Gateway Series
Ethernet to Sub-GHz Wireless
EU model
GW1-ETH-WQ-EU
USA model
GW1-ETH-WQ-US

* The photograph is a GW1-ETH-WQ-US.
* Specifications, color and design of the products are subject to change without notice.
* The contents in this document are subject to change without notice.
* Visit the CONTEC website to check the latest details in the document.
* The information in the data sheets is as of July, 2022.

This product is an Ethernet gateway that converts Ethernet into wireless in the Sub-GHz band*1.
Data periodically sent from the Wireless I/O series terminal (Slave) can be held in the product, or data can be sent to or received from a PC via Ethernet.
With strength against obstacles, the long-distance communications enabled by wireless Sub-GHz band, and multi-hop support, it is suitable to control or monitor devices that are spread in the wide area.
By using a driver library appropriate to the setting terminal, applications can be created with API functions that support programming languages.
This product also supports Modbus TCP Slave, which makes it possible to control devices and collect data from the higher communication devices containing Modbus Master function. Data collection will be performed by accessing the data held in the product.

* The data transmission interval of the terminal (Slave) can be set to between 10 and 3600 seconds.
* API functions can also be used to retrieve data from the terminal (Slave) immediately.
* This product should always be used along with the Wireless I/O series terminal (Slave).
* Driver library can be downloaded from the CONTEC website.
* The GW1-ETH-WQ-US can be used in the United States. The GW1-ETH-WQ-EU can be used in European countries.

*1 Sub-GHz indicates frequency bands of 1GHz and below. Available frequency band of the product depends on the model. The GW1-ETH-WQ- EU can be used in the 863 - 870MHz band (Europe), and the GW1-ETH-WQ-US can be used in the 902 - 928MHz band (The United States).

- Work with various systems
Set the appropriate terminal (slave) with the product to work with the various systems.

Features

- Supports Sub-GHz band wireless with excellent transmission distance
This product converts Ethernet (wired LAN) communication into Sub-GHz.
The Sub-GHz, with the good wraparound characteristics of radio waves, the transmission distance (about 1 km) can be extended even there are obstacles. Stable communication can be achieved even in the environment where radio waves are mixed. As the product is suitable for long distance communication, network can be constructed on the wide area in the facilities without cable wiring.

- Highly reliable mesh communication
With wireless mesh technology, the communication continues by changing the routes automatically even when disconnection occurs, for example. Communication stability enables the wireless network to be strong against obstacles.

- Modbus TCP Slave support
Modbus is a communication protocol widely adopted in the industrial field. It is possible to control devices and collect data from the higher communication devices containing Modbus Master function.

- Adaptable to a wide range of temperature
This product is capable of operating in the temperature between -20 and + 60°C. It can be installed in the various environments.

- Compact design
Compact design, 62.0(W) x 64.0(D) x 24.0(H)mm features flexibility in installation.

- Easy mounting on DIN rail
This product can be mounted on DIN rail with an optional fixing bracket.

- Capable of adapting a wide-range power
This product is capable of dealing with a wide range of power in the differing environments.

Packing List

- Product [GW1-ETH-WQ-EU or GW1-ETH-WQ-US] …1
- Setup Guide …1
- Warranty Certificate …1
- Serial Number Label …1
- Power Connector …1
- Antenna …1

List of Options

POA201-10-2	AC-DC Power Adaptor (12VDC, 1A) *1
BRK-WQ-Y	Bracket for Wireless I/O Products

*1 The adaptor can be used in the temperature range between 0 and + 40°C. The support voltage of AC cable is 125 VAC 7 A.
* Visit CONTEC website regarding information on the optional products.

Supported OS

Windows version of driver library **API-PAC(W32)**
Driver software with Win32API function (DLL) to support the function is ready to use per terminal.
The driver software contains sample programs such as VisualBasic and VisualC++, and the diagnosis program to check the software operation.

Specifications

Hardware specification

Item		GW1-ETH-WQ-EU	GW1-ETH-WQ-US
Wireless	Modulation system	GFSK	
	Speed *1	10kbps (Low data rate) / 80kbps (High data rate)	10kbps (Low data rate) / 110kbps (Middle data rate) / 250kbps (High data rate)
	Output	13dBm	
	Used frequency	863 - 870MHz	902 - 928MHz
Ethernet	Connector	RJ-45	
	Standard	IEEE802.3 / IEEE802.3u	
	Data transmission speed	10Mbps / 100Mbps	
	Access method	CSMA/CD	
	Number of ports	1	
USB	Bus specification	USB Specification 2.0/1.1-compliant *2	
	Data transmission speed	12Mbps (Full speed), 480Mbps (High speed)	
	Function	USB device	
	Connector	mini-B USB connector	
Antenna		Non-directional dipole antenna (2.0±0.7dBi)	
Power supply	Input voltage range	12 - 24VDC±5%	
	Current consumption	120mA (at 12VDC input) (Max.), 70mA (at 24VDC input) (Max.)	
	Power connector	European type terminal 3.5 pitch 3-pin jack connector	
Physical dimensions (mm)		62.0(W) x 64.0(D) x 24.0(H) (No projection included)	
Weight		100g (With bundled antenna, power connector)	

*1 It is a theoretical maximum value on wireless communication and does not indicate the actual data speed.
*2 This product cannot be used with USB bus power. Make sure to use the external power that supplies 12VDC or 24VDC voltage.

Environmental Specifications

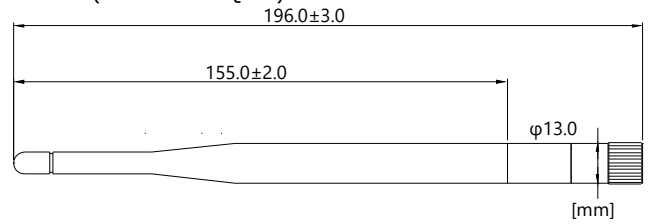| Item		GW1-ETH-WQ-EU	GW1-ETH-WQ-US
Operating ambient temperature		-20 - +60°C *3	
Operating ambient humidity		10 - 90%RH (No condensation)	
Floating dust particles		Not to be excessive	
Corrosive gases		None	
Line-noise resistance *4	Line noise	AC Line/±2kV, Signal Line /±1kV (IEC61000-4-4 Level 3, EN61000-4-4 Level 3)	
	Static electricity resistance	Touch /±4kV(IEC61000-4-2 Level 2, EN61000-4-2 Level 2) Air /±8kV(IEC61000-4-2 Level 3, EN61000-4-2 Level 3)	
Vibration resistance	Sweep resistance	10 - 57Hz /semi-amplitude vibration 0.15mm, 57 - 150Hz/2.0G 40minutes each in X, Y, and Z directions (JIS C60068-2-6-compliant, IEC60068-2-6-compliant)	
Shock resistance		147m/s^2(15G)/11ms/half-sine shock (JIS C 60068-2-27 -compliant, IEC 60068-2-27 -compliant)	
Allowable length of instantaneous power failure *4		Within17 milliseconds (100VAC@25°C), The product is automatically reset upon low voltage detection.	
Standard		CE Marking (EMC Directive Class A, RoHS Directive), UKCA	FCC Class A, RoHS Directive

*3 Specification temperature of POA201-10-2 is 0 - 40°C.
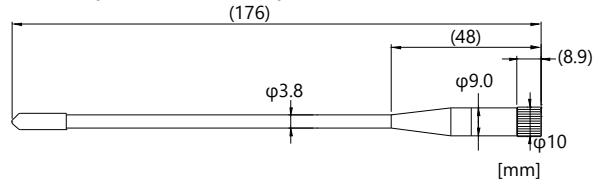*4 When using an optional AC adapter POA201-10-2.

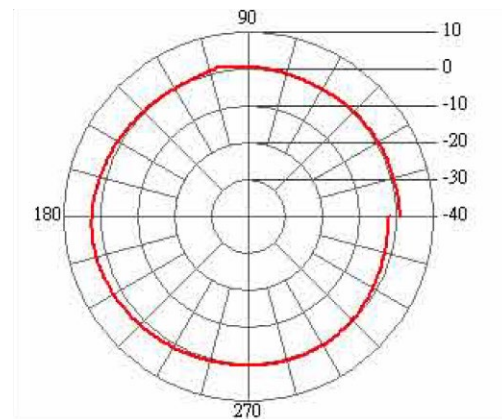## Physical Dimensions

Product

[mm]

Antenna (GW1-ETH-WQ-EU)

196.0±3.0
155.0±2.0
φ13.0
[mm]
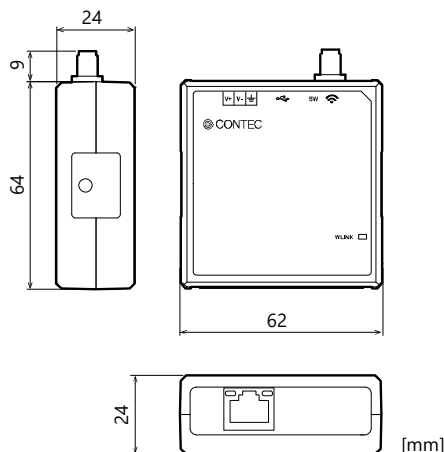
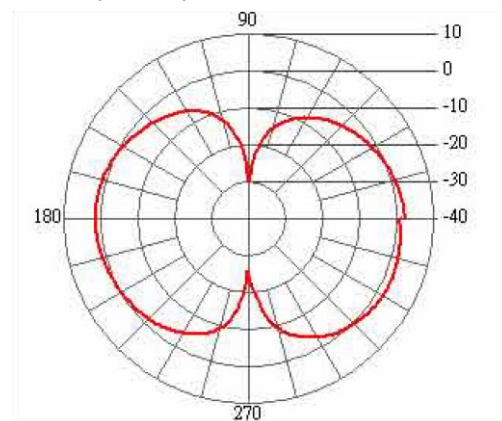### Antenna (GW1-ETH-WQ-US)

(176)
(48)
(8.9)
φ3.8
φ9.0
φ10
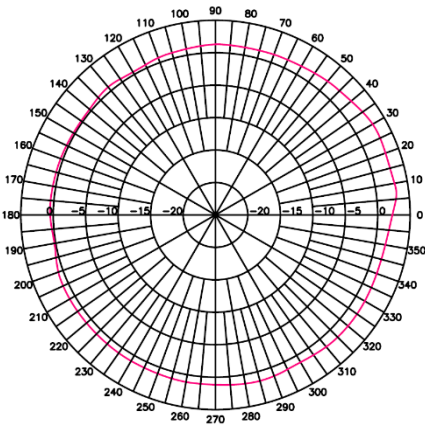[mm]

Antenna Directivity
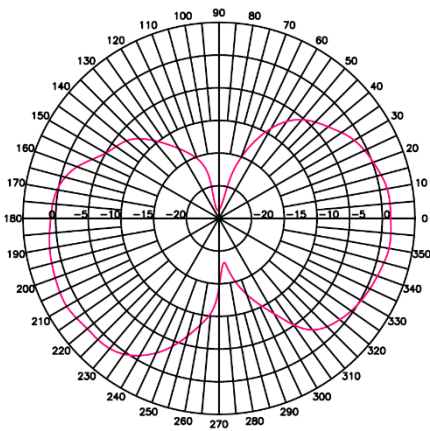
GW1-ETH-WQ-EU
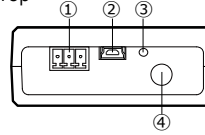H-Plane (868MHz)

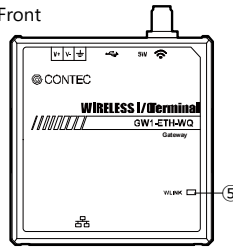E-Plane (868MHz)

GW1-ETH-WQ-US
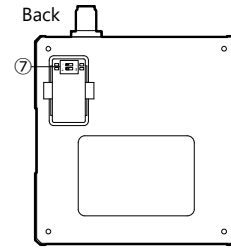
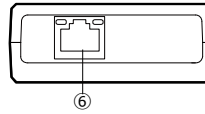H-Plane (925MHz)

E-Plane (925MHz)

Component Name

Top

Front

Back

Bottom

No.	Name
1	Power connector
2	mini-B USB connector
3	INIT button
4	Antenna connector
5	WLINK LED
6	Ethernet connector
7	DIP switch (for maintenance) *1

*1   Do not touch DIP switch since this is not used for usual operations.
There is a cover for the switch on the back side of the product.