

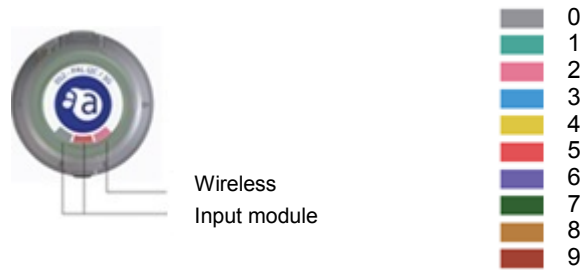
### ■ Overview

The amnimo T Series endpoint device (hereafter referred to as “endpoint device”) is a light, compact device for amnimo Industrial IoT (hereafter referred to as “IIoT”) applications. It is composed of two stages: the bottom stage containing the Input module section and the top stage containing the wireless section.

The following is available for the Input section.

- Analog input

The Input module section specifications and wireless section specifications can be distinguished by the three-color indication at the bottom area of the label.



The two left and center colors represent a two-digit number, which indicates the Input module type. The right color represents a one-digit number, which indicates the wireless section type. The mapping of colors to numbers is shown below.

For the Input module and wireless section, the next table shows the correspondence between the numbers and sections.

No.	Input module
01	Analog input module

No.	Wireless section
1	LoRa®

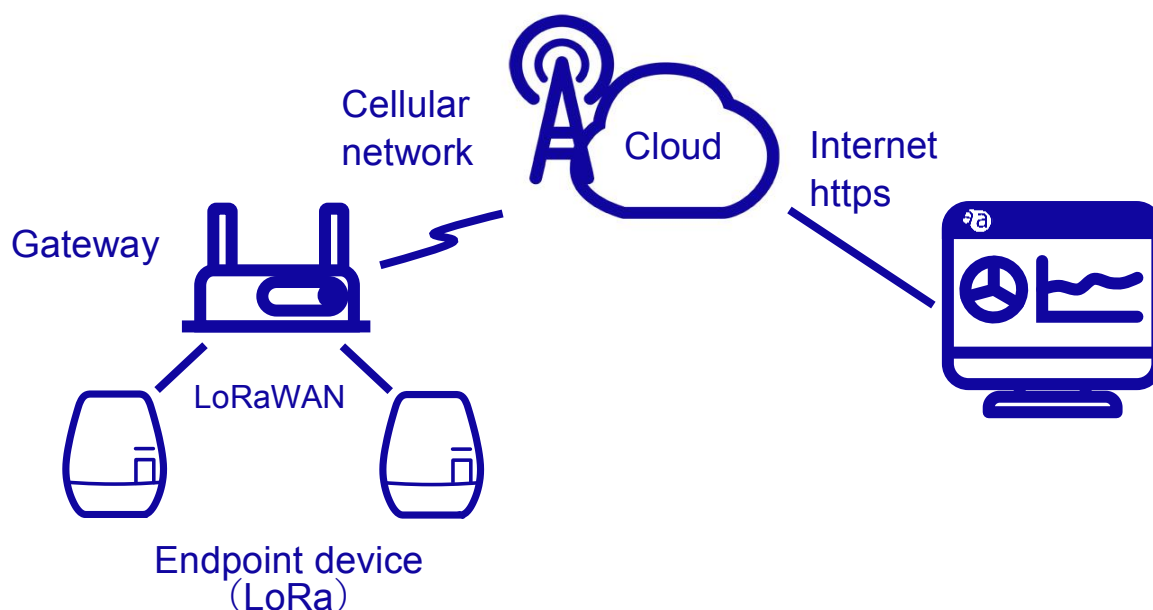
Endpoint devices connect to an amnimo IIoT cloud system through an amnimo G series gateway (hereafter referred to as “the Gateway”). LoRa® is used to communicate with the Gateway.

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.

## ■ System Configuration

The data of devices connected to an endpoint device 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.

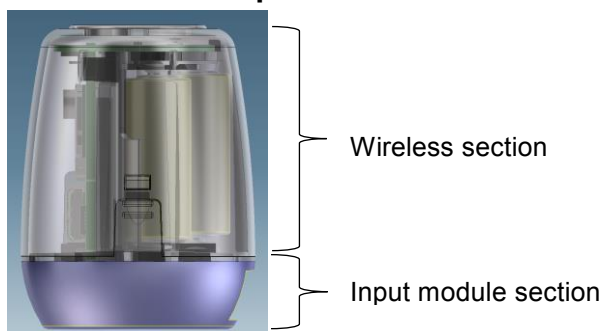


## ■ Initial Settings

Reading the QR code affixed to the side of the device, using amnimo's smartphone app (see note) causes the endpoint device to be identified in the amnimo IIoT cloud system and allows endpoint device 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.

## ■ Structure of the Endpoint Device



- The device is composed of the wireless section and Input module section.
- The wireless section and Input module section, which are joined together, cannot be separated.
- Installation method: The bottom of the Input module section can be secured in place using any of the following methods.
  - Using tape (standard)
  - Using a screw (M3 screw, 6 mm screw depth on the device side) (to be provided by the customer)
  - Using a magnet (paid option)

## ■ Power Supply Methods

Endpoint devices can run on three alkaline N batteries, three LR1 batteries, or an external 5 V power supply connected to the USB Type-C port. Battery life is about 1 year when the communication interval is assumed to be 1 hour (see note).

Note: Battery life depends on the radio environment, climate, and temperature of the installation location and the battery condition.

When using USB power, remove the batteries to prevent liquid leakage or the like.

## ■ Device Specifications

Item		amnimo T Series Endpoint Device specifications
Enclosure	<ul style="list-style-type: none"> <li>· Weight</li> <li>· Dimensions</li> <li>· Case material</li> <li>· Installation</li> </ul>	<p>30 g (without batteries)</p> <p>Φ40mmx52mm</p> <p>PC (Polycarbonate)</p> <p>Affix the included double sided tape to the bottom of the product. Or use an M3 screw (your own screw), 6 mm screw depth on the device side.</p> <p><u>Option:</u> Using a magnet. A screw, rubber stopper, and double sided tape are used to secure the magnet.</p>
Power supply specifications	<ul style="list-style-type: none"> <li>· Power supply</li> <li>· Compatible batteries</li> <li>· Battery replacement</li> <li>· Battery life</li> <li>· USB power supply</li> </ul>	<p>Batteries and USB power supply (5 V)</p> <p>Three alkaline N batteries or Three LR1 batteries.</p> <p>Replacement possible</p> <p>1 year (communication interval: 1 hour)</p> <p>Power supply (5 V) through the device's USB port (Type-C)</p>
Environmental tolerance	<ul style="list-style-type: none"> <li>· Operating temperature range</li> <li>· Storage temperature range</li> <li>· Operating humidity range</li> <li>· Ambient Condition</li> </ul>	<p>-20°C to 60°C (USB powered). 5°C to 45°C (battery powered).</p> <p>-20°C to 60°C (USB powered). 5°C to 45°C (battery powered).</p> <p>10 to 90 %RH (no condensation)</p> <p>Avoid installation in environments such as corrosive gas, dust, sea breeze, direct sunlight and exposed to water as rain. (<u>Note:</u> Not water-proof / Not dust-proof)</p>

## ■ Wireless Section Specifications

Item	Wireless module specifications	
Interface	<ul style="list-style-type: none"> <li>· Main switch</li> <li>· USB</li> <li>· LED</li> </ul>	Hold down for 5 seconds: Switches to power on-off mode. Click: Switches to module status view mode. Type-C female External power supply Two at the perimeter of the top panel (yellow green and orange) Indicates module status with blinking patterns
Gateway	<ul style="list-style-type: none"> <li>· Compatible models</li> <li>· Gateway connection</li> </ul>	Gateway made by MultiTech MTCDDT-LEU1-246A-915LBT-YK3S (for Malaysia) MTCDDT-LDC3-246A-923-JP-YK3S (for Japan) After activation, automatically connects to the Gateway at power-on.
Wireless communication specifications (LoRa)	<ul style="list-style-type: none"> <li>· Communication protocol</li> <li>· Modulation method</li> <li>· Used frequency band</li> <li>· Data rate</li> <li>· Bandwidth</li> <li>· Wireless security</li> <li>· Wireless output</li> <li>· Communication cycle</li> <li>· Class (Note1)</li> <li>· Antenna</li> <li>· Communication distance</li> <li>· Authentication</li> <li>· Other</li> </ul>	LoRaWAN (920 MHz band)  LoRa modulation  (Center frequency) 919 to 924 MHz (for Malaysia), 920.6 to 923.4 MHz (for Japan)  980 to 5470 bps 125kHz AES-128bit 13dBm 60 s to 24 h and when a communication condition is met (e.g., measurement outside the upper and lower limits), Class A (fixed) Internal omnidirectional antenna Outdoors, with line-of-sight: 1 km  Japan: Compliant to certification of construction type Malaysia: Model certification acquired  LBT function implementation (Note 2)

(Note 1) Class refers to LoRa® communication class. The communication timing of the endpoint device varies depending on this communication class.

(Note 2) LBT: Listen Before Talk. One of the interference avoidance techniques.

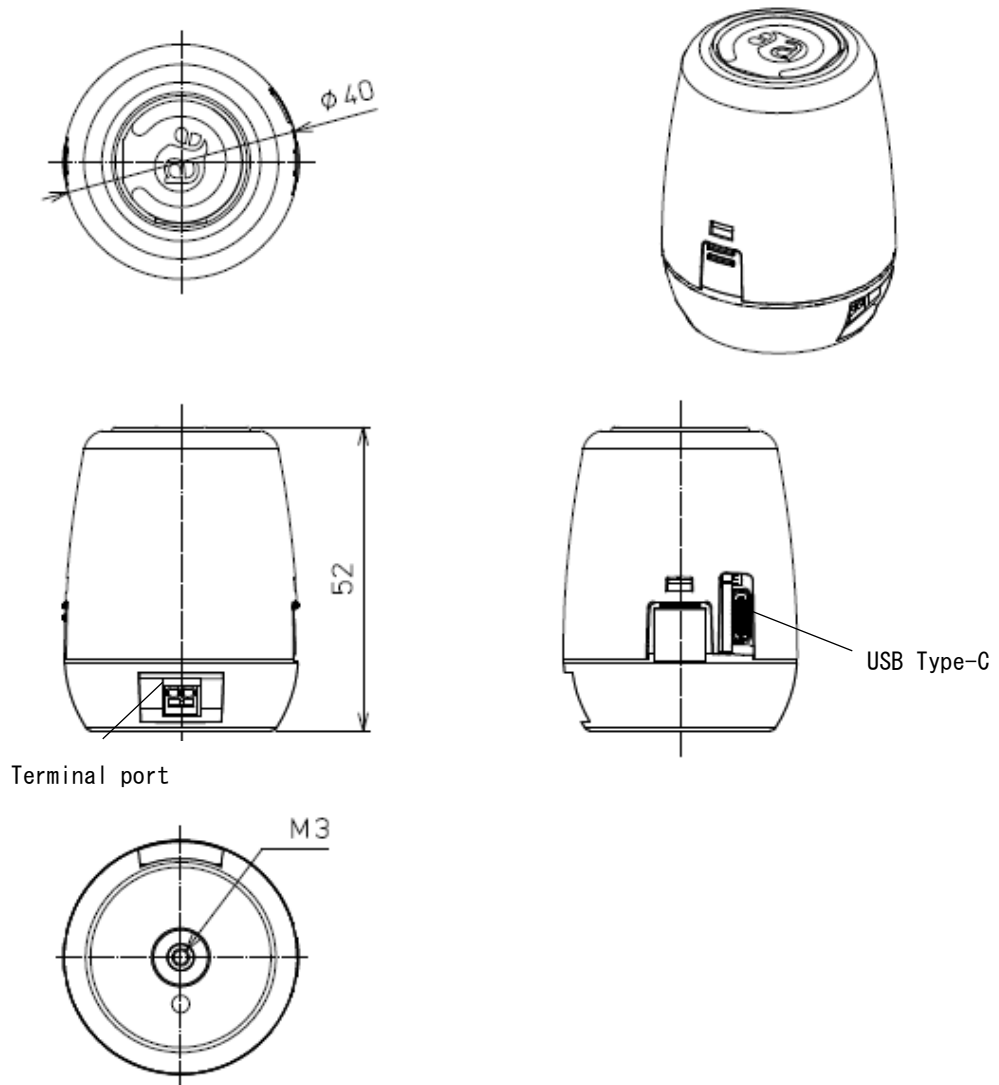
## Input Module Section Specifications

Item	I/O module specifications
Analog input	No overcurrent protection circuit. Input voltage range: 0 to 5 V (rated voltage range: -0.3 V to 5.5V), resolution: 11 bits Measuring accuracy: $\pm 1\%$ of full scale Measuring cycle: 1 to 3600 sec

(Note) The input terminal has polarity. Incorrect polarity may cause malfunction.

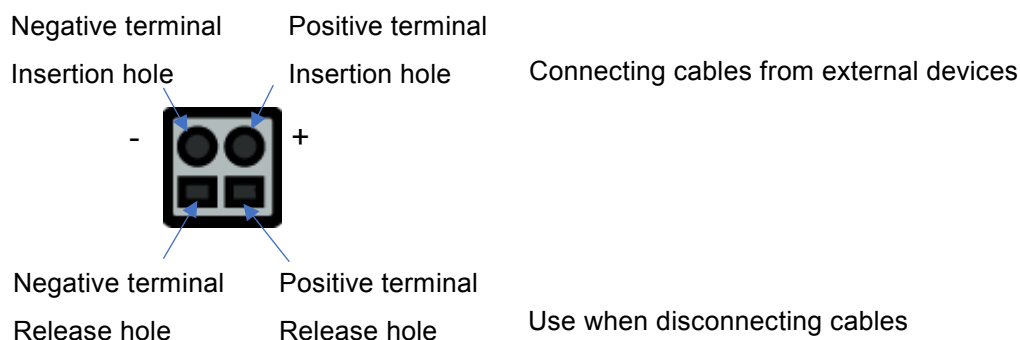
## External Dimensions

- Analog Input Module



Unit : mm

## ■ Terminal Block Drawing (Analog Input Module)



## ■ Model and Suffix Codes

Model	Suffix Code	Description
AT01		amnimo T Series endpoint device
I/O module type	-01	Analog input module
Communication module type	1	LoRa®
Shipment destination	JP	Japan
	MY	Malaysia

## ■ Standard Accessories

Double sided tape	2 sheets/set
N batteries, or LR1 batteries	3 pcs. (shipped with the batteries set in the device)

## ■ Optional Accessories

Model	Description
AA01	Magnet set for fixing the endpoint device in place (note 1)
AA02	Double sided tape set for fixing the endpoint device in place (note 2)

Note 1: The set includes one magnet, one silicon rubber, two screws,  
and one double sided tape sheet.

Note 2: Double sided tape, 10 sheets/set

Contact : amnimo customer support

E-mail: [support@amnimo.com](mailto:support@amnimo.com)

URL: <https://support.amnimo.com>

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## ■ Compliant Standards and Acquired Certifications

See the wireless section specifications

Use products that correspond to the country (region) where you are using to comply with radio wave regulations.

## ■ Trademarks

- LoRa® is a registered trademark of Semtech Corporation or its subsidiary.
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