



MultiConnect® Conduit™ IP67 Base Station MTCDTIP Installation Guide



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Warning and Caution

Warning and Caution symbols mean potential danger. You are in a situation that could cause bodily injury. Before working on any equipment, be aware of hazards in the installation area and be knowledgeable about electrical circuitry. Be familiar with standard practices for preventing accidents.

For translations of key cautions and warnings, go to <http://www.multitech.net/developer/basestation>.

WARNING: Only trained and qualified personnel should install, replace, or service this equipment. Installation must comply with local and national electrical codes.

- When installing or replacing the unit, the ground connection must always be made first and disconnected last.
- Disconnect POE power (Ethernet POE port) before servicing IP67 Base Station.
- Do not work on the system or connect or disconnect cables during periods of lightning activity.
- This device is not designed or approved to be used in any Hazardous Locations. Do not install or operate device if area is known to be an explosive environment.
- Externally ground this equipment using a customer-supplied ground wire before applying power. Contact an electrician if you are uncertain that suitable grounding is available. Refer to *Installing the Ground Wire* instructions.
- All wall mounting installations are subject to the acceptance of local jurisdiction.
- Do not locate antenna near overhead power lines or other electric light or power circuits, or where it can come into contact with such circuits. When installing the antenna, take extreme care not to come into contact with such circuits, because they may cause serious injury or death. For proper installation and grounding of the antenna, please refer to national and local codes.

CAUTION:

- Power over Ethernet (PoE) Certification does not apply or extend to voltages outside of standard PoE range. Any PoE voltages beyond 0vdc to 60Vdc have not been evaluated by UL or MULTITECH. Nominal PoE voltage is 48Vdc. The end user supplies the PoE cable. This cable must be suitable for outdoor location. This is an 802.3at Type 2 device. Power input is 25W from standard 802.3at PoE input.
- Ethernet port is not designed to be connected to a public Telecommunication (PSTN) or any other connection other than IEEE 802.3-2012 power over Ethernet devices.
- Do not remove product labels.

WARNING!

HOT SURFACE DO NOT TOUCH

Note: This symbol is included on the serial label. UL evaluated this device to a safety and outdoor certification temperature of -30c to +85c. Operating temperature is -40c to +70c.

MultiConnect Conduit IP67 Base Station

Part Number: 82102799, Version 1.0

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Multi-Tech Systems, Inc.
2205 Woodale Drive
Mounds View, Minnesota 55112 U.S.A.
Phone: 763-785-3500 or 800-328-9717
Fax: 763-785-9874

Support
Support Portal
<https://support.multitech.com>

Europe, Middle East, Africa:
support@multitech.co.uk
+(44) 118 959 7774



Knowledge Base
<http://www.multitech.com/kb.go>

U.S., Canada, all others:
support@multitech.com
(800) 972-2439 or (763) 717-5863
Business Hours: M-F, 8am to 5pm CT

MultiConnect Conduit IP67 Base Station

Use the MultiConnect Conduit IP67 Base Station (MTCDTIP) to deploy gateways in the field.

CAUTION: Read installation instructions and safety information before starting Base Station installation. Do not connect power until directed to do so.

If you do not install the accessories when you install the Base Station, cover the LoRa connectors to ensure they remain dry.

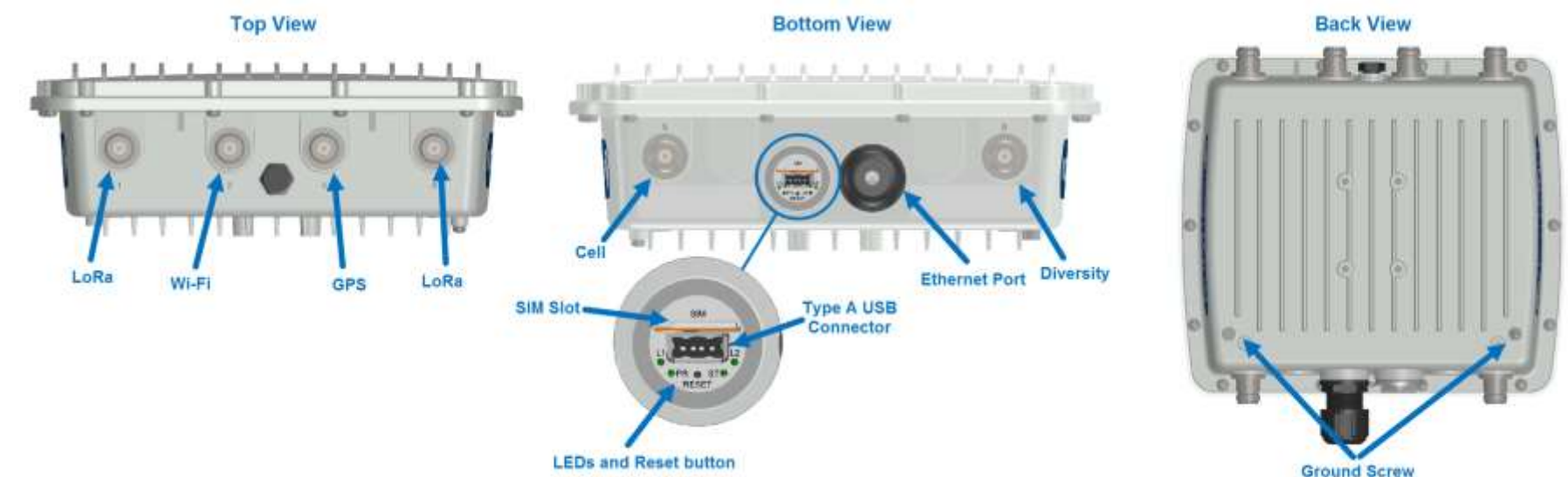
Package Contents

Note: Accessories, such as antennas and antenna brackets, may vary depending on the model ordered. Antenna brackets, which are optional, are not shown.



Item	Description	Quantity
1	MTCDTIP Base Station	1
	Mounting bracket	1
2	M5 x 10mm screws, washers and split washers (shown in the mounting bracket)	4 each
3	¼ x 1 inch screws and anchors	4 each
4	Hose clamps	2
5	GPS antenna	1
6	LoRa antenna	2
7	LTE antennas	2
8	Wi-Fi antenna	1
9	Installation Guide	1

Connector Locations



Reset Button

You need:

- A pin, paperclip, or similar thin object that can fit into the reset hole.

The following is the default condition for the RESET button on the device. You can program a change to the behavior of the button if needed. To reset the device:

- Remove the clear plastic cap.
- Find the hole labeled RESET (see image above). The reset button is recessed.
- Use the pin to press and release the RESET button as follows:
 - To reboot, press RESET for less than 3 seconds.
 - To reboot and restore user-defined defaults (if previously set), press RESET for 3 to 29 seconds.
 - To reboot, restore factory settings, and erase user-defined defaults, press RESET for 30 seconds or longer.
- Replace the clear plastic cap.

Note: The device reboots when restoring settings.

LEDs

Label	LED	Description
PR	Power	Green when powered up, red when not.
ST	Status	Green or red, behavior is user programmable.
L1	LoRa 1	
L2	LoRa 2	

Requirements

You will need:

- 1 - Power over Ethernet cable rated for outdoor use
- 1 - Micro SIM Card; MultiTech recommends using an industrial-grade micro SIM card suitable for high temperatures
- 1 - Phillips screwdriver

Optional: If mounting the LoRa antennas away from the Base Station, you also need low-loss antenna cables to connect the antennas to the Base Station.

Installing the Micro SIM Card

To install the SIM card:

1. Remove the plastic cover. The SIM holder is above the USB port.
2. Gently push the micro SIM card into the holder with the cut corner to the right and the SIM contacts facing towards the USB port as shown.
3. Reattach the plastic cover.



Attaching the Mounting Bracket

To attach the mounting bracket to the Base Station:

- Attach the bracket to the back of the Base Station using the supplied screws and washers as shown.



Mounting on a Pole

To attach the Base Station on a pole:

- Attach the Base Station to the pole using the supplied hose clamps.



Installing the Ground Wire

Proper grounding of metal enclosure is required to ensure safety. The ground lug is located on the enclosure back as shown in the *Back* image (under *Connector Locations*). Connecting the ground lug to an earth ground is the recommended method. Refer to the National Electric Code or your local codes for additional information or contact a licensed electrician for assistance in grounding an installation.



Ground wire (not provided) must be suitable for outdoor location and meet a minimum wire gauge of 14awg or larger. Use the supplied ground screw to fasten wire.

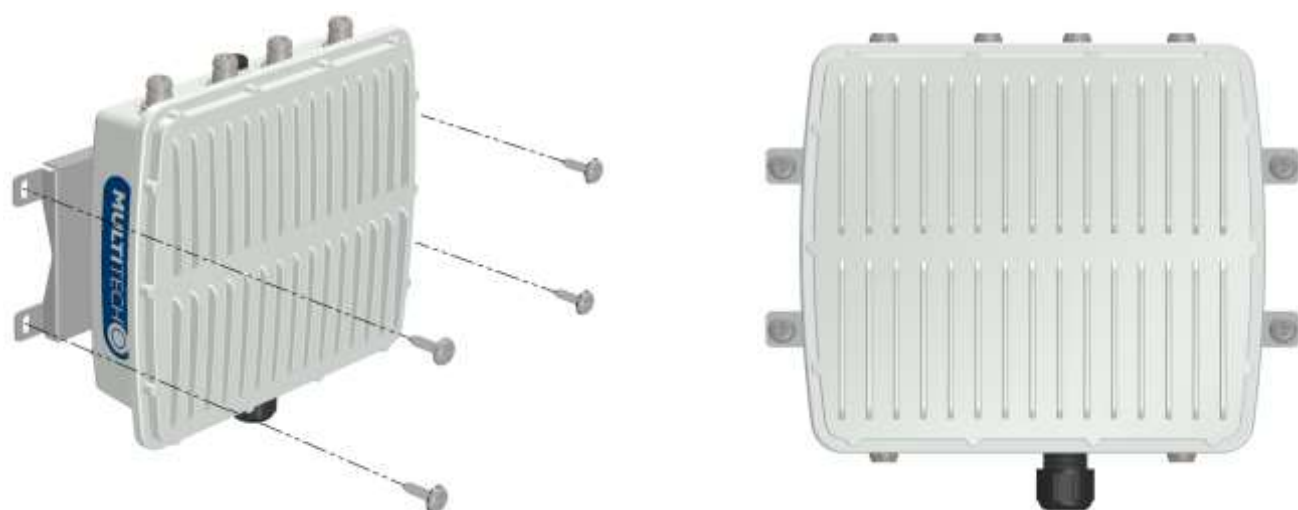
Ground wire terminal must be closed loop (ring type, see image right) and corrosive free in design. Insert screw through loop terminal and fasten to 15 lbf-in (17.28 kfg-cm).



Mounting on a Wall

To mount the device on a wall:

- Use the four bracket tabs to attach the Base Station to the wall with the supplied screws and anchors.



Attaching Accessories

The following sections illustrate how to connect accessories listed in package contents. Your accessories may vary based on your model. Additional configurations are shown on the <http://www.multitech.net/developer/products/conduit/>

Attaching Accessories with LoRa Antennas Attached to Base Station

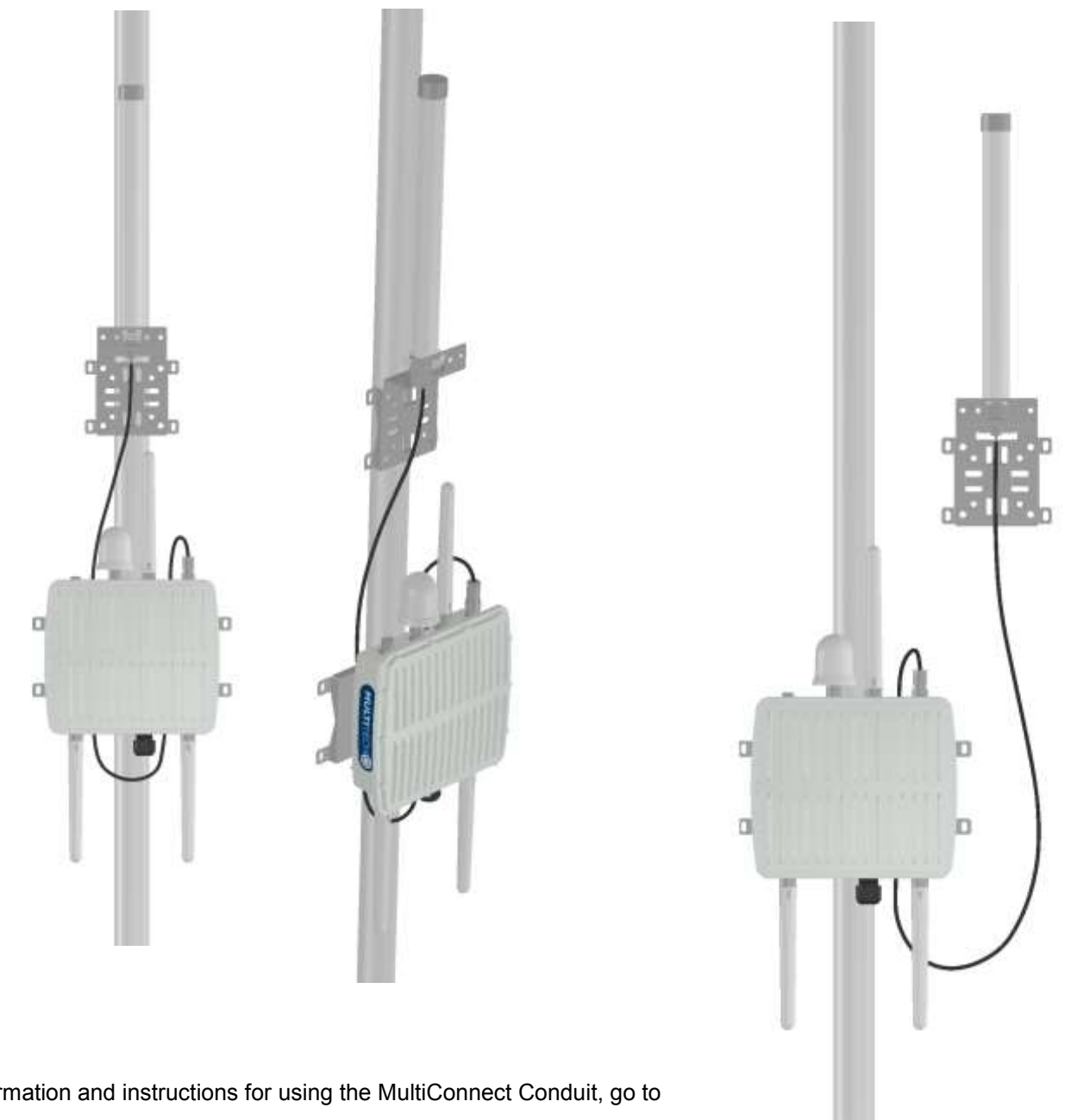
After mounting the Base Station (all accessories should be hand-tightened to connectors):

1. Attach the LTE cellular antennas to the Cell and Diversity connectors on the bottom of the Base Station.
2. Attach the GPS antenna to the GPS connector on the top of the Base Station.
3. Attach the Wi-Fi antenna to the Wi-Fi connector on the top of the Base Station.
4. Attach the LoRa antennas to the LoRa connectors at the top of the Base Station.
5. Attach the Ethernet cable (not provided) to the device to supply power and Ethernet.



Attaching Accessories with LoRa Antennas Connected via Cable

1. Use an antenna hose clamp to attach the antenna bracket to a LoRa antenna.
2. Attach an antenna cable to the LoRa antenna with the bracket.
3. Repeat Steps 1 and 2 for the second LoRa antenna.
4. For a pole mount, use hose clamps to mount the antenna mounting bracket to the pole. For a wall mount, attach the antenna bracket to the wall using the four tabs on the bracket. Repeat for the second LoRa antenna.
5. Attached the antenna cables to the LoRa connectors at the top of the Base Station.
6. Attach the LTE cellular antennas to the Cell and Diversity connectors on the bottom of the Base Station.
7. Attach the GPS antenna to the GPS connector on the top of the Base Station.
8. Attach the Wi-Fi antenna to the Wi-Fi connector on the top of the Base Station.
9. Attach the Ethernet cable (not provided) to the device to supply power and Ethernet.



Additional Information

For Base Station dimension drawings, regulatory information and instructions for using the MultiConnect Conduit, go to www.multitech.net/developer/products/conduit/.

Regulatory Information

This device complies with Part 15 of the FCC rules and with ICES-003 of industry Canada for a Class A digital apparatus. Operation of this device is subject to the following conditions: (1) This device may not cause harmful interference and (2) This device must accept any interference that may cause undesired operation.

MultiTech declares that this device is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EU. The declaration of conformity may be requested at <https://support.multitech.com>.

Safety Instructions

For safety and to achieve a good installation, please follow these safety precautions:

- Consider safety and performance when selecting an installation site. Remember electric power lines and phone lines look alike. Assume that any overhead line can kill.
- Call your power company and ask them to look at your proposed installation. This is important if raising a mast or tower.
- When installing the device:
 - Do not use a metal ladder.
 - Do not work on a wet or windy day.
 - Do dress properly—shoes with rubber soles and heels, rubber gloves, long sleeved shirt or jacket.