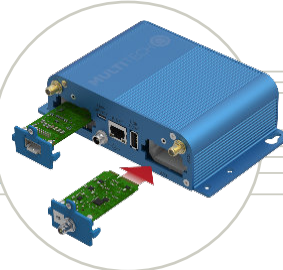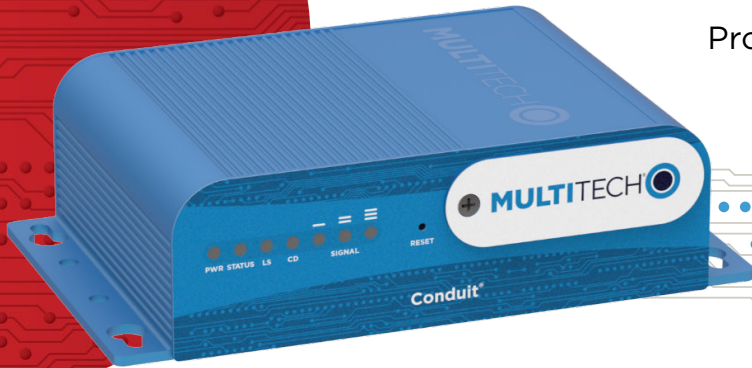# MULTITECH®

CREATE • CONNECT • COMMUNICATE

MultiTech Conduit®

Programmable Gateway for the Internet of Things
AU915 for Australia

LoRa Alliance®

MultiTech 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 MultiTech mCard™ accessory cards supporting their preferred wired or wireless interface to connect a wide range of assets locally to the gateway.
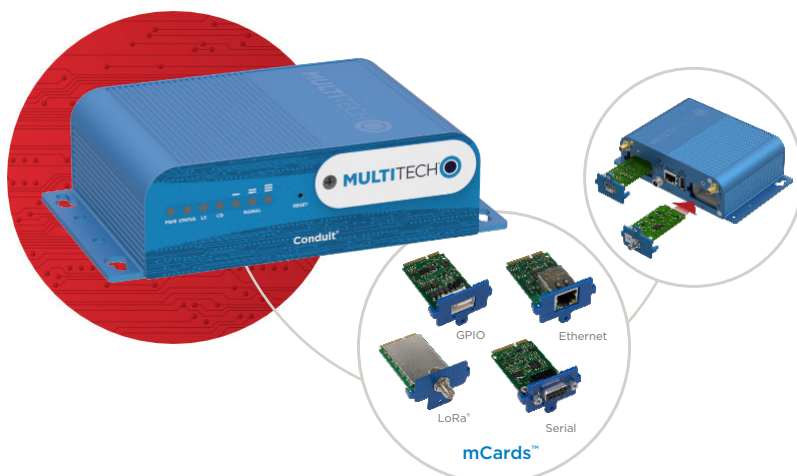
Available options include a LoRaWAN® mCard capable of supporting thousands of MultiTech mDot™ and xDot® long range RF modules connected to remote sensors or appliances. Quick-to-deploy and easy to customize and manage, the Conduit communications gateway realizes your IoT application.

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

- Ethernet RJ-45 10/100 BaseT for IP backhaul

- Optional 4G-LTE or 3G HSPA+ IP backhaul

LORA FEATURES

- Certified for Australian 915 MHz ISM bands

- 27 dBm support for Australia region

- ISM band scanning for optimum LoRa® 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™

3 Select Local Connection
Ethernet, Serial, GPIO, LoRaWAN®

GPIO
Ethernet
LoRa®
Serial
mCards™

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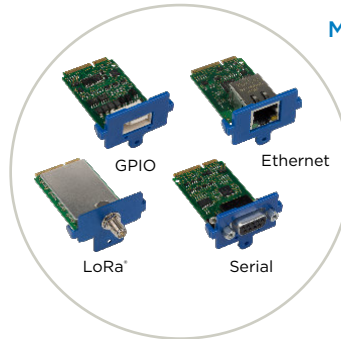
In response to evolving customer security requirements, mPower incorporates a host of new security features including signed firmware validation, enhanced firewall and VPN settings, secure authentication and more.

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:
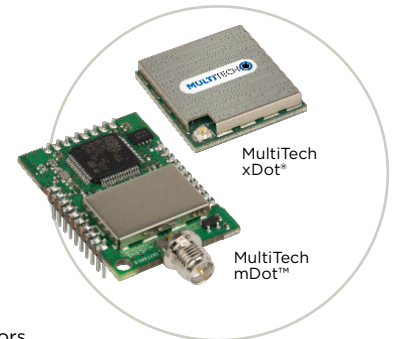
GPIO
Ethernet
LoRa®
Serial

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.

MultiTech xDot®

MultiTech mDot™

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".

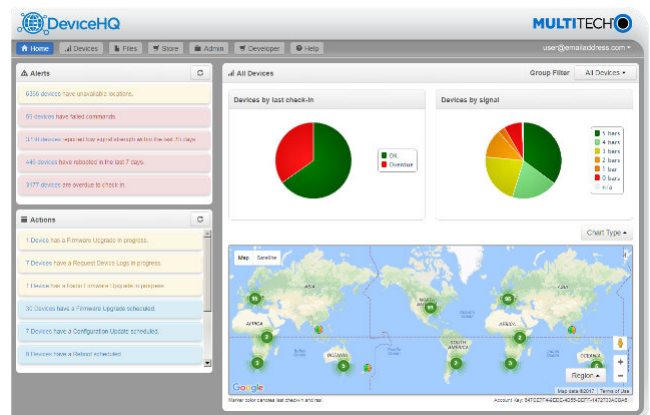## Easily Deploy and Manage Assets Via DeviceHQ®

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-LAP3	MTCDT
Mobile Network Operator	Telstra	Non-Cellular
Cellular Performance	4G - LTE Category 1	
Cellular Fallback	3G - HSPA+	
Frequency Band (MHz)	4G: B1(2100), B3(1800), B5(850), B8(900), B28(700) 3G: B1 (2100), B5 (850), B8 (900)	
Packet Data (LTE FDD)	Up to 10 Mbps peak downlink Up to 5 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 • 400 MHz • 16K Data Cache • 256 MB Flash Memory • 16K Instruction Cache • 128X16M DDR RAM	
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	AU915 or AS923	
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	
AP1, 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	Australia: CISPR 32	
Radio Compliance	AS/NZS 4268:2012 + A1:2013 MPE Standard 2014	
Safety	IEC 60950-1, IEC 62368-1	
Network	Telstra	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	

ORDERING INFORMATION

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

Model	Description	Region
MTCDT-LAP3-247A-915-AU	LTE Cat 1 mPower Programmable Gateway 8 channel, 915 MHz, GNSS+WiFi/BT w/ AU Accessory Kit	Australia

Accessory kit includes: Conduit Gateway with installed MTAC-LORA-H-915 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
MTCDT-LAP3-246A-915-AU	LTE Cat 1 mPower Programmable Gateway 8 channel, 915 MHz, GNSS w/ AU Accessory Kit	Australia

Accessory kit includes: Conduit Gateway with installed MTAC-LORA-H-915 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
MTCDT-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
MTCDT-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-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/AU

MultiTech mDot™

Model	Description	Region
MTDOT-915-AU-X1-SMA-x	AU915 MHz X1 LoRa SMA (Single or 50 Pack)	Australia
MTDOT-915-AU-X1P-SMA-1	AU915 MHz X1 LoRa SMA w/Programming Header (Single Pack)	Australia
MTDOT-915-AU-X1-UFL-x	AU915 MHz X1 LoRa UFL (Single or 50 Pack)	Australia
MTDOT-915-AU-M1-UFL-x	AU915 MHz SMT LoRa UFL (Single or 100 Pack)	Australia
MTDOT-915-AU-M1-TRC-x	AU915 MHz SMT LoRa RF Pad (Single or 100 Pack)	Australia

MultiTech xDot®

Model	Description	Region
MTXDOT-AU1-A00-100	AU915 MHz LoRa Module UFL/TRC (100 Pack)	Australia
MTXDOT-AU1-A00-1	AU915 MHz LoRa Module UFL/TRC (Single Pack)	Australia
MTXDOT-AU1-A01-100	AU915 MHz LoRa Module TRC (100 Pack)	Australia

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.

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

World Headquarters

Multi-Tech Systems, Inc.
2205 Woodale Drive
Mounds View, MN 55112 U.S.A.
Tel: 763-785-3500
Toll-Free: 800-328-9717
Email: sales@multitech.com
www.multitech.com

EMEA Headquarters

Multi-Tech Systems (EMEA)
Strata House
264-270 Bath Road
Harlington UB3 5JJ
United Kingdom
Tel: +(44) 118 959 7774
Email: sales@multitech.co.uk
www.multitech.co.uk

MULTITECH