MULTITECH®
CREATE • CONNECT • COMMUNICATE

MultiTech Conduit® IP67 Base Station

IP67 Conduit for Outdoor LoRa® Deployments
US915 for North America

LoRa Alliance®

MultiTech Conduit® IP67 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 a MultiTech Conduit with a LoRa MultiTech mCard™, 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.

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 USB connectors

FEATURES

- ISM band scanning for optimum LoRa performance
- Listen Before Talk operating protocol
- GNSS for location coordinate information
- Certified for North American 915 MHz ISM bands

*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.)

www.multitech.com/IP67

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 is a new embedded software offering, building on its popular application enablement platform, to deliver programmability, network flexibility, enhanced security and manageability for scalable Industrial Internet of Things (IIoT) solutions.

mPower is the unification and evolution of well-established MultiTech smart router and gateway firmware platforms. In addition to ongoing support of the current feature-sets, gateway customers can enjoy the additional security features currently available on the MultiConnect® rCell 100 Series.

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.

In response to evolving customer security requirements, mPower incorporates a host of new security features including signed firmware validation, enhanced firewall and VPN settings, secure authentication and more.

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

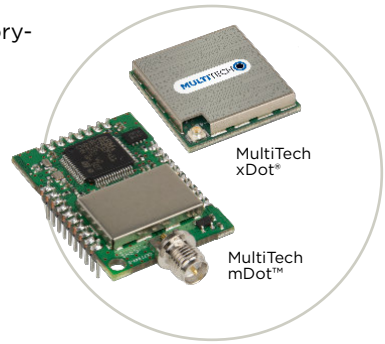
Easily Deploy and Manage Assets Via DeviceHQ®

MultiTech DeviceHQ is the M2M industry's first IoT online application store to enable customers to easily deploy and scale applications to their connected devices. Drag-and-drop tools easily allow customers to create and manage applications for in-field assets. The DeviceHQ application store gives your business the power to innovate operations management and create value-added services.

CONNECTING THE "THINGS"

MultiTech mDot™ & xDot®

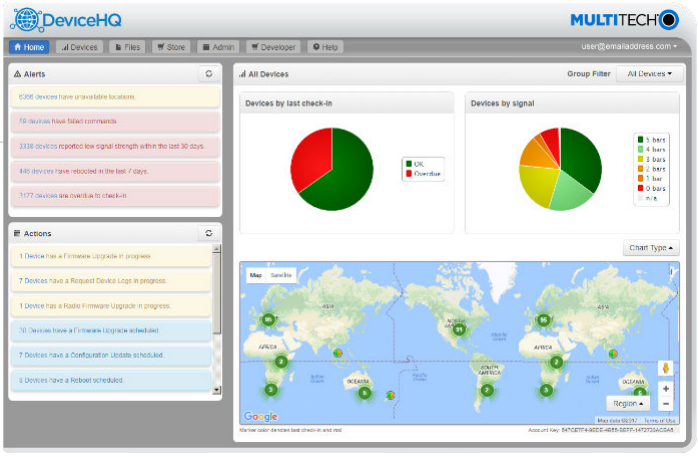
MultiTech mDot and xDot are secure, regulatory-certified, Arm® Mbed™ programmable, low-power RF modules, providing long-range, low bit rate IoT data connectivity to sensors and actuators.



The mDot and xDot are LoRaWAN compliant, providing bi-directional data communication up to 10 miles line-of-sight and 2-3 miles in buildings, using the global sub-GHz ISM radio bands in North America, Europe, and the APAC regions.

The mDot was the first Arm Mbed platform listed on mbed.org that was deployment ready. The mDot supports applications written and compiled in the mbed online environment using developer friendly libraries. Decision making and control can be done at the edge, reducing the need to optimize RF performance and implement complex IoT middleware.

mDots and xDots bring intelligence, reduced complexity and a lower overall bill of material to the edge of the network while supporting a variety of interfaces to connect just about any battery-powered "thing".



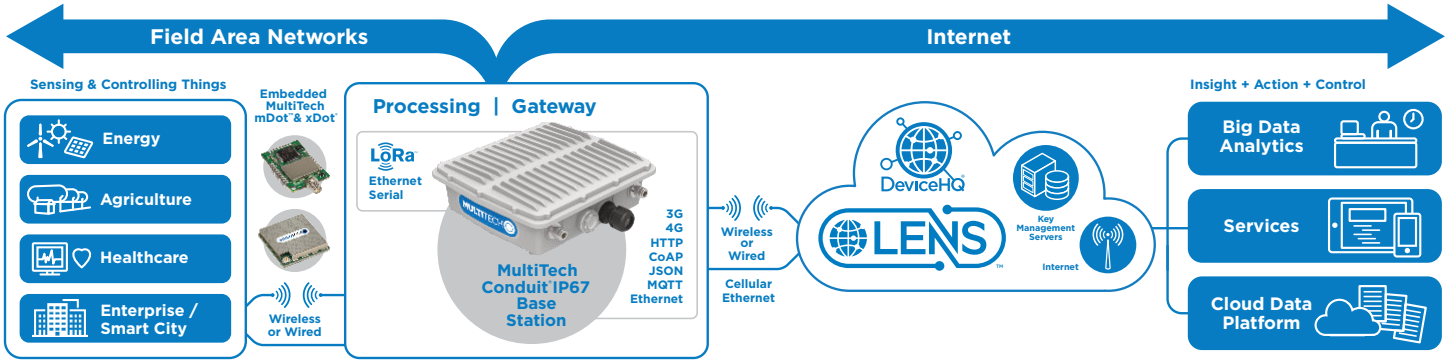
Benefits

- "Low Touch" asset deployment reduces costs, complexity and time
- Easily scales to your network needs
- Browse and download a wide variety of custom applications tailored to your business needs
- Reduce truck-rolls using remote performance management and asset updates

HARDWARE SPECIFICATIONS

Models	MTCDTIP-L4N1	MTCDTIP-LAT1	MTCDTIP-LVW2	MTCDTIP-915
Mobile Network Operator	AT&T & Verizon	AT&T	Verizon	No Cellular
Cellular Performance	4G-LTE Category 4	4G - LTE Category 3		
Cellular Fallback	3G - HSPA+ (AT&T only)	3G - HSPA+	No Fallback	
Frequency Band (MHz)	**AT&T:** 4G: B2(1900), B4(AWS1700), B5(850), B12(700a), B14(700 FirstNet), B66(AWS-3 1700), 3G: B2(1900), B4(AWS1700), B5(850) **Verizon:** 4G: B4(AWS1700), B13(700c) **Other Bands Supported:** B71(600)	4G: B2(1900), B4(AWS1700), B5(850), B17(700) 3G: B2(1900), B5(850)	4G: B4(AWS1700), B13(700)	
FirstNet Support	Yes (AT&T)†	No	No	
Packet Data (LTE FDD)	Up to 150 Mbps peak downlink Up to 50 Mbps peak uplink	Up to 100 Mbps peak downlink Up to 50 Mbps peak uplink		
Input Voltage	Ethernet Input Power: 37 - 57 VDC. Provided by PSE injector with power rating of 25W or greater			
Processor & Memory	ARM9 processor with 32-Bit ARM & 16-Bit Thumb instruction sets • 400 MHz • 16K Data Cache • 16K Instruction Cache • 128X16 MB DDR RAM • 256 MB Flash Memory			
Wi-Fi/Bluetooth (-267 models)	Wi-Fi: 802.11abng (2.4 & 5 GHz) / Bluetooth: Classic 4.1 and BLE			
GPS/GNSS	GNSS for LoRa Packet Time Stamping Concurrent GNSS connections: 3 GNSS Systems Supported: (default: concurrent GPS/QZSS/SBAS and GLONASS)			
LEDs*	PR (Power), ST (Status, user-programmable), L1 (user-defined), L2: (user-defined)			
LoRa Specifications				
LoRa Frequency Band	915 MHz			
LoRa Channel Plan	US915			
Channel Capacity	8-channels (half-duplex)			
LoRa Power Output	27 dBm maximum output power before antenna			
Connectors				
E-NET	RJ45 Ethernet jack (10/100 port) (POE)			
USB HOST*	USB 2.0 Type A connector			
SIM*	3FF Micro SIM			None
Antennas	Cellular, GPS, LoRa: female SMA / LoRa: reverse polarity female SMA			
Physical Description				
Dimensions (LxWxH)	262 mm x 91 mm x 257 mm			
Weight	2.75 kg			
Chassis Type	IP67 Rated, Aluminum			
Environmental				
Operating Temperature	-40° to +70° C			
Storage Temperature	-40° to +85° C			
Certifications				
EMC Compliance	US: FCC Part 15 Class B / Canada: ICES-003 Class B			
Radio Compliance	US: FCC Part 22, 24, 27 Canada: ISED			US: FCC Part 22, 24, 27 Canada: ISED-003 AU: AS/NZS 4268:2012 + A1:2013 MPE Standard 2014
Safety	UL/cUL 60950-1 | UL/cUL 62368-1			
Network Approvals	PTCRB, AT&T, Verizon Pending: Rogers, Bell, Telus, T-Mobile	PTCRB, AT&T Pending: Rogers, Bell, Telus, T-Mobile	Verizon	N/A
Quality	MIL-STD-810G: High Temp, Low Temp, Random Vibration. SAE J1455: Transit Drop & Handling Drop, Random Vibration, Swept-Sine Vibration. IEC68-2-1: Cold Temp. IEC68-2-2: Dry Heat			
Warranty	2-Years - www.multitech.com/legal/warranty			

* SIM, LEDs, and USB port accessible under IP67-rated bottom cap cover
† All future end-user (OEM) devices will and must go through FirstNet certification prior to being included in the FirstNet device ecosystem.



IP67 BASE STATION STANDARD MOUNTING OPTIONS

Mounting Options
(optional accessories shown)

ORDERING INFORMATION

MultiTech Conduit® IP67 Base Station with GNSS and Wi-Fi/Bluetooth

Model	Description	Region
MTCDTIP-L4N1-267A-915	LTE Cat 4 mPower Conduit IP67 Base Station 8-channel, 915 MHz, w/ GNSS+WiFi/BT and Accessory Kit (AT&T/Verizon)	US/Canada
MTCDTIP-LAT1-267A-915	LTE Cat 3 mPower Conduit IP67 Base Station 8-channel, 915 MHz, w/ GNSS+WiFi/BT and Accessory Kit (AT&T)	US/Canada
MTCDTIP-LVW2-267A-915	LTE Cat 3 mPower Conduit IP67 Base Station 8-channel, 915 MHz, w/ GNSS+WiFi/BT and Accessory Kit (Verizon)	US/Canada

Accessory Kit Includes: Mounting bracket kit, 1 LoRa antenna, 2 cellular antennas, 1 GNSS antenna, 1 Wi-Fi/BT antenna

MultiTech Conduit® IP67 Base Station with GNSS

Model	Description	Region
MTCDTIP-L4N1-266A-915	LTE Cat 4 mPower Conduit IP67 Base Station 8-channel, 915 MHz, w/ GNSS and Accessory Kit (AT&T/Verizon)	US/Canada
MTCDTIP-LAT1-266A-915	LTE Cat 3 mPower Conduit IP67 Base Station 8-channel, 915 MHz, w/ GNSS and Accessory Kit (AT&T)	US/Canada
MTCDTIP-LVW2-266A-915	LTE Cat 3 mPower Conduit IP67 Base Station 8-channel, 915 MHz, w/ GNSS and Accessory Kit (Verizon)	US/Canada

Accessory Kit Includes: Mounting bracket kit, 1 LoRa antenna, 2 cellular antennas, 1 GNSS antenna

MultiTech Conduit® IP67 Base Station Ethernet Only Models

Model	Description	Region
MTCDTIP-267A-915	Ethernet only mPower Conduit IP67 Base Station 8-channel, 915 MHz, w/ GNSS+WiFi/BT and Accessory Kit	US/Canada
MTCDTIP-266A-915	Ethernet only mPower Conduit IP67 Base Station 8-channel, 915 MHz, w/ GNSS and Accessory Kit	US/Canada

Accessory Kit Includes: Mounting bracket kit, 1 LoRa antenna, 1 GNSS antenna, 1 Wi-Fi/BT antenna

RECOMMENDED ACCESSORIES

MultiTech mDot™

Model	Description	Region
MTDOT-915-X1-SMA	915 MHz X1 LoRa SMA	NAM
MTDOT-915-X1P-SMA	915 MHz X1 LoRa SMA w/Programming Header	NAM
MTDOT-915-X1-UFL	915 MHz X1 LoRa UFL	NAM
MTDOT-915-M1-UFL	915 MHz SMT LoRa UFL	NAM
MTDOT-915-M1-TRC	915 MHz SMT LoRa RF Pad	NAM

MultiTech xDot®

Model	Description	Region
MTXDOT-NA1-A00-1	915 MHz LoRa Module UFL/TRC (Single Pack)	NAM

Developer Kit & Accessories

Model	Description	Region
MTUDK2-ST-MDOT	Developer Kit (includes SMA antenna and USB cable)	Global
PS-56V-POE-NAM-1	Single Port 30W Power over Ethernet Transformer with US Power Cord (1 Pack)	US/Canada
PS-56V-POE-NAM-5	Single Port 30W Power over Ethernet Transformer with US Power Cord (5 Pack)	US/Canada
MTKIT-IP67-MF	Conduit IP67 Accessory Kit (includes antenna mounting bracket, coax cable, two clamps and lightning arrestor)	Global
LGT-ARRST-1	Conduit IP67 Base Station Lightning Arrestor (1 Pack)	Global
LGT-ARRST-5	Conduit IP67 Base Station Lightning Arrestor (5 Pack)	Global
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
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 1 Antenna (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
ANLTE5-1-IP67	IP67 LTE Antenna, 7" (3.5 dBi) (1 Pack)	Global
ANLTE5-5-IP67	IP67 LTE Antenna, 7" (3.5 dBi) (5 Pack)	Global

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

Produced in the U.S. of U.S. and non-U.S. components. Features and specifications are subject to change without notice.

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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.

Installation Support

MultiTech's Installation Support Service delivers priority service with the ability to work one-on-one with an experienced MultiTech technical support engineer, to guide you through the installation process for our products.

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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