MultiTech Conduit® AP

Access Point for LoRa® Technology
EU868 Models



LoRa Alliance®

MultiTech Conduit® AP harnesses the power of the LoRaWAN® protocol to provide in-building penetration and connectivity to thousands of IoT assets. Easy to deploy, the Conduit AP extends LoRa® connectivity in commercial buildings like hotels, convention centers, offices and retail facilities providing coverage in difficult to reach areas cell tower or rooftop deployments may not penetrate.

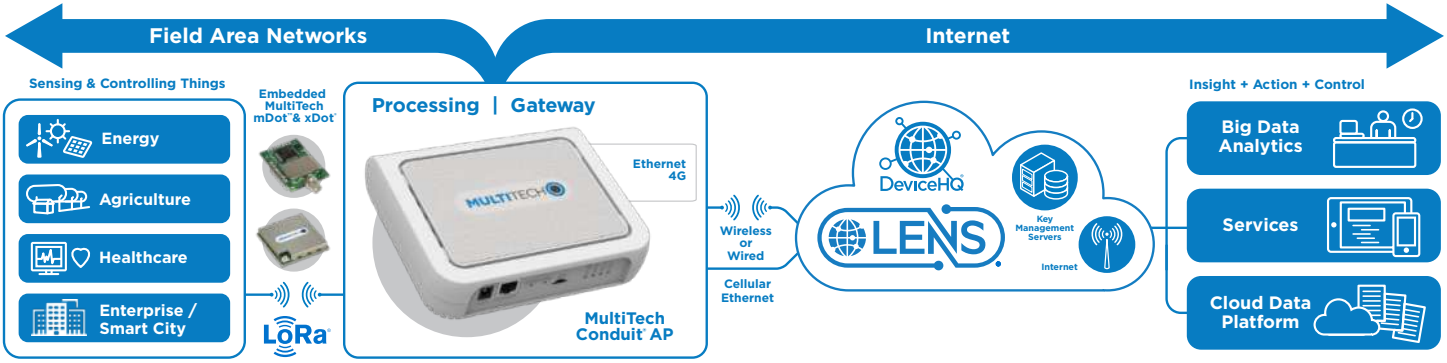
The Conduit AP offers a development environment for developers and IT professionals alike. mPower™ Edge Intelligence features an easy-to-use graphical interface set-up and includes a built-in LoRa Network Server and Packet Forwarder to connect locally clustered assets on a private LoRaWAN network directly to your choice of IoT data platforms. The mPower extends complex processing to the edge to reduce upstream communication and operational costs. The Conduit AP provides Ethernet or optional 4G-LTE IP backhaul.

BENEFITS

- Provide improved service level agreements for LoRa
- Affordable LoRa connectivity in or around commercial buildings
- Quick & easy to deploy
- Carrier approved

FEATURES

- Ethernet RJ-45 10/100 BaseT for IP backhaul
- Optional 4G-LTE IP backhaul
- Multiple power options serve a variety of applications
- Models available with external LoRa antenna for improved performance
- Built-in LoRa Network Server and Packet Forwarder



www.multitech.com/conduitap

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.



HARDWARE SPECIFICATIONS

Models	MTCAP-L4E1-868 / MTCAP2-L4E1-868	MTCAP-868 / MTCAP2-868
Mobile Network Operator	European Network Operators	Non-Cellular
Performance	4G-LTE Category 4	N/A
Fallback	3G - HSPA+, 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)	
Packet Data (LTE FDD)	Up to 150 Mbps downlink, Up to 50 Mbps uplink	
Input Voltage	5 VDC 2.5A input provided by 100-240 VAC 50/60 Hz 0.4A external adaptor	
Input Voltage (PoE Models)	Ethernet Input Power: 37 - 57 VDC provided by PSE injector with power rating of 25W or greater or 5 VDC 2.5A input provided by 100-240 VAC 50/60 Hz 0.4A external adaptor	
Power over Ethernet Standard (PoE Models)	IEEE 802.3at	
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	
LoRa Specifications		
LoRa Frequency Band	868 MHz	
LoRa Channel Plan	EU868 (EU863 – 870)	
Channel Capacity	8-channels (Half Duplex)	
LoRa Maximum Output Power Internal antenna models	Maximum EIRP: 13.3 dBm – 25.8 dBm*	
LoRa Maximum Output Power External antenna models	Maximum EIRP: 14 dBm – 27 dBm**	
Connectors		
Power	2.5mm, 5 Volt power jack	
Ethernet	RJ45 Ethernet jack (10/100 port)	
SIM	3FF Micro SIM	None
Antennas (-001A Models)	No external antenna connections (All antennas are internal to chassis)	
Antennas (-041A & 042A Models)	LoRa: Reverse polarity female SMA / Cellular: No external antenna connection. Internal only	
Physical Description		
Dimensions (L x W x H)	165 (6.5) x 135 (5.3) x 36 (1.4) mm (in)	
Weight	0.68 kg (1.5 lb)	
Chassis Type	PC-ABS (polycarbonate-ABS) Designed for IP30 rating	
Environmental		
Operating Temperature	0° C to +70° C***	
Storage Temperature	-40° C to +85° C	
Relative Humidity	20% to 90%, non-condensing	
Certifications ****		
EMC Compliance	ROHS Directive 2011/65/EU EN 50581:2012 RED Directive 2014/53/EU. Article 3.1b (EMC) EN 301 489-1 V2.1.1 (General) EN 301 489-3 V2.1.1 (LoRa/SRD) Draft EN 301 489-52 V1.1.0 (Cellular)	ROHS Directive 2011/65/EU EN 50581:2012 RED Directive 2014/53/EU. Article 3.1b (EMC) EN 301 489-1 V2.1.1 (General) EN 301 489-3 V2.1.1 (LoRa/SRD)
Radio Compliance	RED Directive 2014/53/EU. Article 3.2 (Radio) EN 300 220-2 V3.1.1 (LoRa/ISM Radio) EN 301 511 V12.5.1 (GSM) EN 301 908-1 V11.1.1 (IMT Cellular)	RED Directive 2014/53/EU. Article 3.2 (Radio) EN 300 220-2 V3.1.1 (LoRa/ISM Radio)
Safety	Low Voltage Directive (LVD) 2014/35/EU Article. 3.1a IEC 60950-1 2nd Edition + Am2:2013 EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013 IEC 62368-1:2014 (Second Edition), EN 62368-1:2014 + AC:2017 (Second Edition) EN 62311:2008 (MPE/RD Exposure)	
Mobile Network Operator Approvals	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	

* Maximum EIRP is 13.3 dBm for most of the band, except 25.8 dBm at 869.4 – 869.65
** Maximum EIRP is 14 dBm for most of the band, except 27 dBm at 869.4 – 869.65
*** Operating temperature excluding power supply. Power supply UL listed at 40° C.
**** RED Declaration of Conformity (DOC) documents can be found at: https://www.multitech.com/landing-pages/events/campaigns/promotions/products/certifications/red-certifications

POWER OPTIONS

Commercial buildings and retail facilities present unique installation challenges for installers, specifically in regards to the Access Point location and the availability of power. The Conduit AP offers models with several power options that overcome these challenges and simplify the installation process.

DC Power Adapter

All Conduit AP models are capable of being powered through the use of an external power adapter. Some models come packaged with a 100 – 240 VAC power adapter. Power over Ethernet models do not include a power adapter, but one can be purchased separately. Conduit AP DC-powered models must always be located near an DC wall outlet.

PoE Power

Select Conduit AP models have the added feature of being powered through the Ethernet connector using a Power over Ethernet injector (available separately) or through the customers industrial enterprise router. In both cases, the Conduit AP is a PoE powered device (PD) and requires a PoE injector or industrial enterprise router capable of delivering 37 – 57 VDC with a power rating of 25W or higher. Conduit AP PoE models do not have the mounting limitations of DC-powered models, unless being powered using a 100 – 240 VAC power adapter (available separately) instead of using PoE power.

ORDERING INFORMATION

MultiTech Conduit® AP 4G LTE Models (External LoRa Antenna)

Model	Description	Region
MTCAP2-L4E1-868-042A-POE	LTE Cat 4 mPower Programmable Access Point, 8-channel, 868 MHz with external LoRa antenna, Power over Ethernet and Accessory Kit #1 (Europe)	Euro/GB
MTCAP-L4E1-868-041A	LTE Cat 4 mPower Programmable Access Point, 8-channel, 868 MHz with external LoRa antenna, DC power and Accessory Kit #2 (Europe)	Euro/GB

MultiTech Conduit® AP 4G LTE Models (Internal LoRa Antenna)

Model	Description	Region
MTCAP2-L4E1-868-002A-POE	LTE Cat 4 mPower Programmable Access Point, 8-channel, 868 MHz with internal LoRa antenna, Power over Ethernet and Accessory Kit #4 (Europe)	Euro/GB
MTCAP-L4E1-868-001A	LTE Cat 4 mPower Programmable Access Point, 8-channel, 868 MHz with internal LoRa antenna, DC power and Accessory Kit #3 (Europe)	Euro/GB

MultiTech Conduit® AP Ethernet-Only Models (External LoRa Antenna)

Model	Description	Region
MTCAP2-868-042A-POE	Ethernet-only mPower Programmable Access Point 8-channel, 868 MHz with external LoRa antenna, Power over Ethernet and Accessory Kit #1 (Europe)	Euro/GB
MTCAP-868-041A	Ethernet-only mPower Programmable Access Point 8-channel, 868 MHz with external LoRa antenna, DC power and Accessory Kit #2 (Europe)	Euro/GB

MultiTech Conduit® AP Ethernet-Only Models (Internal LoRa Antenna)

Model	Description	Region
MTCAP2-868-002A-POE	Ethernet-only mPower Programmable Access Point 8-channel, 868 MHz with internal LoRa antenna, Power over Ethernet and Accessory Kit #4 (Europe)	Euro/GB
MTCAP-868-001A	Ethernet-only mPower Programmable Access Point 8-channel, 868 MHz with internal LoRa antenna, DC power and Accessory Kit #3 (Europe)	Euro/GB

Accessory Kit Overview

Description	Accessory Kit #1	Accessory Kit #2	Accessory Kit #3	Accessory Kit #4
Power Supply with Region-Specific Blades		•	•	
LoRa Antenna	•	•		
Ethernet Cable	•	•	•	•
Mounting Bracket	•	•	•	•
Quick-Start Guide	•	•	•	•

ADDITIONAL ACCESSORIES

Ordering Part Number	Description	Region
PS-5VCB-SBC-U-Global	100-240VAC/5VDC Power Supply w/Push-on Barrel and region-specific power blades (US, UK, EU, AU/NZ) • Replacement power supply (-001 and -041 models only) • Accessory for non-PoE applications (-042 models)	Global
AN868-915A-1HRA	868-915 MHz RP-SMA Antenna, 8″ (3.0 dBi) • Replacement LoRa antenna (-041 and -042 models only)	Global
CA-RJ-45	Ethernet Cable (RJ-45, 6 ft) • Replacement Ethernet Cable	Global
PS-56V-POE-EU-1	Power over Ethernet Injector • Single Port 30W Power over Ethernet Transformer with EU Power Cord • Accessory for PoE models (-042 models) • Also available in 5-packs	Europe
PS-56V-POE-GB-1	Power over Ethernet Injector • Single Port 30W Power over Ethernet Transformer with GB Power Cord • Accessory for PoE models (-042 models) • Also available in 5-packs	GB

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

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

MULTITECH®

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, mPower, DeviceHQ: Multi-Tech Systems, Inc. All other products and technologies are the trademarks or registered trademarks of their respective holders.

2022-06 • 86002212 •

© 2022 Multi-Tech Systems, Inc. All rights reserved.