

MachineQ Area 8c Gateway, Gen 1

Indoor LoRaWAN® Gateway



The Gen 1 Area 8c gateway connects your temperature monitoring sensors to Crunchtime Ops Execution over LoRaWAN®. It provides optimal coverage and reliable connectivity for small and large-scale indoor deployments such as hotels, convention centers, office facilities, restaurants, and laboratories. This 8-channel gateway can process millions of transmissions per day and support up to 10,000 devices, and it can be mounted on horizontal surfaces or walls.

The Gen 1 gateway is a dark rectangular unit with an antenna connector on top and four status lights along the bottom edge of the front panel.

MODELS

- **HXQX1AM0S:** Ethernet backhaul
- **HXQX1AP0S:** LTE cellular and Ethernet backhaul

FEATURES

- Eight concurrent LoRa channels
- Switchable internal or external LoRa antenna
- AT&T certified LTE module on the LTE model
- Four LED status indicators
- MachineQ packet forwarding and gateway management software

HARDWARE SPECIFICATIONS

General

Product Category	LoRa 8-channel indoor gateway, Ethernet and Ethernet/LTE (cellular) backhaul
Main CPU	MediaTek
LTE Module	AT&T certified LTE module
Antenna Type (LoRa)	External antenna or internal antenna. The antenna is switchable, and the internal antenna is disabled when an external antenna is connected
Middleware	MachineQ Packet Forwarding System and MachineQ Gateway Management Software
OS	Linux-based operating system

System

SoC	MediaTek
RAM	1024 Mbit
Flash	1024 Mbit

LoRa Hardware

LoRa Frequency Band	LoRaWAN US915 (902-928 MHz)
LoRa Transceiver	SX1308 with SX1257 (x2)
LoRa Channels	8 concurrent LoRa channels
LoRa Transmit RF Power	27 +/- 5% dBm
LoRa Receiving Sensitivity	Typical -133 dBm @ SF10, 125 KHz
LoRa Encryption	AES-128

LoRaWAN

LoRa Class	Class A/C
Activation	Activation-by-Personalization (ABP) and Over-the-Air-Activation (OTAA) are supported

LoRa RF

Frequency Range	US: 902-928 MHz
Channel Bandwidth	125/500 KHz
Output Power (TX)	27 dBm
Sensitivity (RX)	-133 dBm

Environmental and Physical

Working Temperature	Operating: 0°C to 40°C Storage: -10°C to 70°C
Working Humidity	Operating: 10% to 85%, non-condensing Storage: 5% to 90%, non-condensing
Power Supply	AC/DC 100-240 VAC 50/60 Hz, 12 VDC/2A
Antennas	Built-in LoRa antenna, plus accessory LoRa antenna with SMA connector
Indicators	Four LED indicators
Dimensions (L x W x H)	210 x 130 x 33 mm
Weight	520 g

LED INDICATORS

The four indicator lights are displayed from left to right on the front of the gateway. Read them in this order: power, wireless backhaul, Ethernet, and LoRa.

LED	Status	Description
Power	Off	Not powered
	Slow blinking blue	Initial power up and boot
	Solid blue	Device is powered
	Fast blinking red	Gateway has an internal error. Contact Crunchtime Support
	Slow blinking, alternating red and green	Firmware update in progress
Wireless Backhaul	Solid blue	Device is online via wireless backhaul (cellular)
	Off	Not connected or not in use
	Slow blinking green	AP mode. Not applicable to the LTE/Ethernet model
	Solid red	The gateway was not able to connect to the configured network
Ethernet	Solid blue	Device is online via Ethernet
	Solid red	Ethernet is plugged in but cannot connect
	Off	Not connected or not in use
LoRa	Solid blue	Device is online
	Solid red	Cannot connect

After a successful installation, the power, Ethernet, and LoRa lights are blue and the wireless backhaul light is blue or off.

REAR PANEL I/O PORTS

LTE and Ethernet model (HXQX1AP0S)



1. Reset
2. SIM card slot
3. LoRa antenna
4. Ethernet
5. Power

Ethernet only model (HXQX1AM0S)



1. Reset
2. LoRa antenna
3. Ethernet
4. Power

INCLUDED ACCESSORIES

Item	Quantity	Details
Power adapter	1	Model WB-24J12FU. Input: 100-240 V, 50/60 Hz, 0.7 A max. Output: 12 VDC, 2 A. The adapter is UL Listed
LoRa antenna	1	860-930 MHz, 0 dBi
Mounting hole screw	2	M3.5 x 1.27, 25.4 mm length, 7.0 mm head
Mounting hole anchor	2	24.5 x 5.8 mm, white
Mounting hole template sheet	1	Adhesive wall mounting template