LoRa Data Transmission Module
Model IOT-L2S-B2
User Manual

Heyuan Intelligence Technology Co., Ltd

IMPORTANT DECLARATIONS

1. This document is an instruction manual. Its content will change as product is upgraded without notice. Please contact with Heyuan Intelligence Technology Co., Ltd to get the latest product specifications if it is needed.

2. Heyuan shall not be responsible or liable for any damages or injuries caused by improper meter installation and/or operation.

3. Please read this manual carefully before the product is operated, and once you start, you'll be considered to have read this manual and accept all our terms.

Contents

Chapter 1 Product Introduction

The LoRa Data Transmission Terminals, Model No.IOT-L2S-B2 are universal communication interactive equipment which is designed and manufactured by our company based on the LoRa RF chip. It integrates two interfaces of industrial standard RS485 and supports a variety of protocols to realize data transmission between wired and wireless devices. It transmits the data of the wired device to the product and then transmits the data wirelessly through RS485 communication lines.

The product can be widely applied in the IOT, centralized metering and industrial control etc.

Product Picture

Chapter 2 Function Overview

2.1 Function Description
◆ 2 standard interfaces of RS485, supporting a variety of protocols and communicating with various automatic devices with RS485 interfaces
◆ Equipped with LoRa chips SX1278 from Semtech for RF part
◆ Transparent transmission mode
◆ Wireless ultra-long transmission range up to 8km barrier free
◆ Small size, easy to install.
◆ Working temperature range: -20℃°~70℃°, suitable in all kinds of harsh environment
◆ Wide operating voltage range with optional multi specifications

2.2 Technical Parameter

Product Parameters

● Power Supply: DC5-36V

● Power Consumption: <1W

● Protocols Supported by RS485: Modbus RTU, DL/T 645 etc.

● RS485 Communication Baud Rates: 1200-115200bps,8N1, 8E1, 8O1

● Installation: Din rail mounted installation

RF parameters

●Working Frequency Range: 410M-525MHz

● ISM Band: 433MHz

●Antenna Impedance: 50Ω

●Output Power: 18dBm100mA

●Sensitivity: -139dBm (SF12, broadband125KHz)

●Packet Length Sent: 255bytes

●Packet Length Received: 255bytes

●Communication Range: 6-8km

2.3 Model Selection

Model No.	RS485 Interfaces	Power Supply Voltage	Wireless Parameters	
			Working Frequency	Networking Modes
IOT-L2S-B2	2	DC5-36V	433MHz	Transparent Transmission

2.4 Parameter Configuration

All the parameters like serial port baud rate, wireless transmission rate etc. of LoRa products developed by our company can be set by the user. The setting steps are as follows:

Power Ports   Button "Deploy" Indicator Lights   485 Communication Ports
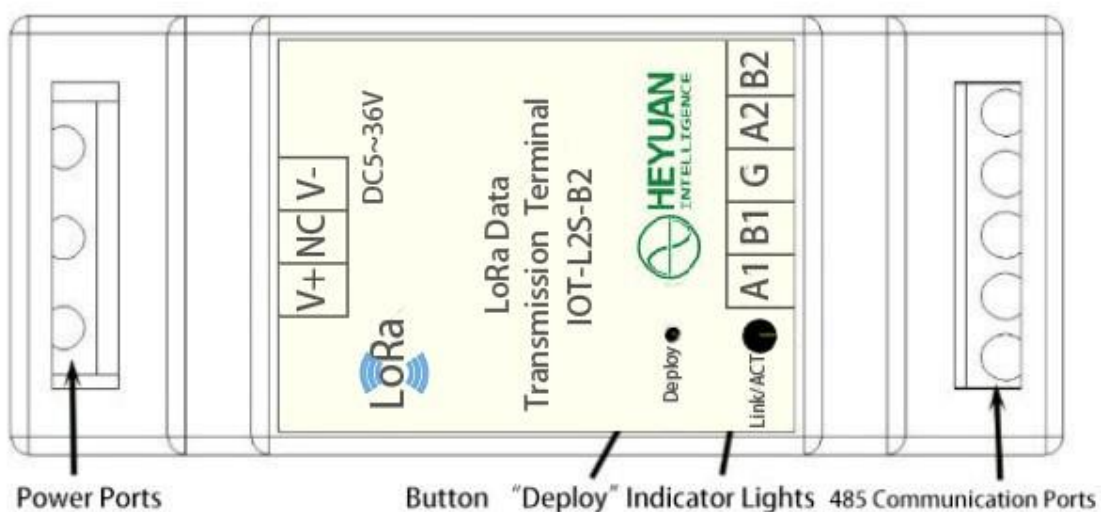
2.4.1 Wiring

The power ports are connected into power supply of DC5-36V chosen based on the purchased type instead of being chosen the wrong connection. Connect the RS485-1 port of the device to the PC terminal through a RS485 conversion device.
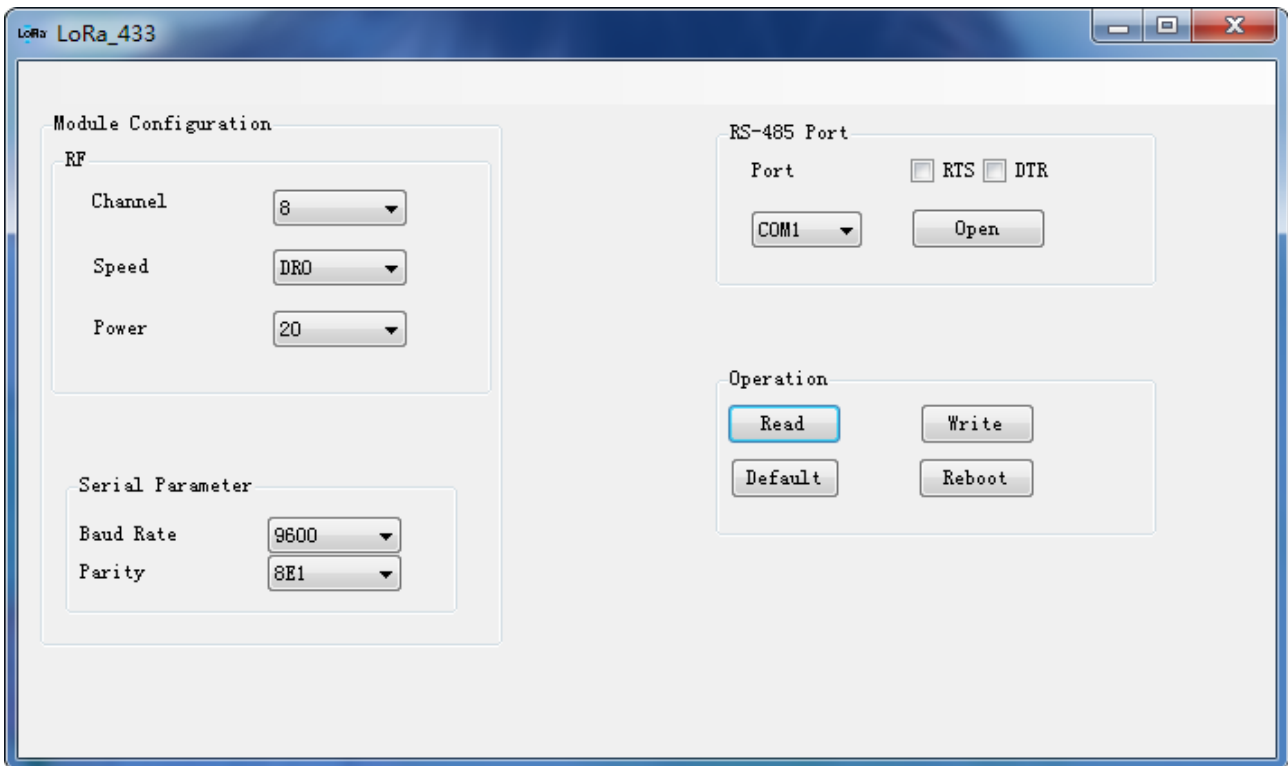
2.4.2 Enter Configuration Mode

Method 1: After wiring is completed, power on and press button "Deploy" longer than 5S to make LoRa device enter the configuration mode. After that, the LINK/ACT indicator lights flash at a fixed frequency (flashing once per second) and release the button.

Method 2: First, press the button "Deploy" to power up the device, which directly enters the configuration mode, and then releases the button. The Link/ACT indicator lights will flash at a fixed frequency (flashing once per second).

2.4.3 Open Software

Open the configuration software of "LoRaCFG_v2". Click the "Communication Connection" on the software interface to select the corresponding COM port and click "Open", as shown in the following figure.


2.4.4 Parameter Configuration

After opening the serial ports, click "Read". Thus it will indicate "Complete". If it indicates "Time Out", please check whether the LoRa device enters the configuration mode.
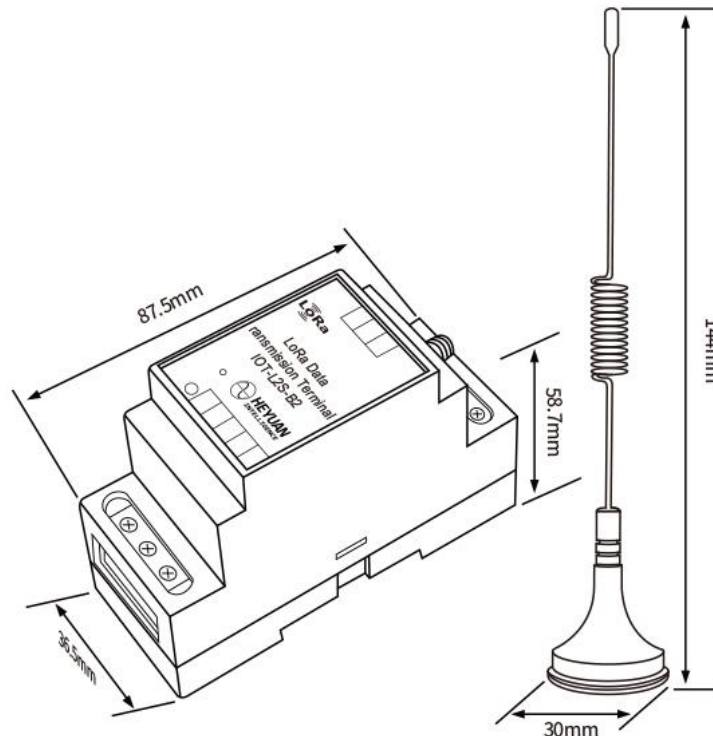
After completing operation, the host computer reads out the current configured parameters.

If you need to modify according parameters, click "Write" and it will indicate "Complete". Click "Read" again to check if configuration is correct. Click "Reboot" to exit configuration mode.
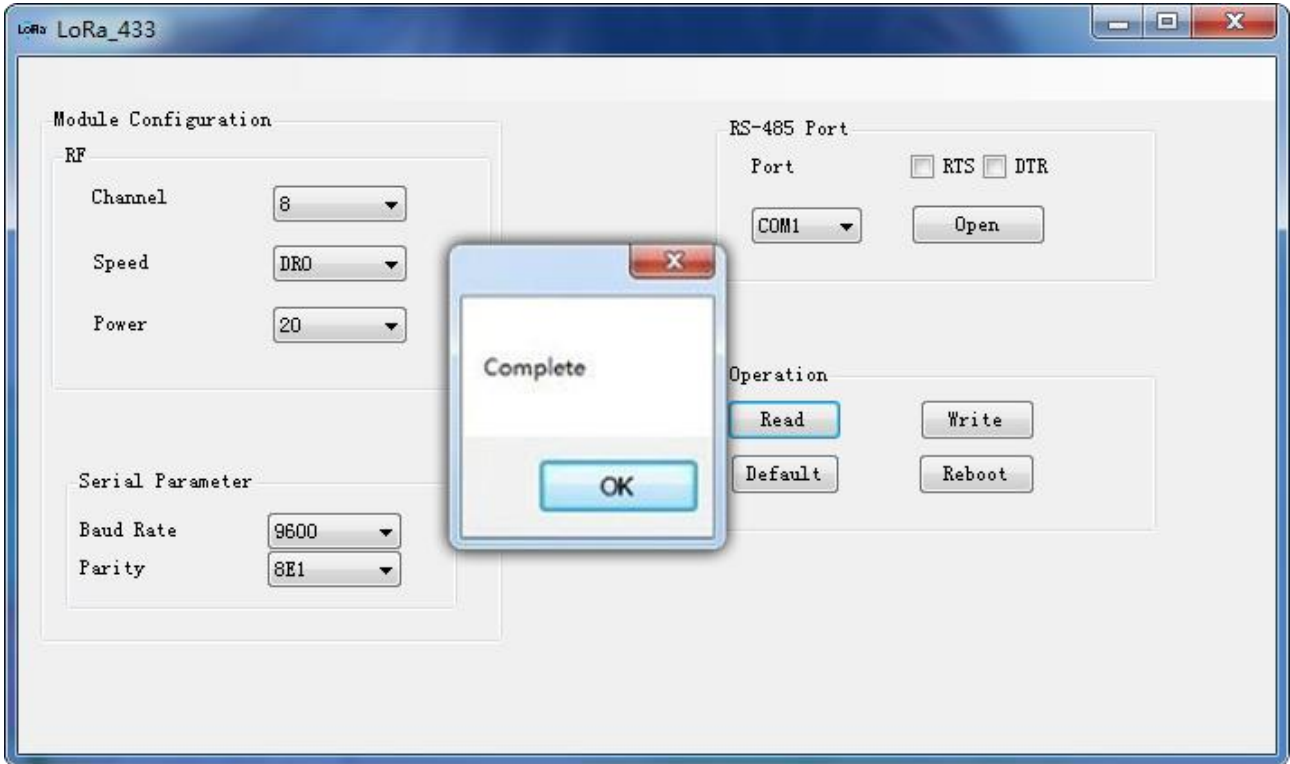
Chapter 3 Installation Instruction

3.1 Dimension.

3.2 Terminal Definition.

Terminal No.	Definition
V+	Positive Pole of Power Supply
V-	Negative Pole of Power Supply
NC	Not Connection
A1	RS485-1 communication interface A
B1	RS485-1 communication interface B
A2	RS485-2 communication interface A
B2	RS485-2 communication interface B
G	Grounding

Chapter 4 Application Instruction

4.1 Application System Example

Transparent Transmission Mode

RS485

RS485

Gateway

Computer
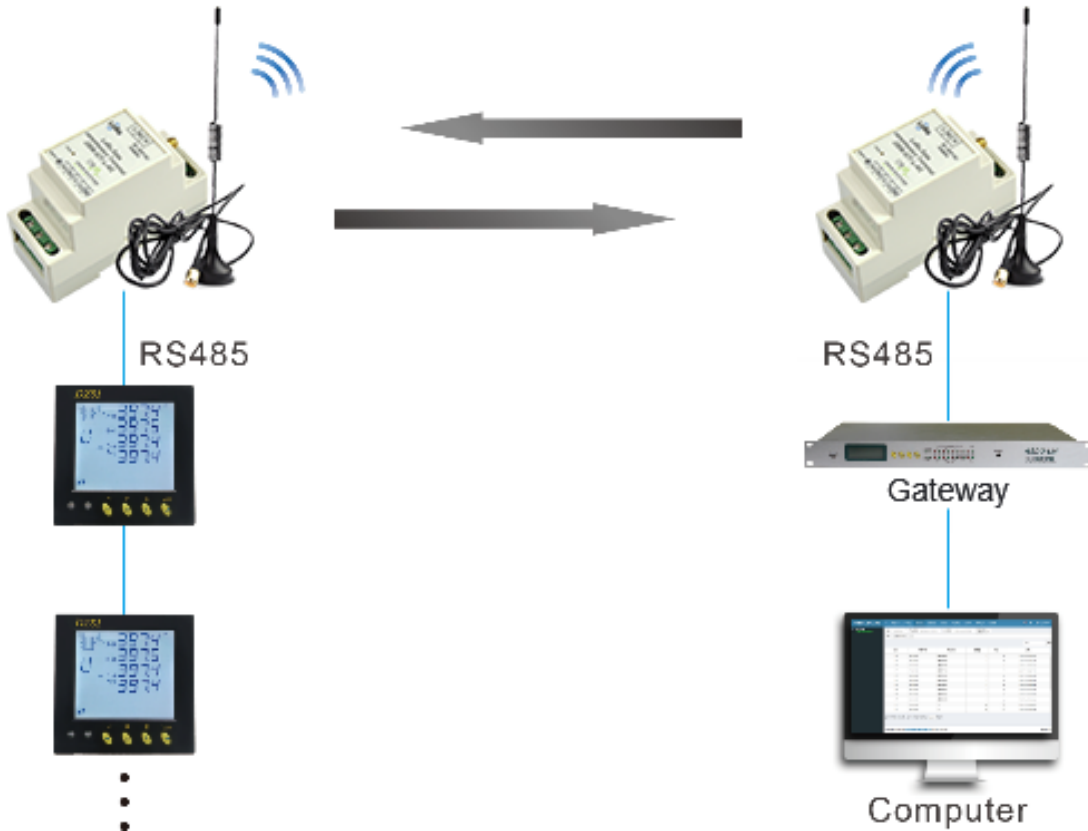
4.2 Application Areas

Wireless Meter Reading

Intelligent Transportation

Smart Home

Fire Safety

Agriculture and Forestry Monitoring

Industrial Manufacture

Building Energy Saving

Chapter 5 After-sales Service

Product Warranty

1. The product warranty period is one year.
2. The company is responsible for free maintenance or exchange within one-year warranty period.
3. The cost of the components and freight shall be charged for improper meter installation and/or operation.
4. Over the warranty period, part of the maintenance cost according to actual situation will be charged.

Service Guarantee

1. Product technical consulting and quality complaints will be replied within 12 hours.
2. Solutions for quality complaints will be provided within 24 hours.
3. Except statutory holidays and force majeure.

Chapter 6 Contact Us

Headquarter Add.: 7F No.1 Aosheng Building, 1166 Xinluo Street, High-tech Development Zone, Jinan, P.R. China 250101
Factory Add.: 2F Innovation Factory, Feiyue Road, High-tech Development Zone, Jinan, P.R. China 250101
Tel: +86 0531 68621770
E-mail: info@heyuanintel.com
Website: www.heyuanintel.com