

■ Overview

Gateway amnimo G series (hereafter referred to as “the Gateway”) is a node (relay) for connecting various field instruments to the amnimo Industrial IoT (hereafter referred to as “IIoT”) cloud system over a network. It is a network device necessary for saving and managing in the cloud system the data collected from various sensors and devices.

■ Basic Specifications

- The Gateway is equipped with a Vodafone SIM allowing cellular communication in many countries around the world.
- Using a cellular network, the Gateway connects to the amnimo IIoT cloud system.
- An RJ-45 Ethernet 10/100 port is provided as a standard interface. This allows connection to a variety of Ethernet devices.
- RS-232C/485 devices can be connected by using a model supporting RS devices. (see note)

Note: Please provide your own cable.

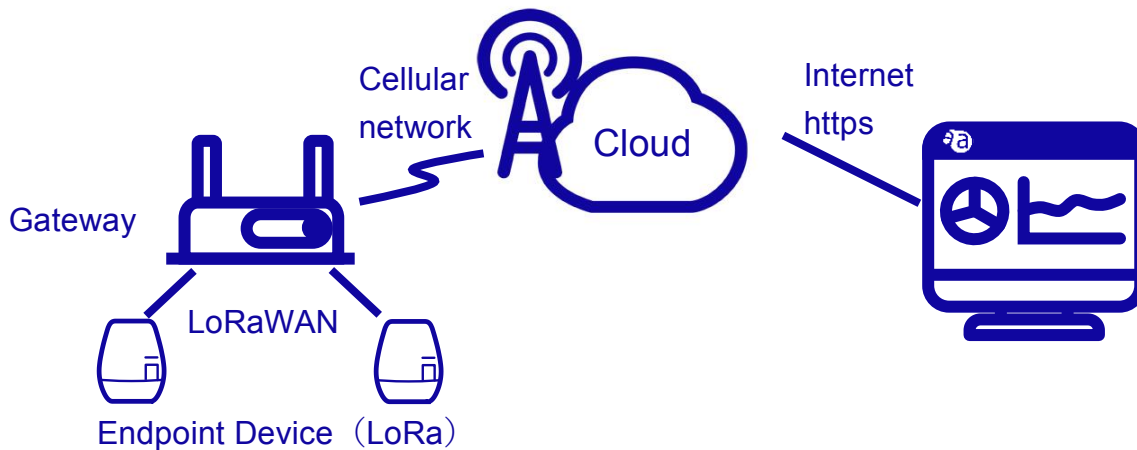
- Communication is possible with amnimo’s endpoint devices (amnimo T series) supporting LoRa® by using the model supporting LoRa® communication devices. (see note)

LoRa® is a power-saving wideband wireless communication technology that achieves low power consumption and long distance communication, referred to as Low Power Wide Area (LPWA).

Note: The maximum number of amnimo T series endpoint devices that can connect to the Gateway depends on the application specifications of the amnimo IIoT cloud system.

The data of devices connected to the Gateway is stored in a database within the amnimo IIoT cloud system. You can view the data stored in the database by using a standard widget.

■ System Configuration



■ Initial Configuration Procedure

Reading the QR code in the lower right of the label affixed to the top panel of the Gateway, using amnimo's smartphone app (see note) causes the Gateway to be identified in the amnimo IIoT cloud system and allows the Gateway to be used without special configuration.

Note: OS supporting smartphone application: Android 6.0.x and later or iOS 9.0 and later.

iPadOS is not supported.

■ Hardware Specifications (made by Multi-Tech System, Inc)

Cellular wireless communication access method	LTE 3GPP Release 9 (100 Mbps peak downlink/50 Mbps peak uplink)
Frequency band (MHz)	<ul style="list-style-type: none"> • Cellular <li style="padding-left: 20px;"><For Malaysia> <li style="padding-left: 40px;">3G: 900(B8), 2100(B1) <li style="padding-left: 40px;">LTE: 1800(B3), 2600(B7) <li style="padding-left: 20px;"><For Japan> <li style="padding-left: 40px;">LTE: 2100(B1), 800(B19), 1500(B21) • LoRa® (Mode supporting LoRa® device) <li style="padding-left: 20px;">AS923MHz ISM Band <li style="padding-left: 20px;"><For Malaysia> <li style="padding-left: 40px;">919-924MHz <li style="padding-left: 20px;"><For Japan> <li style="padding-left: 40px;">920.6-928MHz

Processor and memory	ARM9 processor with 32-Bit ARM & 16-Bit Thumb instruction sets • 400 MHz • 16K Data Cache • 256 MB Flash Memory • 16K Instruction Cache • 128X16M DDR RAM
Internal SD memory card	Made by Kingston Technology Industrial Temperature microSD UHS-I Size 16 GB (equivalent product)
Power supply input voltage	9 V to 32 VDC AC Adapter
Connectors	
Ethernet	1 RJ-45 Ethernet 10/100 port
USB	2 USB Ports: USB Host (Type-A), USB Device (Micro-B)
Antenna	Female SMA, Cell 2dBi (Qty 2); GPS currently not supported
SIM	Standard SIM support
Dimensions	161.3 mm x 107.4 mm x 42.8 mm
Weight	Model supporting LoRa® devices: 462.05g Model supporting RS devices: 455.86g
Case type	Metal
Operating temperature	-30°C ~ 40°C*
Storage temperature	-40°C ~ 85°C
Relative humidity	20% to 90% RH, no condensation
EMC compliance	US: FCC Part 15 Class B. EU: EN 55022 Class B, EN 55024. Canada: ICES-003
Radio compliance	Technical standard compliance Certified
Safety standard compliance	UL 60950-1 2nd Ed., cUL 60950-1 2nd Ed., IEC 60950-1 2nd Ed
Quality	MIL-STD-810G: High Temp, Low Temp, Random Vibration. SAE J1455: Transit Drop & Handling Drop, Random Vibration, Swept-Sine Vibration. IEC68-2-1: Cold Temp. IEC68-2-2: Dry Heat

* UL evaluation has not been conducted for outdoor installation or ambient temperature exceeding 40°C. UL certification does not apply when used outdoors.

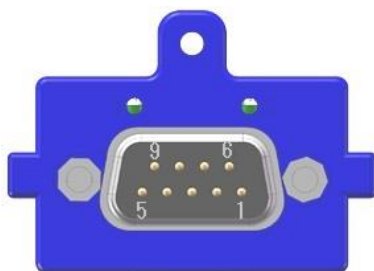
UL certification does not apply for voltages outside the approved range nor has UL conducted evaluations for voltages outside the range defined in testing.

■ System Requirements

Operating temperature	-30°C to 40°C when using the supplied AC adapter
Storage temperature	-40°C to 85°C
Relative humidity	20% to 90%, no condensation (during operation or storage)

Avoid installation in such environments as corrosive gas, dust, sea breeze, direct sunlight and exposed to water as rain. (Note: Not water-proof / Not dust-proof)

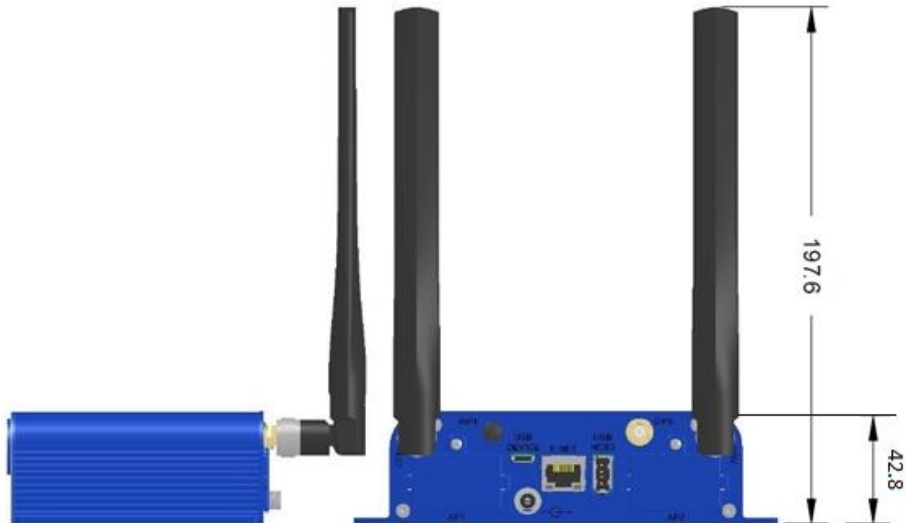
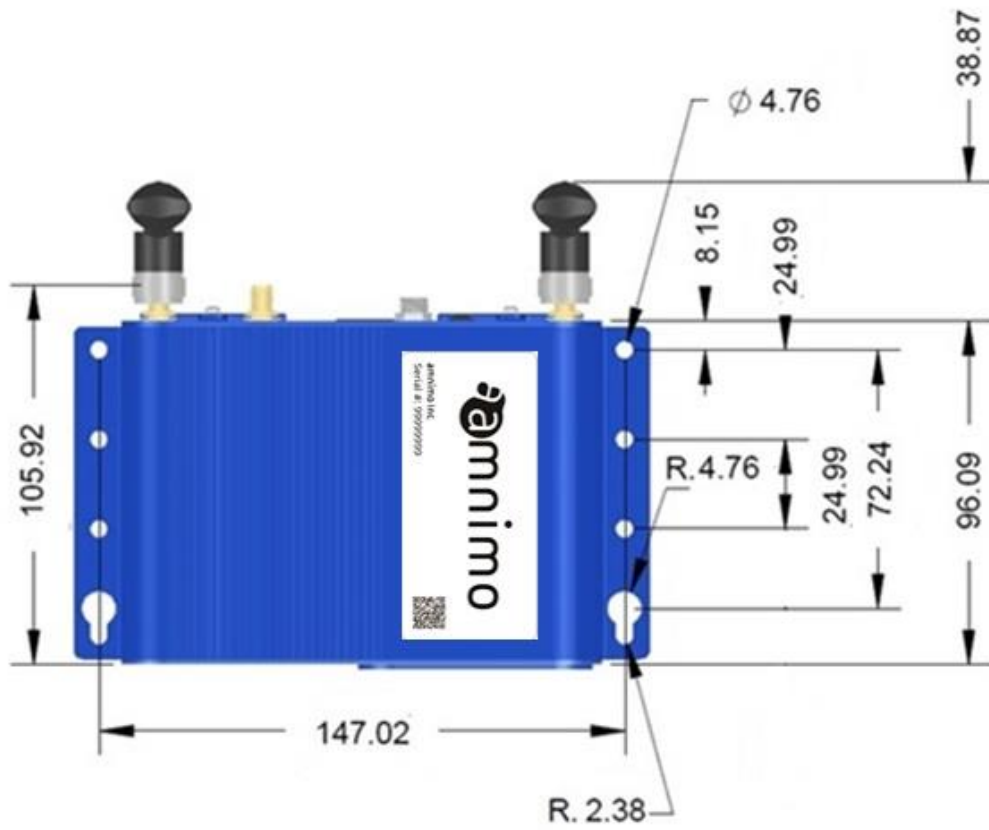
■ Pin Arrangement of the RS D-SUB 9-pin Connector



The following table shows the pin arrangement of the model supporting RS devices.

Pin No.	RS232 DTE	RS485 DTE half duplex	RS485 DTE full duplex
1	DCD (In)	RX-/TX-(In/Out)	TX-(Out)
2	RX (In)	RX+/TX+(In/Out)	TX+(Out)
3	TX(Out)	N/C	RX+(In)
4	DTR(Out)	N/C	RX-(In)
5	Ground	Ground	Ground
6	DTR(In)	N/C	N/C
7	RTS(Out)	N/C	N/C
8	CTS(In)	N/C	N/C
9	RI(In)	N/C	N/C

External Dimensions



Unit : mm

■ Model and Suffix Codes

Model	Manufacturer Model Name	Description
AG01-083MY	MTCDDT-LEU1-246A-915LBT-YK3S	Malaysia specification With LoRa communication card, Vodafone SIM card installed.
AG01-083JP	MTCDDT-LDC3-246A-923-JP-YK3S	Japan specification with LoRa communication card, Vodafone SIM card installed.
AG01-093JP	MTCDDT-LDC3-246A-DTE-JP-YK2S	Japan specification With RS communication card (DTE), Vodafone SIM card installed.



■ Standard Accessories

<For Malaysia>

- AC adapter (model: PS-9VCB-LBC-U-NAM): 1 (100 to 240 ACV, 9 DCV, 1.7 A)
- Attachable power plug (model: PB-GB LEVEL VI):
- Ethernet cable (model: CA-RJ-45): 1, approx. 1.8 m (not used during normal use)
- Cellular communication antenna (model: ANLTE3-2HRA): 2
(Antenna made by Embedded Antenna Design WTR2720)
- LoRa® communication antenna (model: AN868-915A-1HRA): 1
(Antenna made by Pulse Electronics W1063))

<For Japan>

- AC adapter (model: PS-9VCB-LBC-U-NAM): 1 (100 to 240 ACV, 9 DCV, 1.7 A)
- Attachable power plug (model: PB-NAM LEVEL VI):
- Ethernet cable (model: CA-RJ-45): 1, approx. 1.8 m (not used during normal use)
- Cellular communication antenna (model: ANLTE3-2HRA): 2
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- LoRa® communication antenna (model: AN868-915A-1HRA): 1 (
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Cellular communication antenna (model: ANLTE3-2HRA) 2	LoRa® communication antenna (model: AN868-915A-1HRA) 1
	

■ Compliant Standards and Acquired Certifications

See “Hardware Specifications.”

■ Notes

- Do not use the RESET button on the front panel.
- The GPS function cannot be used on this gateway product.
- This gateway product has a SIM card inside. When disposing of this product, return the SIM card to amnimo. You are not allowed to remove the SIM card from this product and use it in other devices.

■ Trademarks

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