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RS232/485 to LoRa Converter

USR-LG206



Introduction

USR-LG206 is a wireless LoRa data transfer unit with RS232 and RS485 based on the SX1262 module. It supports point-to-point, point-to-multipoint communication as well as communication with LG210 gateways. The device also integrates enhanced functions such as relay networking(Point to Point Mode) and signal detection, and handles data transmission via the serial port, significantly lowering the technical barrier for wireless applications. It enables bidirectional data transfer between the serial port and LoRa. With advantages including long transmission distance, high power density, and strong anti-interference capability, the communication range can reach over 6000 meters in open line-of-sight conditions.

The terminal features a built-in hardware watchdog to ensure long-term stable operation without crashing. It also includes multiple protection mechanisms such as surge protection, burst protection, and ESD electrostatic protection, offering high reliability for harsh environments.

Product Features

Stable & Reliable

- DC 9–36V power supply, multiple anti-interference measures to enhance data transmission stability.
- Supports frequency band 860 – 930 MHz; default settings enable transmission distance >6000m (open environment).
- ESD protection, power surge protection, RS485 surge protection.
- Built-in hardware watchdog for stable operation around the clock, ensuring no system crashes.
- -148dBm @0.268kbps receive sensitivity.

Multiple Modes for Wide Applications

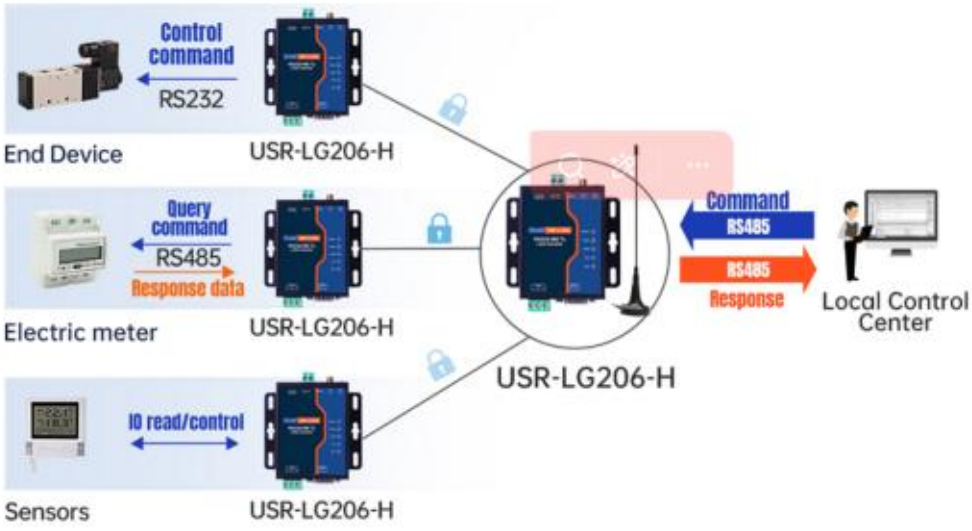
- Supports point-to-point, point-to-multipoint and point-to-LG210 gateway communication.
- Point-to-point usage: relay networking, signal detection, transparent transmission, fixed-point, master-slave transmission modes; supports data re-transmission.
- Point-to-LG210 gateway usage: supports edge acquisition, active reporting, transparent transmission, fixed ID, networking, and other working modes; also supports USR Cloud, Alibaba Cloud, private server communication, Modbus RTU-TCP conversion.
- Supports RS232/RS485 serial port.

Advanced Features

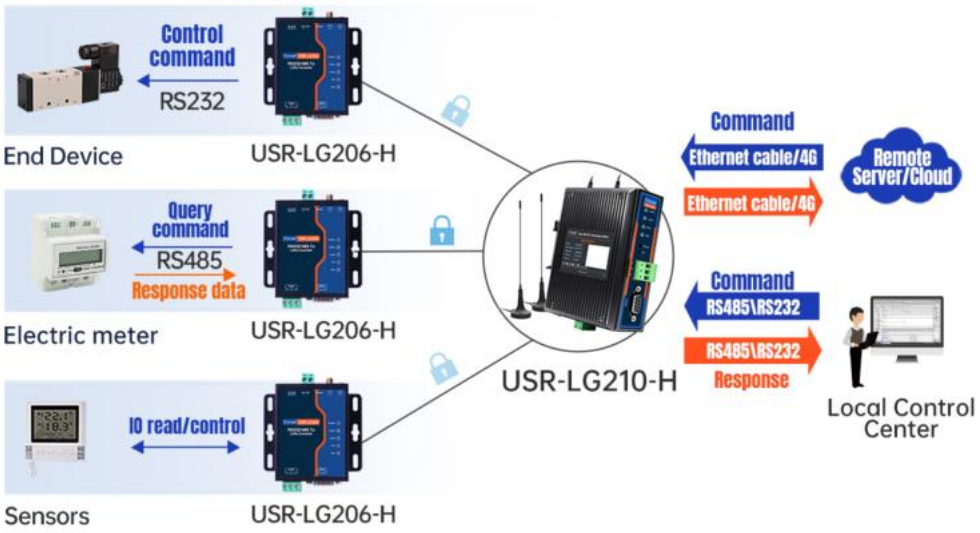
- LBT technology to improve communication success rates.
- Signal indicator: signal quality can be observed at any time for easy network deployment and maintenance.
- Data re-transmission: acknowledges whether data transmission is successful; re-transmits if not.
- Remote wireless configuration: supports point-to-point wireless configuration.

Application

Point to Point Application

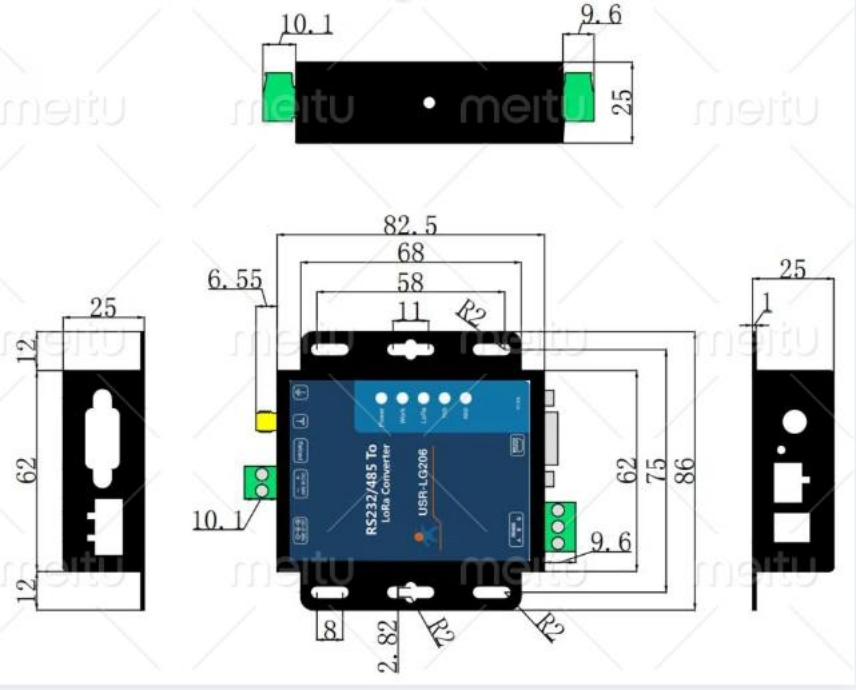


Point to Gateway Application



Dimensions

Unit: mm



Specifications

Items	Description
Power Supply	DC: 9-36V, reverse polarity protection, surge protection
Working Current	Working mode: 44.3mA@12V, Idle mode: 10.4mA @12V
Serial port	
No.	1 x RS485/RS232

Connector	RS485: 2-PIN 5.08 terminal blocks, A/B signal RS232: DB9 male connector
Baud rates	1200 ~ 230400bps(Default 115200bps)
Data bits	7, 8
Stop bits	1, 2
Parity	NONE, ODD, EVEN
LoRa	
Radio Chip	SX1262
Frequency	803-930MHz Point to point mode: 803-930MHz Point to Gateway mode: 860-930MHz
Tx Power	10-22dBm, default value: 22dBm
Rx Sensitivity	-148dBm @0.268Kbps
Coverage distance	Max 6KM Test conditions: clear weather, open field of view, maximum power 22 ±0.5dBm, antenna gain 3dBi, height greater than 2m.
Antenna Connector	Female SMA Connector
Physical Property	
Casing material	Metal, IP30 protection
Dimensions	102.2 x 86 x 25mm(L x W x H, terminal blocks are not included)
Installation	Wall mounting
EMC	Surge protection: level 3, IEC61000 ESD protection: level 4, 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	
Communication	Point-to-point, point-to-multipoint, point to gateway
User Configuring	Config utility, AT command
Others	
Reload	Pinhole reset button
Indicator	PWR, WORK,LoRa,TXD,RXD
APPROVALS	
Regulatory	CE/RED, RoHS, WPC, WEEE*

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