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Communication Expert
of Industrial IOT

LoRaWAN End Node Specification

USR-DR206-AU915



Introduction

USR-DR206 is a new generation of LoRaWAN end node based on the SX126x chip from Semtech. It converts RS485 data to standard LoRaWAN wireless network, simplifying IoT installations and reducing installation/maintenance costs.

This product adheres to industrial standards, supports a wide temperature and voltage range, and has undergone multiple rigorous environmental tests. Equipped with dual hardware and software watchdogs and self-recovery mechanisms for faults, it can adapt to various industrial scenarios and operate reliably even in harsh environments.

With Standard LoRaWAN technology, It is widely applied to scenarios requiring a large number of wireless network connections, long-distance wireless data collection, control, and maintenance, such as smart metering, valve control, smart factories, energy monitoring, environmental monitoring, smart agriculture, smart fire protection, and smart cities.

Product Features

Stable & Reliable

- V0-rated flame-retardant material ensures the product's safe use, with a PC+ABS material construction that is lightweight and portable.
- Operating temperature range from -40℃ to 85℃, suitable for a wide range of environments.
- Wide voltage design with DC 8-24V input, featuring reverse polarity protection for the power supply.
- Built-in hardware watchdog for stable operation around the clock, ensuring no system crashes.
- DIN rail mounting is easy to setup and wire, occupying minimal space.

Standard LoRaWAN Protocol

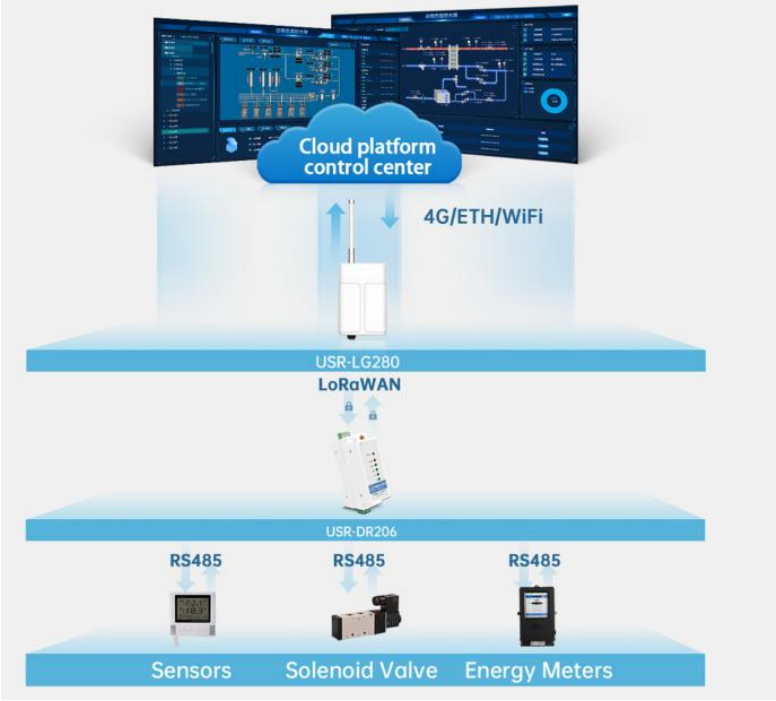
- Flexible network apology, capable of connecting to other standard LoRaWAN gateway.
- Extensive connectivity, suitable for large-scale scenarios with multiple terminal connections.
- Standard activation methods: OTAA and ABP.
- Multiple frequency is optional: CN470/AU915.
- Class C protocol, efficient data transmission.
- ADR technology, dynamic adjustment to improve efficiency.

Advanced Features

- LBT technology to improve communication success rates.
- Rich indicators for real-time observation of signal quality.
- The heartbeat keep-alive mechanism maintains the status of the LoRaWAN network, enhancing the reliability of the wireless connection.

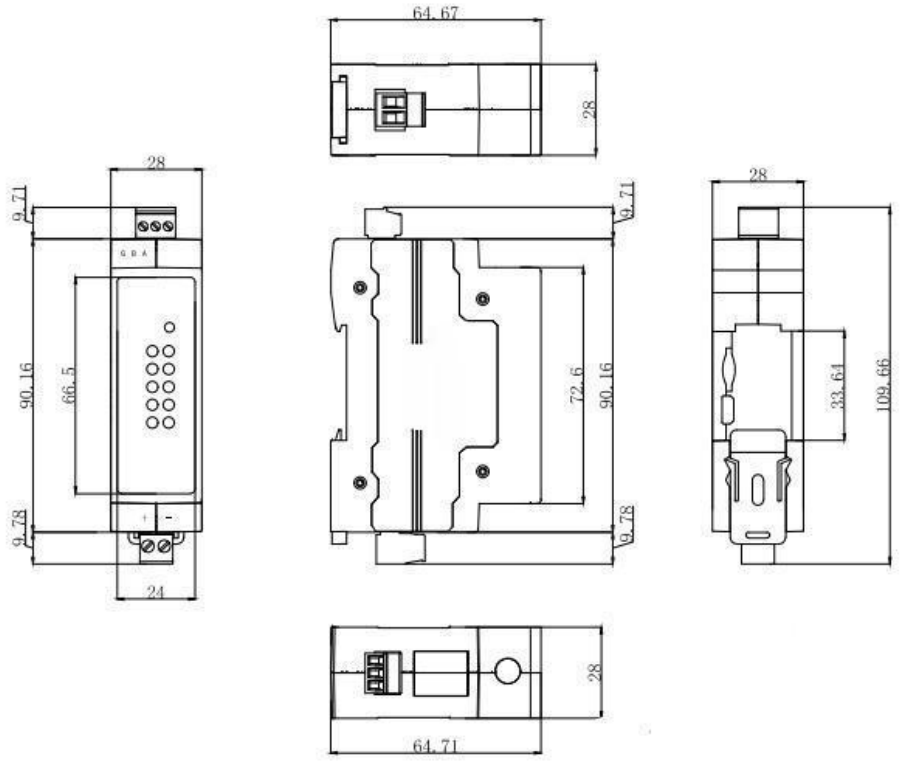
Application

This device supports the standard LoRaWAN protocol, and with USR-LG280 gateway, it can realize the network topology of thousands terminal devices, and realize the remote data acquisition and control of devices.



Dimensions

Unit: mm



Specifications

Items	Description
Processor	32-bit, FM33LG043
Power Supply	DC: 8-24V, 2-pin terminal blocks, reverse polarity protection, surge protection
Working Current	Sending data: 45mA@12V, Receiving data: 11mA @12V
Serial port	
No.	1 x RS485
Baud rates	RS485: 1200 ~ 115200bps
Data bits	7, 8
Stop bits	1, 2
Parity	NONE, ODD, EVEN
LoRaWAN	
Radio Chip	SX126x
Frequency	USR-DR206-AU915， 902-928MHz
Tx Power	21±0.5dBm, default value: 20dBm(AU915)
Rx Sensitivity	'-140dBm @0.268Kbps
Activation Method	OTAA/ABP Class C
Coverage distance	Max 5.5KM Test conditions: clear weather, open field of view, maximum power 22± 0.5dBm, antenna gain 3.5dBi, height greater than 2m.
Antenna	Female SMA Connector, 2±1 dBi

Physical Property	
Casing material	V0 flame retardant, IP30 protection
Dimensions	109.66*64.67*28mm(L x W x H, terminal block are included)
Installation	Din rail mounting
EMC	Surge protection: level 3, IEC61000 ESD protection: level 3, IEC61000 EFT protection: level 3, IEC61000
Operating temperature	-40℃ ~ +85℃
Storage temperature	-40℃ ~ +125℃
Operating humidity	10% ~ 90% RH, non-condensing
Storage humidity	5% ~ 90% RH, non-condensing
Software Function	
Heartbeat data	√, it's disabled by default
Multicast	√
User Configuring	Config utility, AT command
Others	
Reload	Pinhole reset button
APPROVALS	
Regulatory	CE/RED*, RoHS*, WEEE*, FCC*

Ordering Guide

Model	USR-DR206
Power	DC 8-24C
Consumption	Sending data: 0.54W Receiving data: 0.13W Idle: 0.13W

Purchase & Support

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