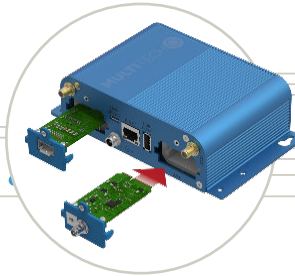


# MultiTech Conduit<sup>®</sup>

Programmable Gateway for the Internet of Things  
EU868 for Europe



**MultiTech Conduit<sup>®</sup>** 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<sup>®</sup>, 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 MultiTech mCard<sup>™</sup> accessory cards supporting their preferred wired or wireless interface to connect a wide range of assets locally to the gateway.

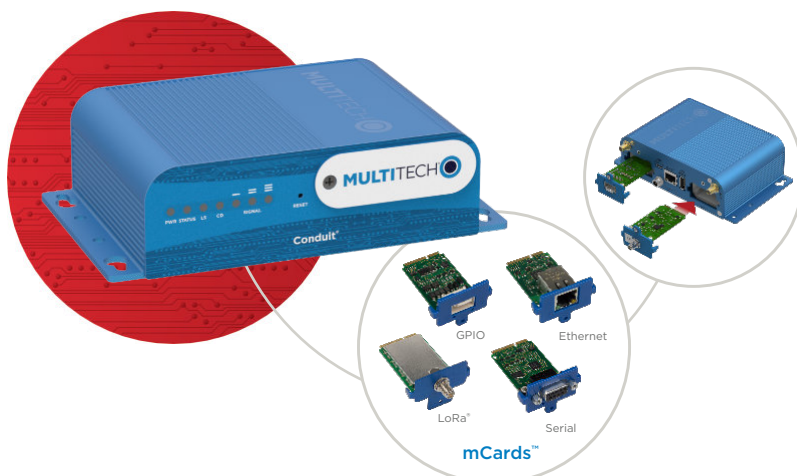
Available options include a LoRaWAN<sup>®</sup> mCard capable of supporting thousands of MultiTech mDot<sup>™</sup> and xDot<sup>®</sup> long range RF modules connected to remote sensors or appliances. Quick-to-deploy and easy to customize and manage, the Conduit communications gateway realizes your 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
- Ethernet RJ-45 10/100 BaseT for IP backhaul
- Optional 4G-LTE or 3G HSPA+ IP backhaul

## LORA FEATURES

- Certified for Europe 868 Mhz ISM bands
- 27 dBm support for European region
- ISM band scanning for optimum LoRa<sup>®</sup> performance
- Listen Before Talk LoRa operating protocol



**1**  
**Select Wide Area Network**  
4G LTE, 3G, 2G, Ethernet

### Simplified Selection & Setup

**2**  
**Select Application Environment**  
mPower,  
mLinux<sup>™</sup>

**3**  
**Select Local Connection**  
Ethernet,  
Serial, GPIO,  
LoRaWAN<sup>®</sup>

# 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.

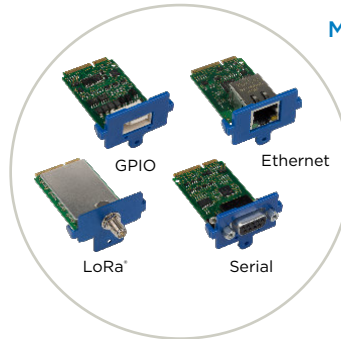
In response to evolving customer security requirements, mPower incorporates a host of new security features including signed firmware validation, enhanced firewall and VPN settings, secure authentication and more.

mPower software specifications can be found [here](#).

## ACCESSORIES

### MultiTech Conduit® Accessories – From the Gateway to the Endpoint

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



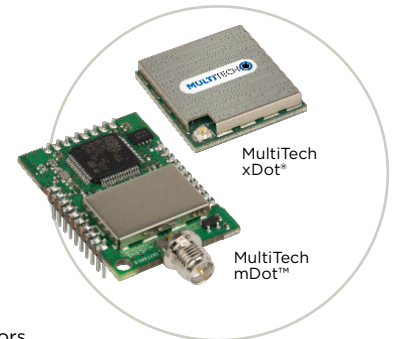
### MultiTech mCard™

MultiTech 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

### MultiTech mDot™ & xDot® – Connecting the “Things”

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”.

## Easily Deploy and Manage Assets Via DeviceHQ™

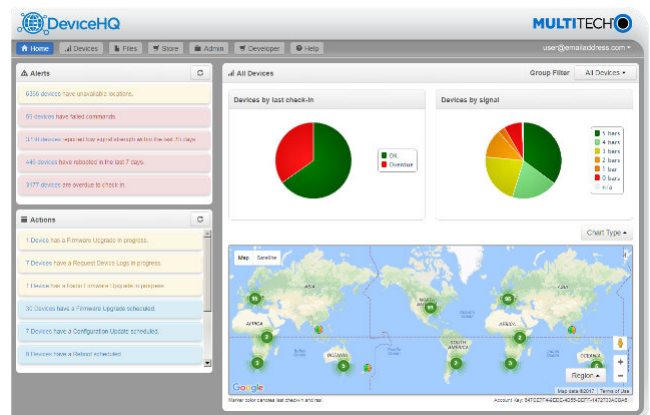


MultiTech DeviceHQ is the M2M industry's first

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



## HARDWARE SPECIFICATIONS

Models	MTCDT-L4E1	MTCDT-H5	MTCDT
Mobile Network Operator	European Network Operators		Non-Cellular
Cellular Performance	4G - LTE Category 4	3G-HSPA+	
Cellular Fallback	3G - HSPA+, 2G - GPRS	2G - GPRS	
Frequency Band (MHz)	4G: B1(2100), B3(1800), B7(2600), B8(900), B20(800), B28A(700) 3G: B1(2100), B3(1800), B8(900) 2G: B3(1800), B8(900)	3G: 850 / 900 / 1700 (AWS) / 1900 / 2100 2G: 850 / 900 / 1800 / 1900	
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	9 VDC 1.7A input provided to 100 - 240 VAC 50/60 Hz external adaptor or fused DC Power Cable		
Processor & Memory	ARM9 processor with 32-Bit ARM & 16-Bit Thumb instruction sets <ul style="list-style-type: none"> <li>• 400 MHz</li> <li>• 16K Instruction Cache</li> </ul> <ul style="list-style-type: none"> <li>• 16K Data Cache</li> <li>• 128X16M DDR RAM</li> </ul> <ul style="list-style-type: none"> <li>• 256 MB Flash Memory</li> </ul>		
Wi-Fi/Bluetooth (-247 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	mPower & 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 Channel Plan	EU868		
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)		
Ethernet	RJ45 Ethernet jack (10/100 port)		
USB DEVICE	USB 2.0 Micro B connector		
USB HOST	USB 2.0 Type A connector		
API, AP2	MultiTech mCard Gateway Accessory Cards		
SIM (under nameplate)	2FF Mini SIM		N/A
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	20%-90% RH, non-condensing		
Certifications			
EMC Compliance	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	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		
Safety	IEC 60950-1, IEC 62368-1		
Network	GCF Certified Cell Module	GCF Certified Cell Module PTCRB, AT&T, T-Mobile Pending: Rogers, Bell, Telus	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 / <a href="http://www.multitech.com/legal/warranty">www.multitech.com/legal/warranty</a>		

## ORDERING INFORMATION

### MultiTech Conduit® with GNSS & Wi-Fi/Bluetooth & MTAC-LORA Gateway Accessory Card

Model	Description	Region
MTCDDT-L4E1-247A-868-EU-GB	LTE Cat 4 mPower Programmable Gateway, 8-channel, 868 MHz, GNSS+Wi-Fi/BT w/ EU/GB Accessory Kit	Europe
MTCDDT-H5-247A-868-EU-GB	HSPA+ mPower Programmable Gateway, 8-channel, 868 MHz, GNSS+Wi-Fi/BT w/ EU/UK Accessory Kit	Europe
MTCDDT-247A-868-EU-GB	Ethernet Only mPower Programmable Gateway, 8-channel, 868 MHz, GNSS+Wi-Fi/BT w/ EU/UK Accessory Kit	Europe

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

### MultiTech Conduit® with GNSS & MTAC-LORA Gateway Accessory Card

Model	Description	Region
MTCDDT-L4E1-246A-868-EU-GB	LTE Cat 4 mPower Programmable Gateway, 8-channel, 868 MHz, GNSS w/ EU/GB Accessory Kit	Europe
MTCDDT-H5-246A-868-EU-GB	HSPA+ mPower Programmable Gateway, 8-channel, 868 MHz, GNSS w/ EU/UK Accessory Kit	Europe
MTCDDT-246A-868-EU-GB	Ethernet Only mPower Programmable Gateway, 8-channel, 868 MHz, GNSS w/ EU/UK Accessory Kit	Europe

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

### MultiTech Conduit® with GNSS and Wi-Fi/Bluetooth

Model	Description	Region
MTCDDT-L4E1-247A-EU-GB	LTE Cat 4 mPower Programmable Gateway, GNSS+Wi-Fi/BT w/ EU/GB Accessory Kit	Europe
MTCDDT-H5-247A-US-EU-GB	HSPA+ mPower Programmable Gateway, GNSS+Wi-Fi/BT w/US/EU/UK Accessory Kit	Global
MTCDDT-247A-US-EU-GB	Ethernet Only mPower Programmable Gateway, GNSS+Wi-Fi/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

### MultiTech Conduit® with GNSS

Model	Description	Region
MTCDDT-L4E1-246A-EU-GB	LTE Cat 4 mPower Programmable Gateway, GNSS w/ EU/GB Accessory Kit	Europe
MTCDDT-H5-246A-US-EU-GB	HSPA+ mPower Programmable Gateway, GNSS w/US/EU/UK Accessory Kit	Global
MTCDDT-246A-US-EU-GB	Ethernet Only mPower 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

### MultiTech mCard™

Model	Description	Region
MTAC-GPIO	GPIO Accessory Card, GPIO Cable Sold Separately	Global
MTAC-MF5SER-DTE	Multi-Function Serial Accessory Card - DTE Interface	Global
MTAC-MF5SER-DCE	Multi-Function Serial Accessory Card - DCE Interface	Global
MTAC-ETH	Ethernet Accessory Card, Ethernet Cable Sold Separately	Global
MTAC-LORA-H-868	868 MHz LoRa Accessory Card, Antenna Sold Separately	EMEA

### Developer Kit, Antennas & Accessories

Model	Description	Region
MTUDK2-ST-MDOT	Developer Kit (includes SMA antenna and USB cable)	Global
ANGPS-IMM	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

### MultiTech mDot™

Model	Description	Region
MTDOT-868-X1-SMA-x	868 MHz X1 LoRa SMA (Single or 50 Pack)	Europe
MTDOT-868-X1P-SMA-x	868 MHz X1 LoRa SMA w/Programming Header (Single Pack)	Europe
MTDOT-868-X1-UFL-x	868 MHz X1 LoRa UFL (Single or 50 Pack)	Europe
MTDOT-868-M1-UFL-x	868 MHz SMT LoRa UFL (Single or 100 Pack)	Europe
MTDOT-868-M1-TRC-x	868 MHz SMT LoRa RF Pad (Single or 100 Pack)	Europe

### MultiTech xDot\*

Model	Description	Region
MTXDOT-EU1-A00-1-x	868 MHz LoRa Module UFL/TRC (Single or 100 Pack)	EMEA
MTXDOT-EU1-A01-100	868 MHz LoRa Module TRC (100 Pack)	EMEA

Go to [www.multitech.com](http://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.

The LoRa® name and associated logo are trademarks of Semtech Corporation or its subsidiaries. Trademarks and Registered Trademarks: MultiTech and the MultiTech logo, MultiConnect, Conduit, mCard, mDot, xDot, mPower, DeviceHQ: Multi-Tech Systems, Inc. All other products and technologies are the trademarks or registered trademarks of their respective holders.

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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](http://www.multitech.com/support.go)

## World Headquarters

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