



# Single Port RS-232 USB Serial Adapter – Optical- ISO – Surge Protection

## Product Manual



Coolgear, Inc.

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Model Number: USB-COM-Si-M

## Revision History

Revision	Date	Author	Comments
1.1	03/26/2018	Coolgear	New Manual

## About this document

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This product manual outlines installation and features of the USB-COM-SI-M Single Port RS-232 USB Serial Adapter – Optical-ISO – Surge Protection.

## Scope

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The scope of this manual is to give the user of the product an understanding of its use with detailed diagrams and verbiage. The manual allows the users to apply the product to their application.

## Intended Audience

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This product is intended for use in numerous industries including but not limited to applications such as; connectivity with modems, ISDN TAs, PDAs, handheld & pocket PCs, digital cameras, POS, serial printers, remote access and other RS-232 Serial communications.

## Product Support

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[support@coolgear.com](mailto:support@coolgear.com)

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## 1. Introduction

The USB-COM-SI-M USB to Serial Adapter is designed to make serial port expansion quick and simple. The USB Serial Adapter provides instant connectivity to RS-232 communication device for factory automation equipment, multi-drop data collection devices, barcode readers, time clocks, scales, data entry terminal and serial communication in harsh environment. The USB to Serial Adapter is suitable for remote access, retail and industrial application, data collection and other applications requiring high speed RS-232 communication ports.

WEIGHT	0.3 lbs
DIMENSIONS	2.83(L) x 2.29(W)(3.20in with ears) x .895in(H)
CABLE LENGTH	3ft.
UPC	729440690731
WARRANTY	1 year from date of purchase
COLOR	Black
PORTS	(1) DB-9 Male Serial Port / (1) USB Type-B Female Port

### 1.1 Features

<ul style="list-style-type: none"> <li>• TAA Compliant</li> <li>• 2000V DC optical isolation.</li> <li>• 25KV ESD surge protection.</li> <li>• Industrial metal housing with DIN rail bracket.</li> <li>• Full RS-232 modem control signals and hardware/software flow control</li> <li>• Windows 98, Me, XP, 2000, 2003, CE, Vista, Windows 7, and Windows 8</li> <li>• Linux, Mac OS 10.X</li> </ul>	<ul style="list-style-type: none"> <li>• Baud Rate from 300bps up to 921.6Kbps supported.</li> <li>• 128 byte transmit FIFO &amp; 384 byte receive FIFO.</li> <li>• Transmit (TxD) and Receive(RxD) LEDS on unit for visual reference.</li> <li>• Universal Serial Bus(USB) port offers easy plug and Play Operation.</li> </ul>
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### 1.2 Optical Isolation and Surge Protection

Each RS-422/485 port is individually optically isolated with 2000 Volt DC optical isolation. The optical isolation protects your PC or notebook from spikes and surges on the RS-422/485 network, by converting the electrical pulse into an optical signal and then changing it back into an electrical pulse. Your computer is well protected, since the

surges and spikes cannot cross the optical link. Each RS-422/485 port is individually protected by surge protector to withstand electrostatic discharge and power surges up to 25KV ESD. Surge suppression on all signals prevent from damages caused by lightning or high voltage.

### **1.3 Power Requirement**

If your USB to Serial Adapter is provided with external power adapter, you need to plug the power adapter to the power source after driver installation.

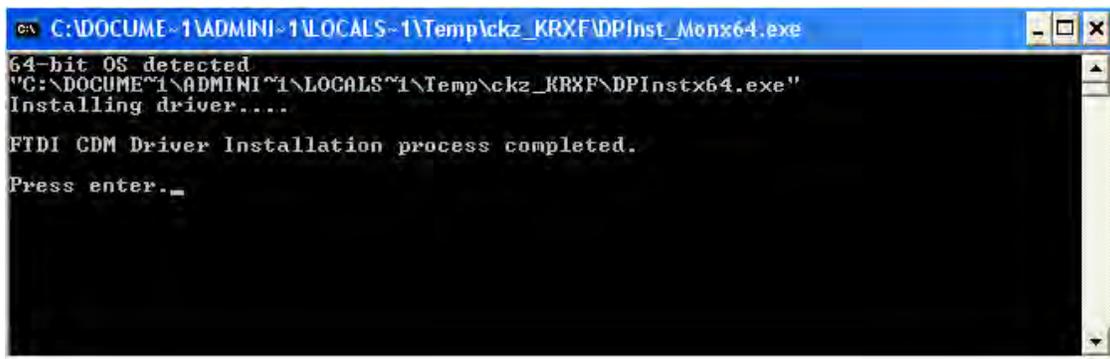
## 2. Windows 7 / Vista / 2003 / XP / 2000 Driver Installation

You need to have administrator privileges to install any new drivers under Windows 7/ Vista / 2003 / XP / 2000. To install the driver or update the configuration please log onto Windows as "Administrator" or ask your system administrator to install the USB-COM driver.

**Note:** You need to install driver first, prior to hardware installation. Do not connect the USB-to-Serial Adapter to the USB port of your computer, before you finish driver installation.

**Please proceed with the following steps to install the driver:**

1. Insert the "USB COM Series Driver and Utility" CD into your CD-ROM.
2. The "USB COM Series Driver and Utility CD" dialog box appears.
3. Under "Driver Installation", double click "Windows 7, Vista, 2003, XP, 2000 driver" to install the device driver.
4. The USB COM install program will auto-detect the OS type and install the driver automatically. (Note: in Windows 7 or Vista OS you will find another dialog box, please click on "OK" to confirm the drivers install program).



```
C:\DOCUMENTS\ADMINI~1\LOCALS~1\Temp\ckz_KRXPInst_Monx64.exe
64-bit OS detected
"C:\DOCUMENTS\ADMINI~1\LOCALS~1\Temp\ckz_KRXPInstx64.exe"
Installing driver....
FTDI CDM Driver Installation process completed.
Press enter._
```

Figure 1

5. After the message "FTDI CDM Driver installation process completed" appears, press "Enter" to complete the driver installation.
6. Plug in the USB to Serial Adapter to the USB port of your computer. Windows will finish installing the driver files.

### 3. Check Installation

You can now verify the installation has been completed successfully by looking under Device Manager of the System Properties screen. (Go there by Start-Setting- Control Panel-System Properties-Hardware-Device Manager.

The device should have installed as a "USB Serial Port (COMx)" attached to "USB Serial Converter (A/B or A/B/C/D)".

#### 3.1 Change COM Port Properties & COM Port Number

This feature is particularly useful for programs, such as HyperTerminal, which only work with COM1 through COM4. Please ensure that you do not change the COM Port Number already in use.

**To change the virtual COM port properties:**

- Select the "USB Serial Port"
- Click "Properties".
- Select "Port Setting" and "Advanced".
- Click the drop down arrow on COM Port Number and scroll to the required COM port. Select "OK".
- Return to the Device Manager Screen. You will see that the USB Serial Port installation has been changed to the new COM Port Number.

#### 3.2 Uninstalling Windows 2003 / XP / 2000 Drivers

**Please proceed with the following steps to uninstall the 2003/XP/2000 driver:**

1. Insert the "USB COM Series Driver and Utility" CD into your CD-ROM.
2. The "USB COM Series Driver and Utility CD" dialog box appears.
3. Under "Driver Uninstalling", double click "Windows 2003, XP, 2000 driver uninstall" to uninstall the device driver.
4. When following dialog box appears, double click "Clean System" to uninstall the 2003/XP/2000 drivers.



Figure 2

5. You need to disconnect all USB to Serial Adapters from your PC, when the message below appears. Double click “OK” to start uninstalling Windows 2003/XP/2000 USB to Serial drivers.



Figure 3

6. Double click “Yes” to confirm it.

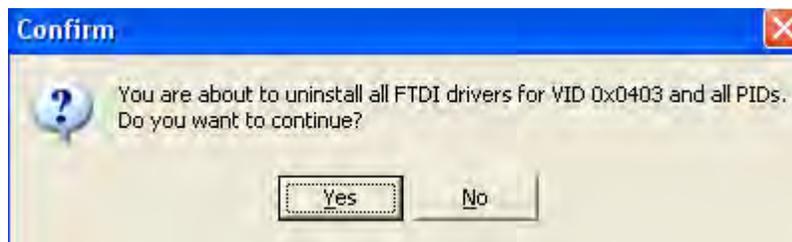


Figure 4

7. Click “No” to proceed.



Figure 5

- When the message “**Status: System clean completed**” appears, double click “Exit” to complete the USB to serial drivers uninstall.



Figure 6

- Press “**Start**” button and select “**Control Panel**”.
- Open the Add or Remove program.

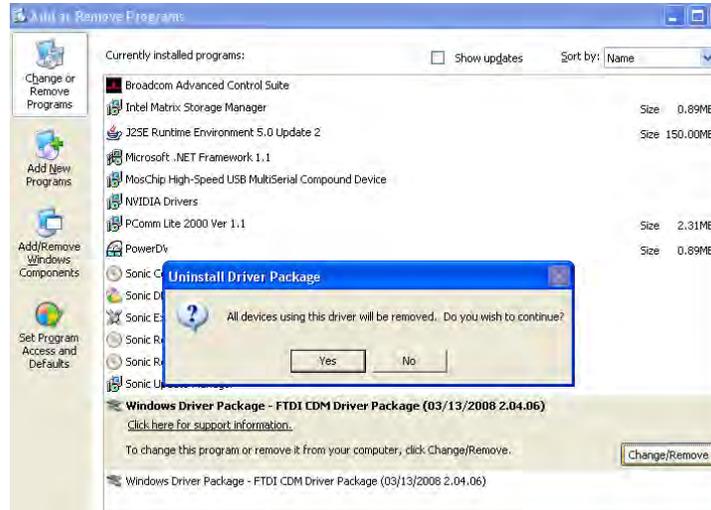


Figure 7

- Remove the first “Windows Driver Package – FTDI CDM Driver Package (...)”.
- Click “Change/Remove” and “Yes” to remove the first Windows Driver Package.
- Remove the second “Windows Driver Package – FTDI CDM Driver Package (...)”.
- Click “Change/Remove” and “Yes” to remove the second Windows Driver Package.
- Reboot the computer to complete the driver uninstall.

## 4. Uninstalling Windows 7 or Vista Drivers

Windows 7 and Vista have many new security features. You need to proceed with the following steps to uninstall the Vista driver:

1. The USB to serial devices must connect to the PC.
2. Press “Start” button and select “Control Panel”.
3. Select “Classic View” from the top left hand corner and then “System” from the list.
4. Select “Device Manager” from the top left hand corner.

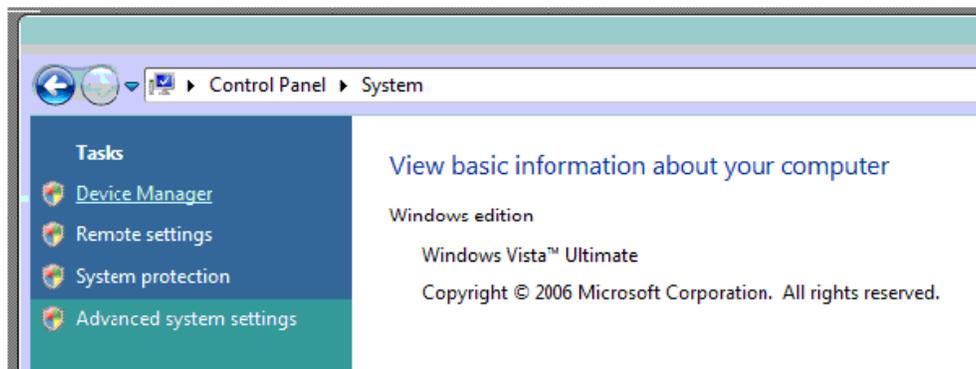


Figure 8

5. Locate your device under the ports (COM & LPT) section and right click on it to bring up the menu shown.

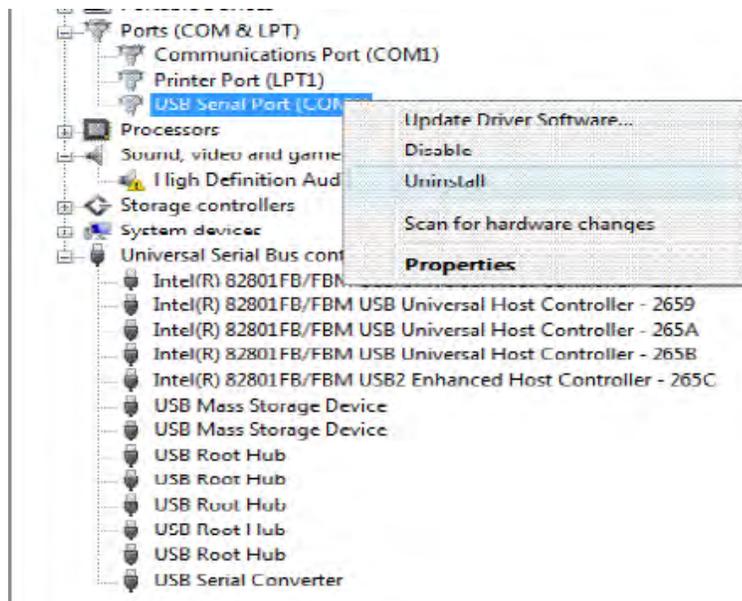


Figure 9

6. Select uninstall and be sure to click the box for “Delete the driver software for this device” in the next window and press “OK”.

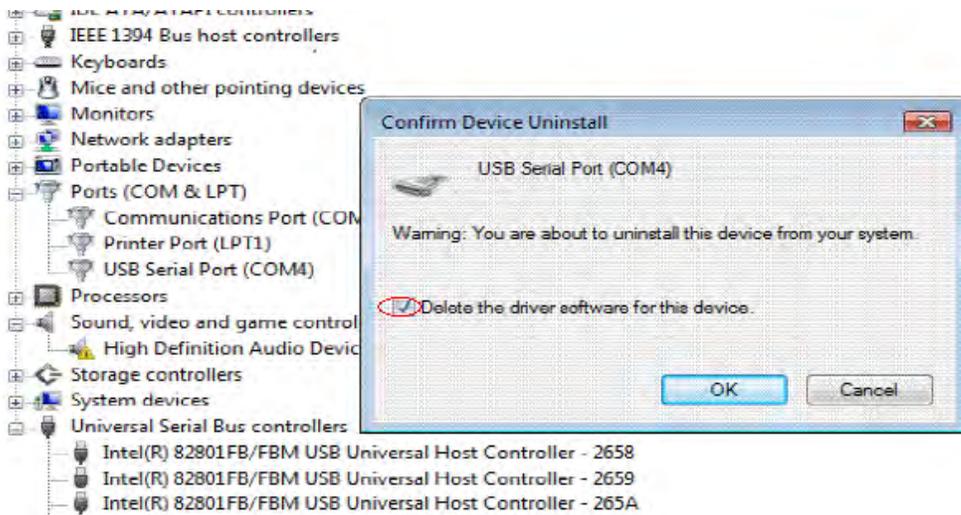


Figure 10

**Note:** if you have more than one USB Serial Port (COMx) installed in your PC, you need to repeat from step 5 to step 6 to delete the driver software for each port.

7. Locate your Device under the Universal Serial Bus Controllers section, and right click on it to bring up the menu shown.

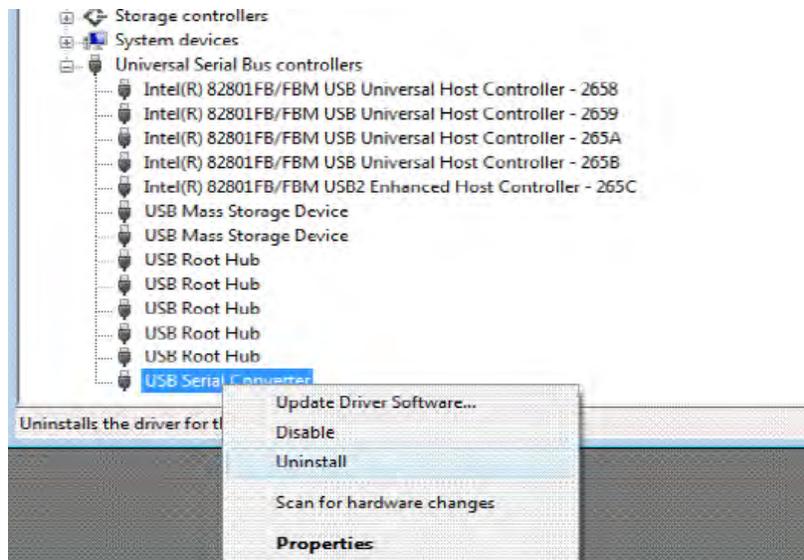


Figure 11

8. Select uninstall and be sure to click the box for “Delete the driver software for this device” in the next window and press “OK”.

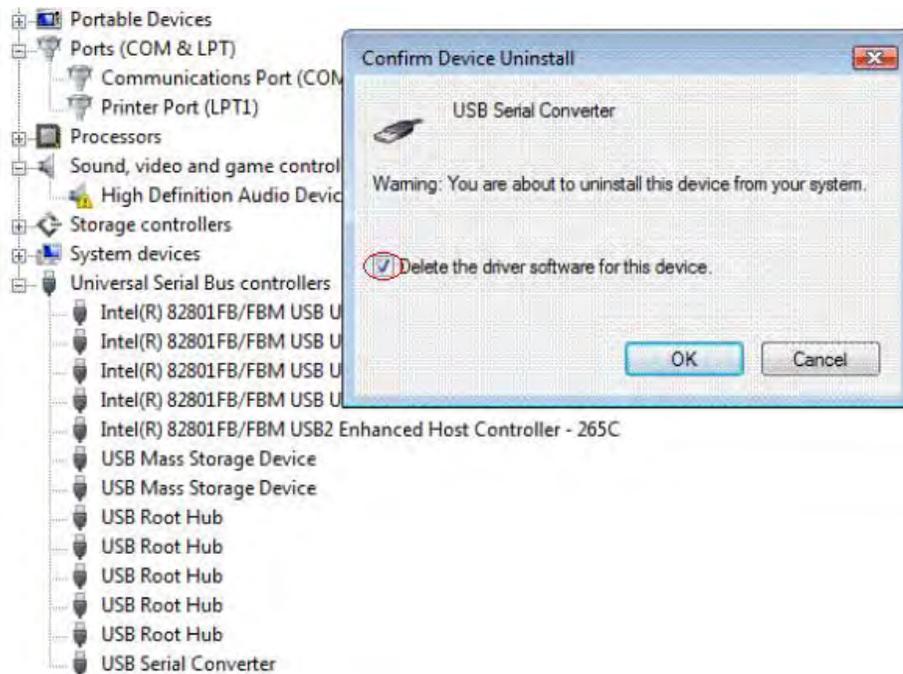


Figure 12

**Note:** if you have more than one USB Serial Converter installed in your PC, you need to repeat step 7 and step 8 to delete the driver software for all devices.

### 5. RS-232 Signal Pin-outs of DB-9 Male

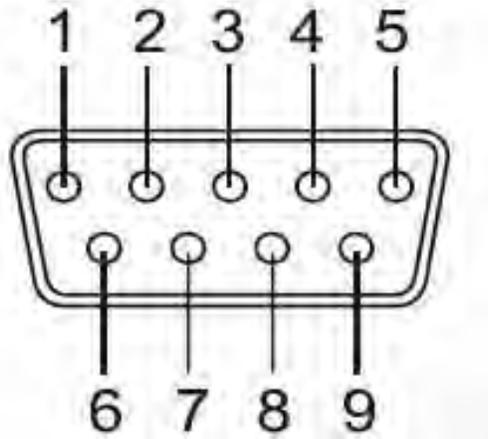


Figure 13

<b>Pin 1</b>	<b>DCD</b>
<b>Pin 2</b>	<b>RxD</b>
<b>Pin 3</b>	<b>TxD</b>
<b>Pin 4</b>	<b>DTR</b>
<b>Pin 5</b>	<b>GND</b>
<b>Pin 6</b>	<b>DSR</b>
<b>Pin 7</b>	<b>RTS</b>
<b>Pin 8</b>	<b>CTS</b>
<b>Pin 9</b>	<b>RI</b>

## 6. Notes, Tips, and Warnings

<b>Note</b>	<p><b>Note:</b> Sometimes, when operating in RS-422 or RS-485, it is necessary to configure termination and biasing of the data transmission lines. Generally this must be done in the cabling, since this depends on the installation of connections. Before applying the option, check your cable specification for proper impedance matching.</p>
	<p>Biasing of data lines must only occur at a single point anywhere in the cabling. USB-2COMi-SI-M provides biasing for ease of installation. Please be sure to disable this inside the unit, if your cabling already provides biasing.</p>
	<p>Termination must not be installed in the middle of the cable. It is only permitted at both ends. Since a computer controlled serial port is almost always at one end of the cable, termination is enabled by default.</p>
	<p>Reference section 2.1</p>
	<p><b>Note:</b> if you have more than one USB Serial Port (COMx) installed in your PC, you need to repeat from step 5 to step 6 to delete the driver software for each port.</p>
	<p>Reference section 5, step 6</p>
	<p><b>Note:</b> if you have more than one USB Serial Converter installed in your PC, you need to repeat step 7 and step 8 to delete the driver software for all devices.</p>
	<p>Reference section 5, step 8</p>

<b>Tip</b>	N/A
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<b>Warning</b>	N/A
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<b>Safety</b>	<ul style="list-style-type: none"> <li>• Read the entire Product Manual before implementing this product for your application. This manual contains important information about</li> </ul>
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electrical connections that must be followed for safe and proper operation.

- Inspect the product closely for visual defects before putting it to use.
- Keep away from areas where moisture builds, this product contains electrical components that can be damaged by moisture build up, this can adversely affect your equipment connected to it.
- Do not disassemble the product. Handling the product's internal components can expose it to ESD (Electro-Static Discharge) hazards that can affect the function of the device.
- If this product is not functioning properly, email our support team at [support@coolgear.com](mailto:support@coolgear.com).

## 7. Supporting References

Document	Link
Website Product Page	<a href="https://www.coolgear.com/product/2-port-usb-to-rs-422-485-optical-isolated-adapter">https://www.coolgear.com/product/2-port-usb-to-rs-422-485-optical-isolated-adapter</a>

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