

LoRaWAN Data Transmission Terminals Model IOT-L2S-E1 User Manual (V1.0)



Heyuan Intelligence Technology Co., Ltd

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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.

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Chapter 1 Product Introduction

The LoRaWAN Data Transmission Terminal, Model No.IOT-L2S-E1 is 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 Features and Function

2.1 Function Introduction

- ◆ 2 standard interfaces of RS485, supporting a variety of protocols and communicating with various automatic devices with RS485 interfaces
- ◆ Equipped with LoRa chips SX1276 from Semtech for RF part
- ◆ Supporting LoRaWAN Class C protocol
- ◆ Small size, easy to install
- ◆ Working temperature range: -20°C~70°C, suitable in all kinds of harsh environment
- ◆ Wide operating voltage range with optional multi specification models

2.2 Technical Parameter

Product Parameter	
Power Supply	AC85~265V,50/60Hz
Power Consumption	<1W
Protocols Supported by RS485	Modbus RTU, DL/T 645
RS485 Communication Baud Rates	1200-115200bps,8N1, 8E1, 8O1
Installation	Din rail mounted installation

RF Parameter	
Working Frequency Range	AS923MHz
ISM Band	AS923MHz
Antenna Impedance	50Ω
Output Power	16dBm100mA
Sensitivity	-139dbm (SF12, Broadband 125KHz)
Transmission Data Length	51 bytes every frame, total 32 frames
Protocol	V1.0.2rB, LoRaWAN Class C

2.3 Selection Table

Model	RS485	Power Supply	Wireless parameters	
			Working Frequency	Network Mode
IOT-L2S-E1	2	AC85~265V	AS923MHz	LoRaWAN

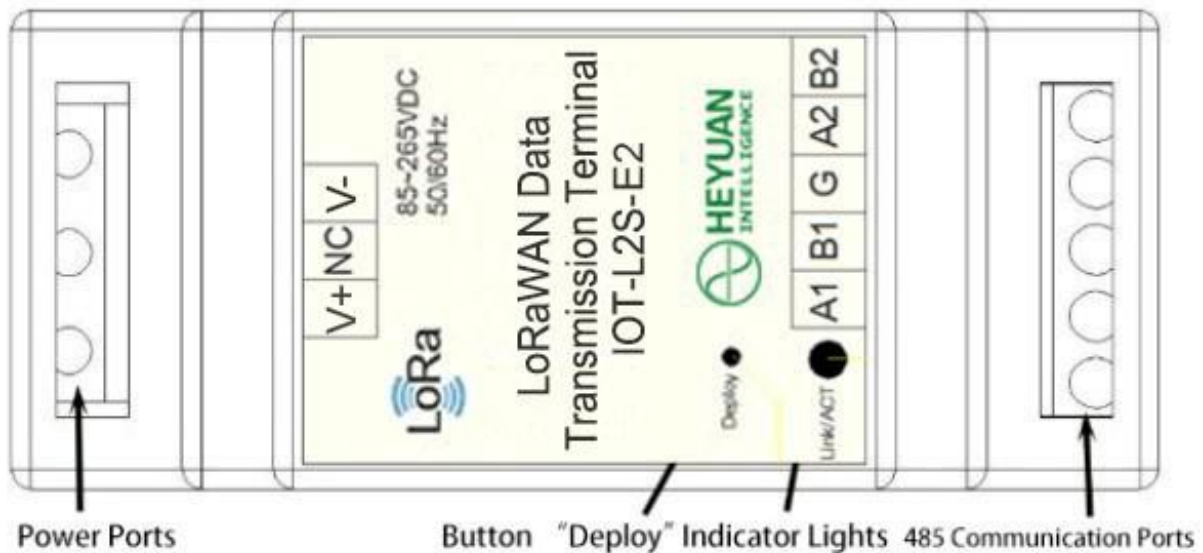
2.4 Parameter Configuration

All the parameters of LoRaWAN series products developed by our company can be set by the user. The setting steps are as follows:

2.4.1 Wiring

The power ports are connected into power supply of AC85~265V. Connect the RS485-1 port of the device to the PC through a RS485 to USB converter.

The Link/ACT indicator light will flash quickly after power on, if the module accesses the internet successfully, it will flash every two seconds.



2.4.2 Enter Configuration Mode

Method 1:

After wiring, power on and press button “Deploy” longer than 5S to make LoRaWAN 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:

Press the button “Deploy” to power up the module, it will enter the configuration mode directly. And then release the button. The Link/ACT indicator light will flash at a fixed frequency (flashing once per second).

2.4.3 Open the Software

Open the software of LoRaWAN series products. Select the corresponding COM port in the “Communication Connection” part, and then click “Open the Port”, like the following picture.

2.4.4 Parameters Configuration

There are six parts in the parameters configuration: internet access, serial port parameters configuration, devices definition, register definition, upload/download data definition. Now we need to configure the parameters of internet access & serial port.

(1) Internet Access: the unique code of LoraWAN device and Appkey cannot be modified.

(2) Serial Port Parameters Configuration: Close RS485-1 and RS485-2

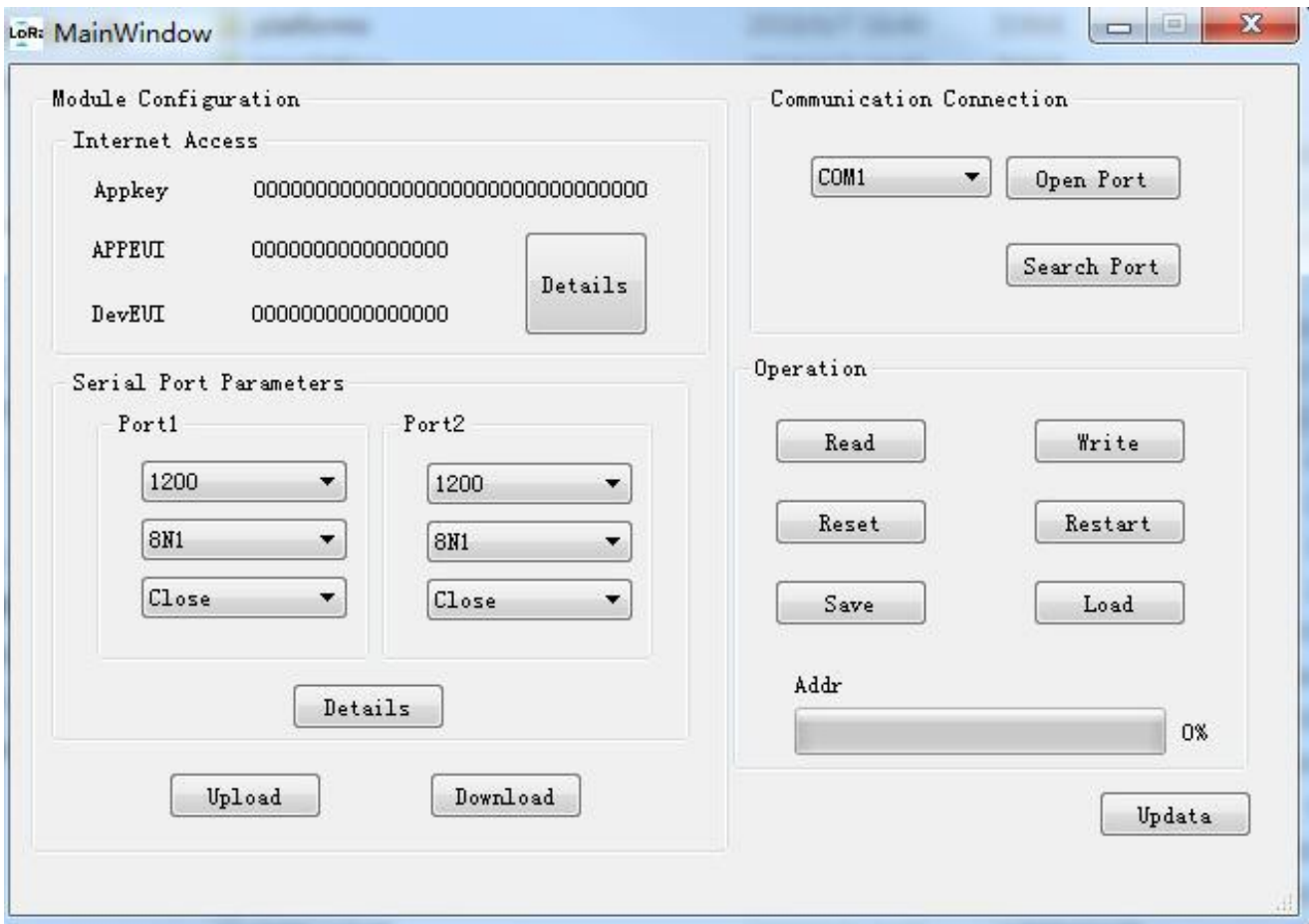
Parameter Configuration Process:

After opening the serial ports, click “Read”. Then it will indicate “Completed”. If it indicates “Time Out”, please check whether the LoRa device enters the configuration mode.

After completing operation, the host computer will read out the current configured parameters.

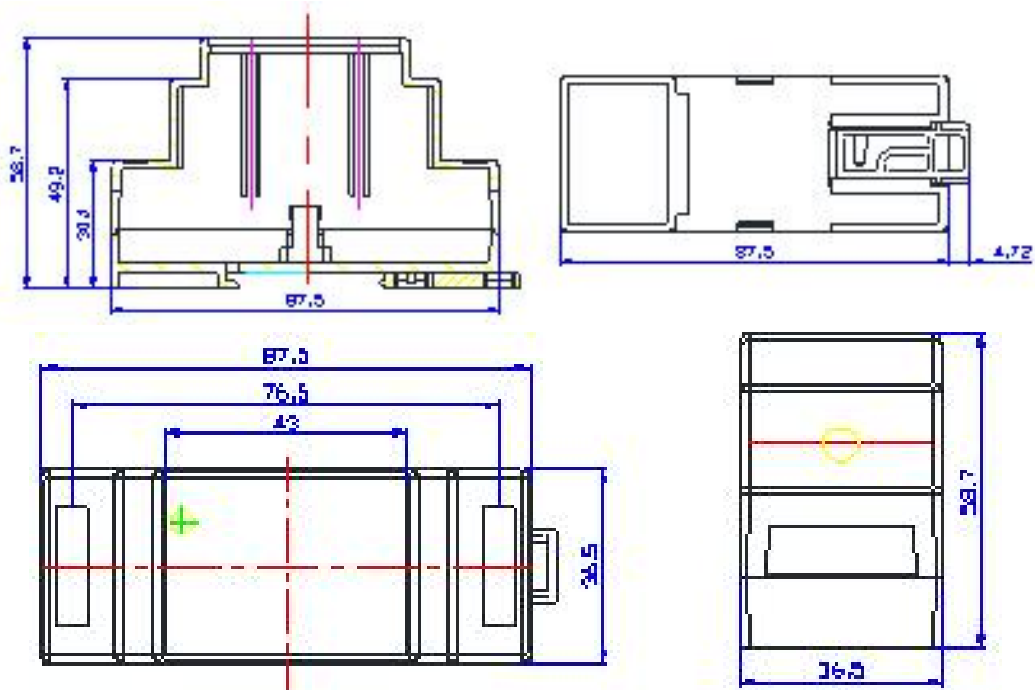
If you need to modify corresponding parameters, click “Write” then it will indicate “Completed”.

Click “Read” again to check whether configuration is correct. Click “Restart” to exit configuration mode.



Chapter 3 Installation Introduction

3.1 Dimension



3.2 Terminal Definition

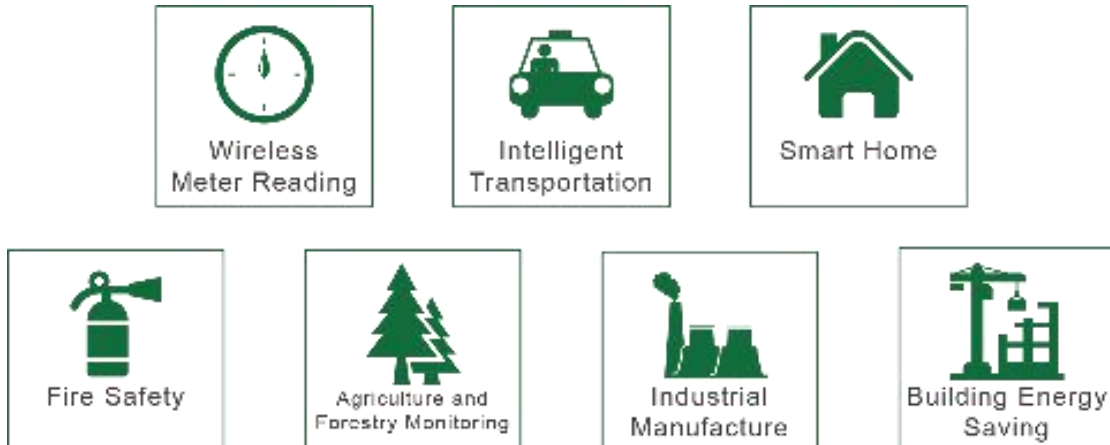
Name	Definition
L	Positive Power Supply Input
N	Negative Power Supply Input
NC	Not Connection
A1	RS485-1 Communication Interface A1
B1	RS485-1 Communication Interface B1
A2	RS485-2 Communication Interface A2
B2	RS485-2 Communication Interface B2
G	GND (Grounding)

Chapter 4 Typical Application

4.1 Application System Example



4.2 Application Areas



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

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