RS485-HUB-8P

From Waveshare Wiki

Jump to: navigation, search

Overview

RS485-HUB-8P



(https://www.waveshare.com/rs485-hub-8p.htm)

RS485, RS485 HUB 8-ch Isolation

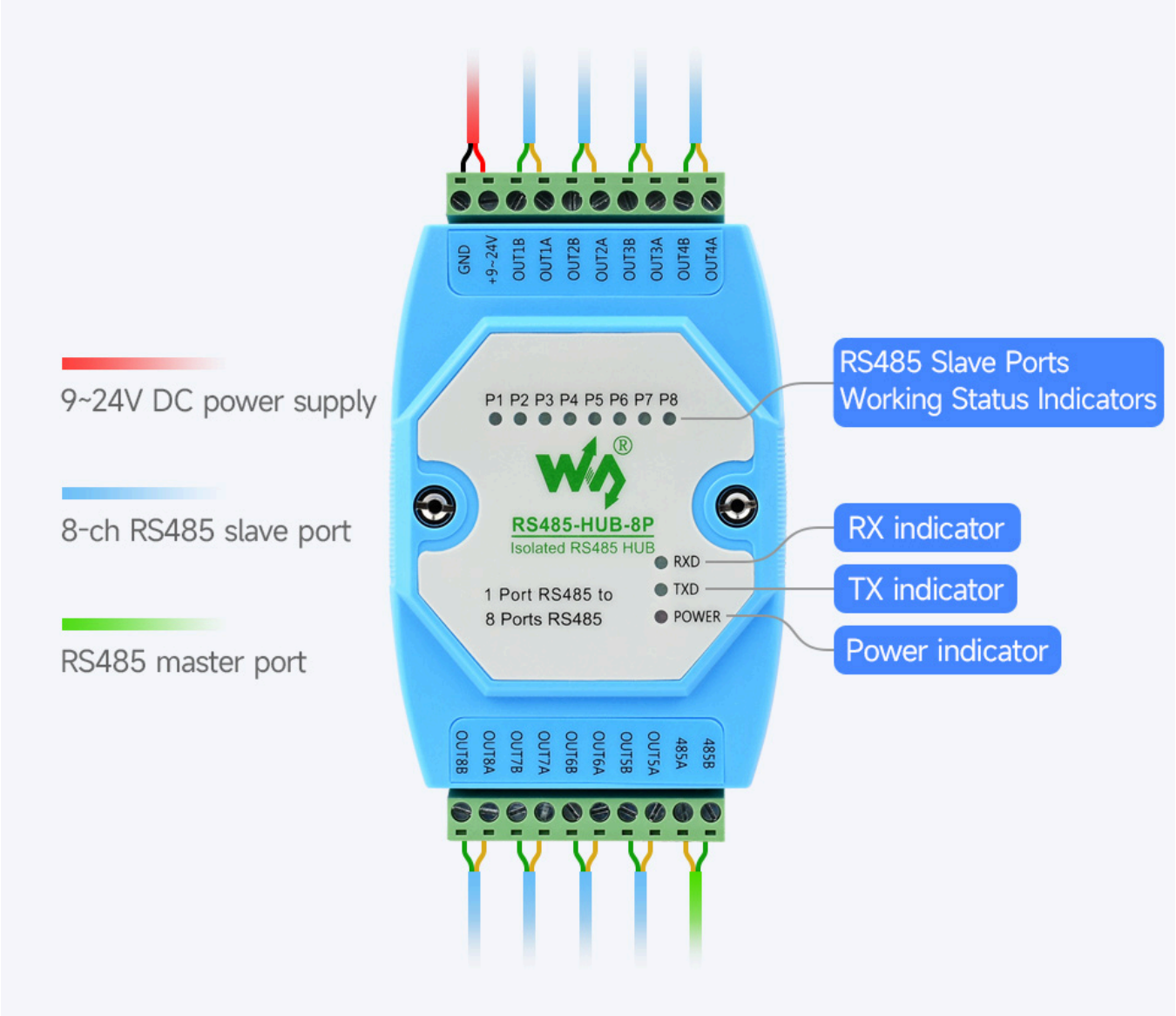
Introduction

RS485-HUB-8P is an industrial grade isolated RS485 hub that can expand 8-ch RS485 slave ports through 1-ch RS485 master port and can realize relay, extension, and isolation functions of RS485 network, with screw terminal for power input. Rail-mount case design, easy to install, and cost-effective. It is suitable for applications like data acquisition, IoT gateway, safety & security IoT, and intelligent instrument monitoring...

Specification

Interface Standard	Compliant with RS485 Standard
Physical Interface	RS485 Screw Terminal
Baudrate	300~460800bps (self-adaptive)
Supported Nodes	Each RS485 port supports up to 32 nodes
Communication Distance	1200m (9600bps), the higher rate the shorter distance
Operating Method	RS485 two-wire (A, B), half-duplex transparent transmission
Power Supply	DC 9~24V
Operating Temperature	-45 ~ +85℃
Environment Humidity	<95%RH
Transmission Medium	Normal parallel cables/twisted-pair cables

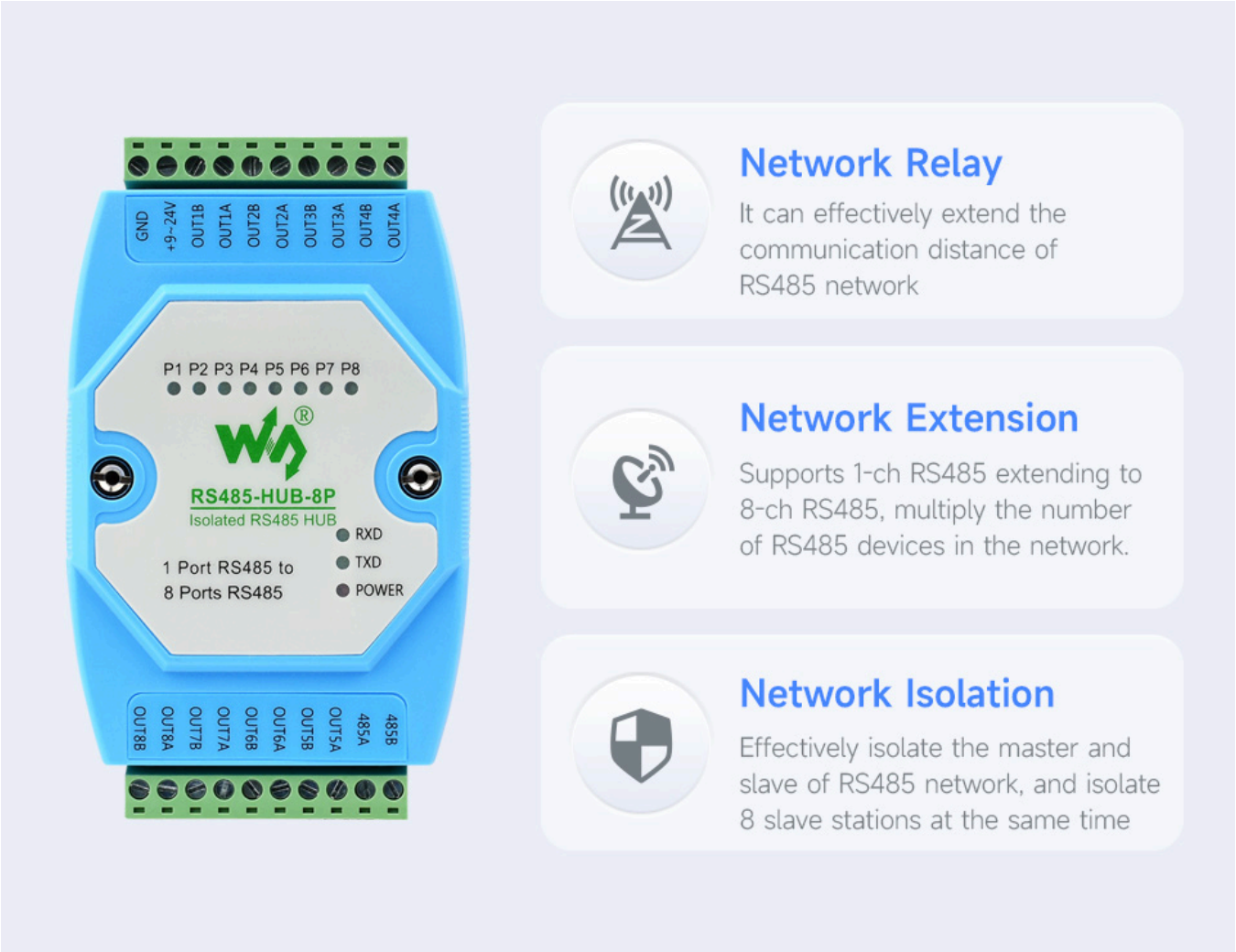
Interface Introduction



(/wiki/File:RS485-hub-8p_08.jpg)

Onboard Resource	Description
+9～24V, GND	Power Screw Terminal
OUT1A～OUT8A, OUT1B～OUT8B	RS485 Slave Port 1～8
485A, 485B	RS485 Master Port
P1～P8	RS485 1～8 Slave Port Data Receiving Indicator
RXD	485 Master Port Data Receiving Indicator
TXD	485 Master Port Data Transmitting Indicator
POWER	Power Indicator

Function Description



(/wiki/File:RS485-hub-8p_03.jpg)

Extension

When the master RS485 device needs to connect 8x RS485 slaves in a star connection, connect the master to the RS485-HUB-8P master port and the slaves to the RS485-HUB-8P

slave port. It can prevent interference between RS485 and isolate effectively.

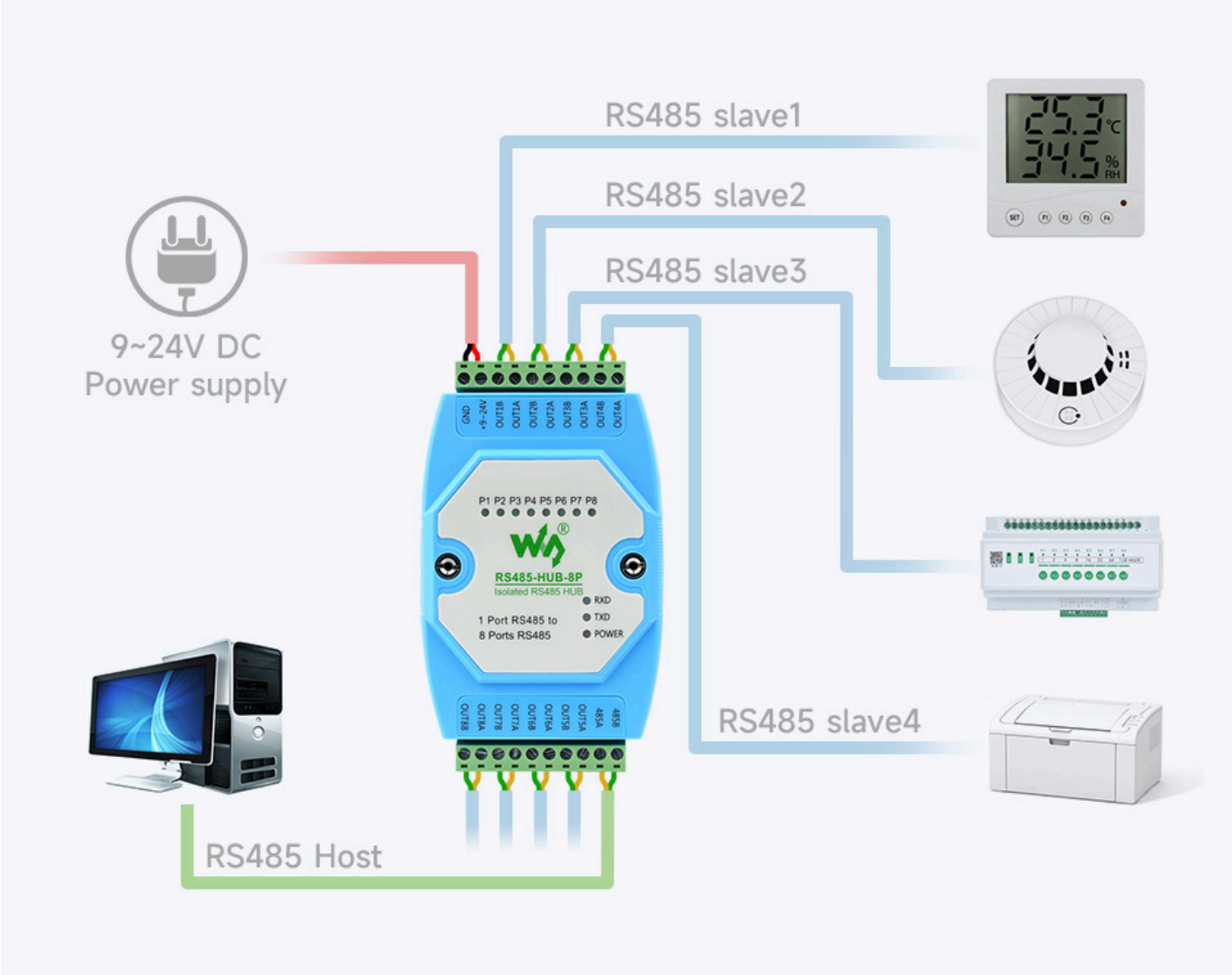
Isolation

By connecting one end of the RS485 to the RS485 master port and the other end to any RS485 slave port, the RS485 cable is effectively isolated and protected from lightning strikes and interference. The other end of RS485 is effectively protected from damage by high voltage and strong current.

Relay

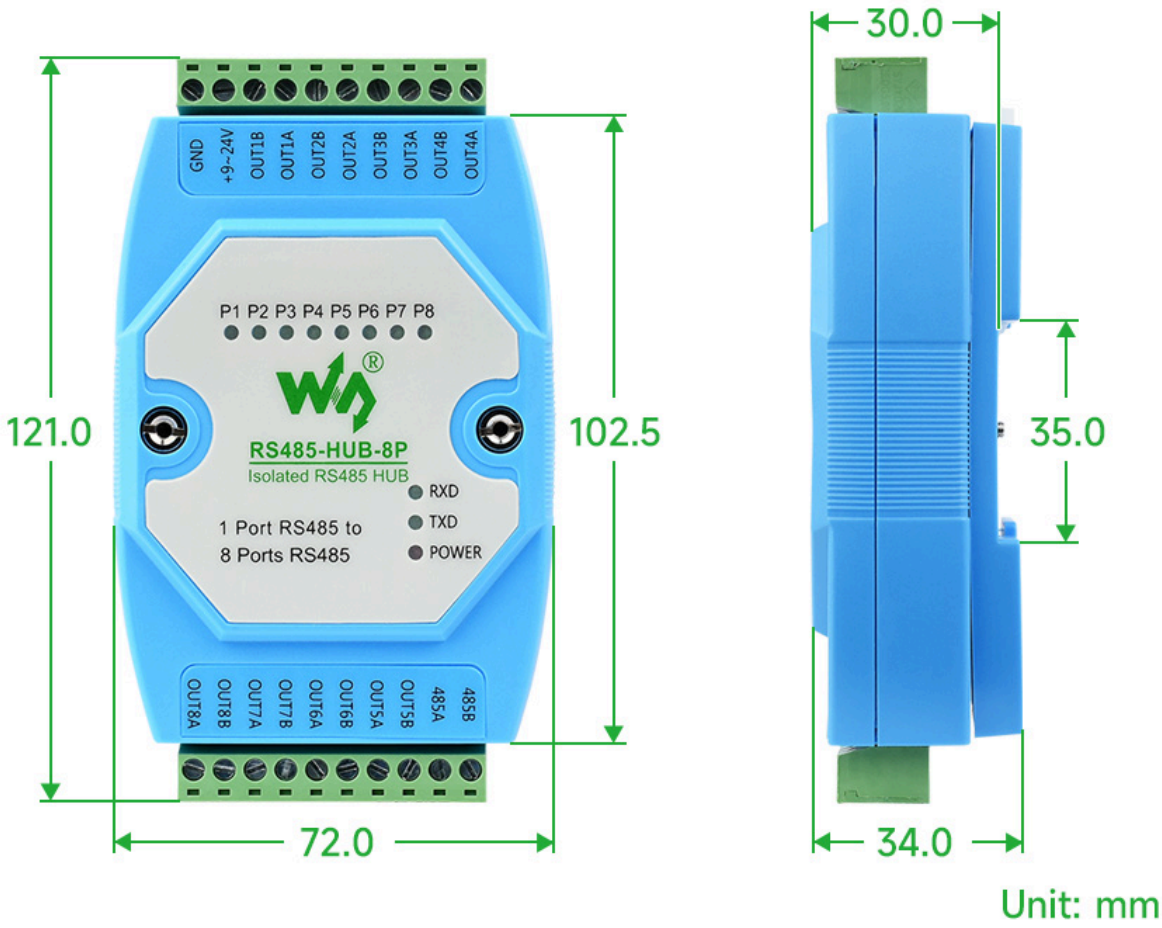
When the RS485 cable exceeds a long distance such as 1200 meters, the signal will be attenuated and interference will increase. By using RS485-HUB-8P, the communication distance can be extended.

Hardware Connection Diagram



(/wiki/File:RS485-HUB-8P_9.jpg)

Outline Dimensions



(/wiki/File:RS485-hub-8p-91.jpg)

FAQ

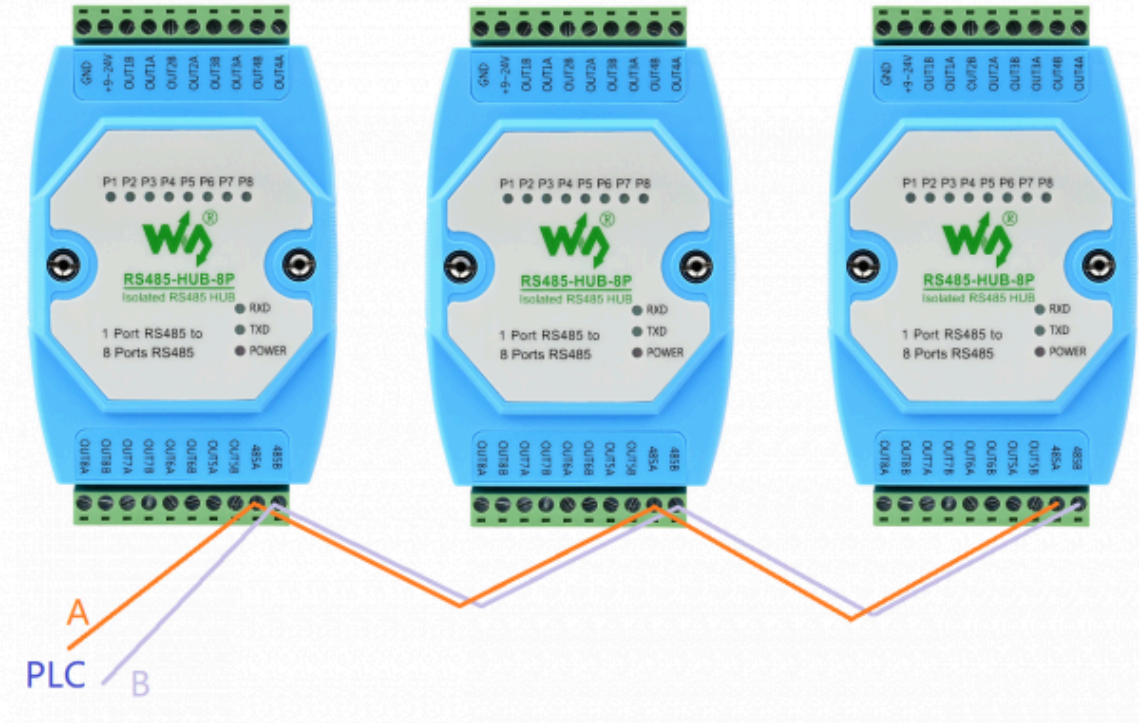
Question: How to connect multiple RS485-HUB-8P to the same RS485 interface of a device?

Answer:

It is a one-host-eight-slave device, purely hardware wiring. Three prerequisites need to be met:

- Consistent serial port parameters;
- The communication protocol is half-duplex, with a question-and-answer format, such as the Modbus RTU protocol;
- Different device addresses. The RS485 slave port can connect 7 to 1 RS485 device, or it can be connected to a single RS485 bus.
- The scan cycle time set by the program cannot be too short. Adjust the time as long as possible to ensure that it has sufficient response time.

- Do not connect to the host's 485 interface side by side. Use handshake cascade connection, as shown in the figure below:



(/wiki/File:RS485-HUB-8P_faq.png)

Question: We purchased RS485-HUB-8P, can you send us its protocol?

Answer:

- The device is mainly an external device for the physical layer and does not involve specific communication protocols, but rather ensures that the electrical characteristics of the RS485 standard are supported at the hardware level, such as differential signal transmission, multipoint communication, etc.
- The device itself does not contain any features that can change the role of the device or control the communication protocol, it is just a transparent transmitter of the signals.

Question: What is the power of RS485-HUB-8P?

Answer:

It is powered by 12V, with a no-load current of 0.03A and 0.36W.

Support

Technical Support

If you need technical support or have any feedback/review, please click the **Submit Now** button to submit a ticket, Our support team will check and reply to you within 1 to 2 working days. Please be patient as we make every effort to help you to resolve the issue.
Working Time: 9 AM - 6 PM GMT+8 (Monday to Friday)

Submit Now (https://service.waveshare.com/)

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