



RECOMMENDED POWER SUPPLY
 12V OR 24V / 40W, DIN-RAIL, SLIM
 MODEL: CF-MDR-40-12 OR CF-MDR-40-24

Industrial RS-485 ⇔ 8x RS-485
Opto-isolated Hub/Splitter/Repeater
(Part Number: HUB-485-8)

CE FC



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Industrial RS-485 ⇔ 8x RS-485 Isolated Converter

Part Number: HUB-485-8 (DIN-Rail/Wall-Mount)



■ **INTRODUCTION**

The HUB-485-8 is a rugged, industrial-grade, optically-isolated, 8-port RS-485 Hub/Splitter/Repeater, which can be used to expand 2-wire RS-485 networks by splitting one RS-485 network into eight, in turn increasing the maximum number of nodes and the distance covered by an RS-485 network. The unit was designed so that data coming from the input will transmit to all eight loops of RS-485 networks. However, each loop of RS-485 devices will transmit data back to the input only, thus reducing any possible interference between each loop of the RS-485 devices. Also, the failure of any individual loop will not affect other loops, making the RS-485 networks more robust and reliable. The product features opto-isolation circuitry, which effectively protects your RS-485 devices from ground loops, transient surges, remote lightning and spikes. Opto-isolation also eliminates ground loop and noise problems. The unit supports data rates up to 115,200 bps and features data format auto-sensing and self-adjusting; therefore, no DIP switch or jumpers are required.

■ **FEATURES**

- Industrial grade enclosed in a rugged, rustless ABS housing.
- Direct DIN-Rail or wall/panel mounting without using any unsecured brackets or adapters.
- Expands 2-wire RS-485 networks by splitting one RS-485 network into eight, thus making star-wiring possible for RS-485 networks.
- The failure of any individual loop will not affect the others, making the RS-485 network more robust and reliable.
- Optical isolation effectively protects RS-485 devices from ground loops, transient surges, remote lightning and spikes; it also eliminates ground loop and noise problems.
- Supports up to 1,024 (8x 128) nodes of RS-485 devices.
- Supports data rates up to 115,200bps.
- Data direction auto-turnaround, no software drivers or flow control is required.
- Plug and play (hot-pluggable, data format auto-sensing and self-adjusting).
- Operating temperature: -40°F to 185°F (-40°C to 85°C).
- Built-in 600W surge protection, 15kV static protection and circuit protection.
- Surface Mount Technology manufactured to RoHS and ISO-9001 standards.
- Safety: CE/FCC compliant.
- 5-year manufacturer's warranty.

■ **SPECIFICATIONS**

Compatibility:	EIA/TIA RS-485 standards
Power Source:	9 to 60VDC (External AC to DC power adapter included)
External AC/DC Power Adapter:	12VDC/1000mA (Input: 100~240VAC 50/60Hz, US type A plug)
Current Consumption:	Less than 30mA
Optical Isolation:	2,500Vrms (AC, 1 min)
Data Rates:	300 to 115,200bps (auto-sensing and self-adjusting)
Distances:	RS-485: up to 4,000ft (1.2km) at 19,200bps
Connectors:	2x 10-way Terminal Block
Number of Maximum Nodes:	Input: 1; Output: 8x 128 nodes;
Surge Protection:	600W
Static Protection (ESD):	Up to 15kV
Dimensions (H x W x D):	4.9 x 3.6 x 0.9 in (125 x 73 x 33 mm)
Weight:	4.9 oz (140 g) (with terminal blocks)
Operating Temperature:	-40°F to 185°F (-40°C to 85°C)
Operating Humidity:	Up to 90% RH (no condensation)

PIN ASSIGNMENT

Terminal Block 1 (Top):

Pin:	A5-	B5-	A6+	B6-	A7+	B7-	A8+	B8-	RS485-	RS485+
Output:	5		6		7		8		Input	
Signal:	485+	485-	485+	485-	485+	485-	485+	485-	485+	485-

Terminal Block 2 (Bottom):

Pin:	A1+	B1-	A2+	B2-	A3+	B3-	A4+	B4-	9-60VDC	GND
Output:	1		2		3		4		DC Input	
Signal:	485+	485-	485+	485-	485+	485-	485+	485-	DC+	DC GND

CONNECTIONS

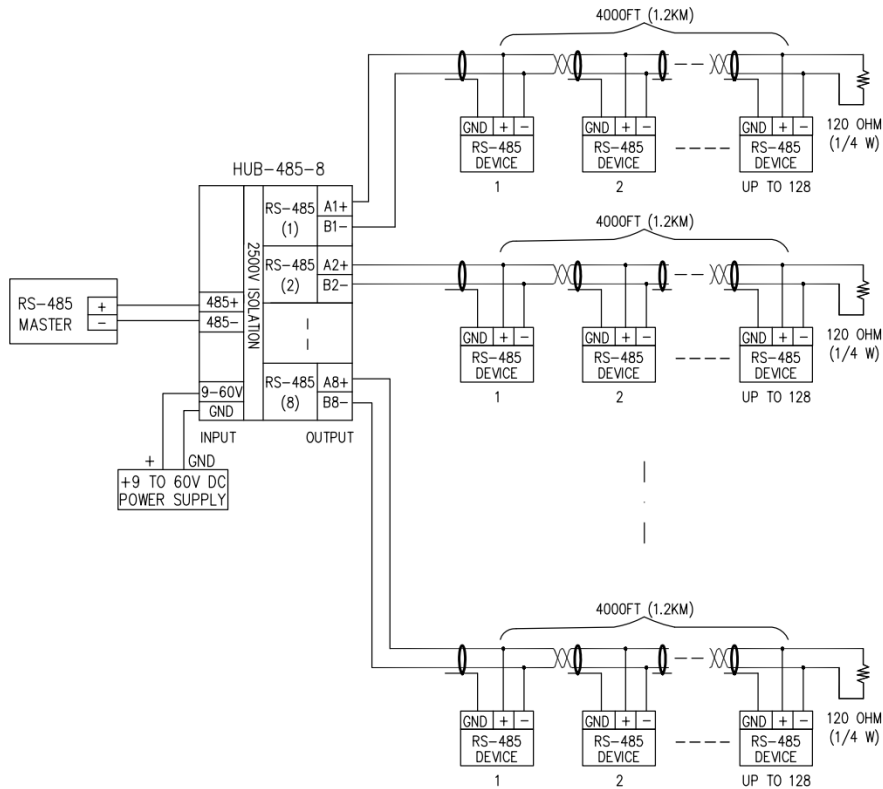


FIGURE 1: HUB-485-8 CONNECTION DIAGRAM

LED INDICATORS

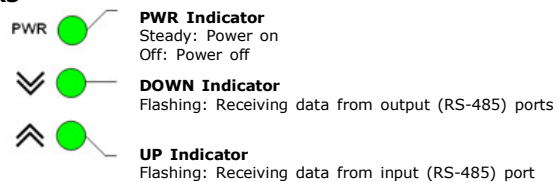


FIGURE 2: LED INDICATORS

INSTALLATIONS

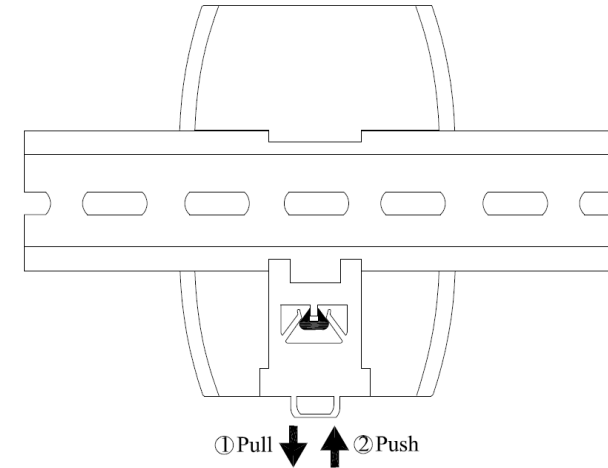


FIGURE 3: DIN-RAIL MOUNTING

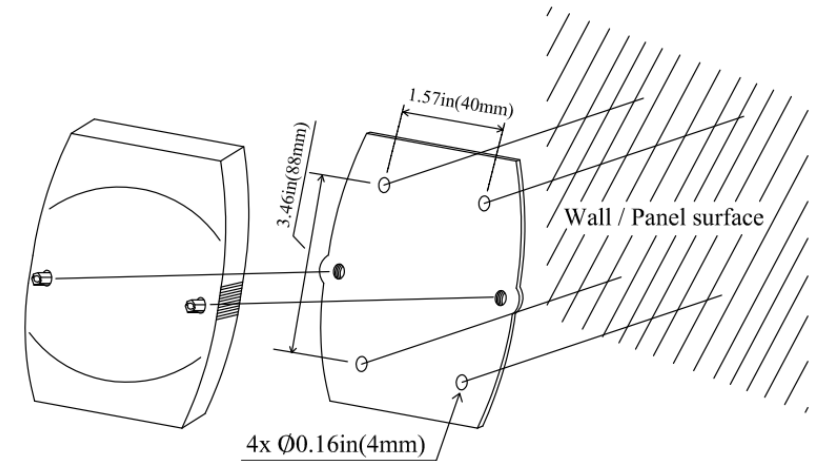


FIGURE 4: WALL/PANEL MOUNTING

TROUBLESHOOTING

- Make sure the power is connected and turned on.
- Check the connections according to the above "CONNECTIONS" diagram.
- Perform a loopback test by using CommFront's 232Analyzer software: Connect one of your PC's RS-485 ports to the input of HUB-485-8. Then connect another RS-485 port from your PC to one of the HUB-485-8's RS-485 outputs. Send a command from one COM port, and you should receive an echo of the command sent on the other COM port. By performing a simple loopback test like this, you can test both the transmitter and receiver of the converter. This is very helpful when you are in doubt about the performance of your converter.