



ROCKET *LINX* MC5001
Industrial Serial to Fiber Media Converter

Quick Installation Guide



Introduction

The RocketLinx MC5001 is a serial to fiber media converter with an RS-232/422/485 port with auto sensing baud rate and direction control functions. It extends the distance of serial communication to 5KM (MC5001, Multi-Mode) or 40KM (MC5001, Single-Mode) and also provides good immunity for EMI/EMC. The RocketLinx MC5001 supports 15KV ESD protection on the serial line. It also features a wide power input range (12-48VDC/12-32VAC) and DIN rail mounting for quick and easy installation.

Package Checklist

- ▶ MC5001 Industrial serial to fiber media converter
- ▶ Quick installation guide
- ▶ DIN rail mount kit

Mounting the RocketLinx MC5001

DIN Rail mount: screw on the DIN rail mounting clips with the four screws and mount MC5001 on the DIN Rail.

Grounding the RocketLinx MC5001

There is one earth grounding pole included on the power input connector. Connect the earth ground of the MC5001 to ensure system safety and to prevent noise.

Wiring the Power Inputs

1. Insert the positive and negative wires into the V+ and V- contacts on the terminal block connector.
2. Tighten the wire-clamp screws to prevent the power wires from being loosened.



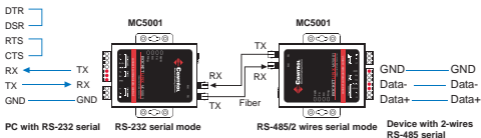
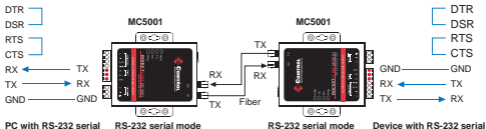
Note: The recommended working voltage is 24VDC (12-48VDC) or 24VAC (12-32VAC) with polarity reverse protection.

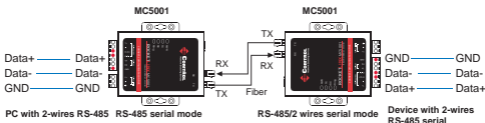
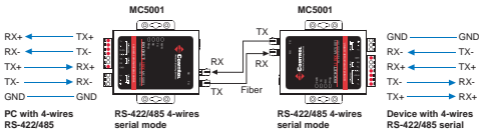
Connecting to serial line

The MC5001 provides triple mode circuits for RS-232/422/485 2/4-wires and extends these signals to 5KM or 40KM by optical fiber cable. The converter operating architecture can also be configured as a PTP (Peer to Peer) or SFR (Serial Fiber Ring) to enlarge the serial communication infrastructure and link additional MC5001s.

To ensure the quality of the serial line signal, the MC5001 provides two termination resistors for the RS-422/485 TX and RX signal by using the DIP switch enable/disable option. Refer to the DIP switch setting table for more information.

The following diagram illustrates different serial connectivity options:



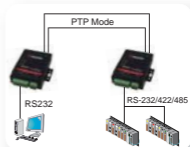


Connecting the Optical Fiber

The Fiber Optical link architecture supports PTP and SFR mode for different purposes.

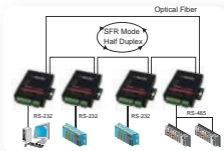
PTP Mode (Peer to Peer)

The PTP (Peer to Peer) mode provides connection between 2 nodes. When working in this mode, the MC5001 can transmit and receive data at the same time, which means the MC5001 is working at full-duplex mode.



SFR Mode (Serial Fiber Ring)

To extend the transmission distance and to save fiber cable cost, the MC5001s can link to each other in a ring architecture. In this mode the MC5001 only provides half-duplex transmission and all data communication is controlled by the host device. The maximum number of communication nodes is 20.



The table below illustrates fiber transceiver specifications.

Model	Fiber Cable (um)	Connector	Wavelength(um)	TXPwr (Min)	TxPwr (Max)	RxPwr (Min)	RxPwr (Max)	LinkBudg(dBm)	Distance(km)
MC5001 Multi Mode	Multi-mode 50~62.5/125	ST	820nm	-12dBm	-9dBm	-28dBm	N/A	16dBm	5km
MC5001 Single Mode	Single-mode 8~10/125	ST	1310nm	-9dBm	-8dBm	-27dBm	N/A	18dBm	40km

TxPwr(Min):Minimum Launch Power

TxPwr(Max):Maximum Launch Power

RxPwr(Min):Maximum Receive Sensitivity

RxPwr(Max):Minimum Receive Sensitivity

Link Budget=Minimum Launch Power –Maximum Receive Sensitivity

Note: To ensure fiber converter transmission/reception of data between nodes, the attenuation of the optical fiber cable should not exceed the fiber converter's Link Budget.

DIP Switch Setting

Function	DIP Switch 1	DIP Switch 2
RS-422/4 wires (Default)	OFF (Default)	OFF (Default)
RS-485/4 wires	OFF	OFF
RS-485/2 wires	OFF	ON
RS-232	ON	OFF

Function	DIP Switch	Switch position
120 Ohm Terminator (RX)	Switch 3	Off (Disable)/On (Enable), Default off
120 Ohm Terminator (TX)	Switch 4	Off (Disable)/On (Enable), Default off
Point to Point /Serial Ring	Switch 5	Off (PTP)/On (SFR), Default off (PTP)

Note: After adjusting the DIP-switch, reboot the unit to activate the new settings.

LED Functions

LED	Function
PWR	Lit when the MC5001 is properly powered up and the status of the unit is OK.
TX	Lit when transmitting data.
RX	Lit when receiving data.
Ring	Lit when operating in SFR mode.

Control Customer Service

Contact Method	Web Address or Phone Number
Support	http://www.control.com/pub/en/support
Downloads	ftp://ftp.control.com/html/default.htm
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