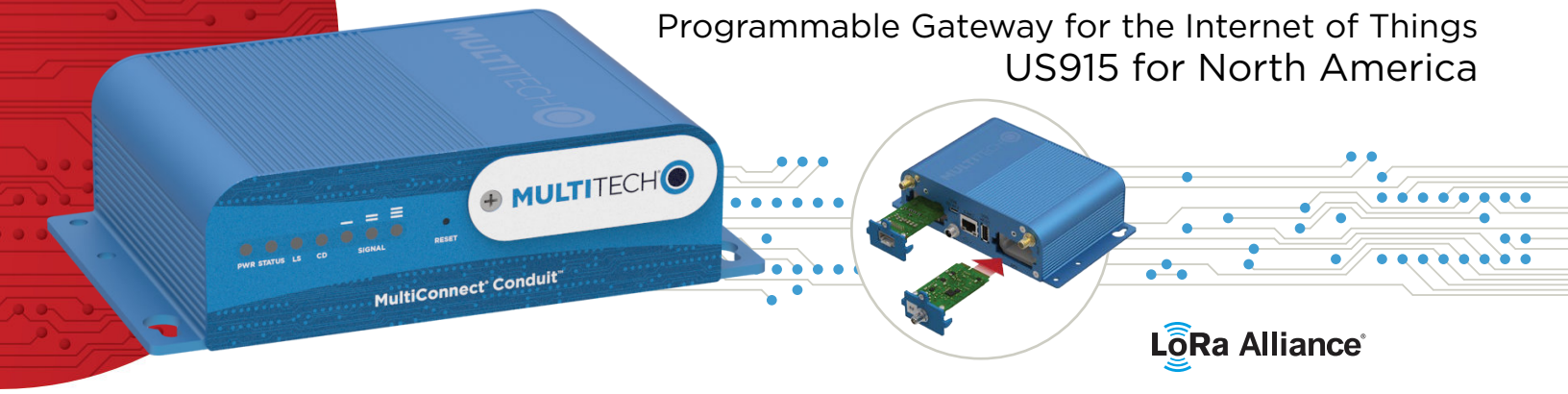
MULTITECH®
CREATE • CONNECT • COMMUNICATE

MultiConnect® Conduit®

Programmable Gateway for the Internet of Things
US915 for North America



LoRa Alliance®

MultiConnect® Conduit® is the industry's most configurable, manageable, and scalable cellular communications gateway for industrial IoT applications. Network engineers can remotely configure and optimize their Conduit performance through DeviceHQ®, the world's first IoT Application Store and Device Management platform. The Conduit features Wi-Fi/Bluetooth/Bluetooth Low Energy (BT/BLE), GNSS, and two accessory card slots that enable users to plug in MultiConnect® mCard™ accessory cards supporting their preferred wired or wireless interface to connect a wide range of assets locally to the gateway.

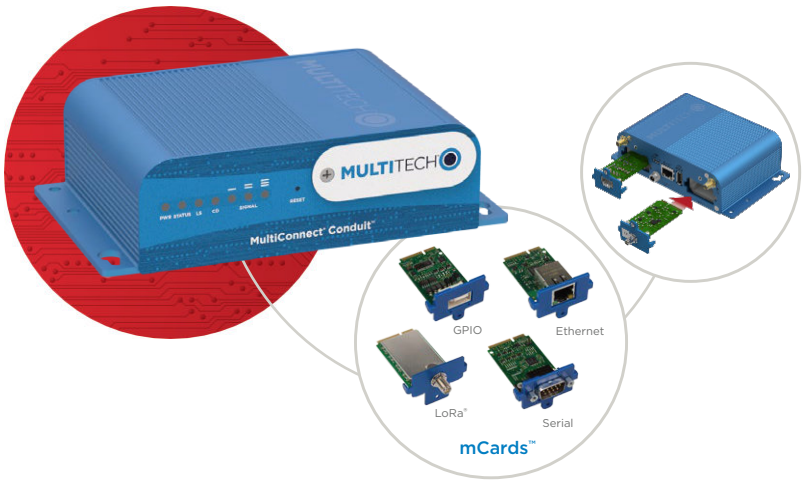
Available options include a LoRaWAN® mCard capable of supporting thousands of MultiConnect® mDot™ and xDot® long range RF modules connected to remote sensors or appliances. Quick-to-deploy and easy to customize and manage, the Conduit communications gateway realizes your IoT application.

GATEWAY BENEFITS

- Wi-Fi communication supporting 802.11 a/b/g/n 2.4 GHz and 5GHz with WPA2 personal transmission security. Wi-Fi Access Point and Client modes are supported simultaneously.
- BT Classic and BLE 4.1 communication supports local connectivity with automatic pairing with target devices utilizing 128 bit link key length security.
- GNSS module for LoRaWAN packet time-stamping and geo-location capability
- Backhaul options include Ethernet and optional 4G-LTE, 3G, 2G cellular for cost effective deployment

LORA FEATURES

- Certified for North American 915 MHz ISM bands
- ISM band scanning for optimum LoRa® performance
- Listen Before Talk LoRa operating protocol



Simplified Selection & Setup

1. **Select Wide Area Network**
   4G LTE, 3G, 2G, Ethernet
2. **Select Application Environment**
   mPower, mLinux™
3. **Select Local Connection**
   Ethernet, Serial, GPIO, LoRaWAN®

www.multitech.com/conduit

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 Edge Intelligence 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.

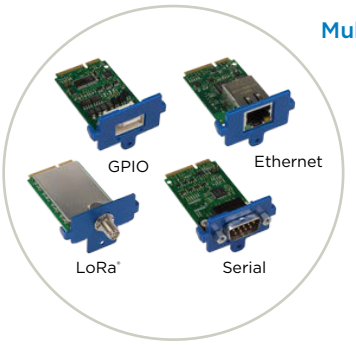
In response to evolving customer security requirements, mPower Edge Intelligence incorporates a host of new security features including signed firmware validation, enhanced firewall and VPN settings, secure authentication and more.

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

ACCESSORIES

MultiConnect® Conduit® Accessories – From the Gateway to the Endpoint

MultiConnect Conduit is the center of an integrated IoT platform and comes with the following options:

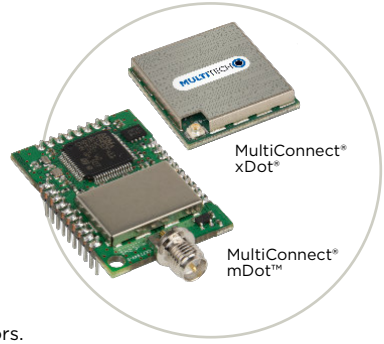


MultiConnect mCard

MultiConnect mCards provide the flexibility needed to manage diverse infrastructures, supporting a wide range of interfaces and communication protocols including:

- Multi-Function Serial, GPIO, Ethernet
- LoRa LPWAN

MultiConnect mDot™ & xDot® – Connecting the "Things"



MultiConnect 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.

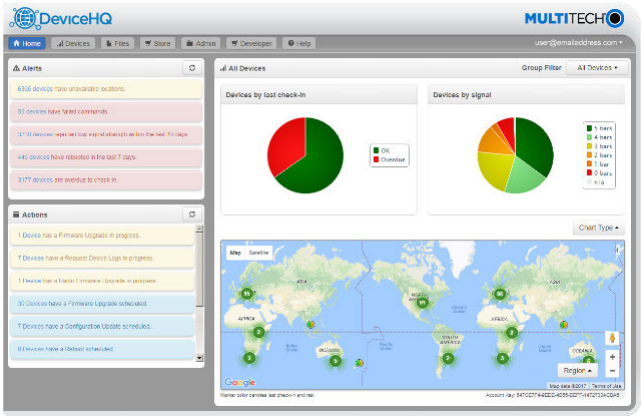
The mDot and xDot are LoRaWAN compliant, providing bi-directional data communication up to 10 miles line-of-sight and 2-3 miles in buildings, using the global sub-GHz ISM radio bands in North America, Europe, and the APAC regions.

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".

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.



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

SPECIFICATIONS

Models	MTCDT-L4N1	MTCDT-LAT1	MTCDT-LVW2	MTCDT-H5	MTCDT
Mobile Network Operator	AT&T & Verizon	AT&T	Verizon	AT&T European Network Operators	Ethernet Only
Cellular Performance	4G-LTE Category 4	4G - LTE Category 3	4G - LTE Category 3	3G-HSPA+	No Cellular
Cellular Fallback	3G - HSPA+ (AT&T only)	3G - HSPA+	No Fallback	2G - GPRS	
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)	3G: 850 / 900 / 1700 (AWS) / 1900 / 2100 2G: 850 / 900 / 1800 / 1900	
FirstNet Support	Yes (AT&T)†	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	Up to 100 Mbps peak downlink Up to 50 Mbps peak uplink	Up to 21 Mbps peak downlink Up to 5.76 Mbps uplink	
Input Voltage	9 VDC 1.7A input provided to 100 - 240 VAC 50/60 Hz external adaptor or fused DC Power Cable				
Processor and 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 (-247 models)	WiFi: 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	mPower and mLinux models: PWR (Power), STATUS (Power Status), LS (Link Status), CD (Carrier Detect), SIGNAL (Signal Strength) mLinux models only: A - B - C - D (User defined)				
LoRa Specifications (for models that include MTAC-LORA Gateway Accessory Card)					
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					
Power	2.5 mm miniature barrel jack (screw-on)				
E-NET	RJ45 Ethernet jack (10/100 port)				
USB DEVICE	USB 2.0 Micro B connector				
USB HOST	USB 2.0 Type A connector				
AP1, AP2	MultiConnect mCard Gateway Accessory Cards				
SIM (under nameplate)	2FF Mini SIM				None
SD Card (under nameplate)	Micro SD Card, 32GB (HSMCI) max (industrial temperature range recommended)				
Antennas	Cellular, GPS, LoRa: female SMA / LoRa: reverse polarity female SMA				
Physical Description					
Dimensions (L x W x H)	6.35" x 4.23" x 1.69" (161.3 mm x 107.4 mm x 42.8 mm)				
Weight	1.0 lbs (0.45 kg) with two accessory cards installed				
Chassis Type	Anodized aluminum (blue)				
Environmental					
Operating Temperature	-30° to +70° C*				
Storage Temperature	-40° to +85° C				
Humidity	Relative humidity 20% to 90%, non-condensing				
Certifications					
EMC Compliance	US: FCC Part 15 Class B Canada: ICES-003 Class B	US: FCC Part 15 Class B Canada: ICES-003 Class B	US: FCC Part 15 Class B Canada: ICES-003 Class B	US: FCC Part 15 Class B Canada: ICES-003 Class B Australia: CISPR 32 EU: EN 55023 Class B, EN 301 489-3 V2.1.1, EN 301 489-1 V2.2.0, EN 301-489-52 V1.1.0	
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 EU: EN 300 220-1 V3.1.1 EN 300 220-2 V3.1.1 EN 300 328 V2.1.1 EN 301 511 V9.0.2 EN 301 893 V2.1.1 EN 301 908-1 V11.1.1 EN 301 902-2 V11.1.1 EN 301 908-13 V11.1.1 EN 62311-2008	US: FCC Part 22, 24, 27 Canada: ISED-003 AU: AS/NZS 4268:2012 + A1:2013 MPE Standard 2014
Safety	IEC 60950-1 , IEC 62368-1				
Mobile Network Operator Approvals	PTCRB, AT&T, Verizon Pending: Rogers, Bell, Telus, T-Mobile	PTCRB, AT&T Pending: Rogers, Bell, Telus, T-Mobile	Verizon	PTCRB, AT&T, T-Mobile Pending: Rogers, Bell, Telus GCF Certified Cell Module	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				

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

† All future end-user (OEM) devices will and must go through FirstNet certification prior to being included in the FirstNet device ecosystem.

ORDERING INFORMATION

MultiConnect Conduit with GNSS and WiFi-Bluetooth (BT/BLE) and MTAC-LORA Gateway Accessory Card

Model	Description	Region
MTCDT-L4N1-247A-915-US	LTE Cat 4 AEP Programmable Gateway 8-channel, 915 MHz, GNSS+WiFi/BT w/MTAC-LORA-H-915 mCard and US Accessory Kit (AT&T/Verizon)	US/Canada
MTCDT-LAT1-247A-915-US	LTE Cat 3 AEP Programmable Gateway 8-channel, 915 MHz, GNSS+WiFi/BT w/MTAC-LORA-H-915 mCard and US Accessory Kit (AT&T)	US/Canada
MTCDT-LVW2-247A-915-US	LTE Cat 3 AEP Programmable Gateway 8-channel, 915 MHz, GNSS+WiFi/BT w/MTAC-LORA-H-915 mCard and US Accessory Kit (Verizon)	US/Canada
MTCDT-247A-915-US-EU-GB	Ethernet Only AEP Programmable Gateway 8-channel, 915 MHz, GNSS+WiFi/BT w/MTAC-LORA-H-915 mCard and US Accessory Kit	US/Canada

Accessory kit includes: Conduit Gateway with installed MTAC-LORA-915 accessory card and power supply with regional-specific blades, appropriate antennas, Ethernet cable, USB cable and quick-start guide. GNSS Antenna sold separately

MultiConnect Conduit with GNSS and MTAC-LORA Gateway Accessory Card

Model	Description	Region
MTCDT-L4N1-246A-915-US	LTE Cat 4 AEP Programmable Gateway 8-channel, 915 MHz, GNSS w/MTAC-LORA-H-915 mCard and US Accessory Kit (AT&T/Verizon)	US/Canada
MTCDT-LAT1-246A-915-US	LTE Cat 3 AEP Programmable Gateway 8-channel, 915 MHz, GNSS w/MTAC-LORA-H-915 mCard and US Accessory Kit (AT&T)	US/Canada
MTCDT-LVW2-246A-915-US	LTE Cat 3 AEP Programmable Gateway 8-channel, 915 MHz, GNSS w/MTAC-LORA-H-915 mCard and US Accessory Kit (Verizon)	US/Canada
MTCDT-246A-915-US-EU-GB	Ethernet Only AEP Programmable Gateway 8-channel, 915 MHz, GNSS w/MTAC-LORA-H-915 mCard and US Accessory Kit	US/Canada

Accessory kit includes: Conduit Gateway with installed MTAC-LORA-868 accessory card and power supply with regional-specific blades, appropriate antennas, Ethernet cable, USB cable and quick-start guide. GNSS Antenna sold separately

MultiConnect Conduit with GNSS and WiFi-Bluetooth (BT/BLE)

Model	Description	Region
MTCDT-L4N1-247A-US	LTE Cat 4 AEP Programmable Gateway 8-channel, GNSS+WiFi/BT and US Accessory Kit (AT&T/Verizon)	US/Canada
MTCDT-LAT1-247A-US	LTE Cat 3 AEP Programmable Gateway 8-channel, GNSS+WiFi/BT and US Accessory Kit (AT&T)	US/Canada
MTCDT-LVW2-247A-US	LTE Cat 3 AEP Programmable Gateway 8-channel, GNSS+WiFi/BT and US Accessory Kit (Verizon)	US/Canada
MTCDT-H5-247A-US-EU-GB	HSPA+ AEP Programmable Gateway, GNSS+WiFI/BT w/US/EU/UK Accessory Kit (AT&T)	Global
MTCDT-247A-US-EU-GB	Ethernet Only AEP Programmable Gateway, GNSS+WiFI/BT w/US/EU/UK Accessory Kit	Global

Accessory kit includes: Conduit Gateway with power supply with regional-specific blades, appropriate antennas, Ethernet cable, USB cable and quick-start guide. GNSS Antenna sold separately

MultiConnect Conduit with GNSS

Model	Description	Region
MTCDT-L4N1-246A-US	LTE Cat 4 AEP Programmable Gateway 8-channel, GNSS w/ US Accessory Kit (AT&T/Verizon)	US/Canada
MTCDT-LAT1-246A-US	LTE Cat 3 AEP Programmable Gateway 8-channel, GNSS w/ US Accessory Kit (AT&T)	US/Canada
MTCDT-LVW2-246A-US	LTE Cat 3 AEP Programmable Gateway 8-channel, GNSS w/ US Accessory Kit (Verizon)	US/Canada
MTCDT-H5-246A-US-EU-GB	HSPA+ AEP Programmable Gateway, GNSS w/US/EU/UK Accessory Kit	Global
MTCDT-246A-US-EU-GB	Ethernet Only AEP Programmable Gateway, GNSS w/US/EU/UK Accessory Kit	Global

Accessory kit includes: Conduit Gateway with power supply with regional-specific blades, appropriate antennas, Ethernet cable, USB cable and quick-start guide. GNSS Antenna sold separately

RECOMMENDED ACCESSORIES

MultiConnect mCard

Model	Description	Region
MTAC-GPIO	GPIO Accessory Card, GPIO Cable Sold Separately	Global
MTAC-MFSER-DTE	Multi-Function Serial Accessory Card - DTE Interface	Global
MTAC-MFSER-DCE	Multi-Function Serial Accessory Card - DCE Interface	Global
MTAC-ETH	Ethernet Accessory Card, Ethernet Cable Sold Separately	Global
MTAC-LORA-H-915	915 MHz LoRa Accessory Card, Antenna Sold Separately	NAM

MultiConnect 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

MultiConnect xDot

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

Developer Kit, Antennas & Accessories

Model	Description	Region
MTUDK2-ST-MDOT	Developer Kit (includes SMA antenna and USB cable)	Global
ANGPS-1MM	Antenna Indoor Magnetic for GNSS	Global
AN868-915A-1HRA	868-915 MHz RP-SMA Antenna, 8" (3.0dBi)	Global
CARSMA-UFL	Reverse SMA-to-UFL Coax RF Cable, 6"	Global
CA-MTAC-GPIO	GPIO Cable for MTAC-GPIO (2.5 ft)	Global
CA9-9-D	DE9M-DE9F Serial Cable (6 ft)	Global
CA-USB-A-MICRO-B-3	USB Cable Type A to Type B Micro (3ft)	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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