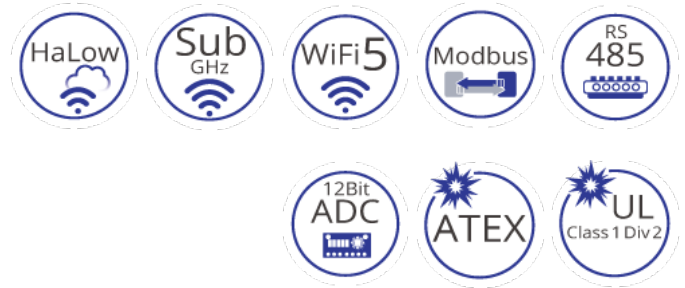


EDGE 3 Series

Industrial IoT Wi-Fi HaLow Data transmission device



Overview

What's Wi-Fi HaLow?

A Wi-Fi standard IEEE 802.11ah also known as Wi-Fi HaLow. It complements traditional Wi-Fi to expand WLAN and Ethernet network with its long-range and secure Wi-Fi connection to support long-range applications and large-scale IoT networks.

EtherWAN's industrial Wi-Fi HaLow solutions – EDGE 3 series is an industrial-grade long-range wireless data transmission device for IIoT deployments. Based on IEEE 802.11ah technology, it provides miles level coverage with strong signal penetration, enabling reliable data transmission in large-scale environments. Designed for 4 core value points – effortless deployment, ultra-stable transmission, robust security, and outstanding cost efficiency. It dramatically reduce on-site installation time and labor costs.

Reduced Complexity and Rapid Deployment, this is the easy way for your existing or a new IoT field deployment.

****Wireless transmission performance will be different at each different environment. Please do a suit survey before you deploy the device.**

EtherWAN — **"When Connectivity is Crucial."**

Spotlight

+ KM-level wireless data transmission coverage

IEEE 802.11ah Wi-Fi HaLow technology works in Sub-GHz band, achieving high signal penetration
1 access point: 50 station / clients network architecture with multiple connects

+ Reduced complexity, rapid deployment

Over 50% off in cost

Reduce 80% deployment time that compare with traditional cabling.

+ Fully industrial I/O supported

Ethernet + RS485 + Analog input + DIDO

+ Equipped with Modbus gateway functionality

Analog inputs, DIDO signal detection converted to Modbus protocol

+ Equipped with Wi-Fi 5 (IEEE 802.11ac)

Support Wi-Fi connectivity within 2.4GHz or 5GHz.

For Wi-Fi sensor, meter connectivity

For remote configurations

+ Robust Industrial design

Wide operating temperature

Dual power inputs

Certificated industrial explosion-proof ATEX and C1D2

Specifications

+ I/O & Expansion

Analog Input

2 x AI (Voltage: 0-10V ; Current: 4-20mA) 12 bit resolution ; precision 100mV, or 200uA

Digital Input

1 x DI ("Logic 0": 0–2 V; "Logic 1": 5–30 V)

Digital Output

1 x DO (Non-relay output, 30 V / 0.5 A)

+ Power

Input

DC 12–24 V × 2 (dual power inputs)

Power Consumption

(3W Max.)

+ Environmental Limits

Operating Temperature

-30 to 75 °C (-22 to 167 °F)

Storage Temperature

-40 to 85 °C (-40 to 185 °F)

Relative Humidity

5% to 95% (non-condensing)

+ Mechanical & Protection

Casing: Metal

IP Rating: IP30

Dimensions: 45 × 145 × 120 mm (W / H / D)

Weight: 750g (1.65lb)

Installation: DIN-rail

+ Communications

RF

IEEE 802.11ah Wi-Fi HaLow

US 902-928MHz; 32Mbps max bit rate; Bandwidth @ 8MHz : 15Mbps

Taiwan 920-925MHz ; Bandwidth@ 4MHz : 8Mbps

Antenna connector : 1 x SMA Female

Encryption Security: WPA3-SAE

IEEE 802.11ac Wi-Fi 5

Antenna connector : 1 x RPSMA

Encryption Security: WPA3 / WPA 2

Ethernet

IEEE 802.3 10BASE-T

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

2 x RJ45

10/100BASE-T physical layer

Serial

1 × RS-485 (supports up to 30 slave devices)

+ Regulatory Approvals

Safety

UL61010

Emissions/Immunity

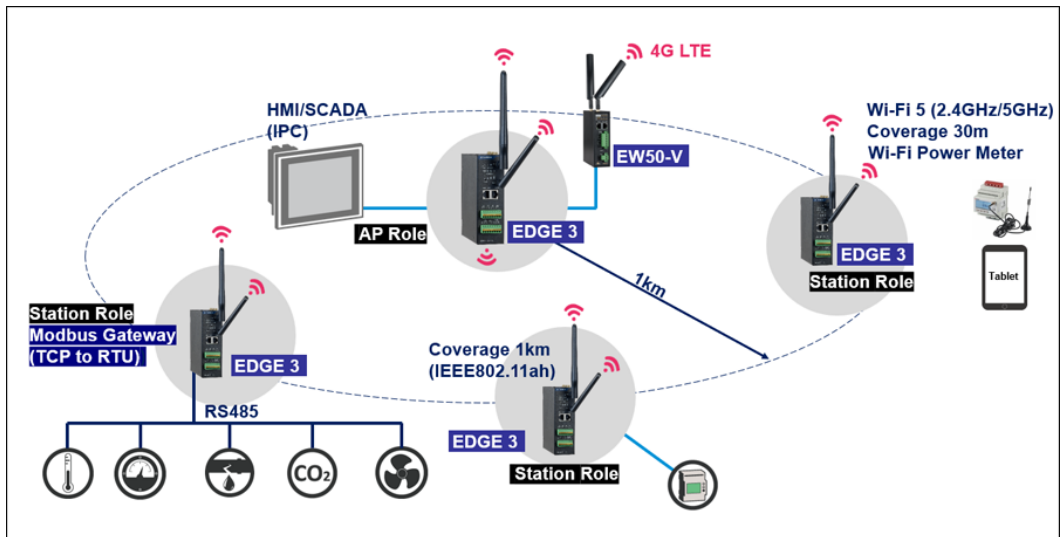
EDGE-3-A-US : FCC

EDGE 3-A-TA : NCC BSMI

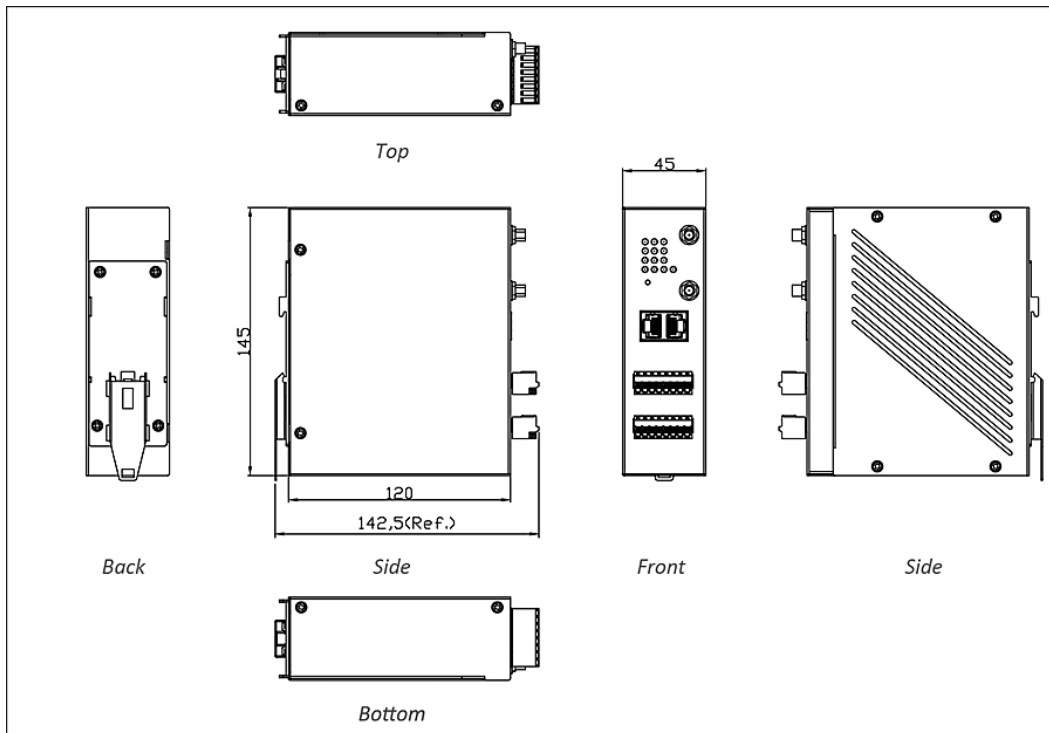
Industrial Explosion proof

ATEX / C1D2 / IECEx

Application



Dimensions



Popular Science

+ Frequency Bands

Sku Code	Band Mode	Frequency Range	Operating Channels	Region
EDGE 3-A-US	Sub-1 GHz frequency operation	902–928 MHz for USA	Sub1G: 1MHz 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, 27, 29, 31, 33, 35, 37, 39, 41, 43, 45, 47, 49, 51 (Channels) 2MHz 2,6,10,14,18,22,26,30,34,38,42,46,50 (Channels) 4MHz 8,16,24,32,40,48 (Channels) 8MHz 12,28,44 (Channels)	US
EDGE 3-A-TA	Sub-1 GHz frequency operation	920–925 MHz for Taiwan & APAC	1MHz 37,39,41,43,45 (Channels) 2MHz 38,42 (Channels) 4MHz 40 (Channel)	TW & APAC

+ Wi-Fi vs. Wi-Fi HaLow Comparison

Comparison Item	Current Wi-Fi (Wi-Fi 5/6/6E/7)	Wi-Fi HaLow (IEEE 802.11ah)
Design Positioning	High bandwidth, real-time connection	Long range, low power consumption, stable connection
Main Applications	Navigation, real-time control, video streaming	status reporting, OT communication
Operating Frequency	2.4 / 5 / 6 GHz	Sub-1 GHz
Coverage Distance	Short to medium range	✓ Long range (hundreds of meters to kilometer-scale)
Penetration Capability	Average	✓ Strong (walls, floors, back-of-house)
Bandwidth	✓ High (Mbps ~ Gbps)	Low to medium (kbps ~ Mbps)

Latency	✓ Low	Medium
Interference Sensitivity	High (frequency congestion)	✓ Low
Power Consumption	High	✓ Low

Ordering Info

+ Model

EDGE 3-A-US	Industrial IoT Wi-Fi HaLow Data Transmission Device-US
EDGE 3-A-TA	Industrial IoT Wi-Fi HaLow Data Transmission Device- Taiwan & APAC

+ Optional Accessories

Image	P/N.	Item	Amount	Frequency	Description	Note
	W96G-T00B-A1A3	Magnetic Antenna Base	1	-	For IEEE 802.11ah, cable length is 2M	Not IP67



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EtherWAN is constantly developing and improving products. Specifications are subject to change without notice and without incurring any obligation.