

An abstract graphic featuring a large, flowing blue arch that curves from the left side towards the top right. The arch is composed of multiple layers of blue lines with a gradient from light to dark. A trail of blue and white squares, some with plus signs and arrows, follows the curve of the arch, suggesting a path or data flow. The background is white.

LoRaWAN Gateway

Model: HXWSG100



HXWSG100

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Product Overview

HXWSG100 is an outdoor IoT gateway based on LoRa® low-power wide area network technology. It has a built-in Semtech high-performance 8-channel transceiver SX1302 chip, supports half-duplex mode and more than 2,000 nodes accessing the gateway, and a communication distance of up to 5 kilometers.

HXWSG100 uses an IP67 waterproof and dustproof casing, supports up to 8 hours of operation and alarm under abnormal power failure, and meets the LoRa® network coverage of various outdoor complex environments.

HXWSG100 can transmit data to the cloud server via 4G network or wired Ethernet. It is not only compatible with a variety of mainstream LoRaWAN® network servers (ChirpStack/Semtech/Basics Station, etc.), but can also connect to the HEXING open platform and third-party IoT platforms to quickly deploy your own IoT applications and realize customized smart services.



LoRaWAN Gateway



Product Highlights

- **High-Performance:** Equipped with the Semtech high-performance 8-channel SX1302 chip, ensuring efficient and reliable data processing.
- **High Capacity:** Supports connectivity for thousands of end devices.
- **High Compatibility:** Compatible with mainstream LoRaWAN® network server platforms such as ChirpStack, Semtech, Basics Station, etc.
- **Flexible Connectivity:** Compatible with multiple network interfaces, including Ethernet and 4G.
- **Rugged Design:** Built for harsh environments with IP67 waterproof, dustproof, and interference-resistant features.

Product Feature

- The gateway features a high-performance NUC972 CPU with 128MB DDR2 and 1GB NAND Flash, ensuring efficient data processing and storage, which enhances operational reliability and user experience.
- Designed for extreme conditions, the gateway operates reliably between -25°C to 70°C and is waterproof/dustproof, ensuring continuous performance in harsh environments and minimizing downtime.
- The gateway includes both a built-in rechargeable lithium iron phosphate battery and a super capacitor, allowing it to maintain critical "last gasp" functionality during power failures, ensuring uninterrupted data communication and system operation.
- Equipped with GPS positioning and an external antenna, the gateway enables precise real-time location tracking, enhancing asset management and operational security.
- The gateway supports remote monitoring and maintenance via Wi-Fi and webserver, reducing on-site visits and enabling prompt issue resolution, saving time and operational costs.
- Supporting NTP synchronization, the gateway ensures precise timekeeping across the network, critical for reliable timestamping of data and events.
- Tamper detection alerts users to unauthorized cover opening, enhancing security and safeguarding data integrity.
- Constructed from die-cast aluminum with outdoor powder coating, the gateway offers exceptional durability and corrosion resistance, extending its lifespan even in harsh conditions.

Product Specifications

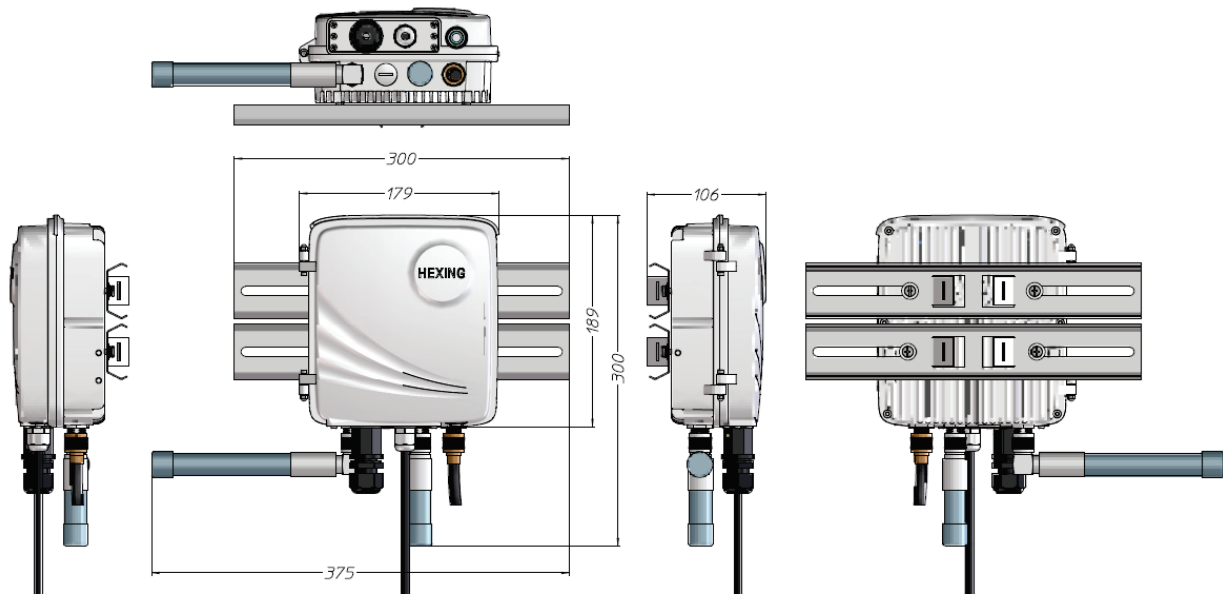
HXWSG100	
Physical Specifications	



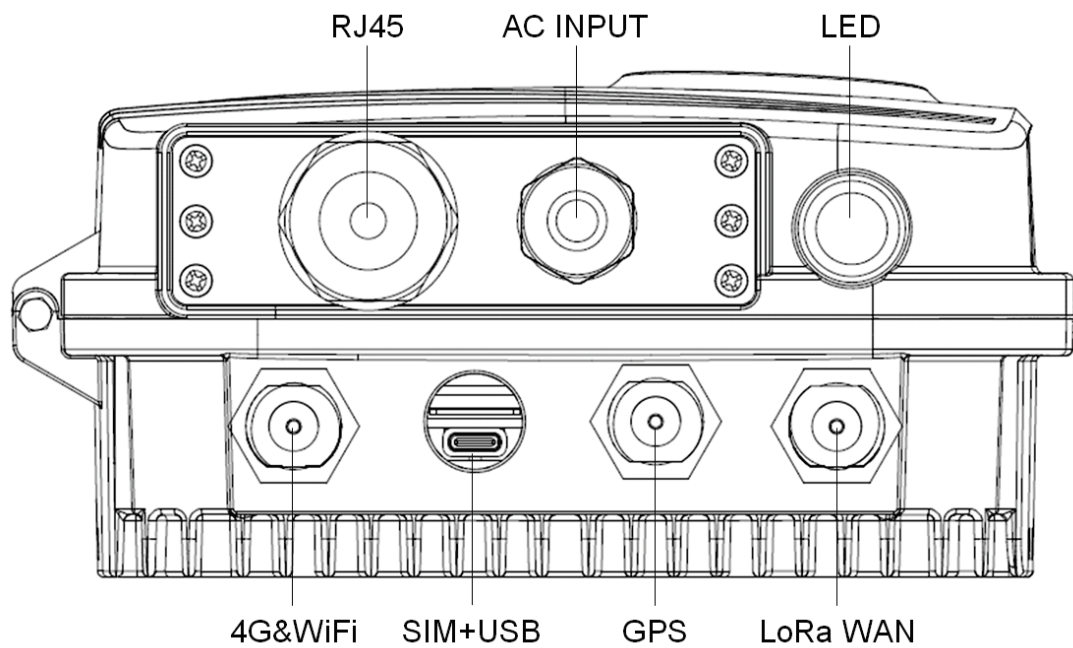
CPU	NUC972, ARM926EJ-S core, 300MHz
RAM	128M Byte DDR2
Flash	1G Byte NAND Flash
Cabinet material	Aluminum
Power Supply	AC power supply: 90~350 VAC
Frequency	50/60Hz
Humidity Range	Up to 95%
Protection Degree	IP67
Pole Mount	Yes
Dimension	Installation Dimensions: 375 mm x 300 mm x 106 mm
Weight	Less than 2kg
Operation Temperature	-30°C to 70°C
Battery Backup Options	Integrated modular battery For safety protection, discharge temperature: -10°C to 50°C
Power Consumption	Less than 8Watts
LoRaWAN®	
Chipset	SX1302
Channel	8
Frequency	EU868/US915/AU915
Receiving sensitivity	Avg. -126dBm@923.3MHz_SF7_BW125
Transmit power	Typ. 27dBm@923.3MHz
Protocol	Class A / Class C
Communication distance	2km@SF8 5km@SF10
Ethernet	
Data Rate	1 × 10/100 Mbps
Wi-Fi	
Antenna	4G+WiFi in 1 Fiberglass Antenna
Standard	IEEE 802.11 b/g/n, 2.4GHz
Mode	AP Mode
Security	WEP/WPA/WPA2 certification

	Support WEP/TKIP/AES encryption
Cellular	
Antenna	4G+WiFi in 1 Fiberglass Antenna
Frequency	LTE FDD: B2/B4/B5/B7 WCDMA: B2/B5 GSM: B2/ B5
GPS	
Antenna	Fiberglass Antenna, 16±3dBi
Positioning	GPS / BeiDou / GANLOSS
Sensitivity	-163dBm @Tracking Mode -148dBm @Acquisition Mode,
Horizontal positioning accuracy	Autonomous positioning less than 2.5m CEP
Bluetooth	
Antenna	Built-in embedded antenna
Standard	BLE 5.0
Regulatory Compliance	
Electrostatic Discharge	Contact discharge: 6 kV
Fast transient burst	4.4 kV
Surge immunity	4 kV (common mode) 2 kV (differential mode)
Impulse voltage	1.2/50µs, main connections 5kV
AC voltage	4 kV during 1 min
RTC	Support time sync from NTP

Product Dimensions



Product Interfaces



Caution in use

- Do not put this product completely enclosed in the metal box; if it must be installed in the metal shell, the antenna of the module must be led out of the metal shell.



- If it is used in the outdoor high position, and the surrounding is quite open, then it is needed to install lightning rod, in order to prevent lightning strike.
- N-type antenna connector, please make sure it is waterproof.
- **Antenna Professional Installation:** To ensure optimal performance and operational safety, it is highly recommended that the high-gain antenna for this product be installed and adjusted by qualified personnel. Precise calibration of the antenna's placement, azimuth (direction), and elevation (tilt) is critical for achieving maximum signal strength and communication stability. Professional installation mitigates risks such as signal degradation, equipment damage, or potential safety hazards resulting from improper setup, thereby safeguarding your investment and ensuring you receive the full benefits of the product. Please contact our technical support team or an authorized service provider to arrange for professional installation services.

Note: The products are not sold to the general public but only to distributors.





Warranty

Our product comes with a 1-year warranty covering parts, ensuring prompt attention to any defects in materials or workmanship during the initial year of ownership. To maintain the overall health and longevity of your product, it's important to follow proper maintenance procedures, including those for the integrated lithium iron phosphate (LFP) battery.

Battery Maintenance

- **Regular Charging:** To preserve battery health and ensure that your device is ready for use even after prolonged periods of inactivity, it is recommended to perform regular charging of the LFP battery. In general, we advise charging the battery every 2 to 3 months if the device is not being used regularly.
- **Avoid Deep Discharge:** Allowing the battery to fully discharge can negatively impact its lifespan and performance. By regularly charging the battery as recommended, you can help prevent deep discharge scenarios.
- **Proper Storage Conditions:** Store the device in a cool, dry environment with temperatures within the manufacturer's recommended range to protect the battery and ensure optimal performance.

Please note that following these maintenance guidelines will help maintain the battery's warranty coverage and contribute to the overall longevity of your product.

FCC Statement

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and

(2) This device must accept any interference received, including interference that may cause undesired operation.

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body. Note : This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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