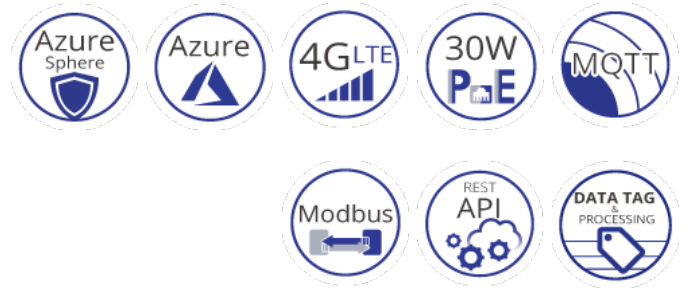


AiR GUARD

Industrial IoT Cellular Smart Security Gateway



Overview

Over the past few years, the Internet of Things (IoT) has captured headlines across the world. With its network of "Smart," sensor-enabled devices that can communicate and coordinate with one another via the Internet, the IoT can facilitate computer-mediated strategies for managing city resources, energy management, and numerous other tasks. However, the way forward for IoT may be complicated. As with any technology in its early stages, cybersecurity concerns will be prevalent. There have already been instances of hackers wreaking havoc by infiltrating connected IoT devices.

In light of the essential need for security, EtherWAN's AiR GUARD is an advanced IIoT cellular gateway and 4G LTE PoE device specifically optimized for secure IoT data transmission, running with Microsoft's Azure Sphere. Offering not only secure connectivity, it also provides industrial protocols and easy to use data pre-processing and conversion for efficient and low-cost edge to cloud connectivity. AiR GUARD is your IoT guardian.

EtherWAN — "When Connectivity is Crucial."

Spotlight

Built-in Microsoft security technology

» AiR GUARD's built-in Azure Sphere chip provides secure connectivity based on a hardware root of trust, and its OS adds layers of protection with continuous updates to ensure a trustworthy platform.

Highly-reliable network connection

» Offers multiple internet access methods: 10/100 BASE-T(X) & Gigabit Ethernet; Global 3G/4G LTE Cat.4 networks

Convenient 30W PoE to power connected devices

- » Offers one port of 10/100/1000 BASE PoE
- » IEEE802.3at Power over Ethernet

Data processing and conversion ability

- » Built-in Data Tag Engine
- » Easy integration of equipment data into middleware with secured data conversion to optimize efficiency with connected equipment

Automatic OTA firmware upgrade

- » The ability to add new software features to a product after a device has been deployed in the field to improve functionality over time
- » The opportunity to rapidly respond to bugs and security updates

Supports RESTful API

- » Easy to acquire data or remote configure settings

Azure Sphere

Azure Sphere certified microcontroller

- » Azure Sphere MT3620

Hardware-based root of trust

- » Prevents device forgery or spoofing

Defense in depth

- » Multiple layers of security - each layer of soft-ware (Azure Sphere OS) verifies that the layer above it is secured

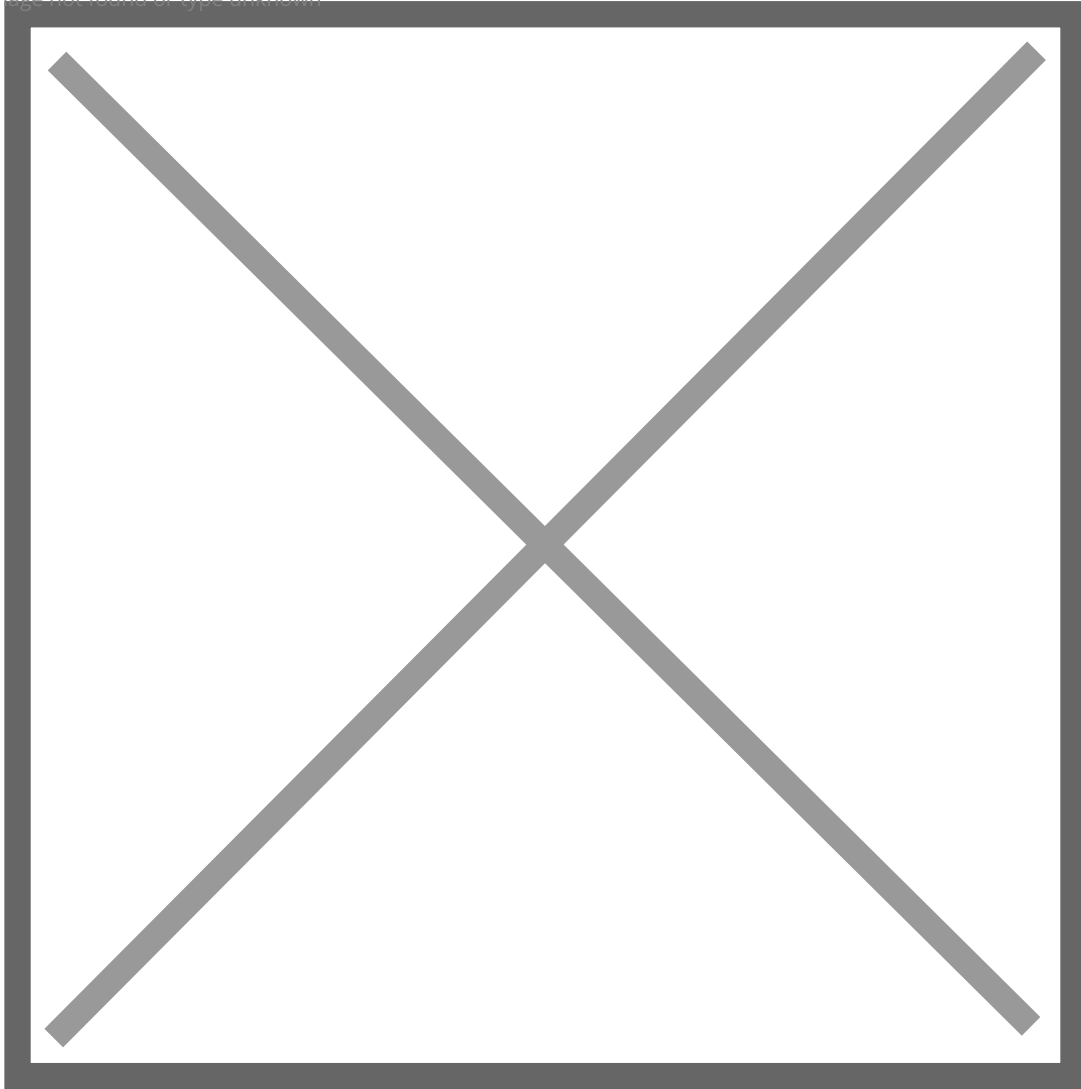
Certificate-based authentication

- » Signed certificates validated by cryptographic Key

Renewable security

- » Device software is automatically updated to correct known vulnerabilities or security breaches

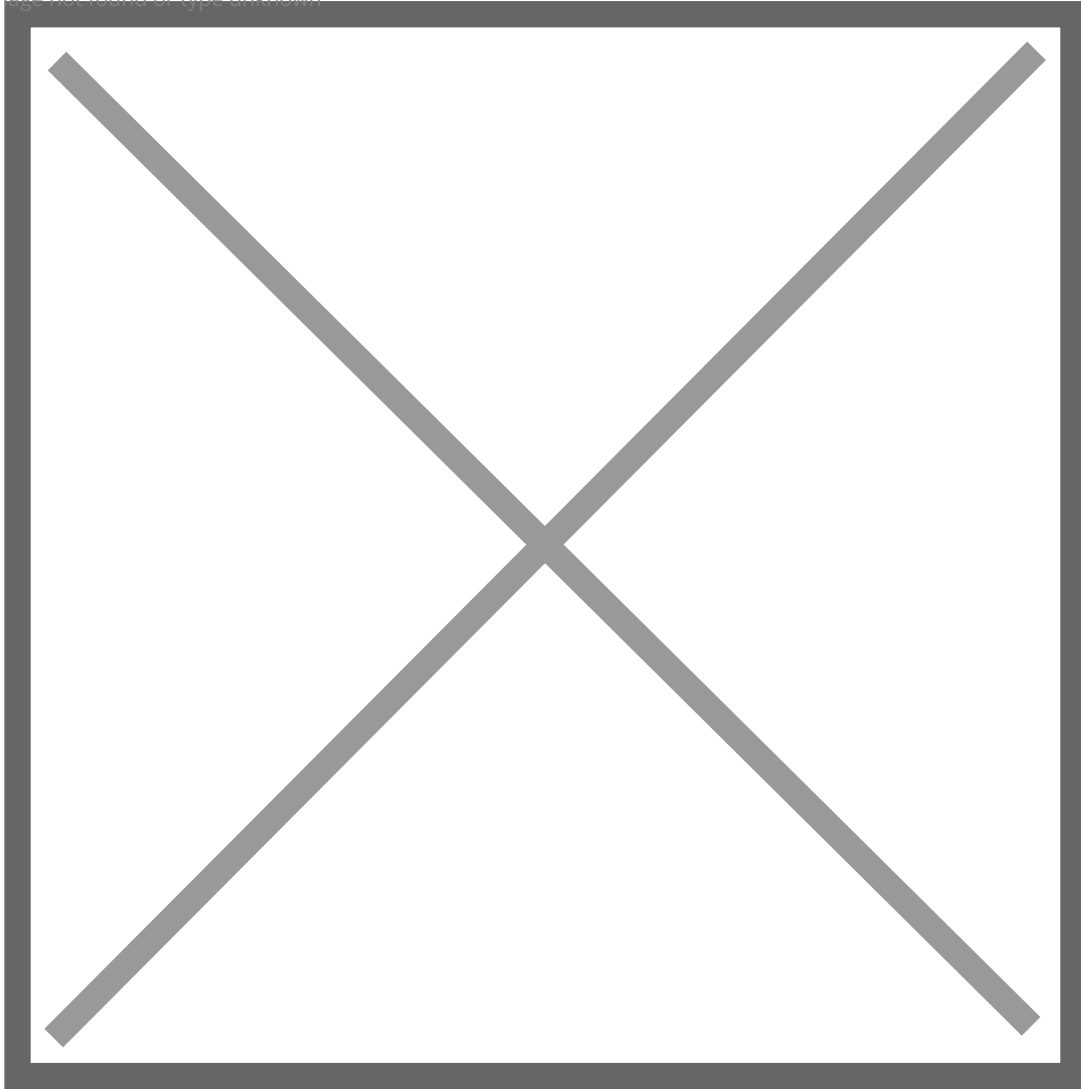
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AiR GUARD IIoT Connectivity with Azure Sphere Security Service

- » Microsoft secures the Firmware with timely updates for 10 years
- » Protects your devices and your customers with certificate-based authentication of all devices and communication
- » Detects emerging security threats through automated processing of on-device errors

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Frequency Bands

+ Frequency Bands Region Code Optional

Sku Code	4G LTE		3G	2G	Region
	FDD LTE	TDD LTE	WCDMA	GSM/EDGE	
TA	B1(2100)/3(1800)/4(AWS)/5(850)/7(2600)/8(900)/28(700 APT)	B40(2300)	B1(2100)/2(1900)/5(850)/8(900)	B2(1900)/3(1800)/5(850)/8(900)	Taiwan & Australia
EA	B1(2100)/3(1800)/5(850)/7(2600)/8(900)/20(800)	B38(TD 2600)/40(TDV 2300)/41(TD 2500)	B1(2100) / 5(850)/	B3(1800)/8(900)	EU & APAC*/ Singapore / Thailand

Specifications

+ Cellular

Standards

4G LTE: FDD-LTE, TDD-LTE, Transfer rate (max):

- LTE FDD: 150Mbps down; 50Mbps up
 - LTE TDD: 130Mbps down; 35Mbps up
- 3G: WCDMA, Transfer rate (max): 42Mbps down; 5.76Mbps up

2G: GSM/EDGE, Edge Transfer rate (max): 236.8Kbps down & up

SIM Slot

1 x nano SIM card slot

Antenna connector

2 x SMA Female

+ Ethernet

Standards

IEEE 802.3 10BASE-T

IEEE 802.3u 100BASE-TX/100BASE-FX

IEEE 802.3ab 1000BASE-T

IEEE802.3at Power over Ethernet

Ports

1 x 10/100/1000 PoE 802.3at PSE + 1x 100/1000 BASE-T(X) + 1 x 10/100BASE-T(X)

+ Serial

Ports

2 x RS485

+ I/O

DI/DO

1 x Digital In ("Logic 0": 0-2V, "Logic 1": 5-30V)

1 x Digital Out (Relay Mode, up to 30V/1A)

+ Micro SD

Capacity

Max. Storage of 64GB

+ LED Indicators

System

Power , System status, LTE status , AZS (Azure Sphere) , COM 1, COM 2

+ Power

Input

12-24VDC

Power consumption

18 Watts (without PoE active)

+ Physical

Casing Material

Metal case

IP Rating

IP30

Dimensions

138 x 110 x 45mm (HxDxW)

Weight

0.7Kg

Installation Type

DIN-Rail mounting

+ Environment Limits

Operating Temp.

-40 to 75°C (-40 to 167°F)

Storage Temp.

-40 to 85°C (-40 to 185°F)

Relative Humidity

5% to 95% (non-condensing)

+ Regulatory Approvals

Safety

EN IEC 62368-1:2020+A11:2020

Emissions/Immunity

EU: CE

UK: UKCA

US: FCC part 15B

Taiwan: NCC
Singapore: IMDA
Thailand: NBTC
Australia: RCM

Features

+ Functions

Cellular
3GPP, 3G/4G

Ether-WAN
Dynamic IP, Static IP, PPPoE

Protocols
DHCP Server, LLDP

Port Forwarding
NAT, Virtual Server/Computer

+ Network Management

Configuration
Web Console, SSH, HTTPS

System
Firmware upgrade, configuration backup & restore, reboot & reset default

Diagnostic
Ping, Traceroute

+ Security

VPN
OpenVPN:
• Server / Client

+ Field Communication

Modbus
Modbus TCP, Modbus RTU Master

Data Interchange
MQTT Client

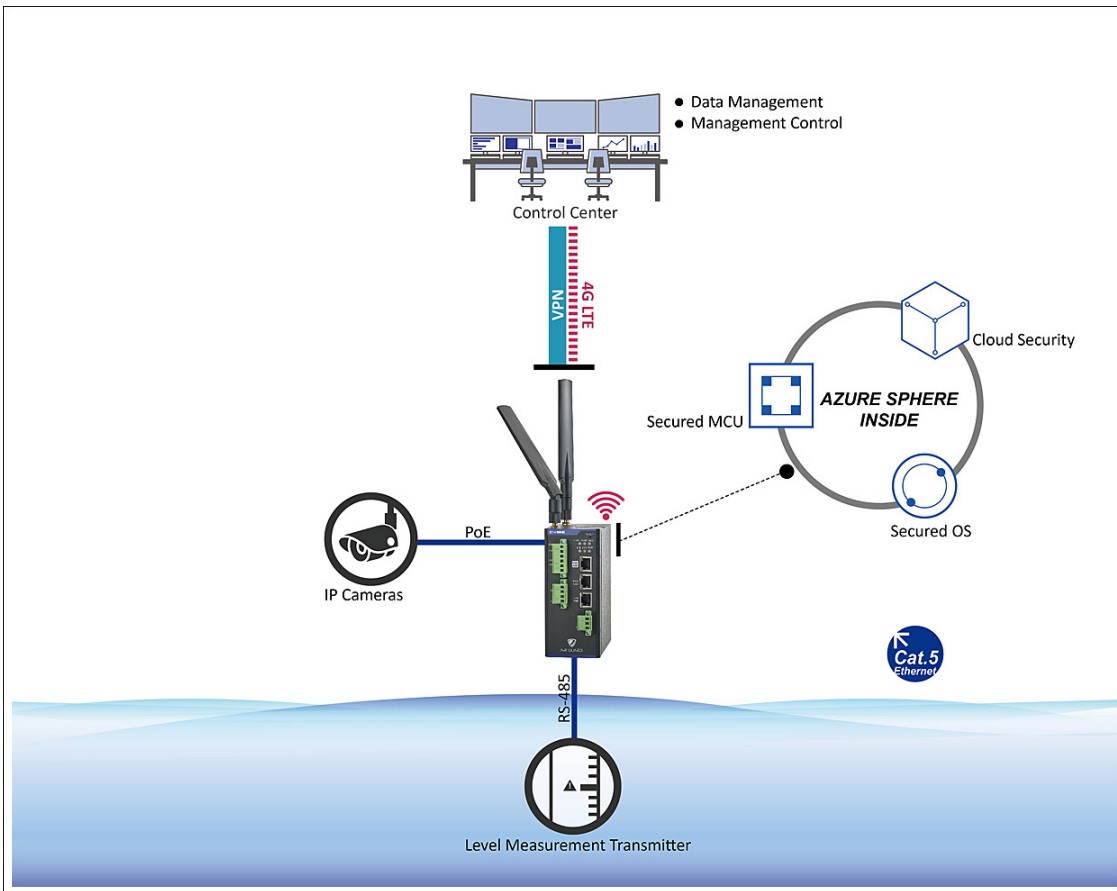
RESTful API
Easy to acquire data or remote configure settings

Data Tag Engine
Front-end device raw data to convert to be logical data by Tag based and specified Tag data format combination to the cloud.

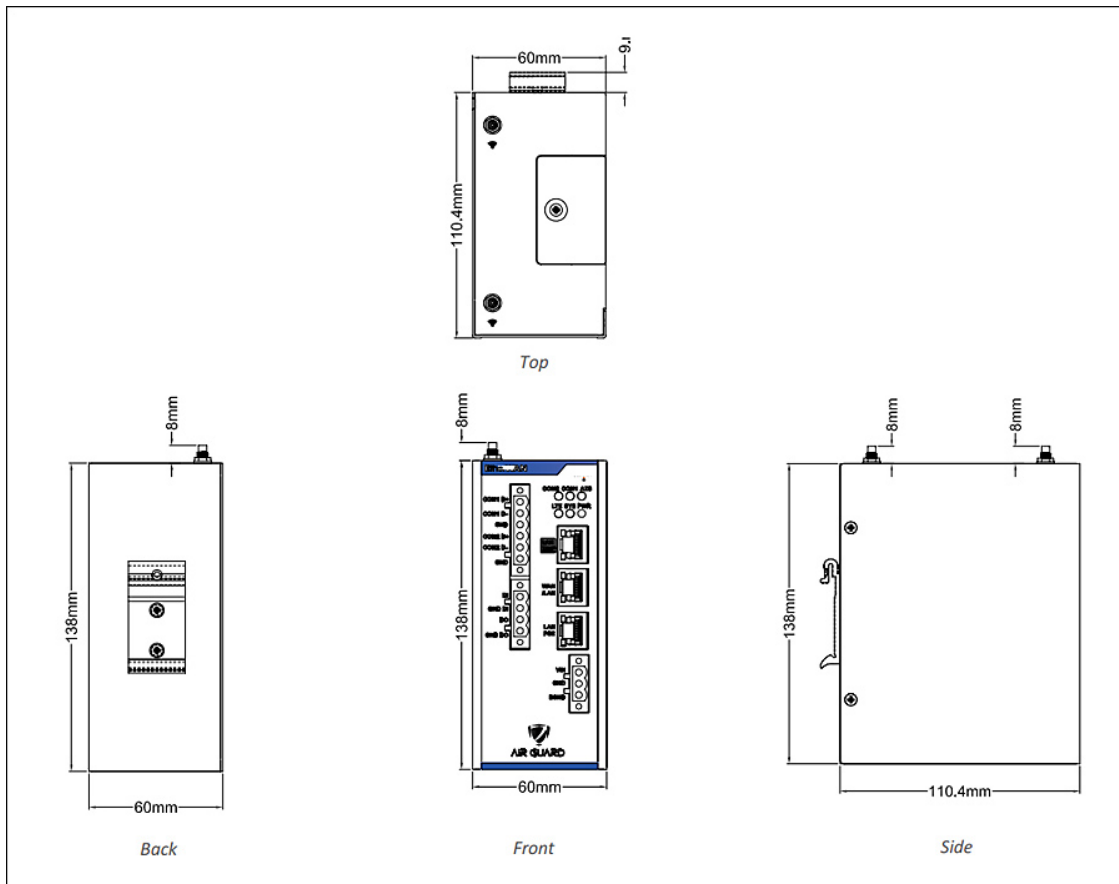
+ Service

OTA F/W upgrade automatically
Use Cellular or Ethernet WAN to update new version system firmware and Azure Sphere Security

Application



Dimensions



Ordering Info

+ 4G LTE Gateway

Model	Description	RF	Region
AiR GUARD-TA	Industrial IoT Cellular Smart Security Gateway	4G LTE Cat.4	Taiwan & Australia
AiR GUARD-EA	Industrial IoT Cellular Smart Security Gateway	4G LTE Cat.4	EU & APAC* / Singapore / Thailand

