



# MC-EDGE™

## YOUR GATEWAY TO MISSION-CRITICAL IOT

THE FOLLOWING ARE DETAILED SPECIFICATIONS FOR THE MC-EDGE GATEWAY.

BANDS SUPPORTED		
LoRa	LoRa Radio Frequency Plan: AS923, AU915-928, EU863-870, US902-928	
LTE	North America	Verizon - B4 (1900 MHz), B13 (700 MHz)
	Europe, Middle East, Africa	4G - B3 (1800 MHz), B7 (2600 MHz) and B20 (800 MHz) 3G - B1 (2100 MHz) (for fallback)
	Asia Pacific	4G - B3 (1800 MHz) and B28 (700 MHz APT) 3G - B5 (850 MHz) (for fallback)
	Latin America (March 2021)	4G - B2 (1900 MHz), B4 (1700 MHz), B5 (850 MHz), B7 (2600 MHz), B28 (700 MHz) 3G - B1 (2100 MHz), B2 (1900 MHz), B4 (1700 MHz), B5 (850 MHz) 2G - B2 (1900 MHz), B3 (1800 MHz), B5 (850 MHz), B8 (900 MHz)

GENERAL	
Environmental with internal radio	-30 °C to +60 °C (-22 °F to 140 °F)
Environmental without internal radio	-40 °C to +70 °C (-40 °F to 158 °F)
RTC Battery Charging	-20 °C to +50 °C (-4 °F to 122 °F)
Dimensions (CPU/IO Modules)	2.95" x 6.3" x 4.4" (WxHxD) (main/each expansion)
DIN rail option	Yes
Wall mount option	Yes (using DIN rail)
Construction	Modular
Input power	11-30V DC currently supported. 9-30V DC supported in the future
RTC backup Battery Type	Coin Re-chargable battery for 30 days
SDIO card	Yes

CPU		
RTC	Hardware clock with year, month, date, day, hour, minute, and second supported	Yes
Communication Ports	RS232/RS485	1 port on main board (<115.2Kbps/<460.8Kbps) non-isolated
	Ethernet	Up to 3 ports, 10/100 Mbps (auto negotiation)







## SOFTWARE

Configuration and maintained tool	PC Tool (STS)
MDLC Networking	Yes
Direct Link	Yes
RTU to RTU communication	Yes
MDLC Store and Forward	Yes
Broadcast	Yes
Diagnostic (local, remote)	Yes
Error Logger (local, remote)	Yes
User programming	1. C 2. IEC61131-3
Security	1. AES256 End to End Encryption (FIPS 140-2 Level 2 as a future option) 2. User and Machine Authentication 3. Central Key Management 4. Central Authentication server 5. Access control 6. Sensitive data in rest encryption
Protocols	Modbus RTU Modbus TCP/IP MDLC SSH SFTP
Time Synchronization	MDLC, NTP, GLONASS/GPS + 1PPS
Set Date and Time	Yes (w/ Time Zone and Daylight-Saving)
Services	DNS Yes DHCP Yes

## INFRASTRUCTURE

ASTRO™	<b>700/800</b> Tx Bands: 763-776, 793-806 MHz/806-824, 851-870 MHz Rx Bands: 763-776 MHz /851-870 MHz Channel Spacing: 25/12.5 KHz RF OutPut Power: 1-3 W Rx Sensitivity (12dB SINAD):0.250uV
	<b>VHF</b> Tx / Rx Bands: 136-174 Mhz Channel Spacing: 30/25/12.5 KHz RF Output Power: 1-5 W Rx Sensitivity (12dB SINAD):0.216uV
	<b>UHF R1, R2</b> Tx Bands: 380-470, 450-520 MHz Rx Bands: 380-470, 450-520 MHz Channel Spacing: 25/12.5 KHz RF Output Power: 1-5 W Rx Sensitivity (12dB SINAD):0.234uV
	<b>900 MHz</b> Tx/Rx Bands: 896-901, 935-940 MHz C.Spacing: 12.5 KHz RF Output Power: 1-2.5 W Rx Sensitivity (12dB SINAD):0.236uV
Null Modem	External
LTE	Internal
Wireless Sensor Network	LoRa Gateway Radio Chipset: SX1301 & SX1257 Freq Range: 863-870 MHz, 902-928 MHz RX Sensitivity: Up to - 140 dBm Max RF Output: +28 dBm
MOTOTRBO™ Radio	External
TETRA Radio	External
Analog Radio	External
<b>I/Os</b>	
I/Os	<b>Main Board</b> 3DI + 1DO (Isolated) <b>Input Module</b> 12DI (Isolated) 8AI (Isolated) (AI: 0 -20mA, 4 -20mA, 0-5V) <b>Output Module</b> 8DO (ML & EE) 2AO (Isolated) (AO: 0 -20mA, 4 -20mA, 0-10V) <b>Mixed I/O Module</b> 7 DI/6 DO (Isolated) 4AI (0-20mA, 4-20mA) 1AO (Isolated) (AO: 0 -20mA, 4 -20mA, 0-10V) <i>For more details, please check the user guide.</i>
	DI Fast counter 2 khz for all inputs
	AD Resolution 12 bit, 0.25% @25C
	AI Resolution 16 bit, 0.1% @25C
I/O Performances	

## CERTIFICATIONS

Safety  
For US:  
UL 60950-1 (UL listed)  
For EU & Australia/New Zealand:  
EN/ANZ 62368

Emission/EMC  
For US & Canada:  
CFR 47 FCC part 15, subpart B  
(class A) ICES003

For Europe/ANZ:  
EN301489-52  
AS/CA S042.1  
Approved per RED

## NETWORK TOPOLOGY

1. Point to Point/Multipoint
2. Store and Forward
3. Star
4. Tree Hierarchy
5. Multi-Communication Backhaul Supported (dual/redundant link)

## POWER MANAGEMENT

Voltage Management      Preconfigured thresholds based scenarios      Yes

Power voltage that can be reduced or disabled      5 power consumption options available

Power Consumption  
CPU module All Radio Off: Max 300mA/Typical 150mA @12V (w/o SD card and USB)  
CPU module All Radio On: Max 450mA/Typical 250mA @12V (w/o SD card and USB)  
CPU module All Radio's On APX TX: 1.6 A/Typical @12V  
CPU module All Radio's On LoRA RX 8 Channels: 0.36A/Typical @12V  
CPU module All Radio's On LoRA TX: 0.605A/Typical @12V  
CPU module All Radio's On LTE TX: 0.45A/Typical @12V  
Input module: Max 180mA /Typical 100mA @12V  
Output module: Max 450mA/Typical 250mA @12V  
Mixed IO module: Max 194.4mA/Typical 64mA @12V

For more information visit: [motorolasolutions.com/mcedge](https://motorolasolutions.com/mcedge)



Motorola Solutions, Inc. 500 West Monroe Street, Chicago, IL 60661 U.S.A. [motorolasolutions.com](https://motorolasolutions.com)

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