Industrial Grade RS485 Repeater
FIT0772

Product Overview
11-17-2022
For the most up-to-date information, visit www.mouser.com or the supplier's website.
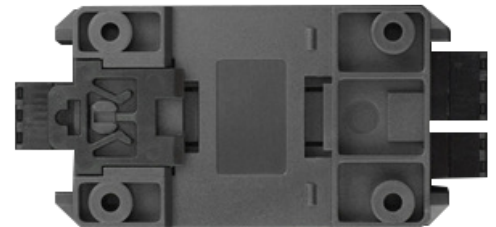
Description

DFRobot Industrial Grade RS485 Repeater is an industrial-grade high-performance RS485 photoelectric isolation repeater that converts one-way RS485 to one-way RS485. This repeater is compatible with EIA/TIA RS485 standard and features asynchronous half-duplex, two-way communication, and complete transparent data transmission. The RS485 repeater can realize RS485 signal amplification and extend bus network communication distance to up to 1200m (Baud rate 9600bps). This repeater supports a maximum connection of 128 nodes (the 485 devices), the branch length between nodes is not more than 10 meters, and the maximum bus length is not more than 1200 meters. The hand-in-hand bus connection mode is adopted between nodes, and fork and star connections are not allowed.

Applications include signal acquisition and control of industrial field equipment, industrial automation, power acquisition, security monitoring, building intercom, highway toll collection, Swipe Card Door Entry Systems, PLC, parking lot system, and MODBUS.

Single Repeater: For point-to-point, the repeater can connect with one 485 output device. The repeater can also extend the communication distance to 1200m. For point-to-multipoint, the repeater can connect thirty-two 485 output devices. The distance between the adjacent 485 devices cannot be more than 10 meters and the total length of the bus is extended to 1200 meters.

Parallel Connection: It supports up to sixteen 485 repeaters connected to the same 485 input device and supports a total of 128 devices at the same time.

Cascade (tree topology): Connect umpteen 485 repeaters, extend the RS485 communication distance indefinitely, and support a total of 128 devices.

Specifications

- Interface standard:
  - RS485 connector compatible with EIA/TIA
- Baud Rate:
  - 0~115200bps (self-adaptive)
- Communication protocol:
  - Not restricted by the software protocol
- Communication distance:
  - One repeater extends 1200m (@ 9600bps)
- Cascade:
  - RS485 terminal can cascade up to 128 enhanced RS485 devices
- Supported nodes:
  - A single RS485 interface supports a maximum of 32 nodes (the distance between nodes must be ≤10m)
- Working voltage:
  - DC 9V~24V, active design, with anti-reverse protection
- 0.6W power consumption in the static state
- -20°C ~ +70°C working temperature range
- -40°C ~ +85°C storage temperature range
- 5% to 95% relative humidity
- Transmission medium:
  - Twisted pair or shielded wire
- Installation method:
  - 35mm DIN rails
- Size:
  - 109*60*33mm/4.29*2.36*1.30" (L*W*H overall size)

Applications

- Signal acquisition and control of industrial field equipment
- Industrial automation
- Power acquisition
- Security monitoring
- Building intercom
- Highway toll collection
- Swipe card door entry systems
- PLC
- Parking lot system
- MODBUS

Port Description

Function	Name	Description
Input	A+	Positive signal of RS485 input end
	B-	Negative signal of RS486 input end
	GND	RS485 input end ground
Indicator	RXD	Data receiving indicator of the input end
	TXD	Data transmitting indicator of the input end
	PWR	Power Indicator
Output	A+	Positive signal of RS485 output end
	B-	Negative signal of RS486 output end
	GND	RS485 output end ground
Power	24V+	DC 24V Power+
	GND	DC 24V Power-
Power Socket	DC-005	12V/1A, 5.5/2.1mm Adapter

Mouser Part Number

View Part

To learn more, visit
https://www.mouser.com/new/dfrobot/dfrobot-fit0772-industrial-grade-rs485-repeater/