Quuppa Q35 Locator

Installation Guide and Safety Information

<mark>5.10.2020</mark>

Contents

1. For Your Safety

Read these instructions carefully. Failing to follow the instructions may be dangerous or illegal and will void the warranty. Read the complete installation guide for further information. In case of any questions, please contact support@quuppa.com.

WARNING	**SWITCH ON SAFETY** **Do not switch the device on when the use of wireless devices is prohibited or when it may cause interference or danger.** **INTERFERENCE** **All wireless devices may be susceptible to interference, which could affect performance.** **QUALIFIED SERVICE** **Only personnel with sufficient know-how may install, configure, or repair this product.** **ACCESSORIES** **Use only approved accessories. Do not connect incompatible products.**

When connecting to any other device, read its user guide for detailed safety instructions. Do not connect incompatible products.

2. Introduction

The Quuppa Q35 Locator (Q35) is compatible with the Quuppa Intelligent Locating System™. Other parts of the Quuppa System are Quuppa Tags and the Quuppa Positioning Engine (QPE) software. The Quuppa System allows you to locate and track any objects equipped with Tags in an environment equipped with Locators. The Q35 is designed for use in both indoor and outdoor environments. The Quuppa Locator Subscription is required for using the Q35.
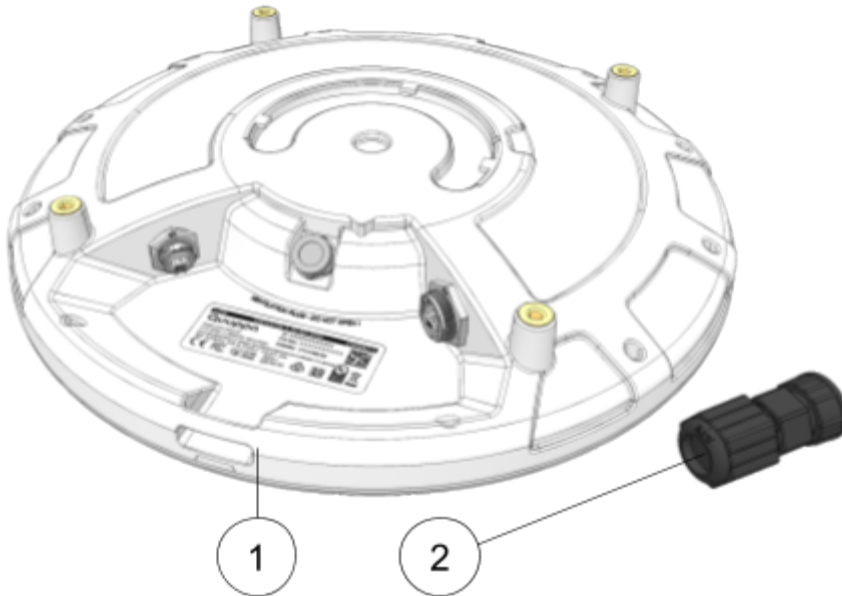
Read this guide carefully before having the device installed. Also, please familiarise yourself with other relevant documentation before you start using the Quuppa System, including Quuppa Academy videos,

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other instructional videos and user instructions. The latest software downloads can be found in the Quuppa Customer Portal's Downloads section: https://secure.quuppa.com/customerportal/downloadableResources.

3. Parts

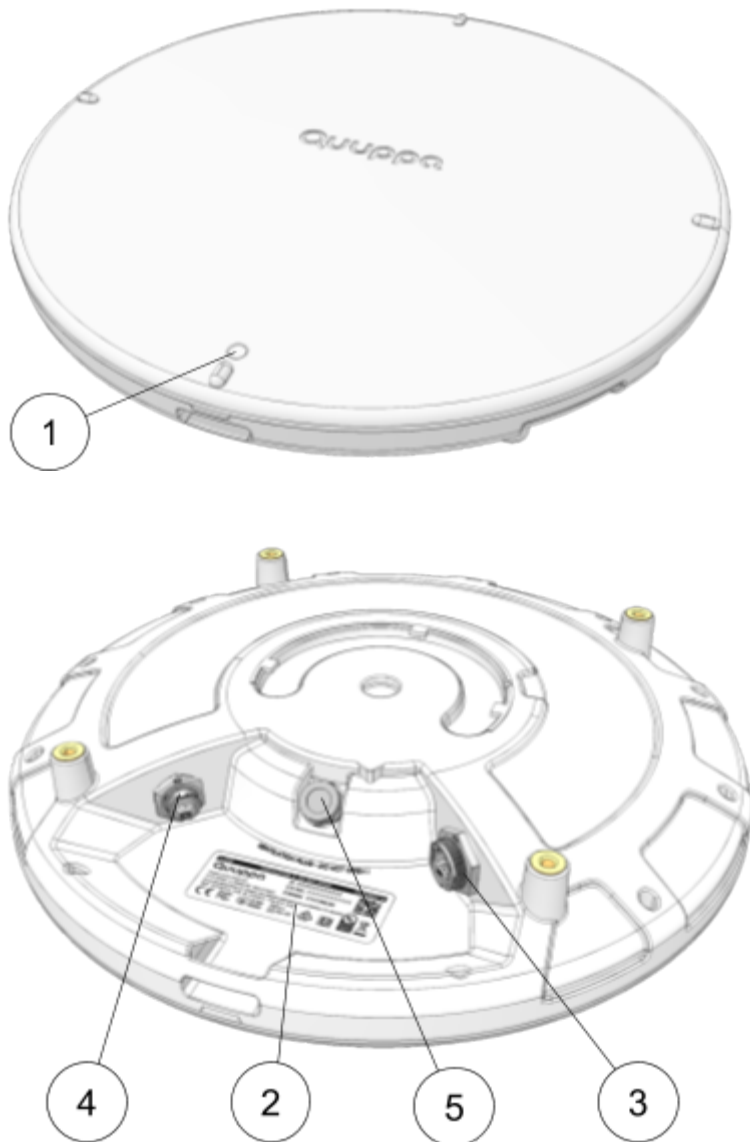The Q35 has the following parts:

1. Quuppa Q35 main unit
2. Waterproof Ethernet Connector Unit

3.1. Q35 Main Unit

1. Indicator light
2. Type label
3. Ethernet connector
4. Micro USB connector
5. Ventilation plug (DO NOT OPEN)

WARNING   **Opening the Ventilation plug or the retaining nut for the Ethernet connector and/or the Micro USB connector will void the warranty.**

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4.   Safety Information

Observe the following safety guidelines when installing the device:

- Only a qualified service technician should install or service the device using the approved original Quuppa parts supplied in the sales package. Faulty installation or service may be dangerous and may void any warranty which may apply to the device.

- End users should remember that the device contains complex technical equipment and requires installation using special tools and expert know-how.

- Instructions given in this guide are general guidelines that apply to the installation of Quuppa devices. However, due to the wide variety of environments and mounting surfaces, this guide cannot consider the individual technical requirements relevant for any particular installation. Consult Quuppa in case you are uncertain about installation in a specific environment.

- The device is designed to operate either by using a standard Power over Ethernet (PoE) compatible network component connected at the Ethernet socket or by Micro USB.

- For your safety, and to prevent any damage to the device, only use a compatible power supply. Contact Quuppa in case of any uncertainty regarding compatible power supplies. When using a PoE compatible network component as a power source, only use standard certified network components.

- The device has built-in protection for overvoltage but a connection using the wrong polarity might damage the unit.

- When installing the devices, make sure that the installation surface can safely carry the weight of the equipment.

- Your service technician or dealer may be able to provide you with information on alternative mounting solutions for different types of environments.

- Do not smoke when installing the equipment. Make sure there is no source of fire or flame nearby.

- Make sure to place cables so that they will not be subject to mechanical wear and tear.

5. Using the Q35

In this section you will find useful information about installing the Q35 as well as connecting the device to a power supply and a network.

5.1. Installation

The Q35 should be mounted clear of any metal obstructions (e.g. air-conditioning ducts, large ceiling trusses, building superstructures) to the side or front of the device. In case needed, use a rigid conduit to lower the Q35 away from these obstructions.
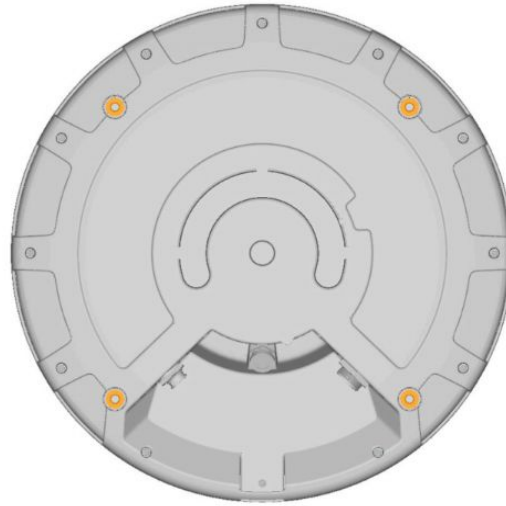
Installation Using VESA Mount
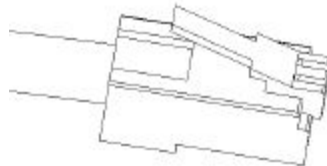
Selecting Compatible Mounting Bracket
The Q35's mounting holes are arranged according to VESA MIS-F, 200, Y, 6 standard (Four M6 threaded holes in 200x200mm pattern). Select your mounting bracket according to the requirements set
by the installation environment. Please note that some mounting bracket models may prevent access to cable connectors when installed. Make sure that the mounting bracket can carry the weight of Quuppa Q35 (1,3 kg) and possible wind loads.

WARNING	**Never attach, mount, or connect the mounting bracket to hot surfaces. Always make sure that the surface can carry the weight of the equipment before installation.**

WARNING	**Not following general safety regulations can cause damage to objects or injuries to people. Rely on qualified personnel for carrying out the installation of Quuppa devices.**

1. Attach the Ethernet cable and Micro USB cable (if used). Use Ethernet cables and connectors designed for outdoor use, even in indoor installations, to prevent water, moisture and dust from getting into the device. The Ethernet socket of the Q35 is Amphenol-LTW RCP-5SPFFP-TCU7BXX and it accepts 3 point lock bayonet (-TL and -TR type) waterproof Ethernet connectors from Amphenol-LTW. For example, you can use the Amphenol-LTW RCP-00BMMS-TLM7001 field installable connector, which is included with the package.   The preferred RJ45 connector type for cables used with the field installable   RCP-00BMMS-TLM7001 connector is the crimped connector shown below, but also small overmolded connectors can be used. Please verify the compatibility of your cabling before proceeding with the installation.
Also, make sure to use a waterproof USB cable connector or keep the protective cap on the USB

   connector.   The USB socket of the Q35 is USBFirewire RR-11A200-0P-XX and it accepts USBFirewire RR-11B220-05-XX series waterproof USB cables.
2. Attach the Q35 to the mounting bracket with four screws (marked in the picture above). Use M6 bolts and assembly torque of 2 Nm (max allowed torque is 2.5 Nm).
With a thin bracket, an M6 screw of 10 mm length can be used. With thicker brackets, please check the suitable screw length. It is very important to use the right size screws in order not to break the product. Maximum length of the screw to be used is 10mm + thickness of the used VESA mount.
3. Attach the VESA mounting bracket to the wall, ceiling, or mast.
4. Aim the Q35 towards the intended coverage area and tighten all fasteners.
5. Make sure the other end of the Ethernet cable is connected to a device that is connected to the Quuppa system.

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WARNING   **Always make sure that the installation surface or mast can carry the weight of the equipment and possible wind loads before installation.**

Installation Tips

- When installed outside, **install the device tilted** to allow rainwater to run off the device.

- Carry out a **test installation** before ordering all of the installation parts for a larger project.

- Please check the local authorities' safety requirements and if necessary, **use a safety wire** to ensure a safe installation.

- If the Q35 needs to be tilted to achieve the intended coverage area, make sure to **mount the device so that the required mechanical tilt can be achieved**.

- When installed outside, please consider using an additional **surge protector** to protect the device**.**

5.2.   Connect to Power Supply

Option 1: Use Power over Ethernet (PoE)

The Q35 supports the use of standard IEEE 802.3at Type 1 PoE components, e.g. PoE switch or power injector, as its power source. Only use standard certified PoE devices. When using PoE, a separate DC power supply is not required.

Option 2: Use Separate 5V DC Micro USB

If you are not using PoE components, connect the Q35 to a 5V power supply with a Micro USB. Only use compatible power supplies. Contact Quuppa in case of any uncertainty regarding compatible power supplies.

When the power supply is connected, the Q35 automatically switches on. The red indicator light flashes multiple times, after which the red indicator light remains on statically until the Q35 is connected to the QPE.

5.3.   Connect to Network

Connect the Q35 to a network with an Ethernet cable using the RJ-45 Ethernet socket. For your safety and to prevent any damage to the device, only connect the Q35 to standard certified network components.

When the Q35 is properly connected to the network, but not activated by the QPE software, the red indicator light blinks slowly. The blue indicator light flashes or is statically lit when the Q35 is activated by the QPE software. If needed, it is possible to turn the Locator's indicator light LED off when in tracking mode. For more information, please see separate instructions.

The table below shows the different Locator modes as indicated by the Locator's indicator light.

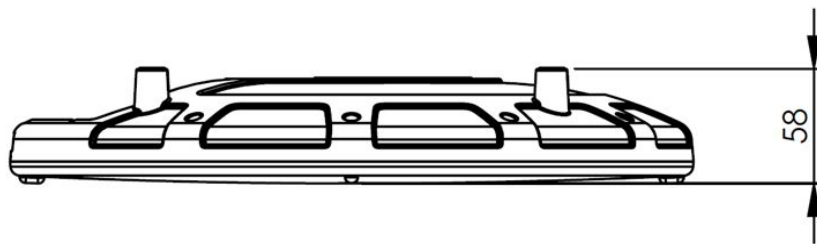| Colour Sequence	Sequence Description	Indicator Light Mode
🔴 🟢 🔵	Flash red - green - blue once	Reboot sequence
▬	Static red	Locator powered, no IP address
🔴🔴🔴	Flashing red	Locator connected to network
▬	Static blue	Locator in tracking mode
🔵🔵🔵	Flashing blue	Locator in deployment mode
⚪⚪⚪	Flashing white	Locator firmware upgrade in progress
🔴🔴 🔴🔴	Flash red twice, pause and repeat	Locator subscription not valid
	LED off	Optional indicator light state for tracking mode

ESD Precautions

To prevent damage to the device caused by electrostatic discharge (ESD) during the installation process, please follow the recommendations listed below.

- Use **shielded Ethernet cables**.
- Use the connector provided in the product box to attach the cables and **avoid touching the signal cable** directly.
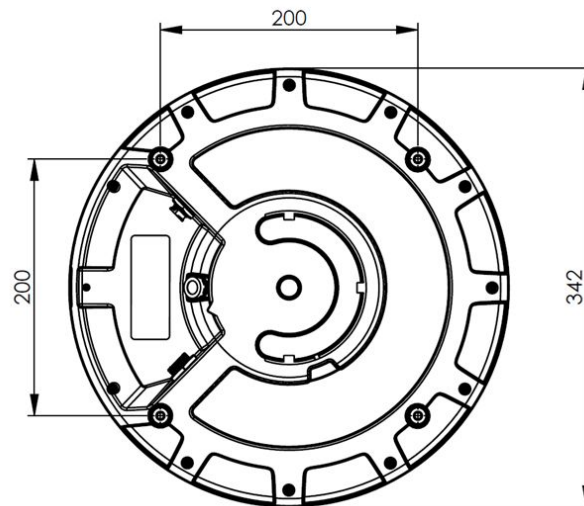
6.   Product Information

6.1.   Q35 Mechanical Details

Q35 dimensions

58

Picture 4: Dimensions, side view

200

200

342

Picture 5: Dimensions, back view

6.2. Technical Specifications

Item	Description
Dimensions Locator main unit	Ø: 342 mm, h: 58 mm
Weight	1300 g
IP protection class	IP66
Operating temp. range	-20°C...+60°C
Storage temp. range	–30°C...+70°C
Carrier frequencies	2401 2402 … 2480 2481 MHz (Positioning radio, (Japan: 2402 2403 ... 2480 2481 MHz) 2402 2404 … 2478 2480 MHz (Communication radio)
Power supply	48 V PoE (Power over Ethernet) or 5V DC (micro USB)
Typical power consumption	1 W
Certifications	CE, FCC, IC, UL ; Pending: Japan, Korea, Australia & New Zealand

6.3. Packaging and storage

The Q35 is shipped in a cardboard box.

Picture 6: Packaging

Please note the storage temperature when storing the Q35. Please note that the device is sensitive to ESD and may be damaged by it. Do not store the Q35 in a humid environment.

6.4.   Care and maintenance

The Quuppa device is a product of superior design and craftsmanship and should be treated with care. The following suggestions will help you protect your warranty coverage.

- Do not attempt to open the device.
- Keep the device dry. Precipitation, humidity and all types of liquids or moisture can contain minerals that will corrode electronic circuits.
- Do not use or store the device in dusty and/or dirty areas. Its moving parts and electronic components may be damaged.
- Do not use harsh chemicals, cleaning solvents, or strong detergents to clean the device. Only use a soft, clean and dry cloth to clean the surface of the device.
- Do not paint the device.
- Keep the device out of the reach of small children.

7. Recycling and disposal

Always return your used electronic products, batteries, and packaging materials to dedicated collection points. This way you help prevent uncontrolled waste disposal and promote the recycling of materials.

Disposal of Electrical and Electronic Equipment. This crossed-out wheeled-bin symbol indicates that this product should not be treated as household waste. Instead hand it over to the appropriate collection point for the recycling of electrical and electronic equipment in accordance with local environmental regulations for waste disposal.

Ensuring proper product and battery disposal prevents potential negative consequences for the environment and human health. For more information, contact your city, the place of purchase, or support@quuppa.com.

8. FCC and IC Regulatory Statements

Model	FCC ID	IC ID
Q35		

Item	Description
Radio	Positioning radio
Radio transmission	Bi-directional
Number of channels	81 channels (1 MHz), only one at a time
Carrier frequencies	2401 2402 … 2480 2481 MHz
Modulation	GFSK
Max Output Power	3.5 mW
Max Output Power	Integrated printed IFA antenna with 0 dBi gain

Item	Description
Radio	Communication radio
Radio transmission	Bi-directional
Number of channels	40 channels (1 MHz), only one at a time
Carrier frequencies	2402 2404 … 2478 2480 MHz
Modulation	GFSK
Max Output Power	3.5 mW
Antenna	Folded dipole antenna with 0 dBi gain

8.1.   Industry Canada Statement

This device complies with ISED's licence-exempt RSSs. 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.

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be chosen so that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

Radiation Exposure Statement:
This equipment complies with ISED radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with greater than 20cm between the radiator & your body.

Le présent appareil est conforme aux CNR d' ISED applicables aux appareils radio exempts de licence. L'exploitation est autorisée 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.

Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radio électrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.

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 à plus de 20 cm entre le radiateur et votre corps.

8.2.   FCC 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.

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 generates 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 measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

WARNING Changes or modifications not expressly approved by Quuppa could void the user's authority to operate the equipment.

Radiation Exposure Statement:
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

9. Japan (MIC) Regulatory

Model	Certified Number
Q35	

Item	Description
Radio	Positioning radio
Number of channels	80 channels (1 MHz), only one at a time
Carrier frequencies	2402 2403 … 2480 2481 MHz
Max Output Power	1.5 mW

Item	Description
Radio	Communication radio
Number of channels	40 channels (1 MHz), only one at a time
Carrier frequencies	2402 2404 … 2478 2480 MHz
Max Output Power	2.0 mW

The Quuppa Q35 is approved for use in the Japanese market. Please note that in Japan the Quuppa Q35 is certified for frequencies 2402 … 2481 MHz.

10.   CE Regulatory

The Quuppa Q35 has been tested for compliance with relevant standards for the EU market.

A copy of the Declaration of Conformity can be found at: www.quuppa.com/support.

11.   Korean certification

Model	Certified Number
Q35	

Item	Description
Radio	Positioning radio
Number of channels	80 channels (1 MHz), only one at a time
Carrier frequencies	2401 2402 … 2480 2481 MHz
Max Output Power	3.0 mW

Item	Description
Radio	Communication radio
Number of channels	40 channels (1 MHz), only one at a time
Carrier frequencies	2402 2404 … 2478 2480 MHz
Max Output Power	3.0 mW

12. Bluetooth SIG Qualification

Name	Declaration ID	Description
Quuppa Q35	D039452	Quuppa Locator

13. UL certification

Name	ID
Quuppa Q35	485835

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Revision History

Version number	Changes	Date	Person
1.0	First version Reviewed with	XXX 2020	SE, JT

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