Industrial USB 2.0 to 4-Port RS-232 Hub

(Part Number: USB-232H-3)

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■ **INTRODUCTION**

The USB-232H-3 is a rugged, industrial-grade USB 2.0 to 4-port RS-232 hub that can be used to expand one USB 2.0 port into four RS-232 ports. This product supports USB data rates up to 480Mbps (auto-sensing and self-adjusting) and it features 15kV ESD protection and plug and play (hot-pluggable). The unit uses the latest FTDI chipset and is fully compatible with Windows 10/8/7/Vista/XP/Server2012/Server2008 (64-bit), Windows 10/8/7/Vista/XP (32-bit), and Win CE, Mac, and Linux. This industrial USB 2.0 hub is efficiently powered from the USB bus and it requires no external power. And thanks to the professional casing design and mounting brackets, the product can be mounted directly on a wall, panel, or DIN rail, making it an ideal solution for all types of USB expansion applications. Note: The latest drivers (chipset FT4232) are available at: http://www.ftdichip.com/Drivers/VCP.htm

■ **FEATURES**

- Industrial grade enclosed in a rugged steel housing.
- Expands one USB 2.0 port into four RS-232 ports.
- Plug and play (hot-pluggable).
- DIN-Rail or wall/panel mounting.
- USB bus powered, no external power required.
- External 5VDC power adapter included (for low-power-capacity USB ports).
- USB 2.0 High Speed (480Mbps) and Full Speed (12Mbps) compatible.
- Supports serial data rates up to 12Mbps.
- Supports Windows 10/8/7/Vista/XP/Server2012/Server2008 (64-bit), Windows 10/8/7 /Vista/XP (32-bit), and Win CE, Mac, and Linux.
- No extra I/O and IRQ required.
- 2K-byte FIFO and hardware/software flow control support.
- Operating temperature: -40ºF to 167ºF (-40ºC to 75ºC).
- Built-in 15kV ESD protection.
- Surface Mount Technology manufactured to RoHS and ISO-9001 standards.
- Safety: Strictly certified by TUV (Report no. 10051567001; 10051568001).
- 5-year manufacturer's warranty.

■ **SPECIFICATIONS**

Compatibility:	USB 2.0 (backward compatible)
Power Source:	USB bus power; External 5VDC/3A power adapter (included)
Power Consumption:	0.5W (typical), 1W (max.)
Data Rates:	USB: Up to 480Mbps; Serial: Up to 12Mbps
Distances:	USB: 16ft (5m)
Connectors:	USB: 1x Type B Female; RS-232: 4x DB9 Male
RS-232 Signals:	TX, RX, RTS, CTS, DTR, DSR, DCD, RI, GND
Accessories:	1x 6ft (1.8m) USB extension cord (Type A male to Type B male)
Static Protection (ESD):	Up to 15kV
Dimensions (H x W x D):	7.8 x 3.3 x 1 in (200 x 84 x 25 mm) (excluding brackets)
Weight:	14.6 oz (413 g)
Operating Temperature:	-40ºF to 167ºF (-40ºC to 75ºC)
Operating Humidity:	5~95% RH (no condensation)

■ **DIMENSIONS**

(mm)

27.1

25.5

79.2

9.3

46.0

15.6

35.1

79.2

84.0

200.0

231.0

25.5

27.1
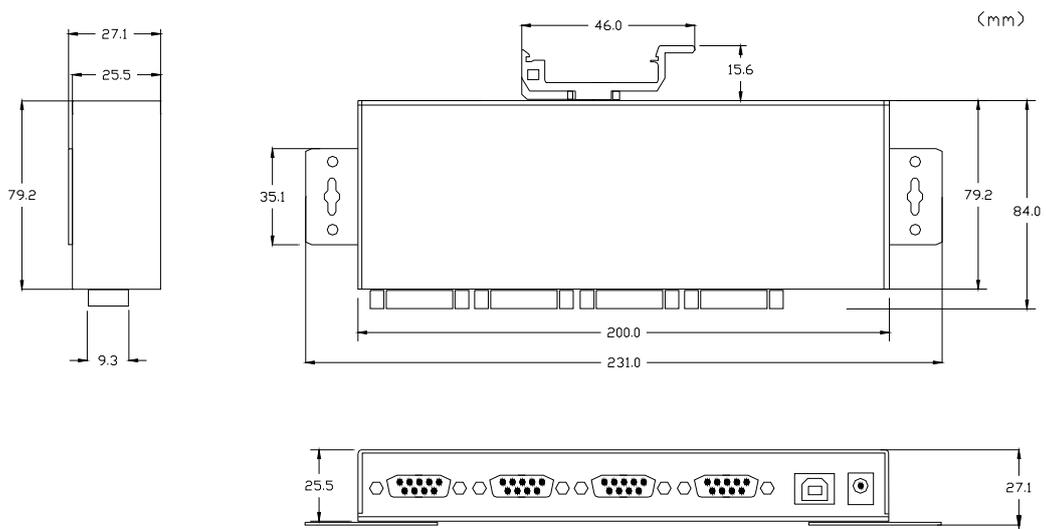
FIGURE 1: DIMENSIONS

■ **INSTALLATIONS**
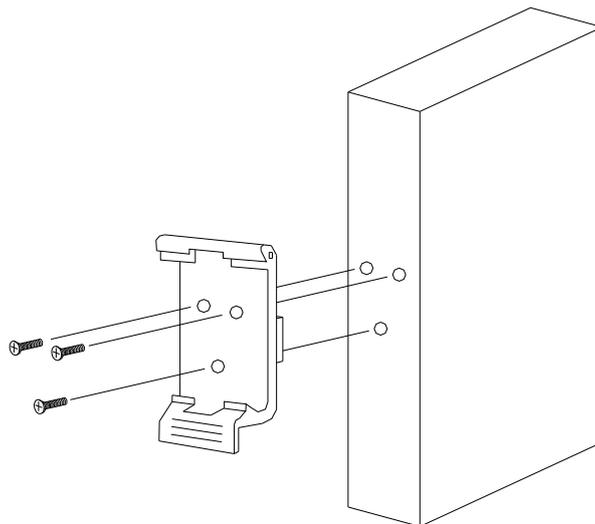
FIGURE 2: DIN-RAIL MOUNTING
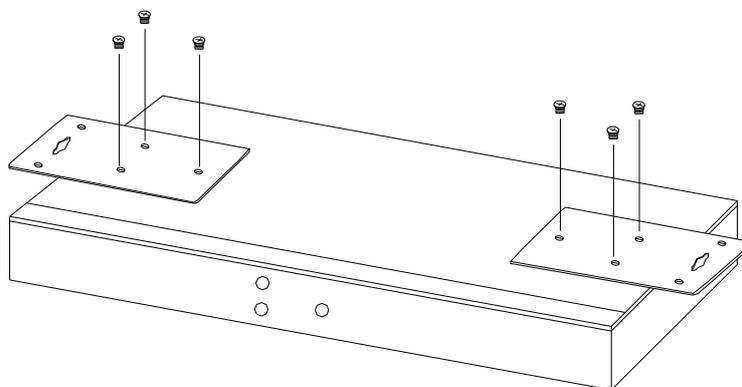
FIGURE 3: WALL/PANEL MOUNTING

■ PIN ASSIGNMENT

RS-232 Side (DB-9 Male Connector / DTE):

Pin	Function	Description
1	DCD	Data Carrier Detect
2	RX	Receive Data
3	TX	Transmit Data
4	DTR	Data Terminal Ready
5	GND	Ground (Signal)
6	DSR	Data Set Ready
7	RTS	Request to Send
8	CTS	Clear to Send
9	RI	Ring Indicator

■ LED INDICATIONS

Power **PWR Indicator**
Steady: Power on
Off: Power off

RX **RX Indicator**
Flashing: Receiving data

TX **TX Indicator**
Flashing: Transmitting data

■ DRIVER INSTALLATION

For Windows 8 and 7, drivers will be installed automatically when your computer is connected to the Internet. Alternatively, you may install the drivers from the CD provided with the product.

■ PACKING CONTENTS

- USB-232H-3 x1
- USB connection cable x1
- DIN-Rail mounting accessories x1
- Wall mounting accessories x1
- 5VDC Power Adapter x1
- CD x1

■ TROUBLESHOOTING

- Make sure that the USB-232H-3 is connected to your USB port and the power LED is on.
- Be sure that the drivers are installed correctly by checking the Device Manager (Windows): There should be four (4) USB Serial Ports available under "Ports (COM & LPT)". If there are yellow exclamation icons on the USB Serial Ports, please reinstall the drivers.
- Perform a loopback test by using CommFront's 232Analyzer software (included on the CD supplied): Connect pin 2 and 3 of the DB-9 connector (RX to TX) and run the program. Then send commands from the software, you should receive an echo of the commands sent. By performing a simple loopback test like this, you can test both the transmitter and receiver of the RS-232 port.