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: AU915-928 AS923 US902-928 EU863-870
LTE	For NA: Verizon B4, B13 For EMEA: 4G - B3 (1800 MHz), B7 (2600 MHz) and B20 (800 MHz). 3G - B1(2100) (for fallback) For APAC: 4G - B3 (1800 MHz) and B28 (700 APT). 3G - B5(850) (for fallback)

GENERAL	
Environmental with internal radio	-30 ºC to +60 ºC (-22 ºF to 140 ºF)
Environmental without internal radio	-40 ºC to +70 ºC (-40 ºF to 158 ºF)
RTC Battery Charging	-20 ºC to +50 ºC (-4 ºF to 122 ºF)
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)
Contruction	Modular
Input power	11-30V DC currently supported. 9-30V DC supported in 2021.
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	Up to 2 ports on main board (<115.2Kbps/<460.8Kbps) non-isolated
	Ethernet	Up to 3 ports, 10/100 Mbps (auto negotiation)

MOTOROLA SOLUTIONS

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 DNP3.0 Serial DNP3.0 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	700/800 Tx Bands: 763-776, 793-806 MHz/806-825, 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 VHF 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 UHF R1, R2 Tx Bands: 380-470, 480-520 MHz Rx Bands: 340-370, 450-520 MHz Channel Spacing: 25/12.5 KHz RF Output Power: 1-5 W Rx Sensitivity (12dB SINAD):0.234uV 900 MHz Rx/Tx Bands: 896-902, 935-941 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 (hardware ready)	LoRa Gateway Radio Chipset: SX1301 & SX1257 Freq Range: 902 to 928 MH RX Sensitivity: Up to - 140 dBM Max RF Output: +27 dBM

I/Os

I/Os		**Main Board** 3DI + 1DO (Isolated) **Input Module** 12DI (Isolated) 8AI (Isolated) (AI: 0 -20mA, 4 -20mA, 0-5V) **Output Module** 8DO (ML & EE) 2AO (Isolated) (AO: 0 -20mA, 4 -20mA, 0-10V) **Mixed I/O Module** 7 DI/6 DO (Isolated) 4AI (0-20mA, 4-20mA) 1AO (0-20mA, 4-20mA) For more details, please check the user guide.
I/O Performances	DI Fast counter	2 khz for all inputs
	AD Resolution	12 bit, 0.25% @25C
	AI Resolution	16 bit, 0.1% @25C

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

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	

SERVICE AND SUPPORT

Essential Services	One year Essential Services commitment required with MC-Edge purchase	1. Technical Support - 24 x 7 x 365 Remote Technical Support from our Solutions Support Center 2. Software Updates - Safeguard your system from vulnerabilities and improve network performance 3. Software Upgrades - Receive our latest integrated system software releases with the latest features, functionalities and enhancements 4. Hardware Repair - Rapid turnaround of equipment repairs to regional authorized repair facilities

For more information visit: motorolasolutions.com/mcedge

MOTOROLA SOLUTIONS