




ZEROKEY QTM-AGP10 Quantum RTLS Gateway User Manual

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PREFACE

ABOUT THIS GUIDE

This guide contains the information you will need to operate the QTM-AGP10 with the Quantum RTLS system.

WHERE TO FIND MORE INFORMATION

Refer to the following sources for additional information and for product and software updates.

- **QTM-AGP10 Resources**

For more information and the most up to date user manual please visit our website (<https://zerokey.com>) which contains additional product specifications, user documentation, and notices.

- **Included product documentation**

Your product package includes documentation detailing the setup, configuration and operation of the Quantum RTLS system.

CONVENTIONS USED IN THIS GUIDE

Take note of these symbols which indicate important information within this manual.



CAUTION: Important instructions to prevent damage or improper operation of the Smart Space system.



NOTE: Key information and helpful tips that

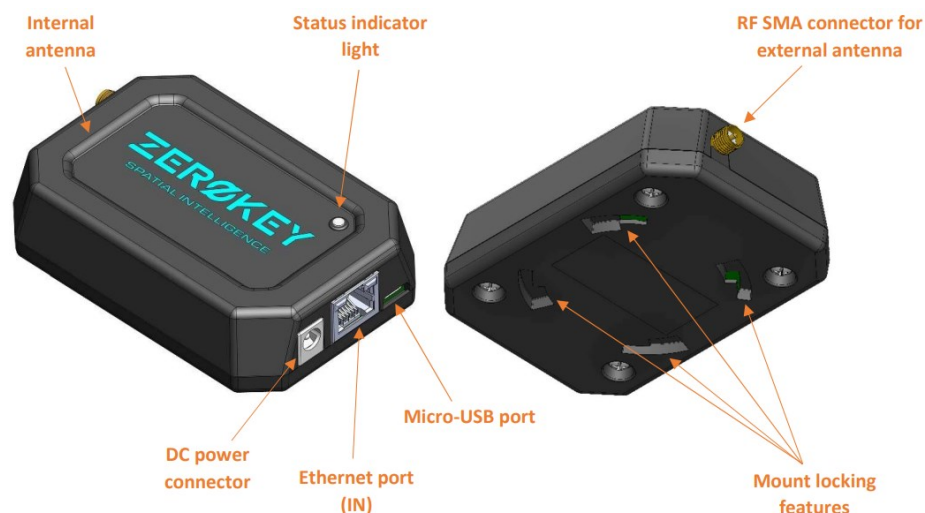


CONFIG: Critical setup information that **MUST** be followed prior to operation of the system.

QTM-AGP10 UNIT

This ZeroKey device acts as a communications gateway between the Quantum RTLS system and outside computing resources.

DEVICE COMPONENTS



PHYSICAL CHARACTERISTICS

SIZE

Without mount: 24 mm tall, 97 mm wide and 65 mm deep. With mount: 27 mm, 121 mm wide and 114mm deep.

WEIGHT

Without mount: 76 g

With mount: 94 g

COMMUNICATION / POWER CONNECTORS

The unit requires active connection to power for operation, and can be powered over micro-USB, ethernet, or DC power.

USB

The QTM-AGP10 can be connected to a PC or server via. USB connection to communicate with and supply power to the device. It is recommended to use a different method of connection if permanently installing the device on the roof.



CAUTION: Use only manufacturer/dealer specified USB Cable to power device.

POE

The QTM-AGP10 features an ethernet port which can be used for both Power over Ethernet (PoE) and communications. This port only supports power input. It is recommended to use a PoE-specific cable if using this method to power the device. For best outcomes, use a PoE-specific cable with 24 AWG conductor. This device conforms to 802.3at Type 2 “PoE+” (30.0W).



CAUTION: Use only manufacturer/dealer specified PoE capable cabling and power ports.

DC POWER CONNECTOR

If communicating with the QTM-AGP10 via. ethernet cable that does not support PoE, the device can be powered using the DC power connector.



CAUTION: Use only manufacturer/dealer specified power supply (Phihong Technology Co., Ltd. Type: PSAC30U-560L6 or equivalent).

WIRELESS ANTENNA

In order to communicate with the rest of the Quantum RTLS system, the QTM-AGP10 features two wireless antenna options.

INTERNAL

The QTM-AGP10 contains an internal antenna with an effective range of 150 meters for short-range applications.

EXTERNAL

The QTM-AGP10 features an RF SMA port to connect a high-gain external antenna. The external antenna has an effective range of 300 meters for long-range applications and wide-area installations.

ALERTS, WARNINGS, AND INDICATORS

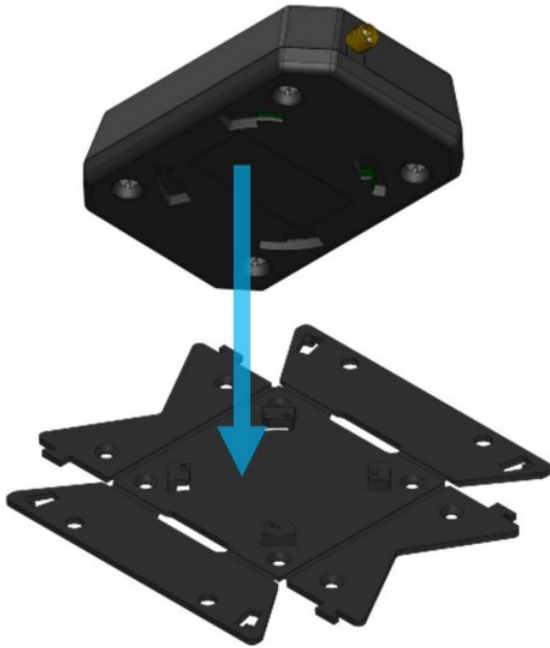
LIGHT ALERT

Upon boot-up, the QTM-AGP10 LED will turn solid white for 1 second, then turn solid red for 1 second before entering idle state.

Blinking green, every 2 seconds	On, normal operation
Solid white	DFU mode – receiving firmware update
Blinking green	Serial data in
Blinking red	Serial data out

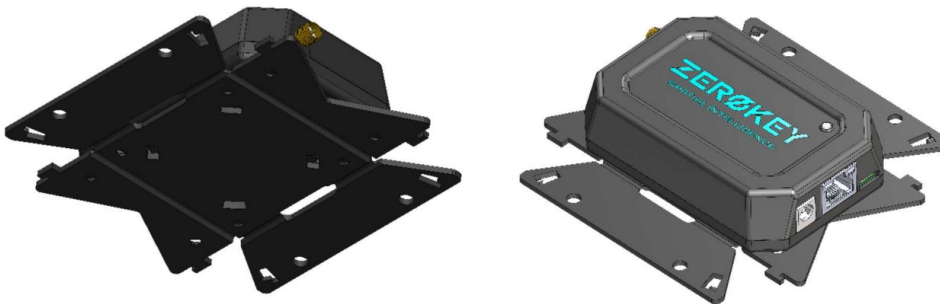
INSTALLATION

MOUNTING THE QTM-AGP10 UNIVERSAL MOUNT



To use the universal mount:

- Line up the notches on the mount with the mounting locking features on the bottom of the device
- Twist the mount in a clockwise direction until it clicks into place



- Adjust the universal mount to fit the installation location. For additional fitment options, the mount can be left flat, the sides can be removed using snips or side cutters, or the sides can be folded along the edge. If all edges are folded in, they can interlock with one another at the corners to assemble a universal shape. There are holes on the sides and along the edges so that the unit can be secured with materials such as cable ties, Velcro, or wire.

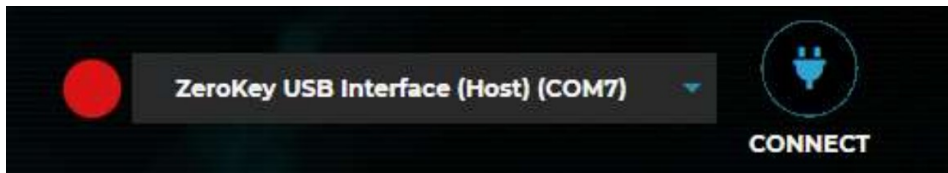


- Mount the QTM-AGP10 in a secure location where it will maintain connection to power and the PC or data center.

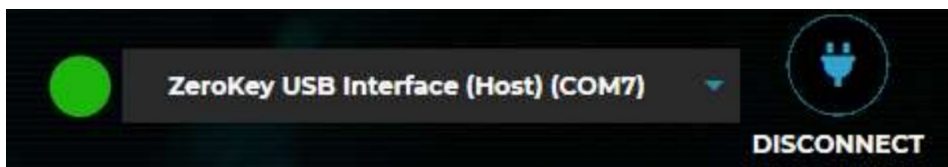
CAUTION: Ensure the device is mounted in a location where all nodes in the Quantum RTLS system will be within range and have line-of-sight. If not attaching an external antenna, the QTM-AGP10 has an effective range of 150 meters. If using the high-gain external antenna, effective range is extended to 300 meters. Effective range is greatly influenced by structures and objects in the transmission path.

CONNECTING

Open the ZeroKey Configuration Tool on a PC. Using any of the methods mentioned in Section 2.2.3, power up the device and connect it to the PC. Upon successful boot up, the LED will turn solid white for 1 second, then turn solid red for 1 second before entering idle state. Once it is in idle state, the LED will blink green every 2 seconds. If powering the device over PoE or USB and the LED does not turn on, ensure the cable supports power delivery. Upon successful connection, the connection dropdown in the top right corner of the Configuration Tool will automatically populate with the COM port of the device.



Click the Connect button to establish connection in the Configuration Tool and start system configuration



See the ZeroKey Configuration Tool manual for more information on Quantum RTLS system configuration, setup, and usage.

OPERATION

In Quantum RTLS, the QTM-AGP10 is used for communication from the Quantum RTLS system, including anchor and mobile nodes. In regular operation the device is mounted in a location where its connection to power and communications will not be disrupted. Whenever a mobile unit is within Radio range of the device, the mobile will relay positioning information, which can be fed into external applications for real-time logistics, analytics, alerting

and more.

PRODUCT CARE

GENERAL CARE

CLEANING

The device can be cleaned using a moistened soft cloth and nonabrasive hand/dish soap. DO NOT IMMERSE. Wipe dry to prevent any moisture build up.

OPERATING TEMPERATURE

This device is designed to operate from -20°C to +60°C ambient. Do not place the unit in direct sun for extended periods without proper ventilation as the unit may exceed the +60°C temperature.

REPAIRS AND DISPOSAL

FIRMWARE UPDATES

The QTM-AGP10 can be updated with new firmware through our over-the-air reprogramming application to correct, improve, or add new features to enhance the unit's performance. Details on how to perform these updates is included with each update installation package.

OPERATION LOGS

The QTM-AGP10 updates and maintains information concerning its operation and activities as it is being used around the site. This information is used to monitor the health of the unit and improve the device performance. The information collected does not contain any personal information from the user.

REPAIRING DAMAGED DEVICE

Units that have been damaged or have failed to operate in the field can be returned for repair or replacement with a few exceptions. If the battery has been physically compromised or has been found to be defective, the unit can NOT be legally shipped by any carrier. If the unit is intact but has ceased to operate, it can be returned via an RMA request to our repair center. Please contact your plan administrator for more information and an RMA form.

DISPOSAL OF DEVICE

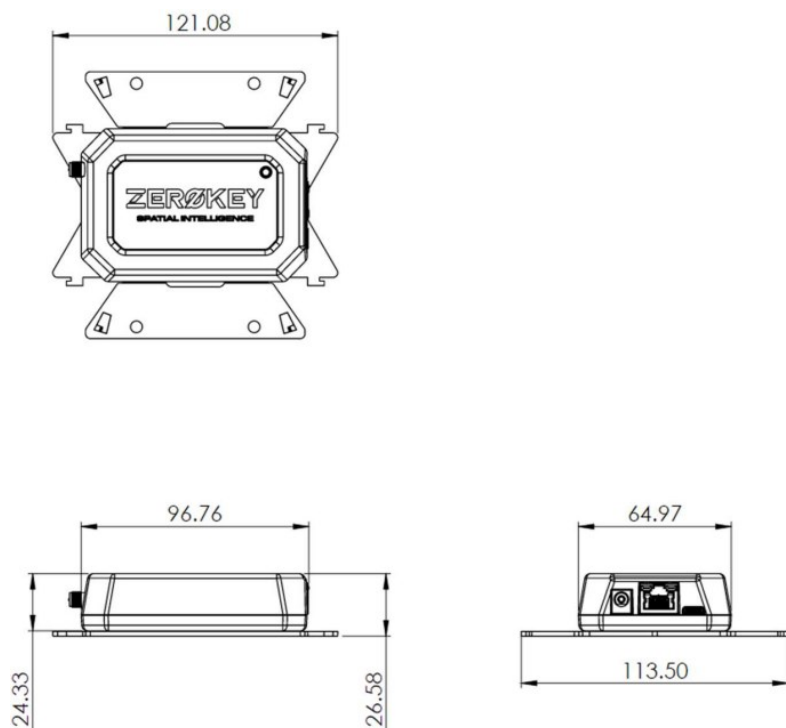
The QTM-AGP10 must be sent to an electronics recycling depot to reclaim the electronics. Please contact your nearest electronics recycling company for details on their collection requirements.

APPENDIX A – SPECIFICATIONS

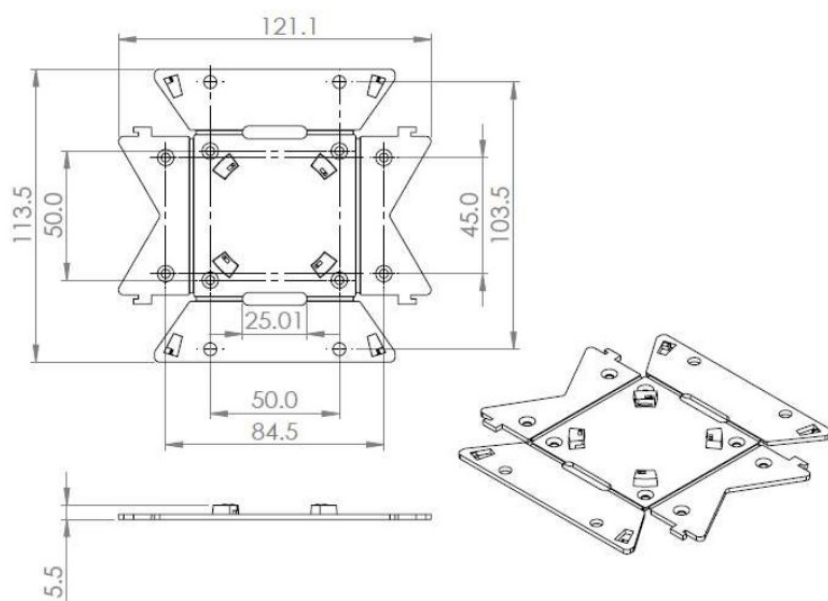
Dimensions	96.8 x 65 x 24.3 mm
Weight	76 g
Input Voltage	50.0-57.0v DC
Input Current	50 mA max
Quiescent Current	0.25 to 0.50 mA
Power-over-Ethernet	802.3at type 2 “PoE+”
Ethernet Speed	10/100 Mbps
Microcontroller	ARM Cortex-M4F @ 64MHz
Ethernet Port	RJ45
USB	USB 2.0 (12Mbs)
DC Power Connector	2.10mm ID 5.5mm OD, center positive.
Peripherals	Status LED, RF SMA connector
Mounting Options	Universal Mounting Plate, 2 sided tape
Operating Temperature	-20 to 60°C
Operating Humidity	5 to 95% Non-Condensing
RF Modulation	GFSK
RF TX Power	0-8 dBm
RF RX Sensitivity	-90 to -97 dBm
Certifications	FCC (US) / IC (Can) / CE (EU) / JRL (JP) / KC (KR)

APPENDIX B – MECHANICAL DRAWINGS

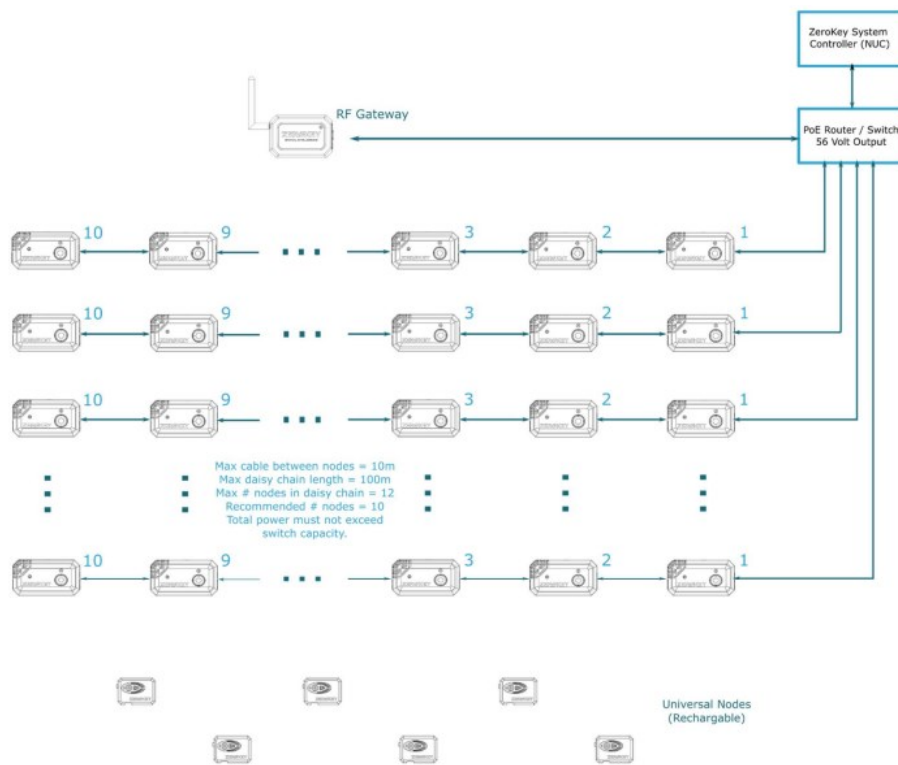
QTM-AGP10




UNIVERSAL MOUNT



APPENDIX C – SYSTEM DIAGRAM



Documents / Resources

	<p>ZEROKEY QTM-AGP10 Quantum RTLS Gateway [pdf] User Manual QTM-AGP10 Quantum RTLS Gateway, QTM-AGP10, Quantum RTLS Gateway, RTLS Gateway, Gateway</p>
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References

- [ZeroKey Quantum RTLS™ - Home](#)