between the radiator and your body.

NOTE IMPORTANTE: Déclaration d'exposition aux radiations:

Cet équipement est conforme aux limites d'exposition aux rayonnements ISED établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec une distance minimale de 20 cm entre le radiateur et votre corps.

FCC ID: 2AEU3TSGWGBL

IC: 20236-TSGWGBL

Safety guide and Warranty

Introduction

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.thingsee.com>

Usage

Do not cover the device as it may prevent the device from operating properly.

Safety distance

Due to radio frequency 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 treatment 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 wheellie-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.

WARRANTY

Haltian Limited Warranty document is available at the following internet address:

<https://www.haltian.com/Thingsee/documentation>

CERTIFICATIONS



Innovation, Science and
Economic Development Canada

Innovation, Sciences et
Développement économique Canada



RoHS