

Data Transmission Module

IOT-L2S-B-I/O

User Manual

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

Heyuan New LoRa I/O Data Transmission Terminal, Model No.IOT-L2S-I/O, is universal communication interactive equipment designed and manufactured based on sx1276 LoRa RF chip from Semtech. The low-cost, flexible and easy-to-configure “out-of-Internet” communication can be ensured wherever and whenever needed. It is widely applied in fields of IoT, wireless meter reading, smart home, smart city, fire safety, industrial manufacturing, agriculture and forestry monitoring, building energy saving etc..

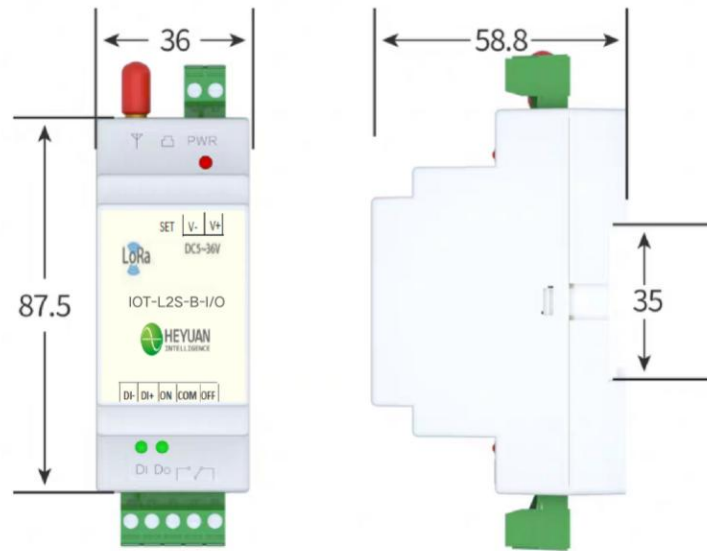


Chapter 2 Technical Parameters

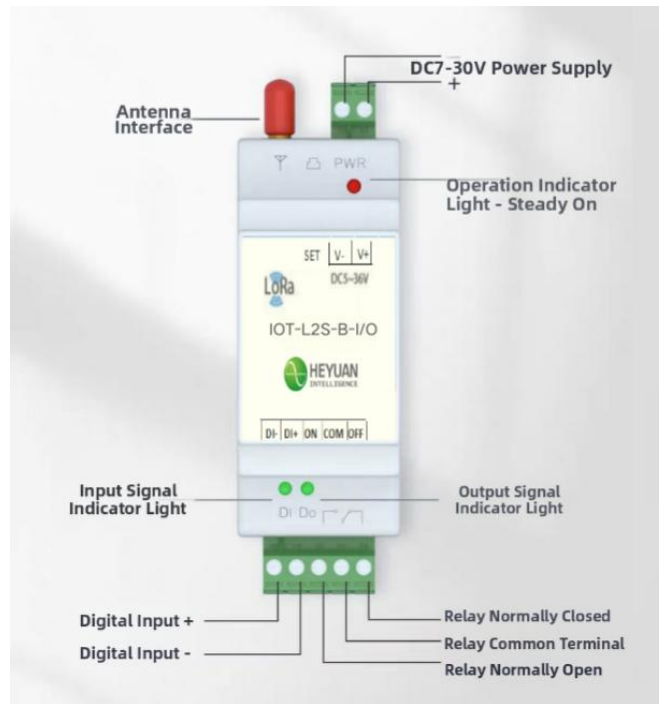
2.1 Technical Parameter

Category	Parameter	Description	
LoRa Wireless	Frequency Band	470-510Mhz	
	Transmit Power	22db	
	Receiver Sensitivity	-120dBm	
	Transmission Distance	Open area, LoRa 15cm Antenna	
		• High speed: 3000m	
		• Medium speed: 4500m (default)	
	Real-time Performance	• Low speed: 5000m	
		Open area, extreme range, LoRa 15cm suction cup antenna	
• High speed: <=100ms			
		• Medium speed: <=800ms	
		• Low speed: <=2000ms	
Hardware Specifications	Operating Voltage	12/24VDC	
	Power Consumption	0.5W (current at standard 12VDC -- A)	
	Digital Input	Supports NPN or PNP type device access, supports dry contact access (DI and COM shorted)	
	Relay Output	Supports normally open and normally closed	
		10A 250VAC	
		10A 30VDC	
	Operating Temperature	-20°C~+85°C	
	Enclosure Size	88mm * 37mm * 59mm	
Installation	Standard 25mm * 11 type rail mounting		

2.2 Dimension



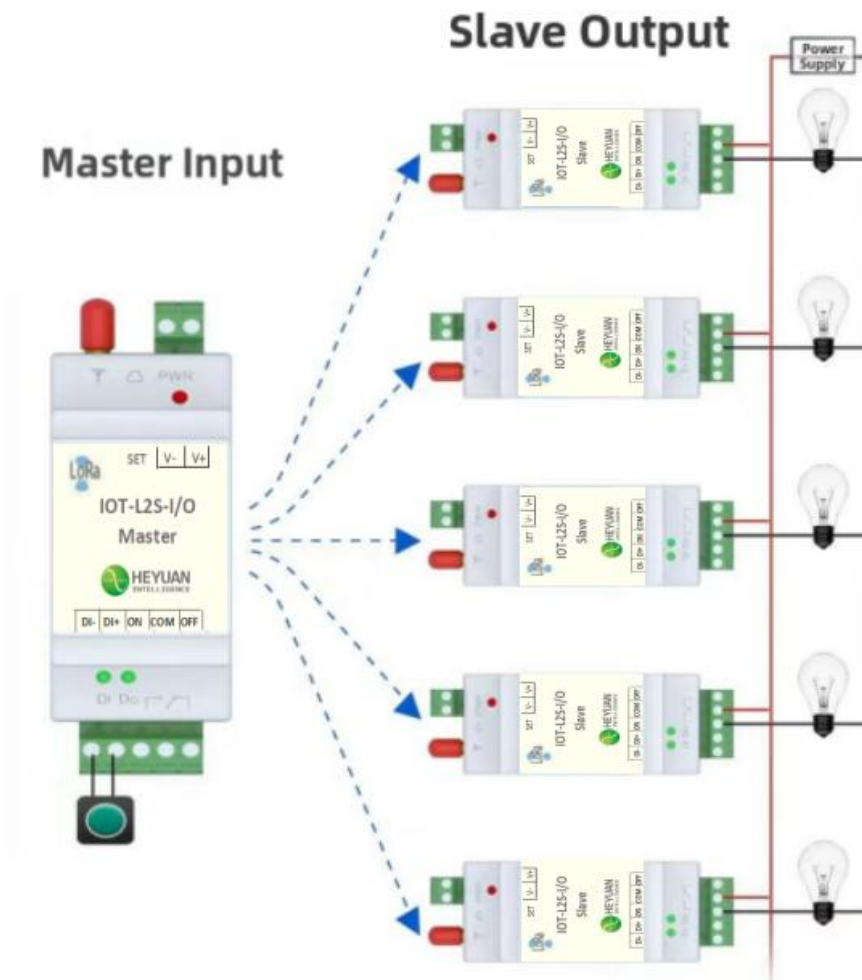
2.3 Interface



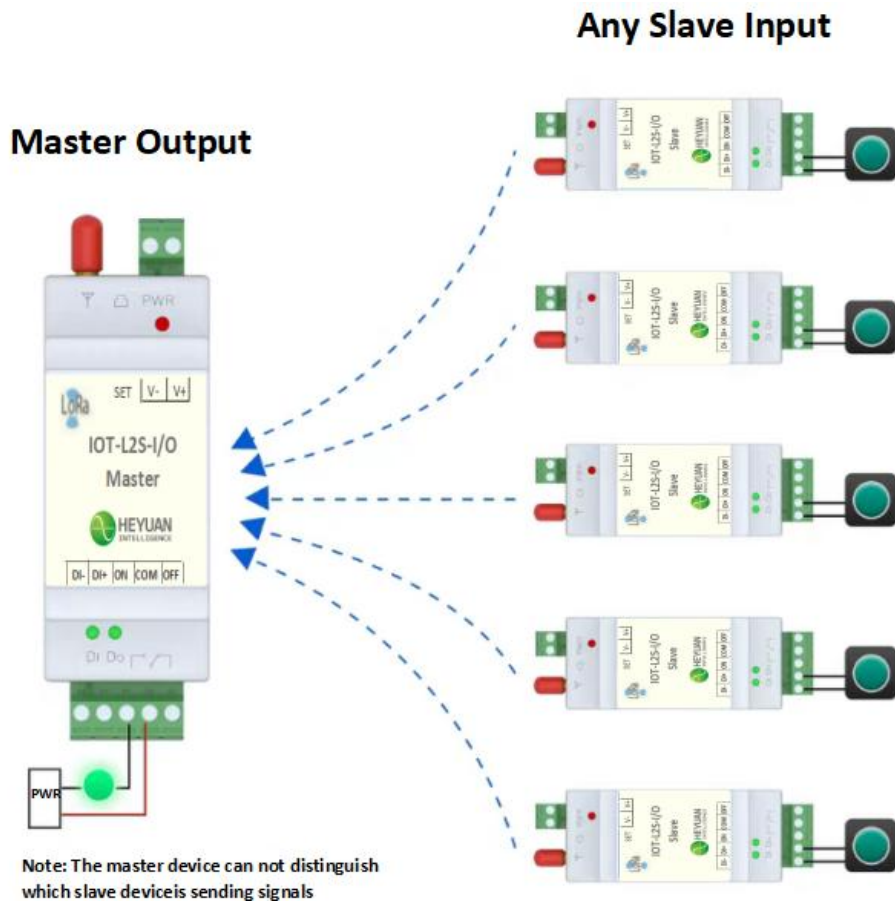
Chapter 3 Network Instruction



3.1 One Master Input to Multiple Slave Outputs



3.2 Any slave device can input, and the master device can output



Chapter 4 Configuration

The master and slave devices differ in that the master device lights up for 2 seconds before flashing. The slave devices directly enter the flicker state.

The number of times the device flashes before a flash represents the LoRa frequency divider parameter (1-7, 2-8, ... 6-12).

The actual pairing establishes the communication channel with the master's frequency division parameters.

4.1 Master Device Configuration

Hold the button for 6 seconds (the indicator light will flash), then press the N (1-6) times to set the LoRa frequency division parameter to $N + 6$. After 2 seconds, the light will flash 3 times and automatically switch to master mode.

4.2 Slave Device Configuration

Hold the button for 6 seconds to release, restore default settings, and configure it to slave mode

4.3 Slave Device ID Setting

- DIP switch or 485 configuration board.
- The slave address cannot be 0 or greater than 63.
- The slave device's address corresponds to the host's controllable starting channel (for example, if the slave device's address is 7, its first channel matches the host's seventh channel).

4.4 Wireless Pairing

- Press and hold the master button for 3 seconds, then tap once to enter online pairing mode (the indicator light will flash three times).
- Press and hold the slave button for 3 seconds, then tap once to enter online pairing mode (the indicator light will flash three times).
- The master and slave will automatically negotiate configurations, with the communication frequency division parameters determined by the host.
- After successful configuration, the master and slave will flash three times and exit the online pairing mode.

Note:

- DODI status change feedback
- Serial communication time is calculated based on baud rate and byte count, rounded to 100ms multiples, with a maximum of 200ms.
- The host sends a message, and the slave machine must respond.
- The slave device sends a message, and the master device must respond.
- For unresponsive messages, the re-synchronization request interval starts at 1.5 seconds and increases by 0.5 seconds sequentially.
- The AIDI inspection time ranges from 100ms to 200ms, and the automatic synchronization time ranges from 150ms to 170ms.

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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