

AgoraGateway

Ruggedized Edge Computing Device



By harnessing the power of edge computing and data analytics, Agora is the gateway to edge intelligence. With an open, secure and scalable platform, AgoraSM edge IoT solutions enable operators to reduce nonproductive time, minimize HSE risk, enhance production and lower total operating costs.

At the center of the platform is the AgoraGatewayTM ruggedized edge computing device, which collects, analyzes and transmits data from field devices to the enterprise in real time. Edge Apps—domain-specific workflows and algorithms—are deployed to the gateway to enable insights to be derived on location. Working in tandem with the platform's middleware and software solutions, the AgoraGateway also enables real-time connectivity to data ecosystems, thus revealing the actionable insights needed to transform oilfield operations.



Design and Operation

The AgoraGateway is designed to operate in the most challenging and remote environments. Built on industry standards, the ruggedized gateway meets all environmental requirements for temperature and shock and vibration. The enclosure of the AgoraGateway is NEMA 4X IP 66 certified for outdoor use.

The AgoraGateway connects to field devices from any vendor or manufacturer using standard industrial protocols. AgoraConnectSM data transmission services provide multiple connectivity options to ensure data collected at the edge is connected to the enterprise. With cellular (4G LTE), satellite and Ethernet connection capabilities, the AgoraGateway delivers seamless, real-time communication across the edge ecosystem.



The AgoraGateway collects, manages and transmits data from field devices to the enterprise in real time.



Intrinsically Secure

The AgoraGateway is designed to minimize hardware vulnerability. The physically hardened gateway allows only necessary services to run and disables all other ports. Its robust security policy ensures that only approved applications can run on the device. For an extra layer of security, the gateway utilizes an advanced configuration that only permits outbound connections to known and trusted internet locations.

Each AgoraGateway is deployed in a unique and highly trusted manner. This approach safeguards the device and eliminates the risk associated with default configurations and credentials. The gateway's hardware-based root of trust utilizes the TPMv2.0 cryptographic chip to deliver secure communications with the cloud—minimizing the chances of attackers compromising the device and gaining access to critical data. Federation and secure hardware tokens ensure that only authorized entities can access data and perform actions.

AgoraGateway Technical Specifications

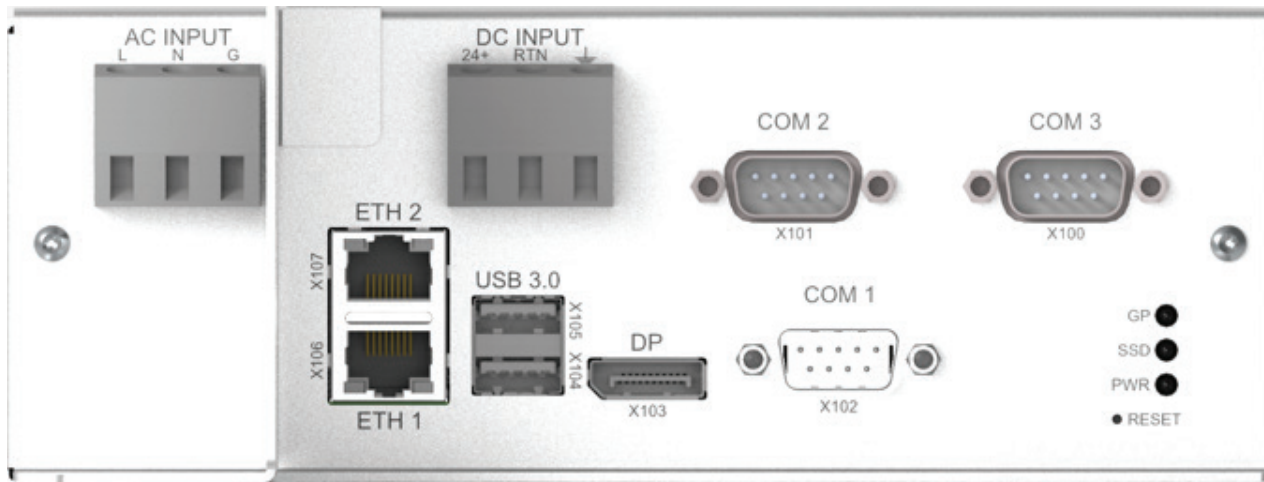
		AgoraGateway v.403
Processor / RAM / Storage		Intel Atom E3950 Quad Core 2.0 GHz 8 GB DRAM 32 GB (eMMC) / 128 GB (SSD)
Security Chip		TPM 2.0 (with secure/measured boot support)
I/O		2x 1 GB Ethernet 2x RS485 / 422, 1x RS232 2x USB 3.0 1x Display port
Operating Temperature		-40°C to +60°C
Power Consumption		<20 W
Operating System		Linux Debian LTS
Connectivity	Northbound	4G LTE with Global Modem / GPS Ethernet WiFi Satellite (External Modem via Gateway Ethernet Port)
	Southbound	Ethernet Serial (2x RS485, 1x RS232) WiFi
Power Source		AC 100-240 V, 50/60 Hz or 24 VDC
Dimension / Weight		12" x 9.5" x 4.25" / 7lb
Certification and Compliance		CE (RED, RoHS), FCC, cULus, WEEE
Material	Enclosure	Hot compression molded fiberglass reinforced polyester
	Cable Gland	Metal
	RF Connector	Metal
EQ Standards		WS / WL Surface Vibration Qualification
Hazardous Zone Rating		C1D2
Enclosure Protection Rating		NEMA 4X (IP66)
Applications		Container Based

The AgoraGateway is available in multiple performance levels. It has also been deployed with two alternate power options:

- The AgoraGateway without the battery option has been deployed in the field together with an UPS
- In addition, it is also possible to connect the gateway to a solar panel

AgoraGateway Connections Overview

Front Inside Face View



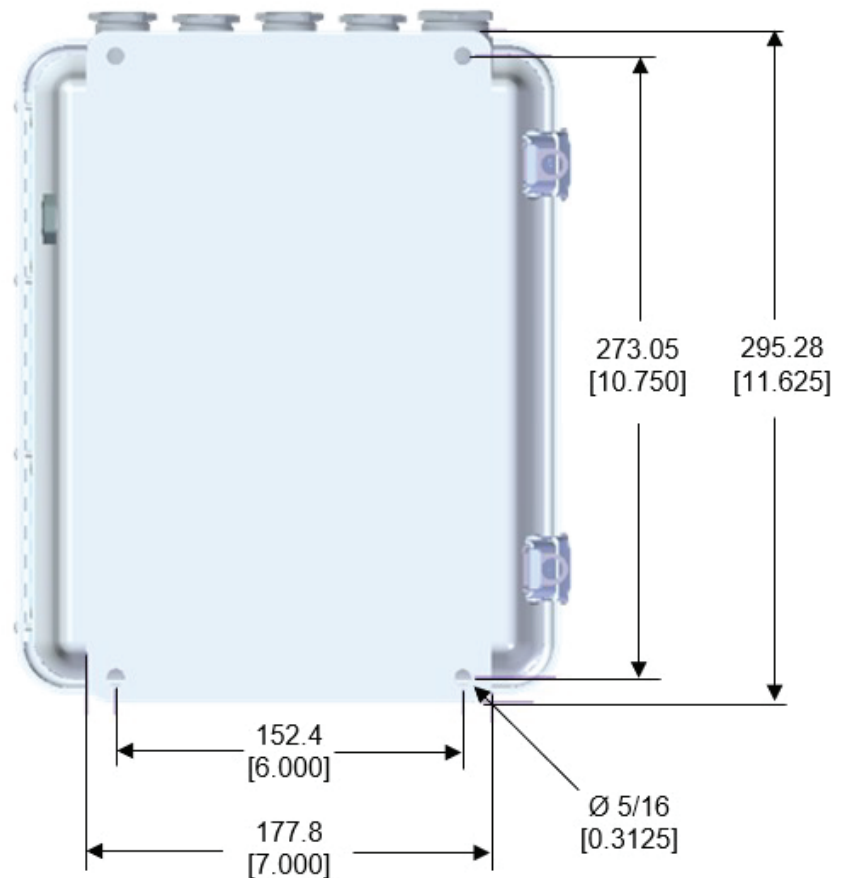
Top Inside Face View



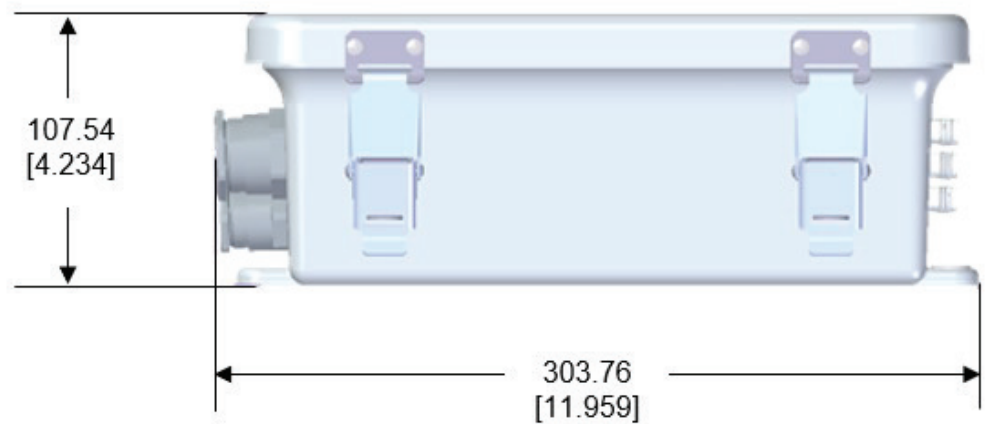
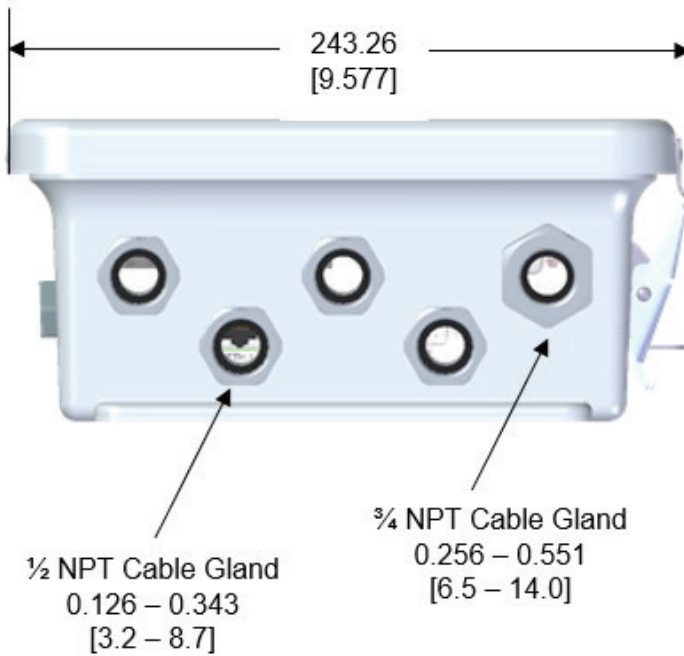
AgoraGateway Dimensions



Bottom Up Back View



AgoraGateway Dimensions



AgoraGateway WiFi and Cellular Frequencies

WiFi Operating Frequency:

2412-2472 MHz

5180-5320, 5190-5310, 5210-5290, 5500-5700, 5510-5670, 5530-5690 MHz

LTE Cellular Modem Frequency Bands:

LTE Frequency Bands	3G WCDMA Frequency Bands
B1	B1
B2	B2
B3	B3
B4	B4
B5	B5
B7	B6
B8	B8
B9	B9
B12	B19
B13	
B18	
B19	
B20	
B26	
B28	
B29	
B30	
B32	
B41	
B42	
B43	
B46	
B48	
B66	