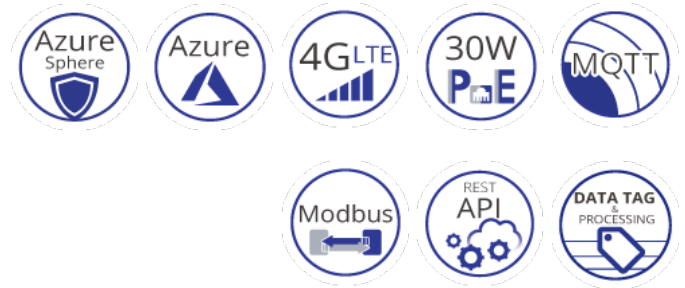


# AiR GUARD

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 software (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

### + 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

## 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)/ 8(900)	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

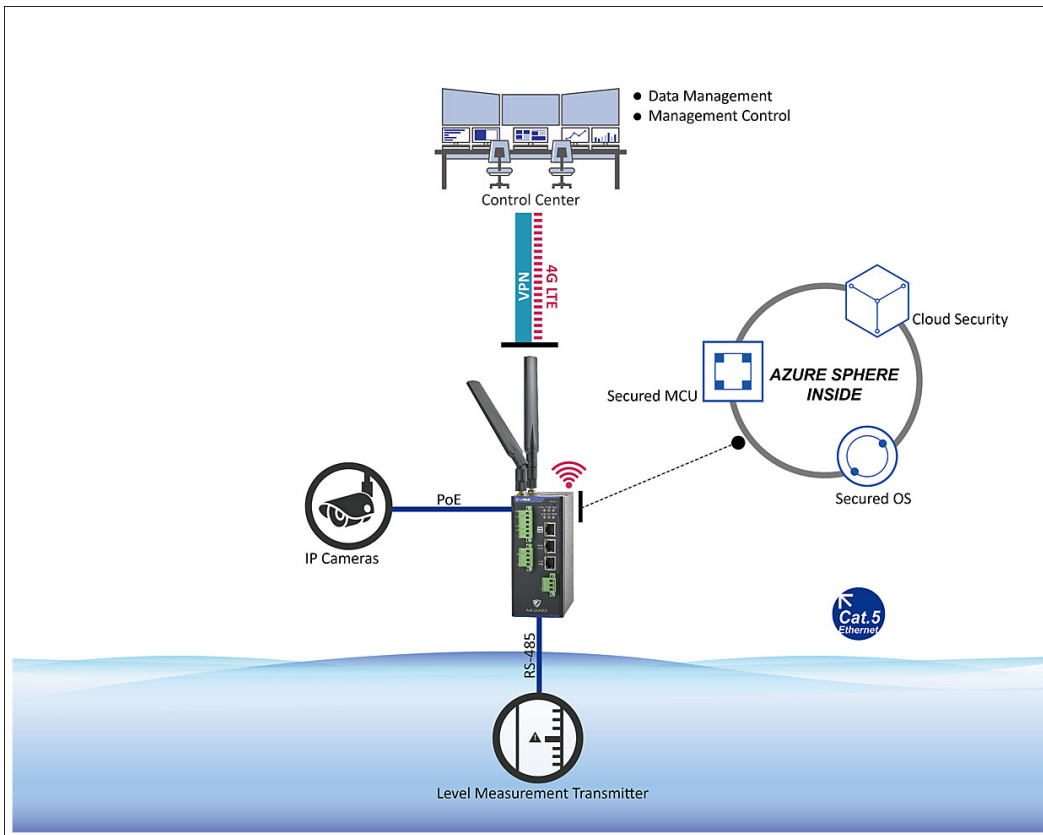
Front-end device raw data to convert to be logical data by Tag based and specified Tag data format combination to the cloud.

### + Service

#### OTA F/W upgrade automatically

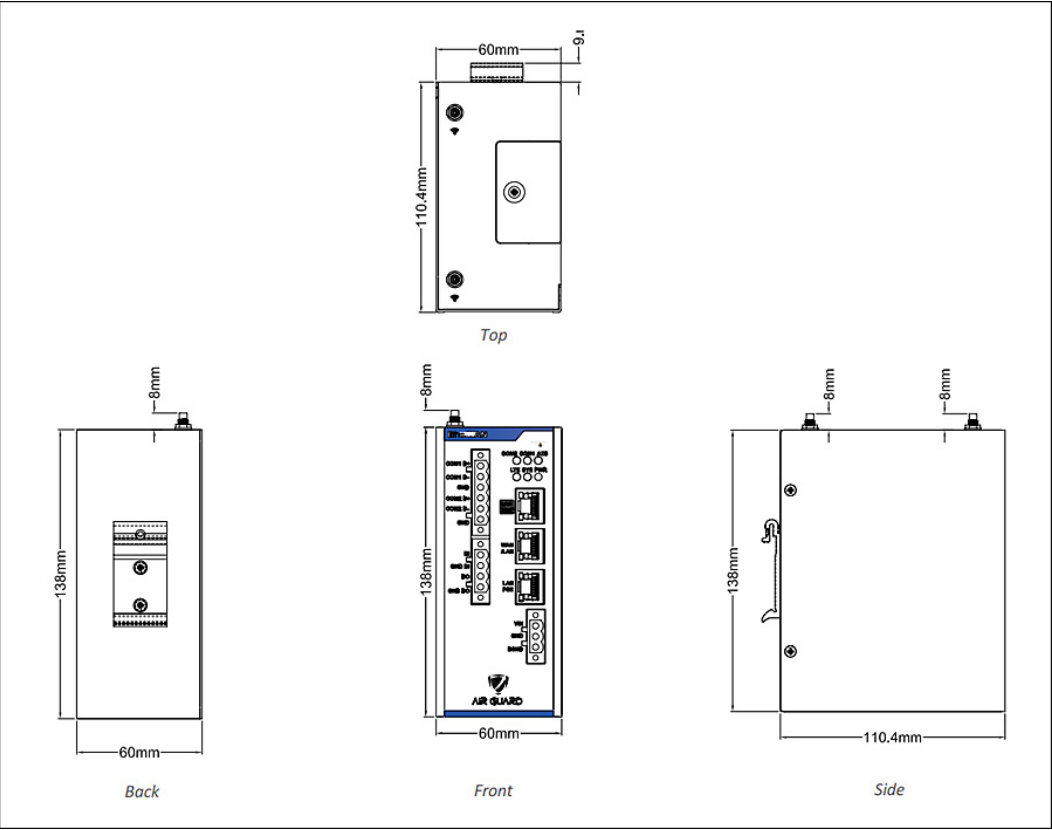
Use Cellular or Ethernet WAN to update new version system firmware and Azure Sphere Security

## 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

