korenix

JetCon 1100 / 1200

USB to Serial Converter series

User's Manual

Version 1.0

korenix

www.korenix.com

korenix

JetCon 1100 / JetCon 1200
User's Manual

Copyright Notice

Declaration of CE

This product has passed the CE certification for environmental specifications.   Test conditions for passing included the equipment being operated within an industrial enclosure. In order to protect the product from being damaged by ESD (Electrostatic Discharge) and EMI leakage, we strongly recommend the use of CE-compliant industrial enclosure products.

Federal Communications Commission (FCC) Statement

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his expense.

The user is cautioned that changes and modifications made to the equipment without approval of the manufacturer could void the user's authority to operate this equipment.

Index

1 <u>Introduction</u>

Welcome to Korenix JetCon 1100 and JetCon 1200 USB to Serial Converter series. Following topics are covered in this chapter:

1.1 Overview

1.2 Major Features

1.3 Package Checklist

1.1 Overview

The JetCon 1100 and JetCon 1200 series provides USB to serial communicate ability with RS-232 (JetCon 1100) and RS-422/ RS-485 (JetCon 1200) serial modes. It also provides 15KV ESD protection for Human Body Cotact Mode and Insulation protection for some extereme application environment, such as medical application. The JetCon 1100 series support RS-232 serial interface from 1 port to 4 ports in standard DB-9 connector for different JetCon 110x model; and the JetCon 1200 series support RS-422/ RS485 serial mode in removable terminal block connector.

Both of product line supports several of operating system; it includes Microsoft windows system, Macintosh System and Linux System. To learning and use it, please read the QIG and user manual before apply the converter.

1.2 Major Features

The major features are listed in below, and some features only presented for special model:

JetCon 1100 Series

■ USB / RS-232 DTE and DCE Connection

■ RS-232 with Hand-Shaking function

■ USB 1.1/1.2/2.0 compatible

■ 921.6 Kbps High Speed Serial

■ 12~480Mbps USB Data Throughput

■ 15KV Human Body ESD protection

■ 5KV Isolation for Medical Electrical Equipment (**JetCon 1101i-5KV**)

■ -30~75°C wide operating temperature

JetCon 1200 Series

■ USB to RS_485 /RS_422 Serial Converter

■ USB 1.1/1.2/2.0 compatible

■ 921.6 Kbps High Speed Serial

■ 12Mbps USB Data Throughput

- Build-in 120 Ω Line Terminator
- 32 x RS-485 devices connection
- 15KV Human Body ESD protection
- 3KV isolation, 600W Serial Port surge protection (**JetCon 1201i-3KV**)
- -30~75°C wide operating temperature

The detail spec is listed in Session- 4 Appendix

Note-1: those certifications are pending for special project request, please contact your sales widnow.

1.3 Package List

Korenix JetCon 1100/ JetCon 1200 Series are shipped with following items:

- JetCon 1100 USB/ Serial RS-232 or JetCon 1200 USB/ Serial RS422/485 Converter
- One Mini-USB female to USB female cable
- Quick Installation Guide
- One CD-ROM with User manual and Drivers.

| JetCon 1101/1101i-5KV | JetCon 1102 | JetCon 1104 | JetCon 1201/1201i-3KV | USB to MINI USB Cable | CD User Manual |

If any of the above items is missing or damaged, please contact your local sales representative.

korenix

2 <u>Hardware Installation</u>

This chapter includes hardware introduction, installation and configuration information. Following topics are covered in this chapter:

2.1 Hardware Introduction
  Model Description
  Dimension
  Panel Layout

2.2 Wiring to Serial Device and Host Computer
  Connectting USB interface
  Connecting RS-232 (JetCon 1100 series)
 Connecting RS-422 / RS-485 (JetCon 1200 series)

2.1   Hardware Introduction

This session will present different model with dimension and panel/bottom layout for the further install and configuration.

Model Name and function description

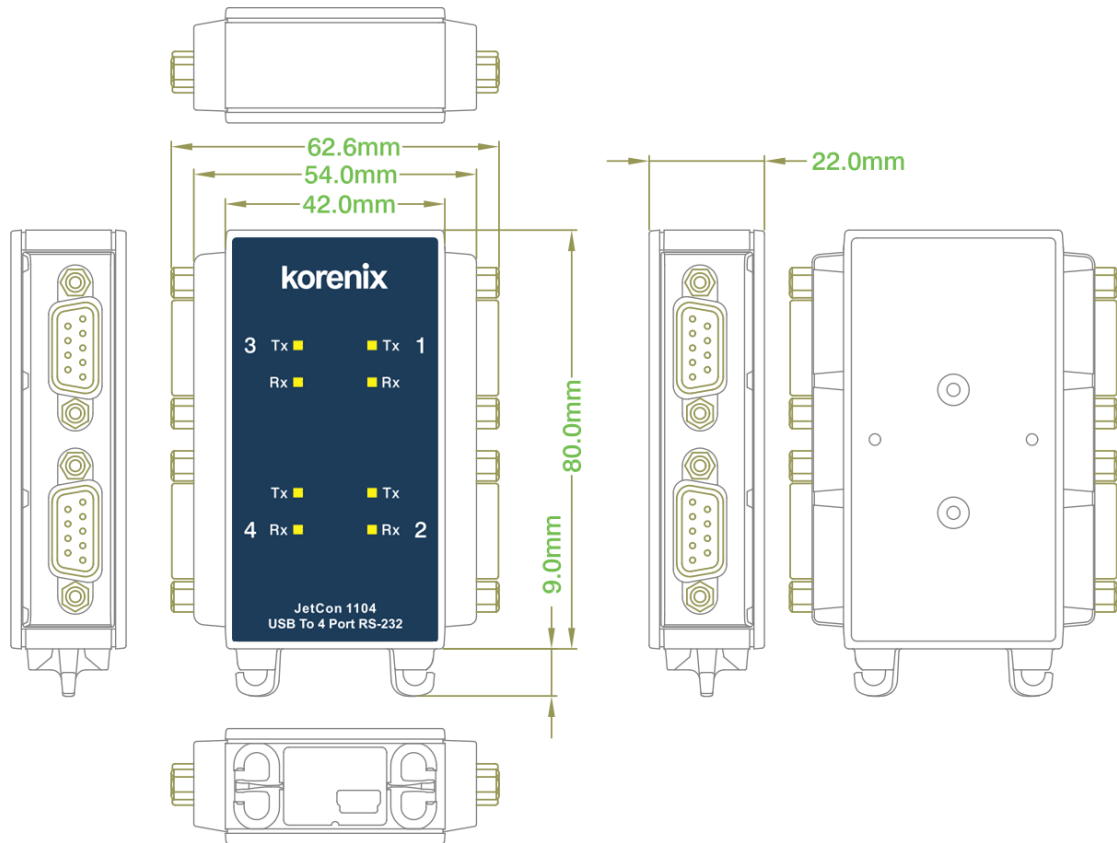| Model Name	Product Description	USB Port	Serial Port	ESD / Insulation Protect
JetCon 1101	USB to 1-Port RS-232 Serial	V1.1/ 1.2/ 2.0 12Mbps	1 x 921.6Kbps	15KV ESD
JetCon 1101i-5kv	USB to 1-Port RS-232 Serial	V1.1/ 1.2/ 2.0 12Mbps	1 x 921.6Kbps	15KV ESD/ 5KV Isolation
JetCon 1102	USB to 2-Port RS-232 Serial	V1.1/ 1.2/ 2.0 480Mbps	2 x 921.6Kbps	15KV ESD
JetCon 1104	USB to 4-Port RS-232 Serial	V1.1/ 1.2/ 2.0 480Mbps	4 x 921.6Kbps	15KV ESD
JetCon 1201	USB to 1-Port RS-422/485 Serial	V1.1/ 1.2/ 2.0 12Mbps	1 x 921.6Kbps	15KV ESD
JetCon 1201i-3kv	USB to 1-Port RS-422/485 Serial	V1.1/ 1.2/ 2.0 12Mbps	1 x 921.6Kbps	15KV ESD/ 3KV Isolation

JetCon 1101 / JetCon 1101i-5KV dimension is: 80 (H) x 42 (W) x 22 (D) / without DIN Rail Clip
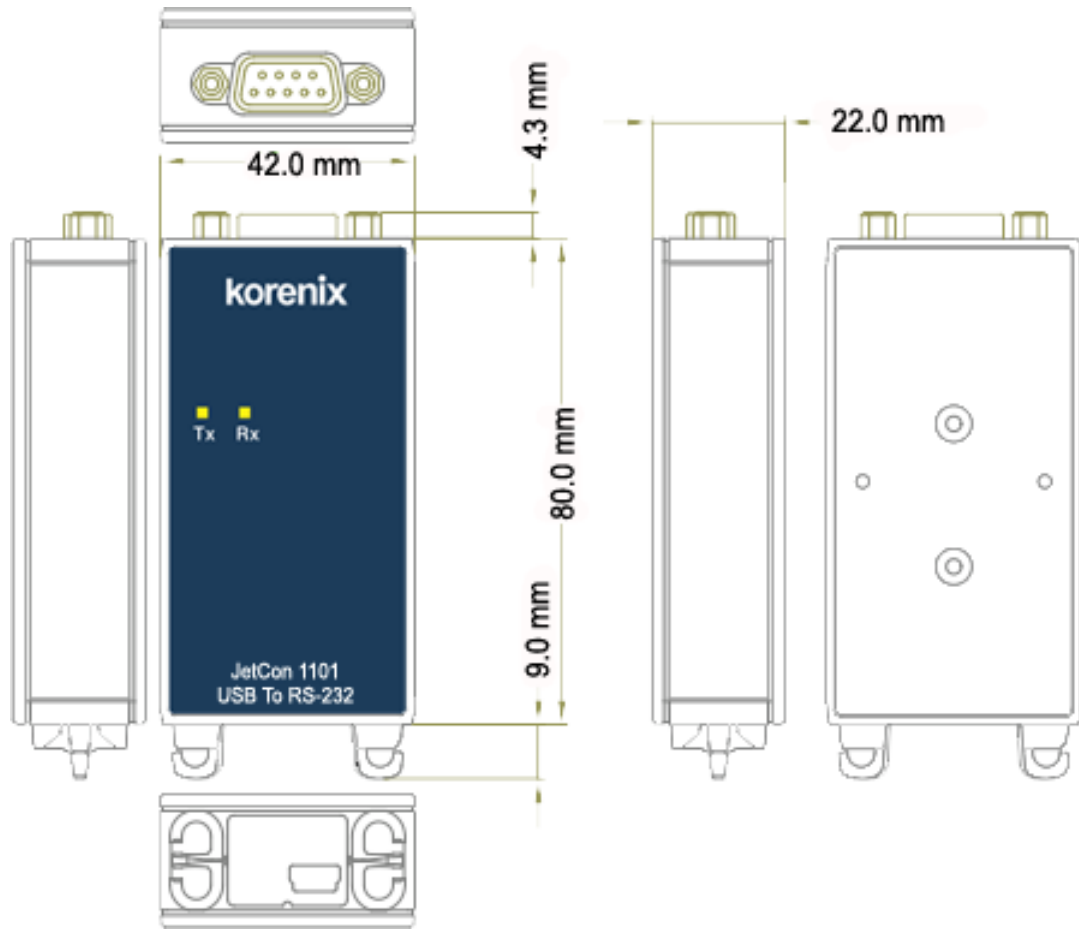
JetCon 1102 dimension is: 89mm (H) x 58.3mm (W) x 22mm (D) / without DIN Rail Clip
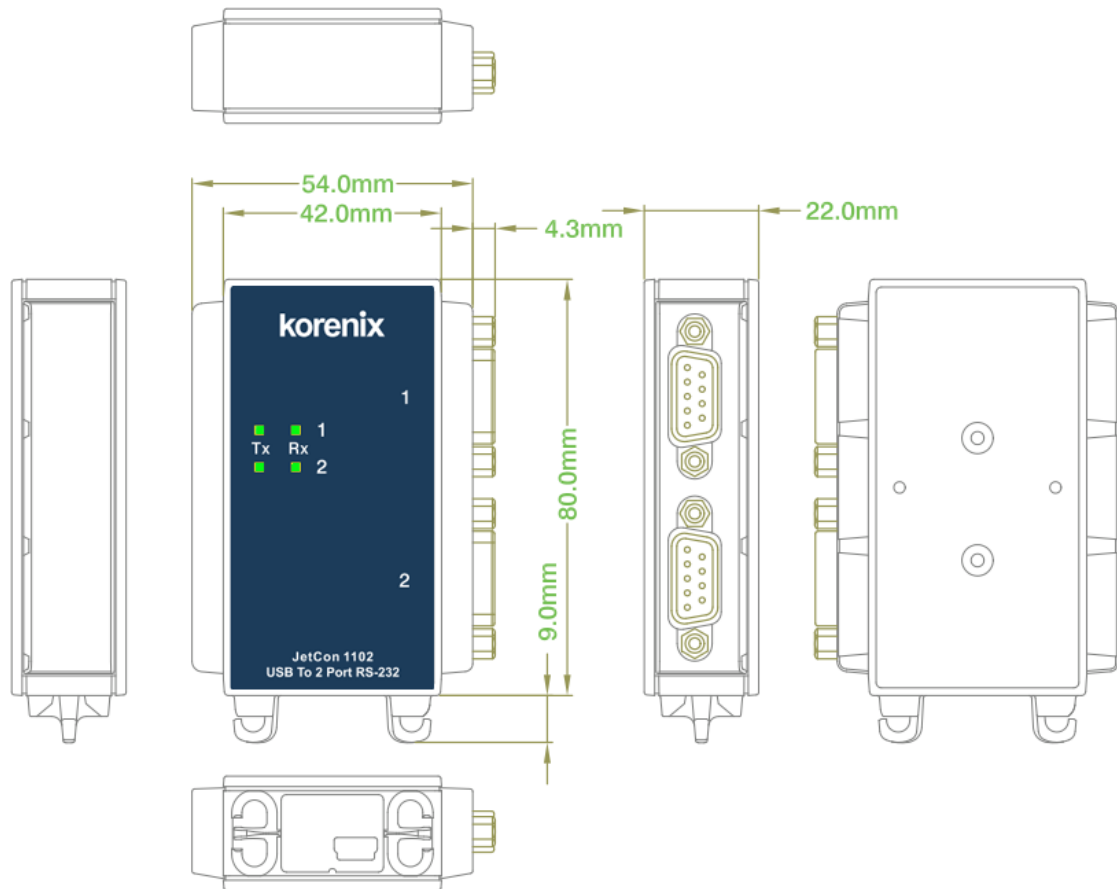
JetCon 1104 dimension is: 89mm (H) x 62.6 mm (W) x 22 mm (D) w/o DIN Rail Clip

JetCon 1201 / JetCon 1201i-3KV dimension is: 89mm (H) x 62.6 mm (W) x 22 mm (D) w/o DIN Rail Clip

RS-	5	4	3	2	1
422	SG	Rx-	Rx+	Tx-	Tx+
485	SG	D-	D+		

korenix

Tx   Rx

Mode Setting

SW1	SW2	SW3	SW4	▼ MODE
OFF	OFF	–	ON TR	RS-422
ON	OFF	–	ON TR	RS-485 4W
OFF	ON	OFF	ON TR	RS-485 2W
OFF	ON	ON	ON TR	RS-485 ECHO

JetCon 1201i-3KV
USB To RS-422 / 485 Isolation

42.0mm

22.0mm

12.9mm

80.0mm

9.0mm

Δ ON
1 2 3 4

![korenix]
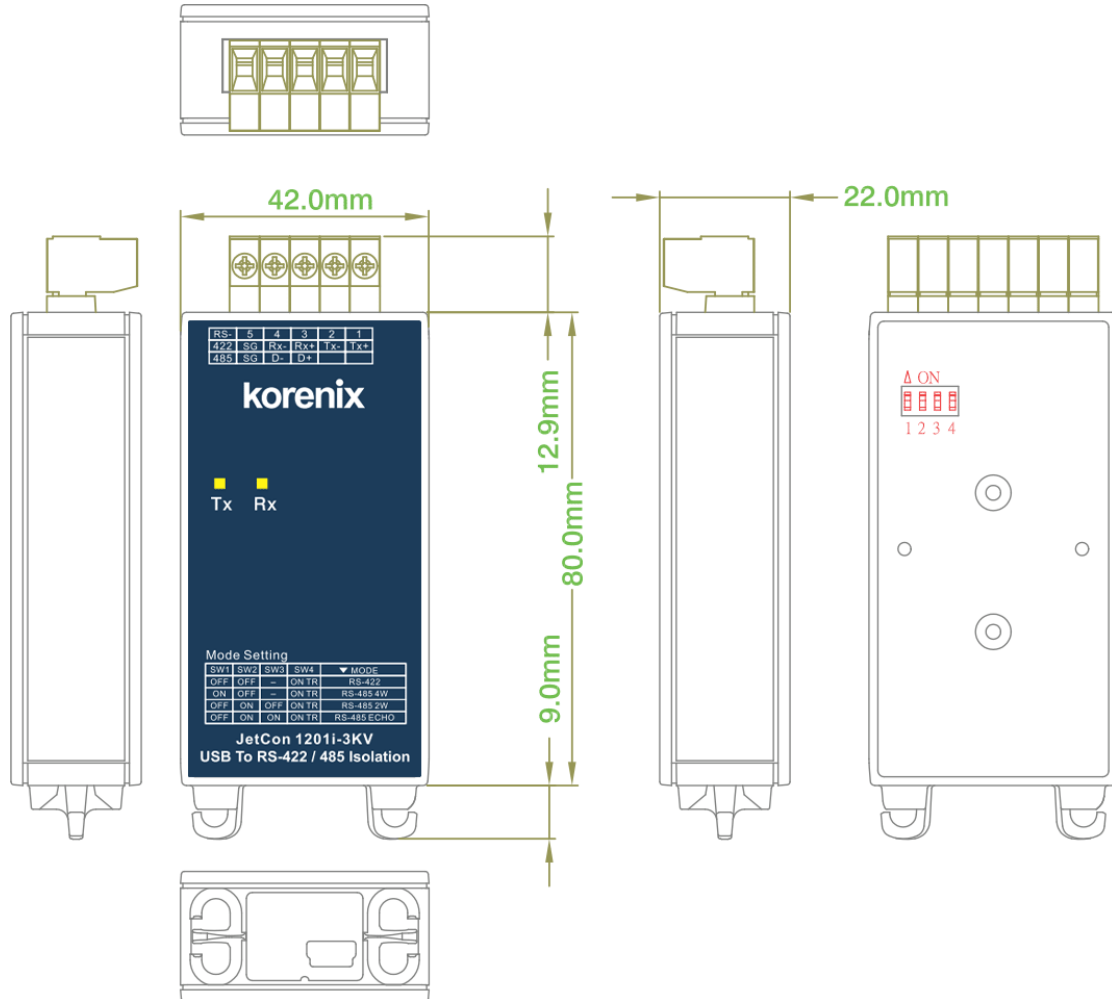
Deice Panel Introduction

JetCon 1101 / JetCon 1101i-5KV USB to 1-port RS-232 Serial Converter

JetCon 1101
JetCon 1101i-5KV

LED indicators - Tx, Rx

RS-232 DB9

DIN Rail Clip

Mini USB

JetCon 1102 USB to 2-port RS-232 Serial Converter

JetCon 1102

LED indicators - Tx, Rx

RS-232 DB9, #1

DIN Rail Clip

Mini USB

RS-232 DB9, #2

![korenix]
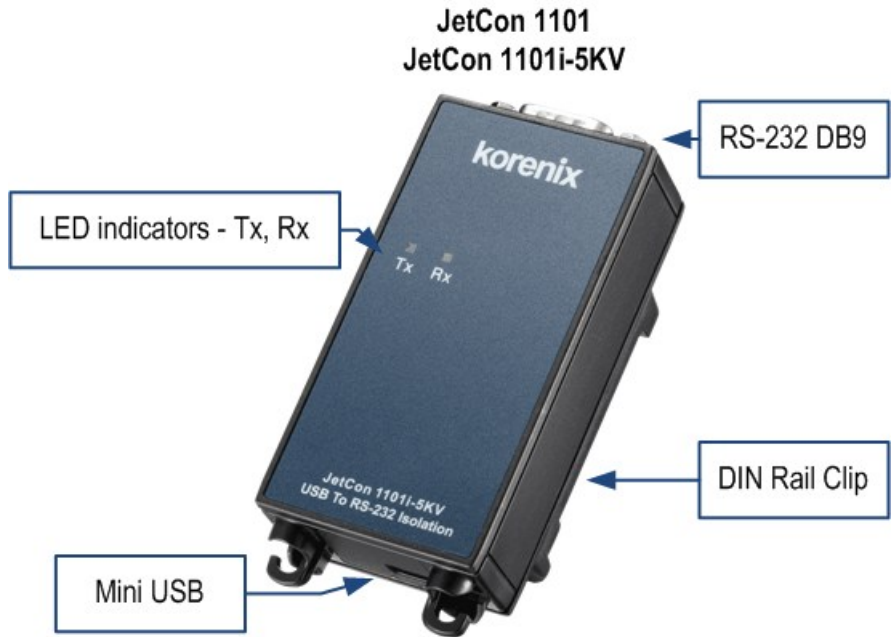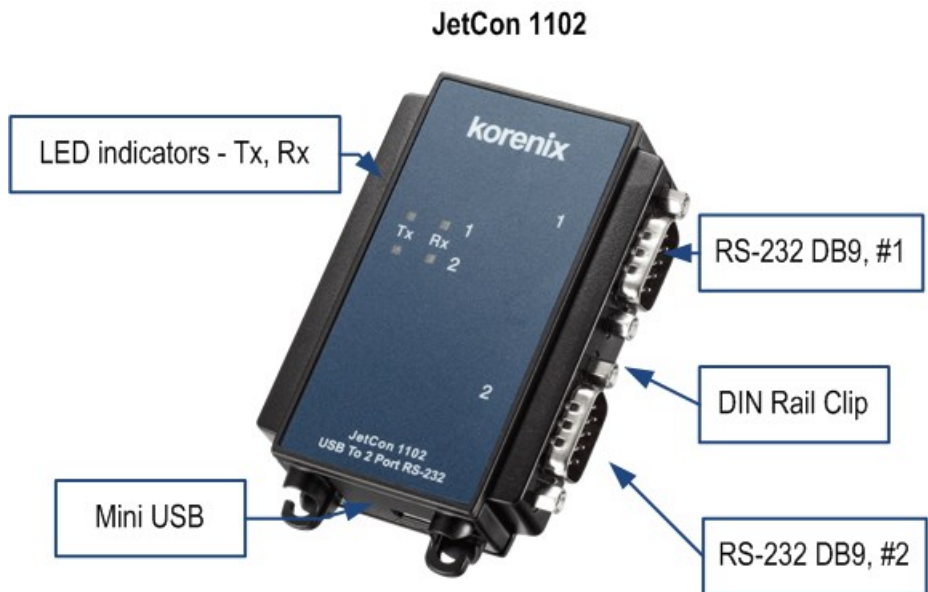
JetCon 1104 USB to 4-port Serial RS-232 Converter

JetCon 1104

- Individual LED indicators - Tx, Rx
- RS-232 DB9, #3
- RS-232 DB9, #4
- Mini USB
- RS-232 DB9, #1
- RS-232 DB9, #2
- DIN Rail Clip Bottom side
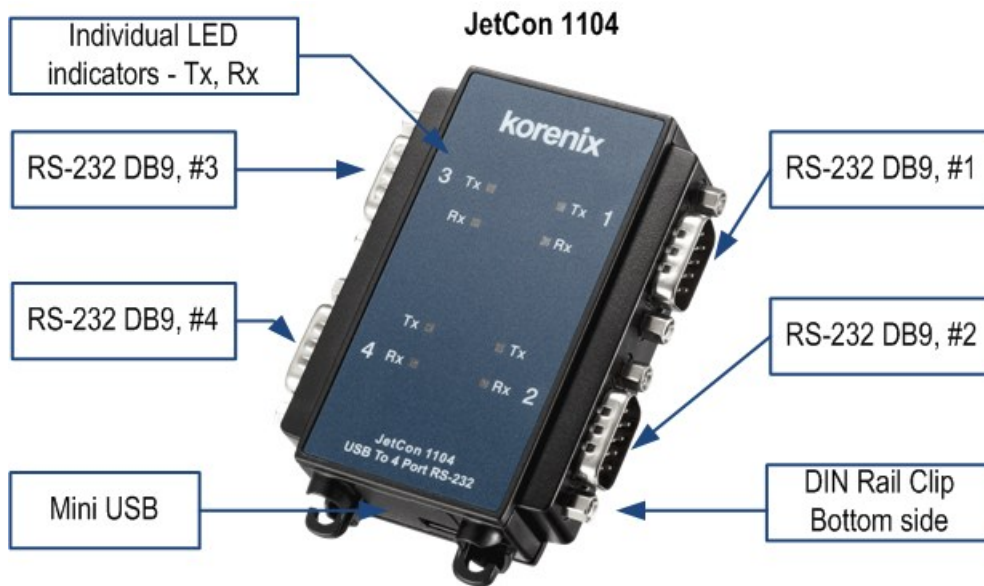
JetCon 1201 / JetCon 1201i-3KV   USB to 1-port RS-422/RS-485 Serial Converter

JetCon 1201 / JetCoon 1201i-3KV

- Individual LED indicators - Tx, Rx
- DIP Switch Configuration instruction
- Mini USB
- Terminal Block connector RS-422/RS-485
- Instruction of wiring
- DIN Rail Clip Bottom side
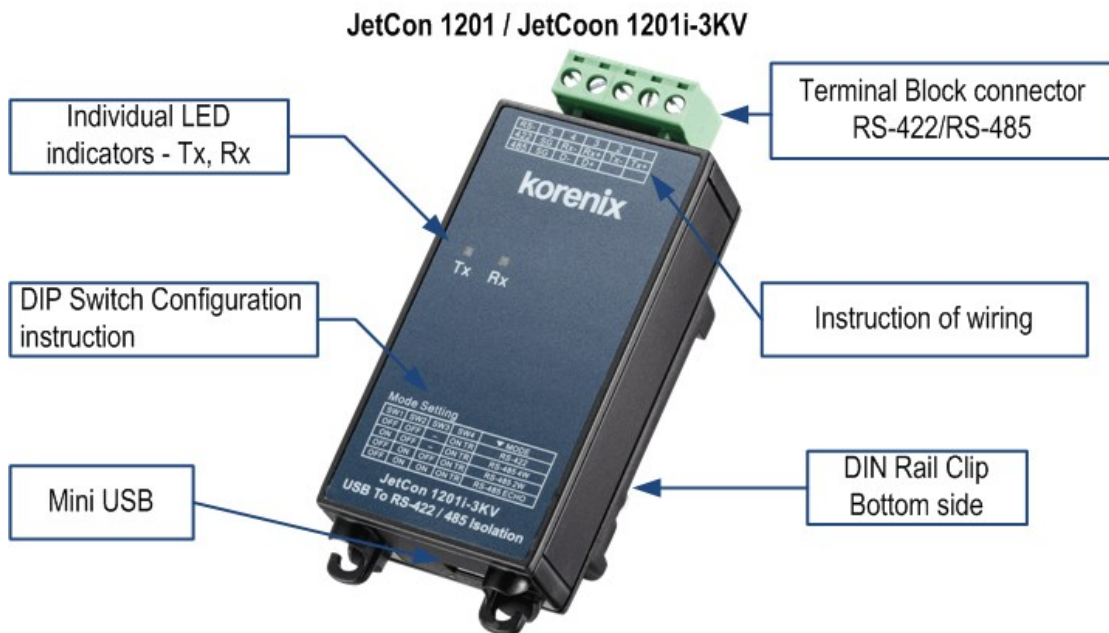
2.2   Wiring to Serial Device (DCE) and Host Computer (DTE)

The JetCon 1100 series and 1200 series support one Mini-USB interface with version 1.1/1.2 and 2.0, and the serial interface supports RS-232 for JetCon 1100 and RS-422/ RS-485 for JetCon 1200. The major function of JetCon 1100 and JetCon 1200 is provides logical serial interface for non-serial interface computer system which is only support USB port. Thus, it is not only connect the cabl, and also need install software driver to convert and make data link between logial serial com port and physical USB port. So, the first step is make connection between Conveter and Host computer – connecting USB interface.

![korenix]

Connecting USB Interface

In the unit box, there is one Mini USB to USB cable, connects Converter and Host PC by this cable as following diagram.
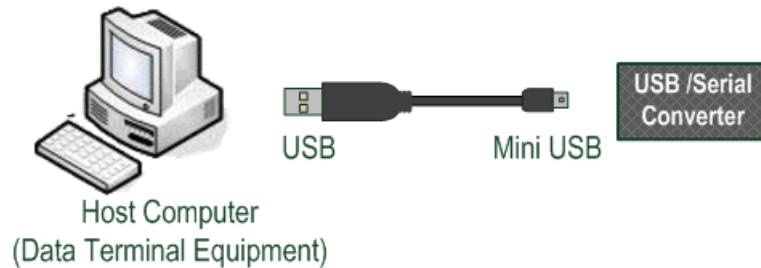
Connecting RS-232 Interface

The RS-232 interface presented in JetCon 1100 series. In the session **2.1 Hardware Introduction** have introduced the model name and function description. So, the JetCon 1100 series support RS-232 interface from 1 port to 4 ports, and JetCon 1101i-5KV provides isolated design for medical application, all of JetCon 1100 supports 15KV Human Body mode ESD protection. The RS-232 serial interface offer handshaking with fully communicatin control mechanism. Therefore, it could be connect to Data Communication Equipment, such as modem or other equipment without handshaking. The following table described the definitations of RS-232 signals with DB-9 and DB-25 connectors.

DB-9 Pin No.	DB-25 Pin No.	Abbreviation	Full Name
3	2	TD (TxD)	Transmit Data
2	3	RD (RxD)	Receive Data
7	4	RTS	Request To Send
8	5	CTS	Clear to Send
6	6	DSR	Data Set Ready
5	7	S.G.	Signal Ground
1	8	CD	Carrier Detect
4	20	DTR	Data Terminal Ready
9	22	RI	Ring Indicator

No mater the femal or male connector, the signal definitation of DB-9 and DB-25 follows the table above.

The following diagram shows the connections of RS-232 DTE-DTE device with hand-shaking, and DTE- DTE without hand-shaking mode (Null Modem).

DB-9	DB-25	Signal		Signal	DB-25	DB-9
3	2	TD		TD	2	3
2	3	RD		RD	3	2
7	4	RTS		RTS	4	7
8	5	CTS		CTS	5	8
6	6	DSR		DSR	6	6
5	7	S.G.		S.G.	7	5
1	8	CD		CD	8	1
4	20	DTR		DTR	20	4
9	22	RI		RI	22	9

Null Modem Connection

Above diagram shows the best wiring method with 3 wires straight cable connection between 2 DTE (Data Terminal Computer / Host Computer). This method emulates modem behavior and makes computer thinking there is a modem is conneted, and each computer can communicate with each other. The RI is not necessary to link, just left it disconnect.

DB-9	DB-25	Signal		Signal	DB-25	DB-9
3	2	TD		TD	2	3
2	3	RD		RD	3	2
7	4	RTS		RTS	4	7
8	5	CTS		CTS	5	8
6	6	DSR		DSR	6	6
5	7	S.G.		S.G.	7	5
1	8	CD		CD	8	1
4	20	DTR		DTR	20	4
9	22	RI		RI	22	9

**Data Terminal Computer vs Data terminal Computer connection with hand-shaking**

Above diagram shown the wiring between 2 Data Terminal Equipments with hand-shaking, and the hand-shaking also same as flow control.

korenix

The RS-422/ RS-485 interface only presented in JetCon 1201 and JetCon 1201i-3KV. Both of model support RS-422 and RS-485 serial communication ability in 5-pin removable terminal block connector. The RS-422/ RS485 communication does not support flow control / hand-shaking; therefore, the recommended connecting diagram and DIP-Switch setting show as below.

DIP-SW1	DIP-SW2	DIP-SW3	DIP-SW4	Serial Mode and Description
				JetCon 1200 Serial Mode Select DIP-Switch
OFF	OFF	-	ON (with T.R.) OFF (without T.R.)	RS-422 4-Wire Serial Mode+ DIP-SW4 (120ohm line terminator resistor selection)
ON	OFF	-	ON (with T.R.) OFF (without T.R.)	RS-485 4-Wire Serial Mode + DIP-SW4 (120ohm line terminator resistor selection)
OFF	ON	OFF	ON (with T.R.) OFF (without T.R.)	RS-485 2-Wire Serial Mode without ECHO + DIP-SW4 (120ohm line terminator resistor selection)
OFF	ON	ON	ON (with T.R.) OFF (without T.R.)	RS-485 2-Wire Serial Mode with ECHO + DIP-SW4 (120ohm line terminator resistor selection)

Note: Before mounting the JetCon1200 series, please setting the DIP-Switch first.


RS-422 4-wire communication mode
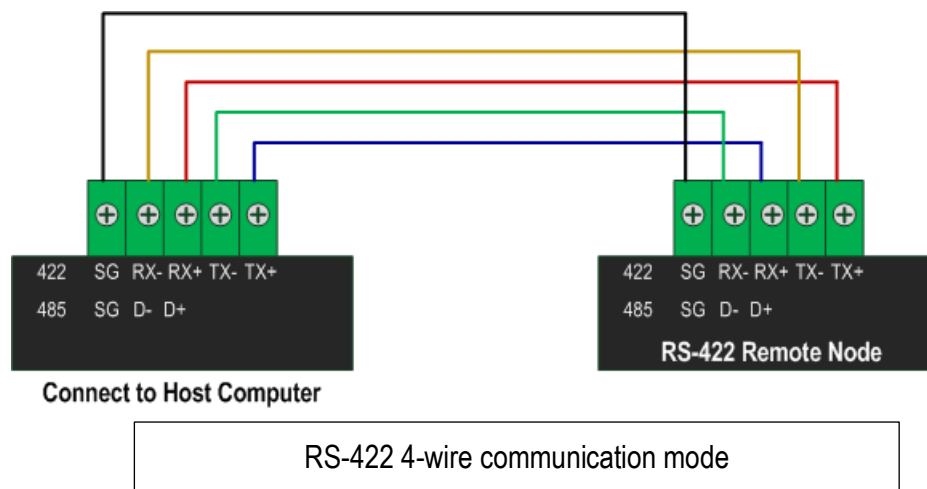
It is recommended to enable the 120 ohm line terminaltor, in case the connection distance is too short or signal is not stronger to offer a stable signale, then the wiring need install a 120 ohm line terminator onto the one node of the wire that cross TX+ and TX-, and RX+ and RX-. In the JetCon 1200 series, the system embedded 120ohm lne terminators and just click on the DI Switch to occupy the resistor on the 1st and last node of RS-422 serial bus.

The following diagram is 4-wire RS-485 wiring architecture in full duplex communication mode. It is similar as RS-422 4-wire, and the network is connected so that the master node communicates to all slave nodes. All slave nodes communicate only with the master node.

RS-485 4-wire communication mode (Full Duplex Communication mode)
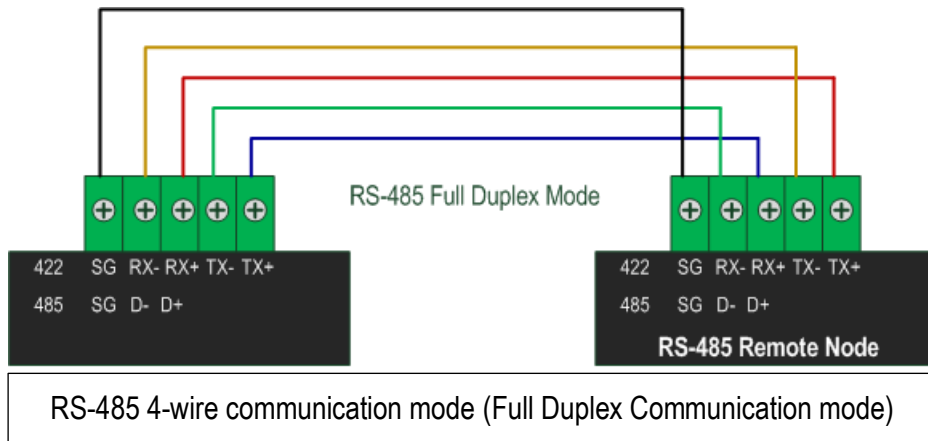
The RS-485 multi-drop mode offers 32 nodes at same current loop bus, and it is recommended to enable 120ohm line terminator to obtain better data communication reliability in RS-485 bus. It is not necessary to add extra 120 ohm line terminator on each RS-485 node, just enable the DIP Switch-4 of line Terminator Resistor of 1st and last node of RS-485 bus for reliable current looping.

RS-485 2-wire communication mode (Half Duplex Communication)
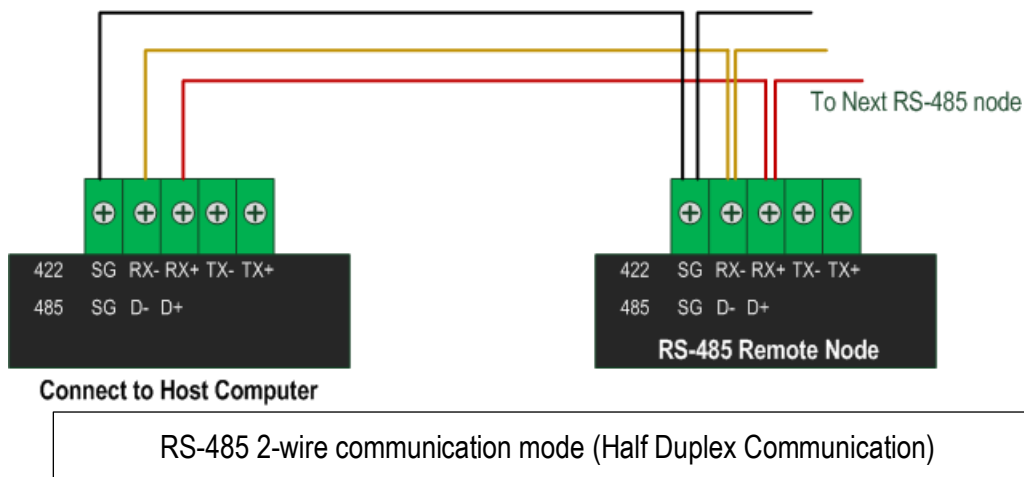
Note: the RS-485 2-wire communication speed will downgrade to 57600bps if RS-485 2-wire link distance up to 1.2KM.

2.3   Install the USB /Serial Converter onto DIN Rail

The DIN Rail clip is screwed on the rear panel of JetCon 1100 and JetCon 1200, which supports EN 50022 type rail installation. The below diagram includes the dimension of EN50022 rail for your reference.

Follow below steps to mount the converter onto standard DIN rail track.

1. Insert the bottom of the DIN-Rail clip into the DIN-Rail track from its low side.

2. Lightly push up Converter and press close to DIN-Rail clip, and make sure the upside clip is locked into the track.

3. Check if the DIN-Rail clip is tightly attached to the rack.
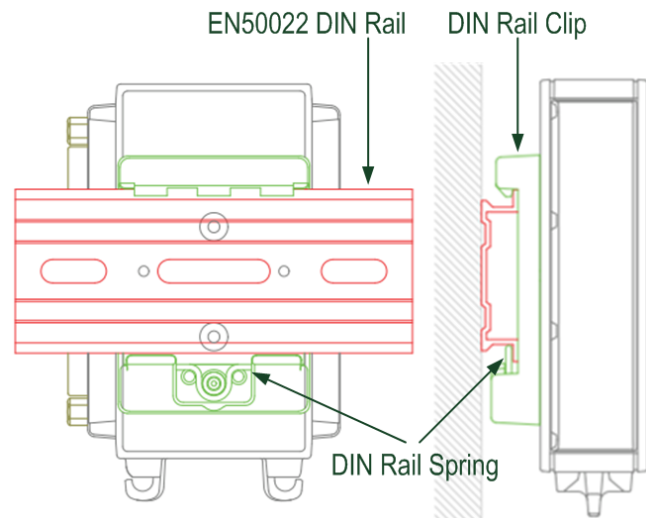
4. To remove the converter from the track, reverse the steps above.

3 Software Driver Installation

The JetCon 1100 and JetCon 1200 series support several operating systems; the USB driver supports Windows 2000, XP, Vista, Windows Server 2003, Windows 2008, Windows 7, Linux O.S. 2.4~2.7 and Macintosh O.S. 6/7. The driver will exist in the CD_ROM which is packing in the unit box. Once connects and plus-in the USB interface to computer, the system will search available driver and request install new driver if computer did not install proper software driver before. The following figure shows the computer request user to install 4-port high speed USB/RS-232 driver.

Perform install driver from specific location – CD-ROM. The path of driver is **CD-ROM\product \Driver**, and under the folder there are several sub-folders for different operating systems. Above figure shows there is 4-port High Speed RS-232 device. Therefore, the computer system will request install driver 4 times for physical port-1 to port-4, and in the device manager of computer system will add new USB-Serial port with new logical COM port number as following figure.
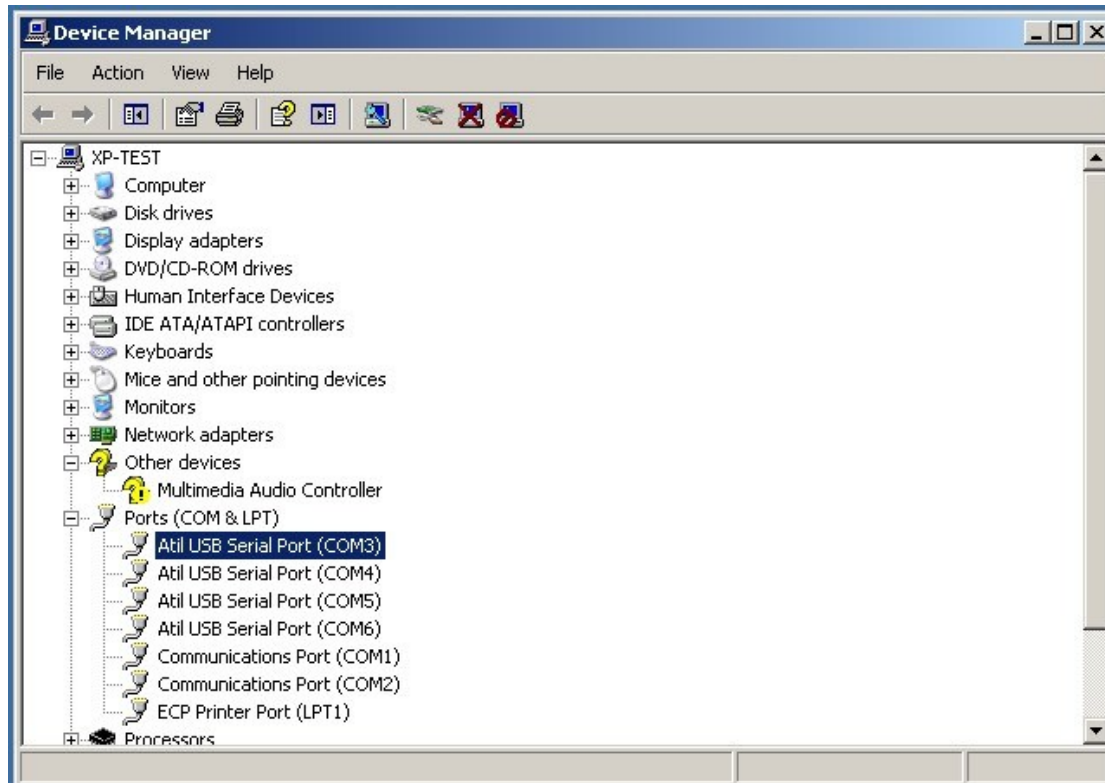
If the computer system shows- "the driver is not verified..", and asking to stop install driver. Then ingonre it and click the cutton "**Continue Anyway**" to finish the driver installation.

Configure the COM port Properies

Sleclec the USB/Serial COM port and click the right button of mouse, then into the USB serial Port Proerties setting interface. Click and select the parameters to matchserial baud rate with connection partner. The following picture show serial communication parameters includes bit rate, data bit, parity check mode,stop bit and flow control mode.

The default serial communication parameters is 9600 bit rate/ per second, 8 data bits, no parity check, 1 stop bit and without flow control. It also supports advanced configuration for USB transfer size, latency time, time out setting for Read and Write. The USB transfer size default value is maximum size for receive and transmit. It is not recommended to change the USB transfer size, it might cause data loss occurred if the buffer is smaller than serial data throughput.

Note: don't configure baud rate lower than 150 bits/per second, since the 150bps is not avaliabel for the USB/Serial converter.
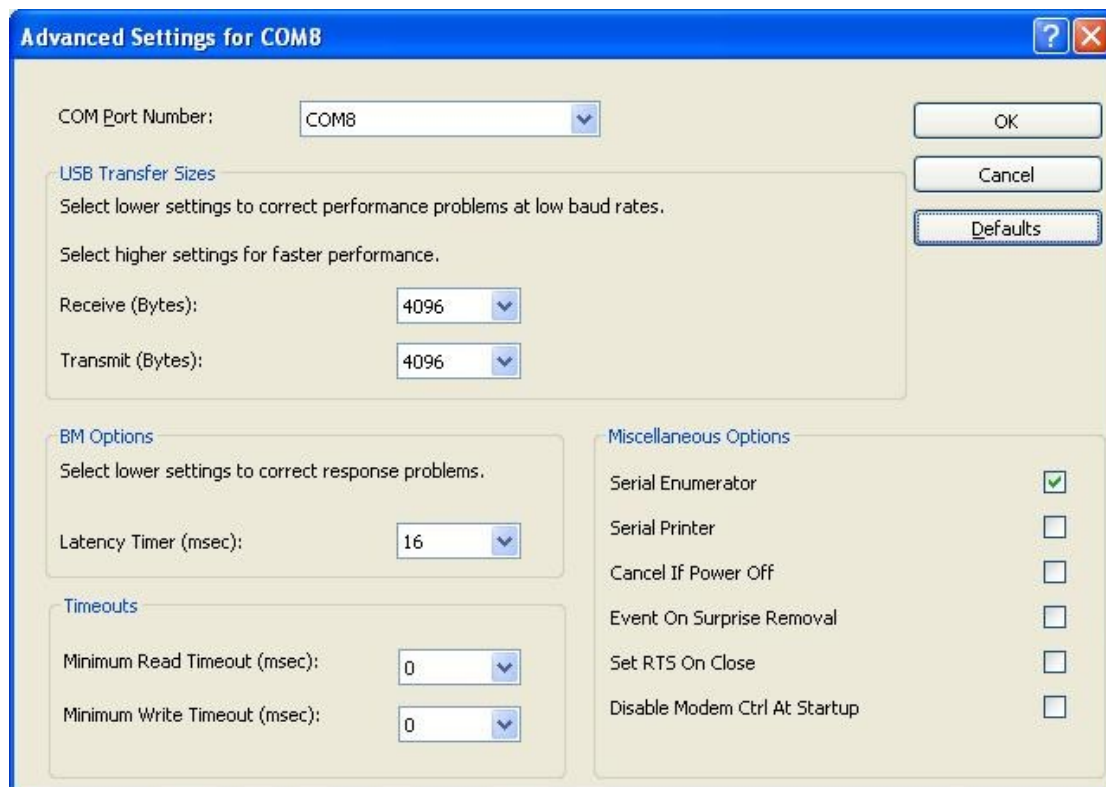
Note:1. Install hadware system, and connect the USB cable to USB/Serial converter first.

2. Install drive – you can install driver through the device manger interface, or follow the hardware wizard to install each COM port.

3. The driver will install many times, if the converter supports multiple serial port function. Each dreiver installation creat one logical COM port and mapping to the physical serial port from first to last port.

4. The serial com port may not release by operating system, and once install new USB/serial conveter will cause system wrong COM port number occupy. In this case, user can configure the COM port setting to recovery the serial COM port.

4 Appendix

4.1   Specification of JetCon 1101 / JetCon 1101i-5KV

Technology	
Standard	EIA/TIA-232, RS-232 (ITU-T v.28)
System performance	
Forwarding Rate	USB 2.0 compatible with 12Mbps data throughput RS-232 baud rate up to 921.6Kbps

FIFO Buffer	Transmit Buffer: 128Bytes
	Receive Buffer: 256Bytes
Interface	
Connector	USB: Mini USB slave , B-Type
	Serial: DB-9, Female
Connection Distance	USB:5 Meters
	RS-232 Serial: 15 Meters
Serial Parameters	Length of Data bit: 7, 8 bits
	Stop bit:1,2
	Type of parity check: None, Even, Odd, Space, Mark
	Type of Flow Control: RTS/ CTS, XON/ XOFF
Serial Signal	TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND
System LED	TX Blinking (Green): Transmitting Data
	RX Blinking (Amber): Receiving Data
Operating System Support	
Windows	XP, 2003, Vista, 2008, Win 7
Macintosh	System 8, 9
Linux	2.4, 2.6
Power Requirements	
System Power	Obtain from USB Host interface
	JetCon 1101 power consumption: 0.2W, 5V/40mA (Max)
	JetCon 1101i-5KV power consumption:0.27W, 5V/55mA (Max)
Isolation System power	5KV insulation between USB Host interface and RS-232 interface (JetCon 1101i-5KV)
Mechanical	
Installation	DIN Rail mount
Case	Plastic Case with IP-30 protection
Dimension	93.3 mm (H) x 42 mm (W) x 22 mm (D)
Weight	JetCon 1101: 0.22kg with package
	JetCon 1101i-5KV: 0.225kg with package
Environmental	
Operating Temperature	-30°C ~75°C
Operating Humidity	0% ~ 90% non-condensing
Storage Temperature	-40°C ~ 80°C
Storage Humidity	0%~ 95%, non-condensing
Regulatory Approvals	
EMC	CE, FCC Class A
Warranty	3 Years

4.2 Specification of JetCon 1102

Technology	
Standard	EIA/TIA-232, RS-232 (ITU-T v.28)

System performance	
Forwarding Rate	USB 2.0 compatible with maximum 480Mbps data throughput RS-232 baud rate up to 921.6Kbps
FIFO Buffer	Transmit Buffer: 4KBytes Receive Buffer: 4KBytes
Interface	
Connector	USB: Mini USB slave , B-Type Serial: 2 x DB-9- Male
Connection Distance	USB:5 Meters RS-232 Serial: 15 Meters
Serial Parameters	Length of Data bit: 7, 8 bits Stop bit:1,2 Type of parity check: None, Even, Odd, Space, Mark Type of Flow Control: RTS/ CTS, XON/ XOFF
Serial Signal	TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND
System LED	TX Blinking (Green): Transmitting Data RX Blinking (Amber): Receiving Data
Operating System Support	
Windows	XP, 2003, Vista, 2008, Win 7
Macintosh	System 8, 9
Linux	2.4, 2.6
Power Requirements	
System Power	Obtain from USB Host interface Power consumption: 0.57W, 5V/ 115mA (Max.)
Mechanical	
Installation	DIN Rail mount
Case	Plastic Case with IP-30 protection
Dimension	89mm(H) x 58.3mm (W) x 22mm (D)
Weight	0.235kg with package
Environmental	
Operating Temperature	-30°C ~75°C
Operating Humidity	0% ~ 90% non-condensing
Storage Temperature	-40°C ~ 80°C
Storage Humidity	0%~ 95%, non-condensing
Regulatory Approvals	
EMC	CE, FCC A
Warranty	3 years

4.3   Specification of JetCon 1104

Technology	
Standard	EIA/TIA-232, RS-232 (ITU-T v.28)

System performance	
Forwarding Rate	USB 2.0 compatible with maximum 480Mbps data throughput RS-232 baud rate up to 921.6Kbps
FIFO Buffer	Transmit Buffer: 2KBytes Receive Buffer: 2KBytes
Interface	
Connector	USB: Mini USB slave , B-Type Serial: 4 x DB-9- Male
Connection Distance	USB:5 Meters RS-232 Serial: 15 Meters
Serial Parameters	Length of Data bit: 7, 8 Bits Stop Bit:1Bit, 2 Bits Type of parity check: None, Even, Odd, Space, Mark Type of Flow Control: RTS/ CTS, XON/ XOFF
Serial Signal	TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND
System LED	TX Blinking (Green): Transmitting Data RX Blinking (Amber): Receiving Data
Operating System Support	
Windows	XP, 2003, Vista, 2008, Win 7
Macintosh	System 8, 9
Linux	2.4, 2.6
Power Requirements	
System Power	Obtain from USB Host interface Power Consumption: 0.83W, 5V/0.165A
Mechanical	
Installation	DIN Rail mount
Case	Plastic Case with IP-30 protection
Dimension	89mm(H) x 62.6 mm (W) x 22 mm (D) w/o DIN Rail Clip
Environmental	
Operating Temperature	-30°C ~75°C
Operating Humidity	0% ~ 90% Non-Condensing
Storage Temperature	-40°C ~ 80°C
Storage Humidity	0%~ 95%, Non-Condensing
Regulatory Approvals	
EMC	CE, FCC Class A
Warranty	3 Years

4.4   Specification of JetCon 1201 /JetCon 1201i-3KV

Technology	
Standard	TIA/EIA RS-422, TIA/EIA RS-485
System performance	
Forwarding Rate	USB 2.0 compatible with maximum 12Mbps data throughput

	RS-422 / RS-485 baud rate up to 921.6Kbps
FIFO Buffer	Transmit Buffer: 128 Bytes Receive Buffer: 256 Bytes
Interface	
Connector	USB: Mini USB slave , B-Type Serial: DB-9, Female
Cable for Serial Interface	RS-422 / RS-485: Twisted Pair Cable.
Operating Mode	Select and Control by DIP Switch setting. Build-in 120ohm line terminator resistor and configured by DIP Switch.
Connection Distance	USB:5 Meters 4-wire RS-422 mode: 1500 meters (4,900 feet) 2/4-wire RS-485 mode: 1200 meters (4,000 feet), Max 32 Nodes.
Serial Parameters	Length of Data bit: 7, 8 bits Stop bit:1,2 Type of parity check: None, Even, Odd, Space, Mark
Serial Signal	RS-422: TX+, TX-, RX+, RX-, Signal GND. RS-485 (4-Wire): TX+, TX-, RX+, RX-, Signal GND RS-485 (2-Wire):Data+, Data-, Signal GND
DIP Switch	Serial communication mode selection (DIP-Switch 1,2),RS_485 ECHO mode selection (DIP-Switch 3), Line Terminator selection (DIP-Switch 4)
System LED	TX Blinking (Green): Transmitting Data RX Blinking (Amber): Receiving Data
Operating System Support	
Windows	XP, 2003, Vista, 2008, Win 7
Macintosh	System 8, 9
Linux	2.4, 2.6
Power Requirements	
System Power	Obtain from USB Host interface
Isolation Protection	3KV insulation between USB Host interface and RS-422/ RS-485 serial interface (JetCon 1201i-3KV)
Mechanical	
Installation	DIN Rail mount
Case	Plastic Case with IP-30 protection
Dimension	101.9 mm(H) x 42.0mm (W) x 22.0mm (D)
Environmental	
Operating Temperature	-30°C ~75°C
Operating Humidity	0% ~ 90% non-condensing
Storage Temperature	-40°C ~ 80°C
Storage Humidity	0%~ 95%, non-condensing
Regulatory Approvals	
EMC	CE, FCC A
Warranty	3 Years

4.5　Revision History

Edition	Date	Modifications
V01	25-Feb-2013	New editting
V02	27-Feb,2013	Update with driver path.
V03	12-Mar-2013	Modify RS-485 four-wire architecture and add some description for RS-485 and RS-422 wiring architecture.
V04	15-Mar-2013	Update product specification with I-Testing's suggestion: 1.　RX LED change to amber color 2.　Modify USB 2.0 compatible.. 3.　Add power consumption 4.　Update advanced configuration for buffer and installation. 5.　Add installation.
V05	29-Mar-2013	Update information after Integration testing 1.　Add note about the 485 baudrate: 1.2KM, Baudrate downgrade to 57600bps 2.　Modify RS_485 line terminate resistor: add line terminator at 1st and last not of RS-485 bus, if communication quality is not stable. 3.　COM port will not release if install more USB/Serial converter.
V1.0	Apr-2013	1.　Final version, remove front page wrong information.

korenix

4.6   About Korenix

Less Time At Work! Fewer Budget on applications!

The Korenix business idea is to let you spend less time at work and fewer budget on your applications. Do you really want to go through all the troubles but still end up with low quality products and lousy services? Definitely not! This is why you need Korenix. Korenix offers complete product selection that fulfills all your needs for applications. We provide easier, faster, tailor-made services, and more reliable solutions. In Korenix, there is no need to compromise. Korenix takes care of everything for you!

Fusion of Outstandings

You can end your searching here. Korenix Technology is your one-stop supply center for industrial communications and networking products. Korenix Technology is established by a group of professionals with more than 10 year experience in the arenas of industrial control, data communications and industrial networking applications. Korenix Technology is well-positioned to fulfill your needs and demands by providing a great variety of tailor-made products and services. Korenix's industrial-grade products also come with quality services. No more searching, and no more worries. Korenix Technology stands by you all the way through.

Core Strength---Competitive Price and Quality

With our work experience and in-depth know-how of industrial communications and networking, Korenix Technology is able to combine Asia's research / development ability with competitive production cost and with quality service and support.

Global Sales Strategy

Korenix's global sales strategy focuses on establishing and developing trustworthy relationships with value added distributors and channel partners, and assisting OEM distributors to promote their own brands. Korenix supplies products to match local market requirements of design, quality, sales, marketing and customer services, allowing Korenix and distributors to create and enjoy profits together.

Quality Services

KoreCARE--- KoreCARE is Korenix Technology's global service center, where our professional staffs are ready to solve your problems at any time and in real-time. All of Korenix's products have passed ISO-9000/EMI/CE/FCC/UL certifications, fully satisfying your demands for product quality under critical industrial environments. Korenix global service center's e-mail is koreCARE@korenix.com

Business service : sales@korenix.com

Customer service: koreCARE@korenix.com