MultiTech Conduit®

Programmable Gateway for the Internet of Things
Global Models

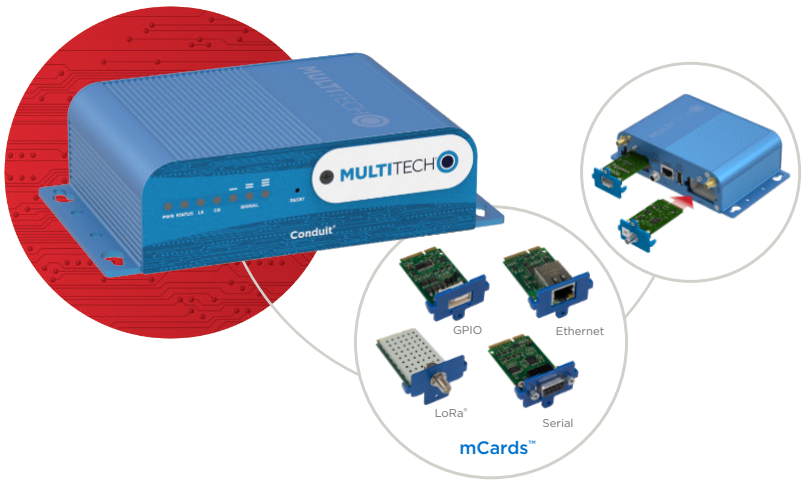
LoRa Alliance®

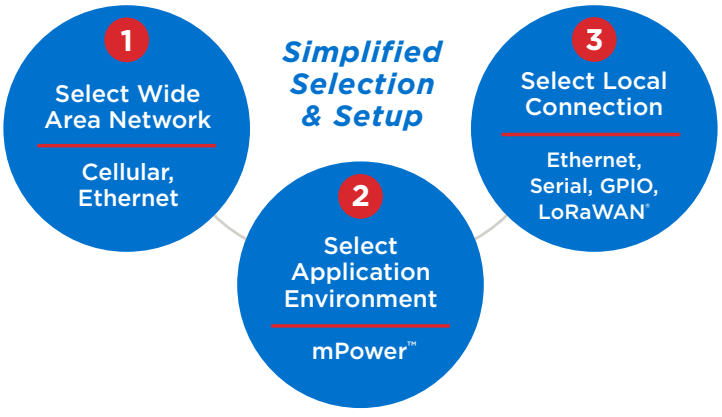
MultiTech Conduit® is the industry's most configurable, manageable, and scalable cellular communications gateway for industrial IoT applications. Network engineers can remotely configure and optimize their Conduit performance through DeviceHQ®, the world's first IoT Application Store and Device Management 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 next generation LoRaWAN® mCard™ capable of supporting thousands of LoRaWAN certified end nodes, including MultiTech Reveal Sensors and 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

- Global MNO and LoRaWAN support
- Backhaul options include Ethernet and optional 4G-LTE cellular for cost effective deployment
- GNSS module for LoRaWAN packet time-stamping and network based location
- Wi-Fi communication supporting 802.11 a/b/g/n 2.4 GHz and 5 GHz 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.





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 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.

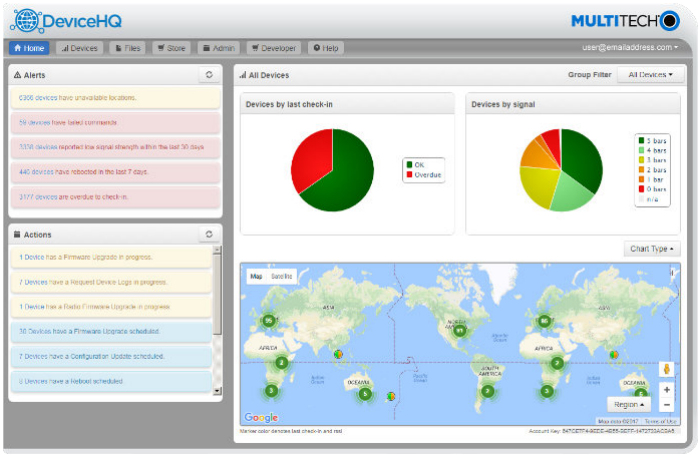
mPower software specifications can be found **here**.

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.

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.



SPECIFICATIONS

Description	MTCDT			
Models	868 Models		915 Models	
	-246A (GNSS only)	-247A (GNSS/WiFi/BT)	-246A (GNSS only)	-247A (GNSS/WiFi/BT)
Cellular Specifications (MTCDT L4G1 models only)				
Mobile Network Operator	Europe and United Kingdom Network Operators		AT&T / Verizon	
Cellular Radio	MTSMC-L4G1			
Cellular Performance	4G-LTE Category 4			
Cellular Fallback	3G - HSPA + / 2G - GPRS			
Frequency Band (MHz)	**4G FDD:** B1(2100), B2(1900), B3(1800), B4(AWS1700), B5(850), B7(2600), B8(900), B12/B13(700), B18(850), B19(850), B20(800), B25(1900), B26(850), B28(700) **4G TDD:** B38(2600), B39(1900), B40(2300), B41(2500) **3G:** B1(2100), B2(1900), B4(AWS1700), B5(850), B6(800), B8(900), B19(850) **2G:** B2(1900), B3(1800), B5(850), B8(900)			
Packet Data (LTE)	**4G-FDD:** Up to 150 Mbps peak downlink. Up to 50 Mbps peak uplink **4G-TDD:** Up to 130 Mbps peak downlink. Up to 30 Mbps peak uplink			
General Specifications				
Input Voltage	9 - 32 VDC			
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	N/A	Wi-Fi: 802.11abng (2.4 & 5 GHz) / Bluetooth: Classic 4.1 and BLE	N/A	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	PWR (Power), STATUS (Power Status), LS (Link Status), CD (Carrier Detect), SIGNAL (Signal Strength)			
LoRa Specifications (.R3 models only, using MTAC-003 Gateway Accessory Card)				
LoRa Frequency Band	868 MHz		915 MHz	
LoRa Channel Plan	EU868 / IN865		AU915 / US915 / AS923 / KR920	
Channel Capacity	8-channels (half duplex)			
Spreading Factors	SF5 to SF12			
LoRa Maximum Output Power before Antenna	14 dBm - 27 dBm*		25.1 dBm	
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	MultiTech mCard Gateway Accessory Cards			
SIM (under nameplate)	2FF Mini SIM (-L4G1 models only)			
SD Card (under nameplate)	Micro SD Card, 32GB (HSMCI) max (industrial temperature range recommended)			
Debug (under nameplate)	USB device micro Type B port or 3-pin debug port			
Antennas	Cellular, GPS: female SMA / LoRa, WiFi/BT: 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	CE Mark (EU), RED (EU), UKCA (UK) EN 55032:2012/AC:2013 (Emissions)		US: FCC Part 15 Class A Canada: ICES-003 Class A Australia: CISPR 32	
Radio Compliance	**RED, Article 3.1b** EN 301 489-1 V2.1.1 (General) / EN 301 489-1 V2.2.3 (General) EN 301 489-3 V2.1.2 (LoRa/SRD) / EN 301 489-17 V3.2.0 (WiFi/BT) EN 301 489-19 V2.2.0 (GNSS receivers) EN 301 489-52 V1.1.2 (Cellular - MTCDT-L4G1 models only) **RED, Article 3.2** EN 303 413 V1.1.1 (GNSS) EN 300 220-2 V3.1.1 and EN 300 220-2 V3.2.1(Lora/ISM) EN 300 328 V2.2.2 (2.4 GHz ISM) EN 301 893 V2.1.1 (5 GHz RLAN) EN 301 511 V12.5.1 (GSM-2G - MTCDT-L4G1 models only) EN 301 908-1 V13.1.1 (IMT Cellular E-ULTRA - MTCDT-L4G1 models only) EN 301 908-2 V13.1.1 (WCDMA – 3G - MTCDT-L4G1 models only) EN 301 908-13 V13.1.1 (LTE – 4G - MTCDT-L4G1 models only) **MPE/RF Exposure: EN 62311:2008**		US: FCC Part 22, 24, 27 Canada: ISED Australia: AS/NZS 4268:2012 + A1:2013 MPE Standard 2014	
Safety	IEC 60950-1 2nd Edition + Am2:2013 / EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013 / EN 62368-1:2014 + AC:2017			
Regulatory Approvals (Approvals Pending) Contact MultiTech for details	Anatel (Brazil), IFETEL (Mexico), SRRC/CCC/NAL (China), KC (South Korea), NCC (Taiwan, China), JATE/TELEC (Japan), FAC (Russia), NBTC (Thailand), IMDA (Singapore), ICASA (South Africa)			
Mobile Network Operator Approvals	GCF, Europe and United Kingdom Network Operators		US: PTCRB, AT&T, Verizon** Australia: RCM, Optus, Telstra, Vodafone	
Mobile Network Operator (Approvals Pending) Contact MultiTech for details	—		US: T-Mobile, US Cellular Canada: Rogers, Telus	
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			

* Maximum EIRP is 14 dBm for most of the band, except for 27 dBm at 869.4-869.5

** MTSMC-L4G1 is PTCRB, AT&T, and Verizon approved

ORDERING INFORMATION

MultiTech Conduit® with and Wi-Fi/Bluetooth (BT/BLE) and MTAC-003 LoRa Gateway Accessory Card

Model	Description	Region
MTCDT-L4G1-247A-868.R3-WW	LTE Cat 4 mPower Programmable Gateway 8-channel, 868 MHz, GNSS+Wi-Fi/BT w/MTAC-003E00 mCard and Accessory Kit (AT&T, Verizon, EU, UK, AU)	Global
MTCDT-L4G1-247A-915.R3-WW	LTE Cat 4 mPower Programmable Gateway 8-channel, 915 MHz, GNSS+Wi-Fi/BT w/MTAC-003U00 mCard and Accessory Kit (AT&T, Verizon, EU, UK, AU)	Global
MTCDT-247A-868.R3-WW	Ethernet-Only mPower Programmable Gateway 8-channel, 868 MHz, GNSS+Wi-Fi/BT w/MTAC-003E00 mCard and Accessory Kit (AT&T, Verizon, EU, UK, AU)	Global
MTCDT-247A-915.R3-WW	Ethernet-Only mPower Programmable Gateway 8-channel, 915 MHz, GNSS+Wi-Fi/BT w/MTAC-003U00 mCard and Accessory Kit (AT&T, Verizon, EU, UK, AU)	Global

Accessory kit includes: Power supply with regional-specific blades (US, EU, GB, AU/NZ), appropriate antennas, Ethernet cable, USB cable and quick-start guide. GNSS Antenna sold separately

MultiTech Conduit® with and MTAC-003 LoRa Gateway Accessory Card

Model	Description	Region
MTCDT-L4G1-246A-868.R3-WW	LTE Cat 4 mPower Programmable Gateway 8-channel, 868 MHz, GNSS w/MTAC-003E00 mCard and Accessory Kit (AT&T, Verizon, EU, UK, AU)	Global
MTCDT-L4G1-246A-915.R3-WW	LTE Cat 4 mPower Programmable Gateway 8-channel, 915 MHz, GNSS w/MTAC-003U00 mCard and Accessory Kit (AT&T, Verizon, EU, UK, AU)	Global
MTCDT-246A-868.R3-WW	Ethernet-Only mPower Programmable Gateway 8-channel, 868 MHz, GNSS w/MTAC-003E00 mCard and Accessory Kit (AT&T, Verizon, EU, UK, AU)	Global
MTCDT-246A-915.R3-WW	Ethernet-Only mPower Programmable Gateway 8-channel, 915 MHz, GNSS w/MTAC-003U00 mCard and Accessory Kit (AT&T, Verizon, EU, UK, AU)	Global

Accessory kit includes: Power supply with regional-specific blades (US, EU, GB, AU/NZ), appropriate antennas, Ethernet cable, USB cable and quick-start guide. GNSS Antenna sold separately

MultiTech Conduit® with and Wi-Fi/Bluetooth (BT/BLE)

Model	Description	Region
MTCDT-L4G1-247A-WW	LTE Cat 4 mPower Programmable Gateway 8-channel, GNSS+Wi-Fi/BT and Accessory Kit	Global

Accessory kit includes: Power supply with regional-specific blades (US, EU, GB, AU/NZ), appropriate antennas, Ethernet cable, USB cable and quick-start guide. GNSS Antenna sold separately

MultiTech Conduit®

Model	Description	Region
MTCDT-L4G1-246A-WW	LTE Cat 4 mPower Programmable Gateway 8-channel, GNSS and Accessory Kit	Global

Accessory kit includes: Power supply with regional-specific blades (US, EU, GB, AU/NZ), appropriate antennas, Ethernet cable, USB cable and quick-start guide. GNSS Antenna sold separately

RECOMMENDED ACCESSORIES

MultiTech mCard™: Gateway Accessory Cards (MTAC Series)

Model	Description	Region
MTAC-003x	**Gateway Accessory Cards - LoRa**	
MTAC-003E00	868 MHz LoRa Accessory Card, Antenna Sold Separately	Global
MTAC-003U00	915 MHz LoRa Accessory Card, Antenna Sold Separately	Global
MTAC-GPIO	**Gateway Accessory Cards - GPIO**	
MTAC-GPIO	GPIO Accessory Card, GPIO Cable Sold Separately	Global
MTAC-MFSER	**Gateway Accessory Cards - Serial I/O**	
MTAC-MFSER-DTE	Multi-Function Serial Accessory Card - DTE Interface	Global
MTAC-MFSER-DCE	Multi-Function Serial Accessory Card - DCE Interface	Global
MTAC-ETH	**Gateway Accessory Card - Ethernet**	
MTAC-ETH	10/100/1000 Mbps Ethernet Accessory Card, Ethernet Cable Sold Separately	Global

Developer Kit, Antennas & Accessories

Model	Description	Region
ANGPS-1MM	Antenna Indoor Magnetic for GNSS	Global
AN868-915A-1HRA	868-915 MHz RP-SMA Antenna, 8" (3.0dBi)	Global
CA-MTAC-GPIO	GPIO Cable for MTAC-GPIO (2.5 ft)	Global
CA-USB-A-MICRO-B-3	USB Cable Type A to Type B Micro (3ft)	Global
CA-MTCDT-DEBUG	USB-to-3-Pin Debug Cable (for hardware verion MTCDT-0.2) (for use with Linux host systems only)	Global
FPC-532-DC	DC Power Cable with Inline Fuse (5 feet)	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®