



A Beijer Electronics Group Company

JetCon 2401 Industrial Serial to Fiber Media Converter Quick Installation Guide V1.3

Overview

JetCon 2401 is a Multi-serial to fiber media converter which has RS-232/RS-422/RS-485 triple mode circuits with auto baud rate and direction control functions. It extends the distance of serial communication to 5KM (JetCon 2401-m Multi-mode Optical Fiber) or 40KM (JetCon 2401-s Single-mode Optical Fiber) and also provides good immunity of EMI/EMS. For the ESD protection, JetCon 2401 also passed the 15KV ESD testing on serial line.

To ensure nonstop transmission in hazardous environment, JetCon 2401 supports wide operating temperature range, -20~70°C model (JetCon 2401) and -40~70°C model (JetCon 2401-w). Further more, JetCon 2401 supports wide range power input (DC/AC) and DIN rail mount for quick and easy installation.

Package Check List

- ▶ JetCon 2401 Industrial serial to fiber media Converter
- ▶ Quick Installation Guide
- ▶ DIN rail mount kits



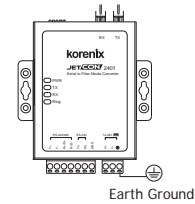
Installation

Mounting the Unit

- ▶ Din-Rail mount: screw up the DIN rail mount kit with 4 screws and mount JetCon 2401 on the DIN Rail.

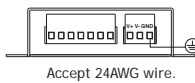
Grounding JetCon 2401

There is one earth grounding pole include in power-input connector. Connect the earth grounding of JetCon 2401 which is within power-input terminal block to ensure system safety and prevent noise to interfere communication.



Wiring the Power Inputs

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

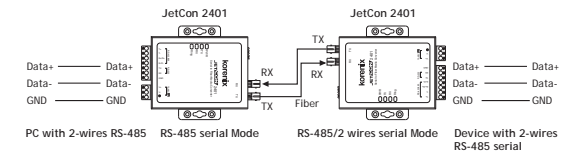
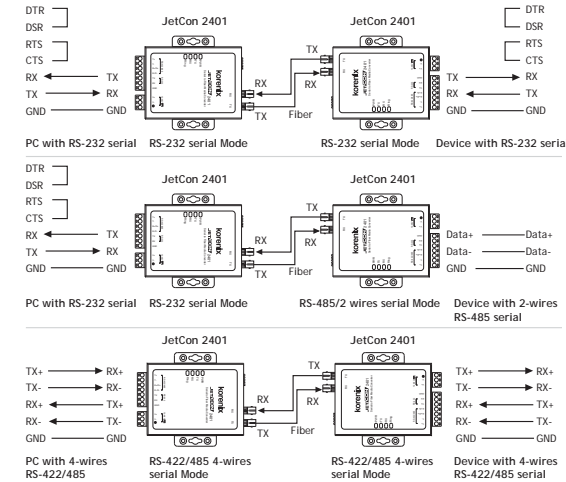


Notes: The recommended working voltage is DC24V (DC12- 48 V) or AC24V (AC 12-32V) with polarity reverse protection.

Connecting to serial line

The JetCon 2401 provides triple mode circuits for RS-232/RS-422/RS-485 2/4-wires and extend these signals to 5KM or 40KM by optical fiber cable. The converter operating architecture can also configure as a PTP (Peer to Peer) or SFR (Serial Fiber Ring) to enlarge

the serial communication infrastructure and link more JetCon 2401. To ensure the quality of serial line signal, JetCon 2401 provides 2 termination resistors for the RS-422/485 TX and RX signal by DIP switch enabled/Disable. About the DIP Switch setting, please refer to DIP Switch setting table. The following information will show the different serial signal connectivities for your reference.

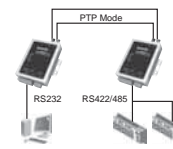


Connecting the Optical Fiber

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

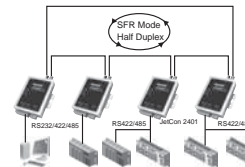
1. PTP Mode (Peer to Peer)

The PTP (Peer to Peer) mode provides connection between 2 nodes. When working on this mode, JetCon 2401 can transmit data and receive it at same time, which means JetCon 2401 is working at full duplex mode.



2. SFR Mode (Serial Fiber Ring)

To extend the transmission distance and to save the fiber cable cost, JetCon 2401 can link to each other as a ring architecture, in this mode JetCon 2401 only provides half duplex transmission and all of data communication is controlled by the host device. The maximum of communication nodes can up to 20.



The table below illustrates fiber transceiver specifications

Modal	Fiber (um)	Connector	Wavelength(um)	TxPwr (Min)	TxPwr (Max)	RxPwr (Min)	RxPwr (Max)	LinkBudg(dBm)	Distance(km)
JetCon 2401-m	Multi-mode 90-62.5/125	ST	820nm	-12dBm	-9dBm	-28dBm	N/A	16dBm	5KM
JetCon 2401-S	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 your fiber converter transmission/receiving of data between the 2 nodes, the attenuation of the optical fiber cable should be smaller than the fiber converter's Link Budget.

JetCon 2401 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, please reboot the unit to activate the new settings.

Support

5 Years Warranty

Each of Korenix's product line is designed, produced, and tested with high industrial standard. Korenix warrants that the Product(s) shall be free from defects in materials and workmanship for a period of five (5) years from the date of delivery provided that the Product was properly installed and used.

This warranty is voided if defects, malfunctions or failures of the warranted Product are caused by damage resulting from force measure (such as floods, fire, etc.), other external forces such as power disturbances, over spec power input, or incorrect cabling; or the warranted Product is misused, abused, or operated, altered and repaired in an unauthorized or improper way.

Attention! To avoid system damage caused by sparks, please DO NOT plug in power connector when power is on.

The product is in compliance with Directive 2002/95/EC and 2011/65/EU of the European Parliament and of the Council of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronics equipment (RoHS Directives & RoHS 2.0)

Korenix Customer Service

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导言

JetCon 2401 是一款三合一串口转光纤信号转换器。JetCon 2401 支持RS-232/RS-422/RS-485多种串口界面，支持自适应速率及数据流向自动控制。JetCon 2401 将串行信号转换成光纤信号，串行信号的传输距离扩大到5KM (JetCon 2401-m 多模光纤)或40KM (JetCon 2401-s 单模光纤)，并具有很强的抗EMI/EMS电磁干扰的特性。JetCon 2401 还通过了串口15KV ESD浪涌保护测试。为了保证在恶劣环境下数据通讯的可靠性，JetCon 2401 支持宽温的工作温度 -20~70°C (JetCon 2401)，或者：-40~70°C (JetCon 2401-w)。此外，JetCon 2401 还支持较宽的(DC/AC)电源输入范围，及三种安装模式：桌面、壁挂和导轨安装。

产品清单

- ▶ JetCon 2401 工业级串口转光纤信号转换器
- ▶ 快速安装向导
- ▶ 导轨安装配件



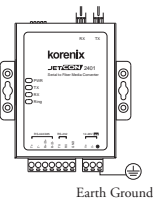
安装

安装配件

- ▶ 导轨安装: 用4颗螺丝将JetCon 2401的耳翼固定在墙上。

JetCon 2401接地

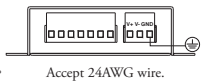
在JetCon 2401 的电源输入端子处有一个地线接地端子。将JetCon 2401 的电源接线端子中的地线接地，使设备免受噪声干扰。设备未接地，因自然因素造成损害，将不予以修复。



连接电源线

1. 将电源的正负极接入电源接线端子的V+ 和 V- 接头。
2. 拧紧螺丝，防止电源线脱落。

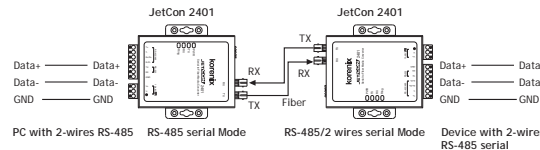
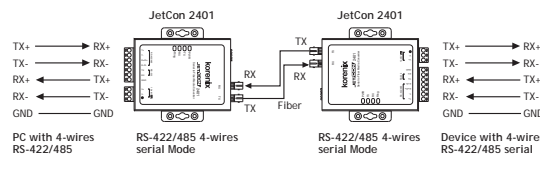
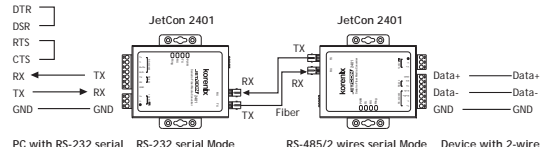
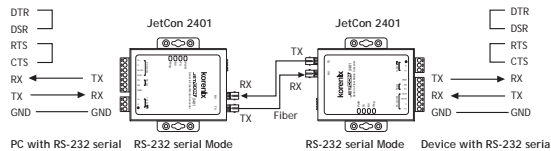
注意：JetCon 2401 的工作电压是DC24V (DC12-48 V) 或者 AC24V (AC 12-32V)，并具备正负极性反接保护。



连接串口

JetCon 2401 提供多种串口通讯模式，包括RS-232/RS-422/RS-485 2/4-wires，将串行信号透过光纤将通讯距离延长到5KM 或 40KM，转换器的操作模式还可以设置为 PTP (Peer to Peer) 或者SFR (Serial Fiber Ring) 模式，可扩大串行通讯的覆盖面积连接更多的JetCon 2401。

为保障串行信号通讯质量，JetCon 2401 为RS-422/485的TX和RX端提供2个终端电阻，可透过Dip拨码开关该电阻。关于DIP拨码开关的设置，请参看DIP Switch设定表。下面的图示，为大家列出不同的串口信号线连接模式。

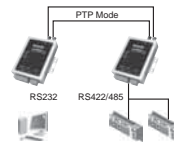


连接光纤口

光纤连接支持PTP 和SFR两种模式满足不同需求。

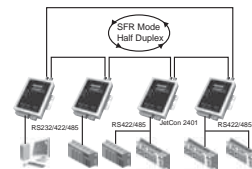
1. PTP Mode (Peer to Peer)

营运PTP (Peer to Peer)模式的转换器，支持点到点的连接模式。这样JetCon 2401支持同时发送和接收数据，这意味着JetCon 2401可以在全双工模式下工作。



2. SFR Mode (Serial Fiber Ring)

为了扩大传输距离，并要节省线材成本，JetCon 2401可以连接成一个环类架构。在这种模式下，JetCon 2401只支持半双工传输模式，而且数据传输都需要透过主机来控制。该模式支持的最大节点数是20个。



下表列明了光纤收发器的规格

Modal	Fiber (um)	Connector	Wavelength(um)	TxPwr (Min)	TxPwr (Max)	RxPwr (Min)	RxPwr (Max)	LinkBudg(dBm)	Distance(km)
JetCon 2401-m	Multi-mode 50-62.5/125	ST	820nm	-12dBm	-9dBm	-8dBm	N/A	16dBm	5KM
JetCon 2401-s	Single-mode 8-10/125	ST	1310nm	-9dBm	-8dBm	-7dBm	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

注意: 为了确保光纤转换器能够在两个节点之间正常收发数据，光纤线材的信号衰减需要比转换器的定义的衰减更小。

JetCon 2401 DIP Switch设置

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
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Point to Point /Serial Ring	Switch 5	Off (PTP)/On (SFR), Default off (PTP)

注意: 调整DIP-switch以后，需要重启设备使设置生效。

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注意! 请勿于电源开启时插拔接线端子，以避免产生火花造成系统损坏。

此产品保证完全符合欧盟2003年1月27日电气和电子设备有害物质限制委员会所提出的限用指令2002/95/EC(ROHS禁令)及2011/65/EU(RoHS 2.0)。

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 官网: www.korenix.com.cn

Korenix Technology Co., Ltd.

(A Beijer Electronics Group Company)

Tel: +886-2-89111000
 Fax: +886-2-29123328

Business service: sales@korenix.com
 Customer service: koreCARE@korenix.com
 www.korenix.com
 CPQ000V2401003

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