MULTITECH®

CREATE • CONNECT • COMMUNICATE

MultiTech Conduit®
IP67 Base Station

IP67 Conduit for Outdoor LoRa® Deployments
AS923 for Japan

LoRa Alliance®

MultiTech Conduit® IP67 Base Station is a ruggedized IoT gateway solution, specifically designed for outdoor LoRa® public or private network deployments. This product has been specially created for the Japanese market and features support for the AS923 MHz channel plans as well as the NTT Docomo and Softbank networks. It is a highly scalable and certified IP67 solution capable of resisting the harshest environmental factors including moisture, dust, wind, rain, snow and extreme heat, supporting LoRaWAN® applications in virtually any environment. The enhanced Conduit IP67 solution can support thousands of LoRaWAN certified end nodes, including the MultiTech mDot™ and xDot®*. This flexible solution provides durable, low-power, wide area connectivity in support of M2M and IoT applications for both LoRa service providers and individual enterprises wanting to expand their LoRa network coverage.

Designed for easy deployment, the solution includes a MultiTech Conduit® with a LoRa MultiTech mCard™, IP67 enclosure, LoRa antenna to improve outdoor range and Ethernet or optional 4G-LTE backhaul. It can be deployed as part of an existing telecommunications tower, individual stand or wall mount.

*Represents ideal network configuration and equipment set up. Results vary depending on payload amount, transmission frequency, spreading factor used, as well as terrain, RF interference and obstruction type (e.g., metal, cement, etc.)

BENEFITS

• Greatly expands LoRa network coverage

• External antenna increases LoRa connectivity to remote assets

• Low-cost, high quality support for outdoor IoT applications

FEATURES

• ISM band scanning for optimum LoRa performance

• Listen Before Talk operating protocol

• GNSS for location coordinate information

• 1 PPS interface to facilitate LoRa packet time-stamping

• Certified for Japanese AS923 MHz ISM band with Ethernet and/or 4G-LTE backhaul

www.multitech.com/IP67

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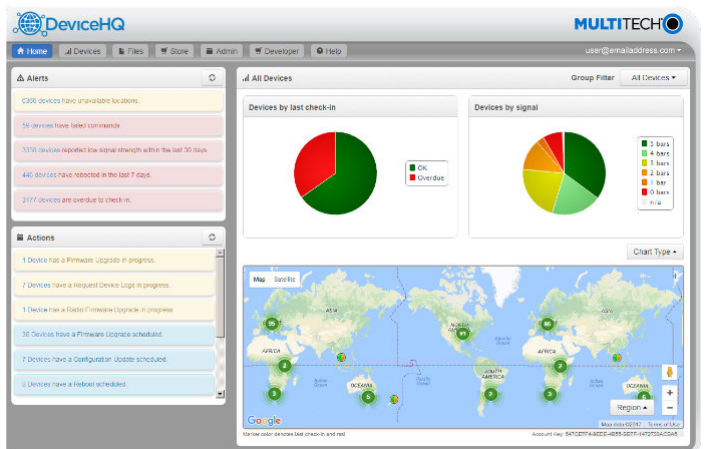
mPower software specifications can be found **here**.

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.
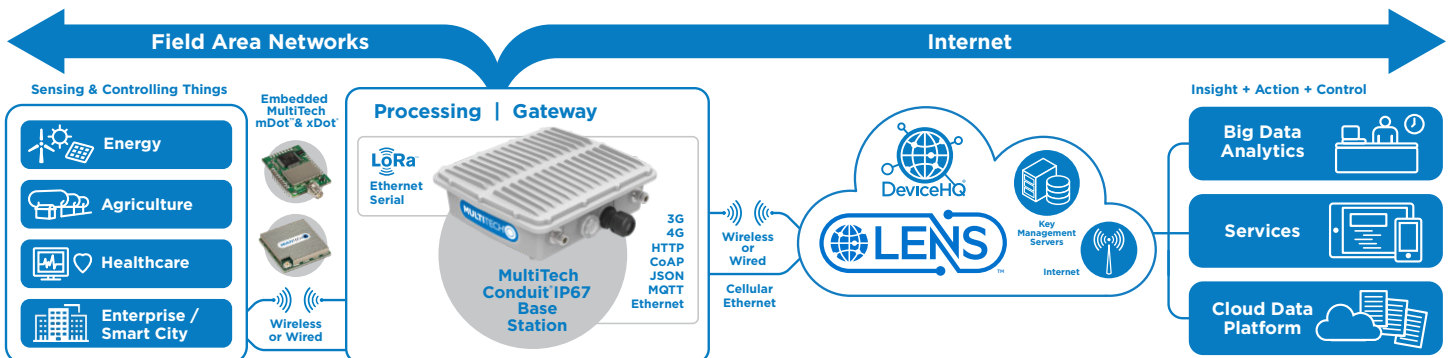
DeviceHQ®

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.
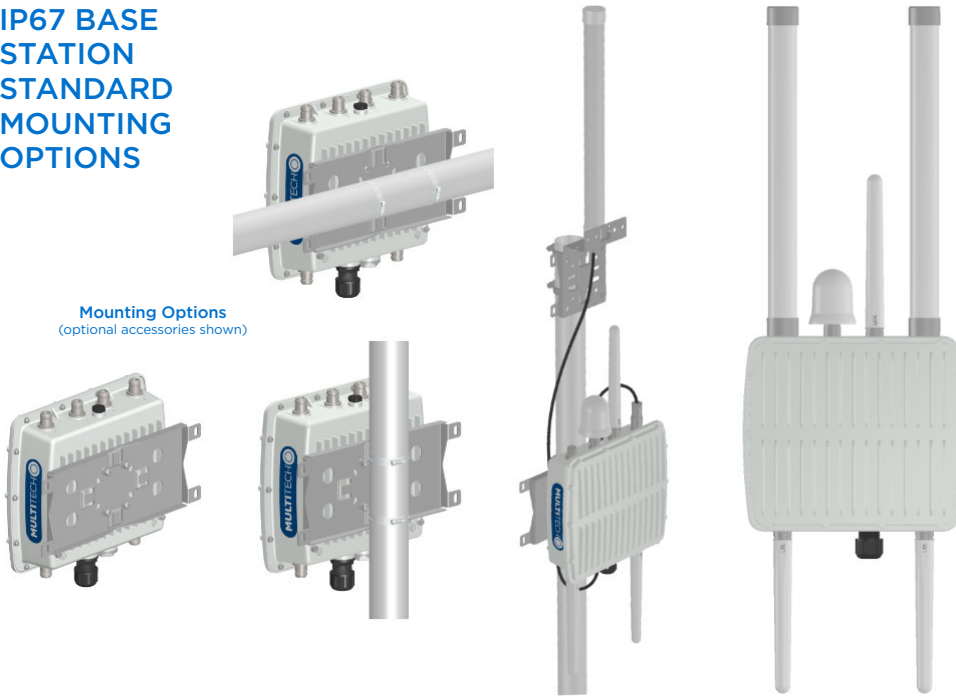
SPECIFICATIONS

Models	MTCDTIP-LDC3	MTCDTIP-LSB3
Cellular Options	Category 1 LTE 3GPP Release 13 (10 Mbps peak downlink/5 Mbps peak uplink)	
	NTT Docomo	Softbank
Frequency Band (MHz)	4G No Fallback 2100(B1)/850(B19)/1500(B21)	4G No Fallback 2100(B1)/900(B8)
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	
Packet Data	Up to 100 Mbps downlink, Up to 50 Mbps uplink	
Radio Frequency LoRa	LoRa – a proprietary Digital Spread Spectrum technique	
GNSS/GPS	72-channel u-blox NEO/LEA-M8T module / Concurrent reception of GPS/QZSS, GLONASS, Galileo, BeiDou / Survey-in and single satellite timing / Time pulse frequency: 0.25 Hz....10 Mhz / Time pulse accuracy: Clear sky ≤ 20 ns / Indoor ≤ 500 ns	
Antennas	LoRa Omni-directional radiation pattern for 360⁰ / 3 dBi gain / Vertical polarization / Weight: 231 grams / Nominal Impedance: 50 Ω / Dimensions: 388.5 mm x 36.9mm / Frequency Range: 806-960/1710-2170 Mhz / N-Male connector / Power withstanding: 20 W / Wind-loading: 125 Mph	
	Cellular Wideband LTE, 4G / 3 dBi gain / HPBW: Horizontal – 360⁰ / Vert – 60⁰ / Linear and vertical polarization Nominal Impedance: 50 Ω / Dimensions: 178 x 22mm / N Plug connector / Weight: 70 gw / Frequency Range: 690-960/1710-2170/2500-2690 MHz	
	GNSS/GPS Operation Voltage: 3.0 – 5.0V / Polarization: RHCP / Power Consumption: 8+/-3mA@3.0+/-0.1V / Temperature: -40⁰C to +85⁰C / Gain: 90⁰: 2.4 dBic@1575 MHz; 2.85 dBic@1602 Mhz / Connector: N-Plug / Frequency Range: 1575 – 1615 Mhz / Dimensions: 55 (Dia.) mm x 64 (W) / Noise Figure: 2.0 dB typ.	
MTAC LoRa mCard	Listen Before Talk support / SPI interface / LoRaWAN 1.0, 1.0.1 & 1.0.2 support Dimensions – 50.59 mm x 30 mm / 902-928 MHz ISM Band – AS923 MHz compliant	
LoRa Channel Plan	Japan 920 – 928 MHz, with AS923 MHz	
LoRaWAN Protocol	LoRaWAN 1.0, 1.0.1 and 1.02 supported / Listen Before Talk support	
Voltage	Ethernet Input Power: 37 - 57 VDC. POE Standard: IEEE 802.3at, provided by PSE injector with power rating of 25W or greater	
Connectors		
Ethernet	1 RJ-45 Ethernet 10/100 port	
USB	1 USB Port: USB Host (Type-A)	
Cellular (Optional)	N-Type Female, 3dBi detachable cellular antennas (Qty 2)	
Antenna	"N" type	
SIM	Micro-SIM Holder (3FF)	
Physical Description		
Dimensions (LxWxH)	262 mm x 91 mm x 257 mm	
Physical Weight	2.75 kg	
Chassis Type	IP67-rated, Aluminum	
Environmental		
Operating Temperature	-30° to +75° C	
Storage Temperature	-40° to +85° C	
Certifications		
EMC Compliance	Japan: TELEC, Radio/Telecom Biz Act, GITEKI	
Radio Compliance	Japan Giteki, Radio/Telecom Biz Act	
Safety	UL 60950-1 2nd Ed., cUL 60950-1 2nd Ed., IEC 60950-1 2nd Ed	
Network Approvals	NTT Docomo and Softbank	
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	

IP67 BASE STATION STANDARD MOUNTING OPTIONS

Mounting Options
(optional accessories shown)

ORDERING INFORMATION

MultiTech Conduit® IP67 Base Station with GNSS

Model	Description	Region
MTCDTIP-LDC3-266A-923-JP	LTE Cat 1 mPower Conduit IP67 Base Station GNSS w/Accessory Kit (NTT Docomo)	Japan
MTCDTIP-LSB3-266A-923-JP	LTE Cat 1 mPower Conduit IP67 Base Station GNSS w/Accessory Kit (Softbank)	Japan
MTCDTIP-266A-923-JP	Ethernet Only mPower Conduit IP67 Base Station GNSS w/Accessory Kit	Japan

RECOMMENDED ACCESSORIES

MultiTech mDot™

Model	Description	Region
MTDOT-923-JP1-X1P-SMA-1	AS923 MHz X1 LoRa SMA w/Programming Header w/ LBT (1 Pk)	Japan

MultiTech xDot®

Model	Description	Region
MTXDOT-JP1-A00-x	AS923 MHz LoRa Module w/ LBT UFL/TRC (Single or 100 Pack)	Japan

Developer Kit & Accessories

Model	Description	Region
MTUDK2-ST-MDOT	Developer Kit (includes SMA antenna and USB cable)	Global
MTMDK-XDOT-JP1-A00	AS923 MHz Developer Kit, includes a AS923 MHz xDot w/LBT	Japan
MMTKIT-IP67-MF	Conduit IP67 Accessory Kit (includes antenna mounting bracket, coax cable, two clamps and lightning arrestor)	Global
LGT-ARRST-x	Lightning Arrestor (Single or 5 pack)	Global
CA-NTYPE-MF-x	Outdoor Coax Cable, N Type Male & Female (Single or 5 pack)	Global
MB-ANT-IP67-x	Antenna Mounting Bracket, Mounts 1 Antenna (Single or 5 pack)	Global
PS-56V-PoE-NAM-x	Single Port Power over Ethernet Transformer with NAM Power Cord (Single or 5 pack)	Japan/North America

Go to www.multitech.com for detailed product model numbers.

MULTITECH○