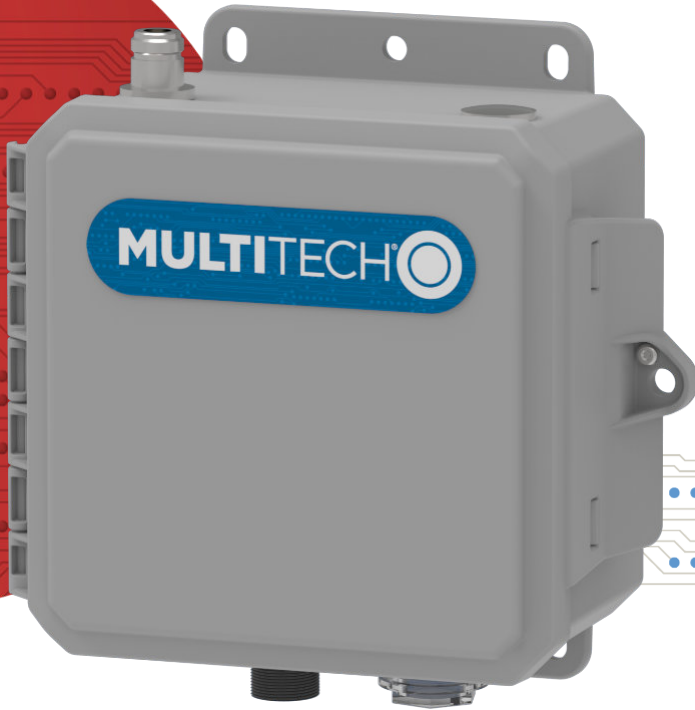# MULTITECH®

# MultiTech Conduit®
# IP67 200 Series

IP67 Base Station for Outdoor LoRa® Deployments
915 MHz ISM Bands

**LoRa Alliance®**

**MultiTech Conduit® IP67 200 Series Base Station** is a ruggedized IoT gateway solution, specifically designed for outdoor LoRa® public or private network deployments. This highly scalable and certified IP67 solution is capable of resisting the harshest environmental factors including moisture, dust, wind, rain, snow and extreme heat, supporting LoRaWAN® applications in virtually any environment. The enhanced Conduit IP67 solution can support thousands of LoRaWAN certified end nodes, including the MultiTech mDot™* and xDot®*. This flexible solution provides durable, low-power, wide area connectivity in support of M2M and IoT applications for both LoRa service providers and individual enterprises wanting to expand their LoRa network coverage.

Designed for easy deployment, the solution includes an IP67 enclosure, LoRa antenna to improve outdoor range and Ethernet or optional 4G-LTE backhaul. It can be deployed as part of an existing telecommunications tower, individual stand or wall mount.

*Represents ideal network configuration and equipment set up. Results vary depending on payload amount, transmission frequency, spreading factor used, as well as terrain, RF interference and obstruction type (e.g., metal, cement, etc.)

## BENEFITS
- Greatly expands LoRa network coverage
- External antenna increases LoRa connectivity to remote assets
- Improved design enhancing thermal performance and easy external port access to SIM and Ethernet connectors

## FEATURES
- ISM band scanning for optimum LoRa performance
- GNSS for time stamping
- Certified for 915 MHz ISM bands
- Internal super capacitor helps ensure safe shutdown in case of power failure

multitech.com/ip67-200
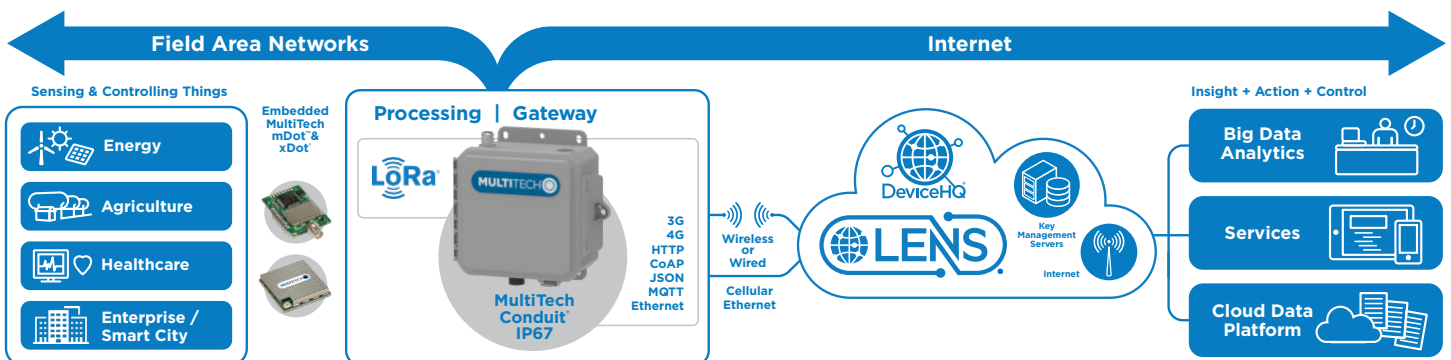
# mPower
## EDGE INTELLIGENCE

## Programmable embedded software provides enhanced security and enables task execution at the edge for reduced latency and cost optimization.

mPower™ Edge Intelligence embedded software delivers programmability, network flexibility, enhanced security and manageability for scalable Industrial Internet of Things (IIoT) solutions.

mPower simplifies integration with a variety of popular upstream IoT platforms to streamline edge-to-cloud data management and analytics, while also providing the programmability and processing capability to execute critical tasks at the edge of the network to reduce latency; control network and cloud services costs, and ensure core functionality – even in instances when network connectivity may not be available.

mPower software specifications can be found **here**.

## Cloud-based Application Store and IoT Device Management

MultiTech DeviceHQ® is cloud-based tool set for managing the latest generation of MultiTech devices. It incorporates all the functionality of MultiTech Device Manager, on which so many M2M and IoT applications already rely for remote monitoring, upgrades and configuration of entire device populations – whether one or 1 million. DeviceHQ takes remote device management and maintenance to a new level, by providing an application marketplace, allowing users to browse applications or build their own then easily deploy them to and customize them for remote devices from anywhere.
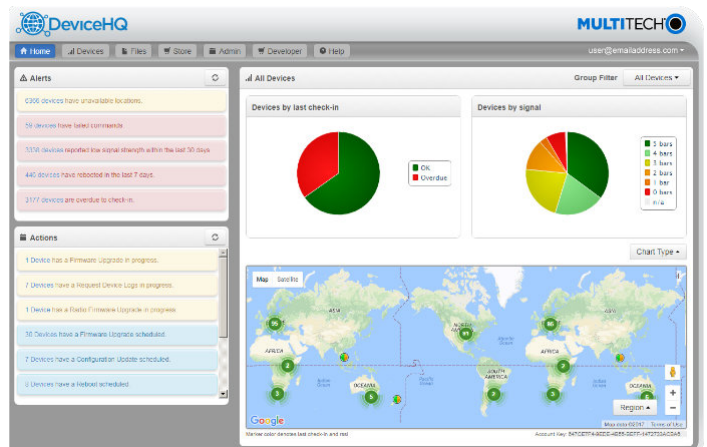
## LENS® Embedded Network Server & Key Management Toolset for LoRaWAN® Networks

LENS is a hybrid LoRaWAN® network management platform that enables deployment and management of LoRaWAN networks at scale. Designed for private and enterprise networks, LENS provides a site-by-site user account and centralized management for LoRa® end devices, as well as configuration and control of Conduit® gateways. LENS has the capability to assign unique access rights to individual users, add gateways and LoRa end nodes in bulk, or create separate organizations and network segmentation to support different IoT use cases or applications.
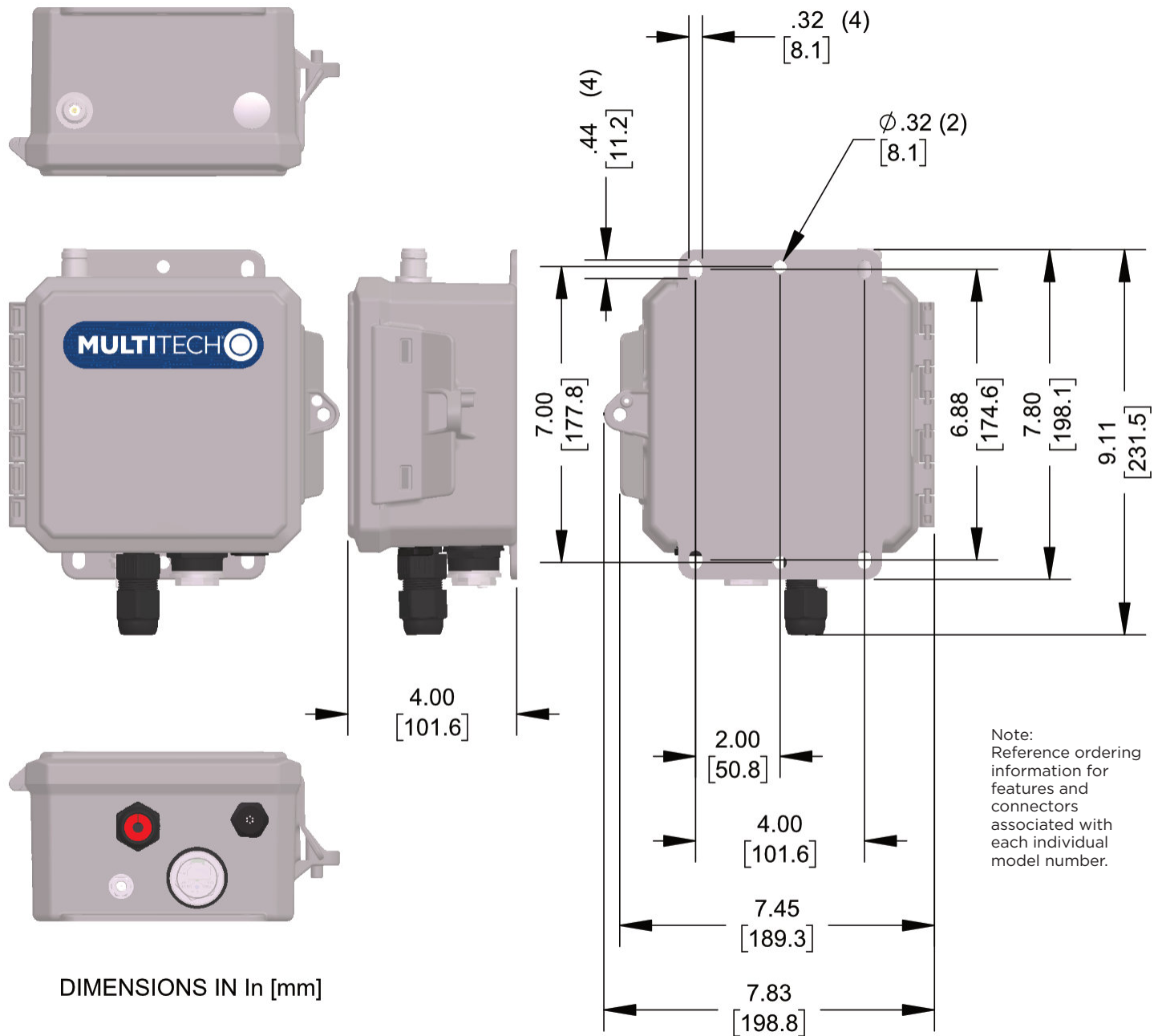
# HARDWARE DESCRIPTION



.32 (4)
[8.1]

.44 (4)
[11.2]

⌀.32 (2)
[8.1]

7.00
[177.8]

6.88
[174.6]

7.80
[198.1]

9.11
[231.5]

4.00
[101.6]

2.00
[50.8]

4.00
[101.6]

7.45
[189.3]

7.83
[198.8]

DIMENSIONS IN In [mm]

Note:
Reference ordering information for features and connectors associated with each individual model number.

# HARDWARE OVERVIEW

| Connectors | | |
|---|---|---|
| Interface | Label | Connector Type |
| SIM Card | SIM | 3FF Micro SIM |
| Ethernet Port | None | RJ-45 Jack |
| Ground Lug | | 7/16 HEX  1/4 x 20 Stainless Steel |
| Vent Valve | | S-Flange |
| Antenna Connectors | | |
| Interface | Label | Connector Type |
| LoRa Antenna | 1 | N-Type Antenna Connector |
| Cellular Antenna (primary) | None | Internal antenna. No external interface |
| GNSS Antenna | | |
| Cellular Antenna (diversity) | | |

# HARDWARE SPECIFICATIONS

| Feature | Description | | |
|---|---|---|---|
| CPU Module | ARM9 processor with 32-Bit ARM & 16-Bit Thumb instruction sets<br>• 400 MHz • 16K Data Cache • 256 MB Flash Memory • 16K Instruction Cache • 128X16M DDR RAM | | |
| WAN Backhaul Options | Ethernet | 10/100 Base T | All Models |
| | Cellular | LTE Category 1 | -LNA3 models only |
| GNSS<br>(location, time stamping) | GNSS for LoRa Packet Time Stamping<br><br>Concurrent GNSS connections: 3<br>GNSS Systems Supported: GPS, Galileo, QZSS<br>GNSS antenna: Internal to chassis | | |
| LEDs<br>(located beneath plastic cover) | LAN, LORA, CELL, SYS | | |
| Reset Button<br>(located beneath plastic cover) | Recessed push-button used to reset device | | |
| Input Power | Ethernet Input Power: 37 - 57 VDC provided by PSE injector with power rating of 25W or greater | | |
| Power-over-Ethernet (PoE) | PoE Standard: IEEE 802.3at | | |
| Power Draw | See Hardware Guide for current draw at specified voltages | | |
| Internal Super Capacitor | Helps ensure safe shutdown in case of power failure | | |
| **Physical Description** | | | |
| Dimensions (L x W x H) | 6″ x 6″ x 4″ (152.4 mm x 152.4 mm x 101.6 mm) (see diagram) | | |
| Weight | Approximately 3 lbs (1.4 kg) | | |
| Chassis Type | IP67-Rated composite | | |
| Mounting Options | Wall mount built into chassis (see diagram) / Pole mount (accessory required) | | |
| **Environmental** | | | |
| Operating Temperature | -40° C to +70° C | | |
| Storage Temperature | -40° C to +85° C | | |
| **Certifications and Approvals** | | | |
| EMC Compliance | North America: United States FCC Part 15 Class A. Canada: ICES-003 Class A | | |
| Radio Certifications | North America: United States: FCC Part 22,24,27 / Canada: ISED | | |
| Quality | MIL-STD-810G: High Temp, Low Temp, Random Vibration.<br>SAE J1455: Transit Drop & Handling Drop, Random Vibration, Swept-Sine Vibration.<br>IEC68-2-1: Cold Temp.<br>IEC68-2-2: Dry Heat | | |
| Safety | UL/cUL 60950-1, UL/cUL 62368-1 | | |
| Warranty | 2-Years  -  www.multitech.com/legal/warranty | | |

Product specifications are subject to change without notice.

## LORAWAN SPECIFICATIONS

| Feature | Description | | | | | |
|---|---|---|---|---|---|---|
| | Channel Plan | Power Output | EIRP* | RX Range | TX Range | Receive Sensitivity** |
| 915 MHz LoRa Module | US915 | 27 dBm | 30 dBm | 902–928 MHz | 902-928 MHz | -124.8 to -138.9 dBm |
| | AU915 | 21.5 dBm | 24.5 dBm | 917.5-927.5 MHz | 917.5–927.5 MHz | -124.8 to -138.9 dBm |
| | AS923-1 | 21.5 dBm | 24.5 dBm | 923.2-923.4 MHz | 923.2–923.4 MHz | -124.8 to -138.9 dBm |
| Antenna Connector | External to chassis | | | | | |
| EMC Compliance | Australia/New Zealand: RCM  /  Canada: ICES-003 Class B  /  United States: FCC Part 15 Class B | | | | | |
| Radio Compliance | Australia/New Zealand: RCM  /  Canada and United States: FCC Part 22, 24, 27 | | | | | |

*Maximum ERP (including LoRa antenna)  1x8 channel / Half-Duplex
** Receive Sensitivity changes based on Spreading Factor

## CELLULAR WAN SPECIFICATIONS

| Models | MTCDTIP2-LNA3 |
|---|---|
| Cellular Performance | 4G - LTE Category 1 |
| Cellular Fallback | 3G - HSPA+ (AT&T only) |
| Frequency Band (MHz) | **AT&T Networks: 4G:** B2(1900), B4(AWS1700), B5(850), B12/B13(700)<br>**AT&T Networks: 3G:** B2(1900), B5(850)<br>**Verizon Networks: 4G:** B2(1900), B4(AWS1700), B13(700) |
| Packet Data (LTE FDD) | Up to 10 Mbps downlink<br>Up to 5 Mbps uplink |
| SIM Card | (1) 3FF Micro SIM |
| Antenna Connectors | Primary and diversity: Internal to chassis |
| Mobile Network Operator (MNO) Approvals | United States: PTCRB, AT&T, Verizon |
| Additional Mobile Network Operator Certifications Available (Contact MultiTech for Details) | United States: T-Mobile<br>Canada: Rogers, Bell Mobility, Telus |
| EMC/Radio Compliance | North America: FCC Part 15 Class B FCC Part 22, 24, 27<br>Australia/New Zealand: RCM |

Product specifications are subject to change without notice.

## MultiTech Conduit® IP67 200 Series Base Station with GNSS

| Model | Description | Ethernet | Cellular | External LoRa Antenna | GNSS | Accessory Kit |
|---|---|---|---|---|---|---|
| **Ethernet Only Models** | | | | | | |
| MTCDTIP2-EN-B11UKP-L1M | Ethernet only mPower Programmable Base Station, 8-channel, 915 MHz with external LoRa antenna | ● | | ● | ● | ● |
| **LTE Category 1 Models** | | | | | | |
| MTCDTIP2-LNA3-B11UKP-L1M | LTE Cat 1 mPower Programmable Base Station, 8-channel, 915 MHz with external LoRa antenna, external cellular antenna | ● | ● | ● | ● | ● |

Accessory Kit includes LoRa Antenna.

## RECOMMENDED ACCESSORIES

### MultiTech Conduit® IP67 200 Series Base Station

| Model | Description | Region |
|---|---|---|
| PS-56V-POE-NAM-1 | Single Port 30W Power over Ethernet Transformer, Class A (1 Pack) | US/Canada |
| PS-56V-POE-NAM-5 | Single Port 30W Power over Ethernet Transformer, Class A (5 Pack) | US/Canada |
| CA-NTYPE-MF-1 | Outdoor Coax Cable, N Type Male & Female connectors, 5 feet (1 Pack) | Global |
| CA-NTYPE-MF-5 | Outdoor Coax Cable, N Type Male & Female connectors, 5 feet (5 Pack) | Global |
| AN868-915A-1-IP67 | IP67 LoRa Antenna, 15.3" (4.5 dBi) (1 Pack) | Global |
| AN868-915A-5-IP67 | IP67 LoRa Antenna, 15.3" (4.5 dBi) (5 Pack) | Global |
| MTKIT-POLEMOUNT-2 | Pole Mount Kit, for 2 inch diameter poles (for MTCDTIP2-xx models) | Global |
| MTKIT-POLEMOUNT-3 | Pole Mount Kit, for 3 inch diameter poles (for MTCDTIP2-xx models) | Global |
| MTKIT-POLEMOUNT-10-12 | Pole Mount Kit, for 10 - 12 inch diameter (for MTCDTIP2-xx models) | Global |
| MB-ANT-IP67-1 | Conduit IP67 Antenna Mounting Bracket, Mounts One Antenna  (1 Pack) | Global |
| MB-ANT-IP67-5 | Conduit IP67 Antenna Mounting Bracket, Mounts One Antenna (5 Pack) | Global |
| MTKIT-IP67-MF | Conduit IP67 Accessory Kit (includes antenna mounting bracket, coax cable, two clamps and lightning arrestor) | Global |
| LGT-ARRST-IP67-1 | Conduit IP67 Base Station - IP67-rated Lightning Arrestor and Grounding Strap Adapter Kit (1 Pack) | Global |
| LGT-ARRST-IP67-5 | Conduit IP67 Base Station - IP67-rated Lightning Arrestor and Grounding Strap Adapter Kit (5 Pack) | Global |

Go to www.multitech.com for detailed product model numbers.

## Services & Warranty

MultiTech's comprehensive Support Services programs offer a full array of options to suit your specific needs. These services are aimed at protecting your investment, extending the life of your solution or product, and reducing total cost of ownership. Our seasoned technical experts, with an average tenure of more than 10 years, can walk you through smooth installations, troubleshoot issues and help you with configurations.

## Technical Support Services

At MultiTech, we're committed to providing you personalized attention and quality service while providing you a quick response to your product support needs. We have several options of support for you to choose from.

For additional information on Support Services as well as other service offerings, please contact your MultiTech representative or visit www.multitech.com/support.go

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**MULTITECH**