

# 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, Agora<sup>SM</sup> 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 AgoraGateway<sup>TM</sup> 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. AgoraConnect<sup>SM</sup> 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

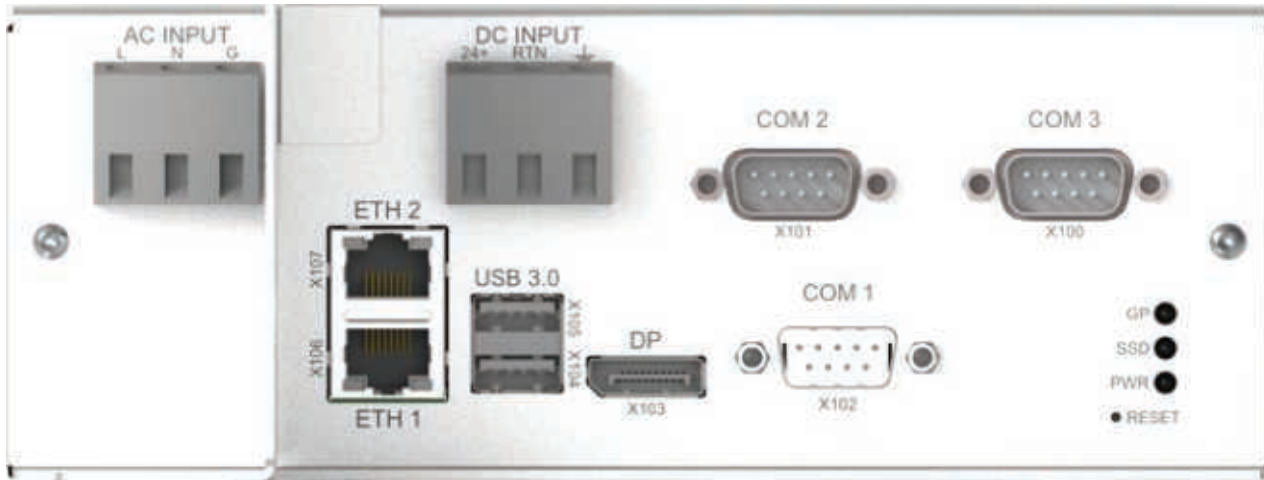
		<b>AgoraGateway v.403</b>
<b>Processor / RAM / Storage</b>		Intel Atom E3950 Quad Core 2.0 GHz 8 GB DRAM 32 GB (eMMC) / 128 GB (SSD)
<b>Security Chip</b>		TPM 2.0 (with secure/measured boot support)
<b>I/O</b>		2x 1 GB Ethernet 2x RS485 / 422, 1x RS232 2x USB 3.0 1x Display port
<b>Operating Temperature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

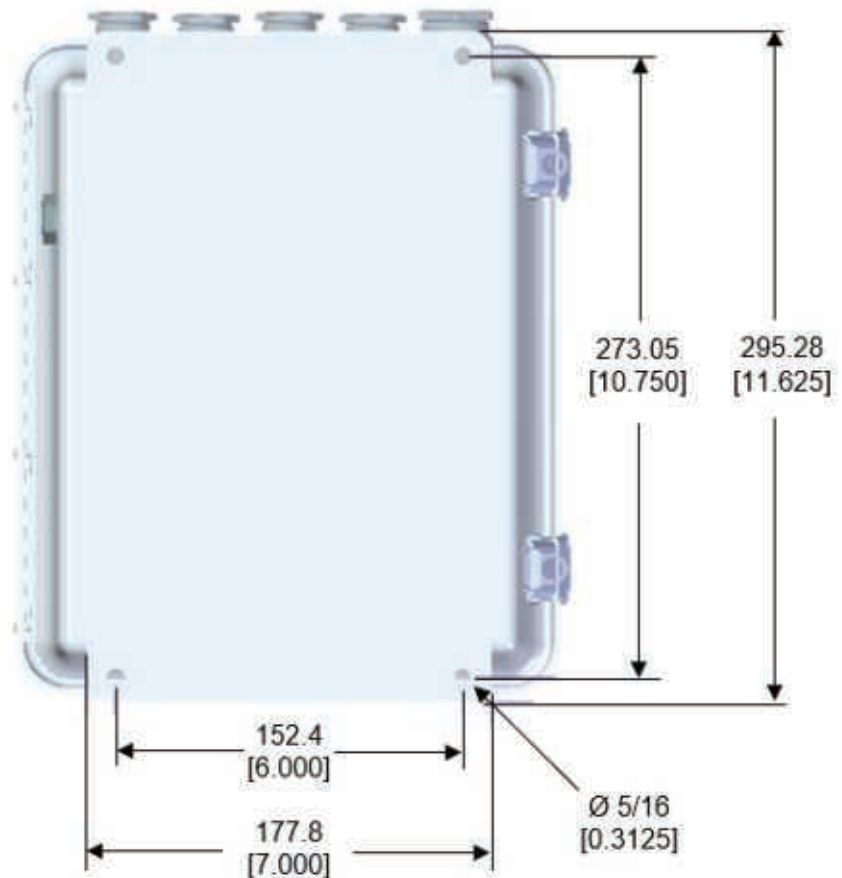


## AgoraGateway Dimensions

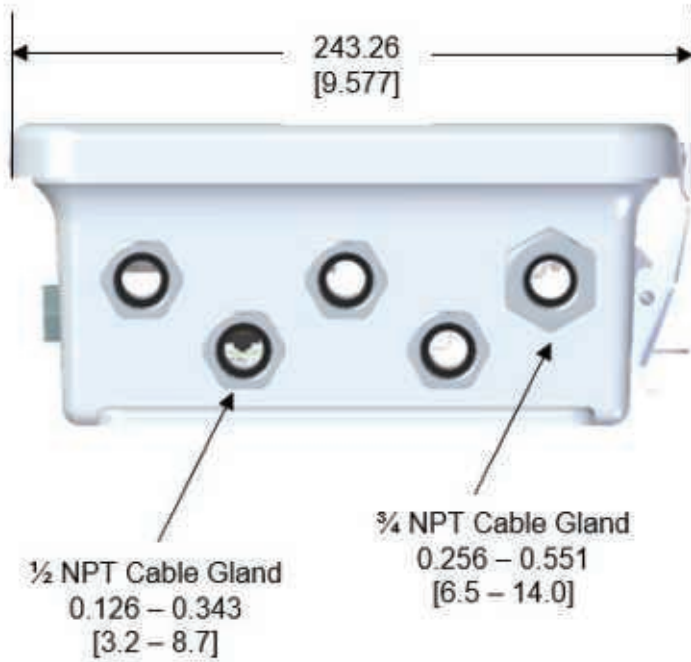


Front View

Bottom Up Back View

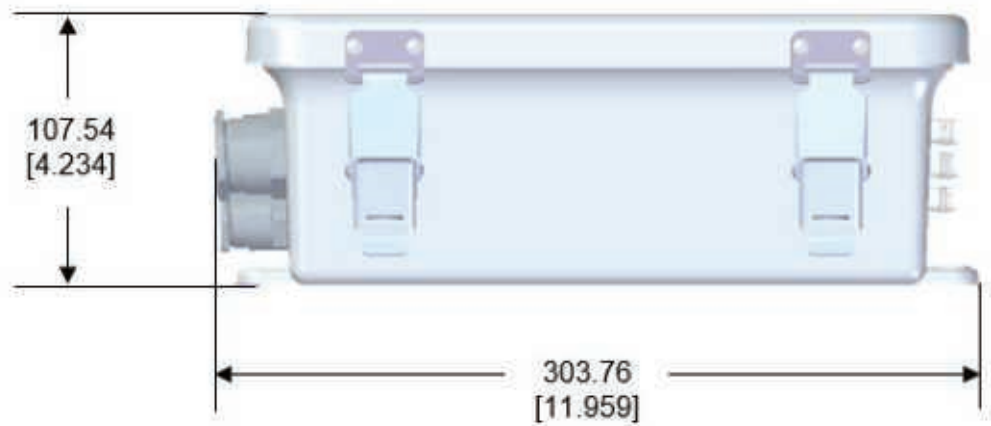


## AgoraGateway Dimensions



Bottom Side View

Right Side View



## 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	