

**USB DIGITAL INTERFACE SOFTWARE INSTALLATION MANUAL FOR
PHV Series High Voltage
POWER SUPPLY
Document: 83550120 Rev A**

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1. Overview

This manual applies to PHV series power supplies equipped with the USB digital interface option. The manual provides user instructions for installing the PHV series USB interface driver on a control computer.

The interface works in combination with the driver software to provide a virtual COM port, which can behave like a real RS232 Port and allow the use of legacy software.

After driver software has been installed, the virtual COM port (if required) must be configured by the application software in the same way as a real COM port (baud rate and handshake setting).

For USB operation, the baudrate is usually 115200Bd.

Additional handshake settings are: 8 data bits, 1 stop bit, no parity, no handshake, no flowcontrol

Supported operating systems:

Windows 7, Server 2008 R2, Windows 8, 8.1, Windows server 2012 R2 and Windows 10

The USB interface programming commands can be found in the Digital Interface Command Reference manual (document 83550100) PHV product page: http://www.us.tdk-lambda.com/hp/product_html/PHVpower.htm.

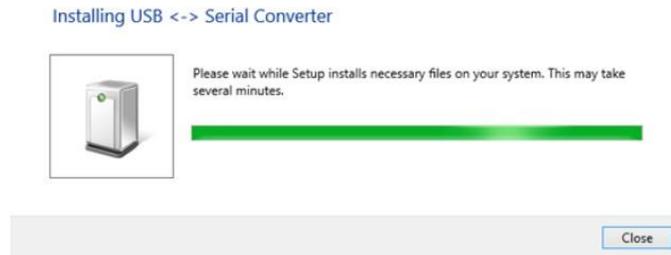
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2. Driver Installation

2.1. Automatic Driver Installation

Connect the power supply to the control computer using a USB cable.

If there is an available internet connection, Windows 10 will connect to the Windows Update website and install a suitable driver.



2.2. Manual Driver Installation

If no internet connection is available or a suitable driver is not found then the following procedure can be followed.

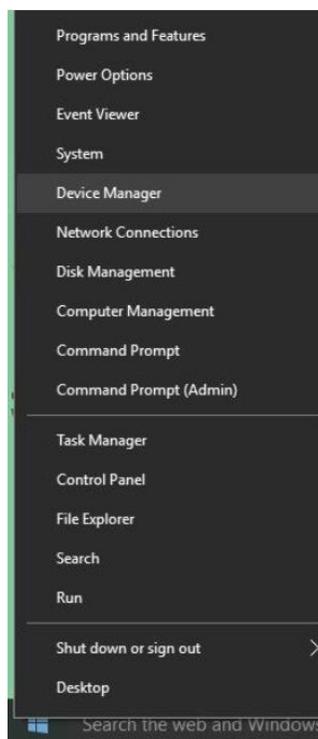
2.2.1. USB Interface installation

Before starting the USB installation process, download the latest USB drivers for your operating system from the PHV product page on the TDK-Lambda website:

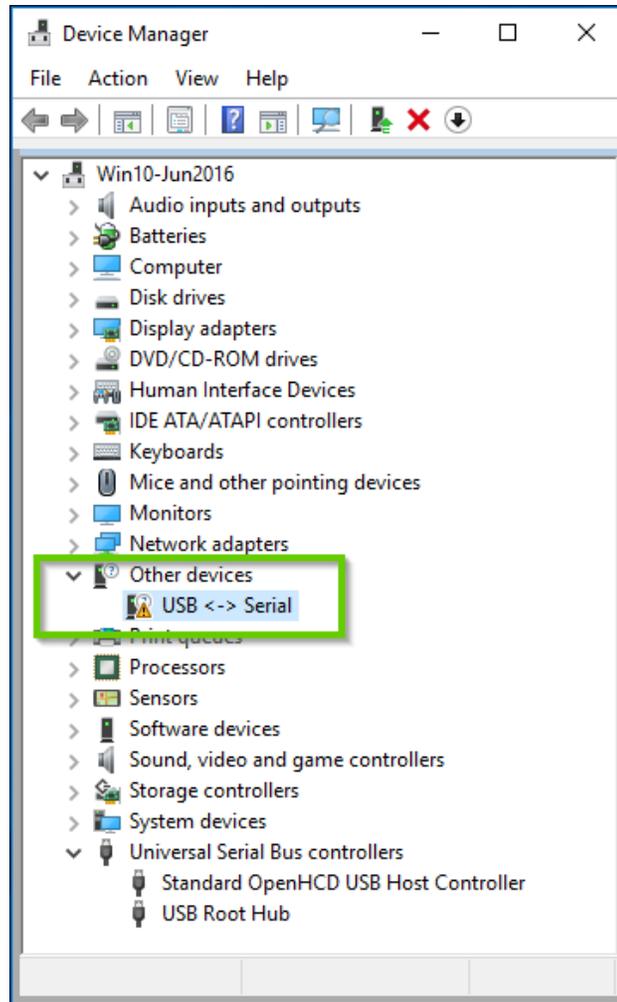
http://www.us.tdk-lambda.com/hp/product_html/PHVpower.htm.

Extract the downloaded Zip file to an appropriate location.

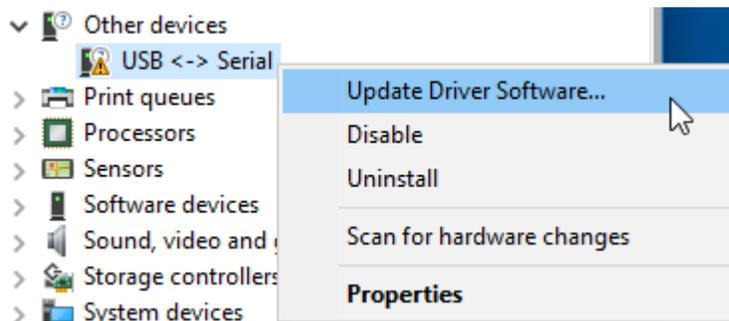
To start device manager in windows 10, right click on the Microsoft logo at the bottom left hand corner of the screen and select Device Manager.



In the Device Manager window, there should be a device under “Other Devices” with a yellow warning symbol to indicate a problem i.e. no driver installed. The text next to this device will depend on the device attached. In this example, the device was a “USB <-> Serial”.



Right click on the other device (USB <-> Serial) to open the menu shown in the following Figure. From the menu, select “Update Driver Software...”



This displays the option for an automatic search or a manual search. Select the second option to browse manually as shown

How do you want to search for driver software?

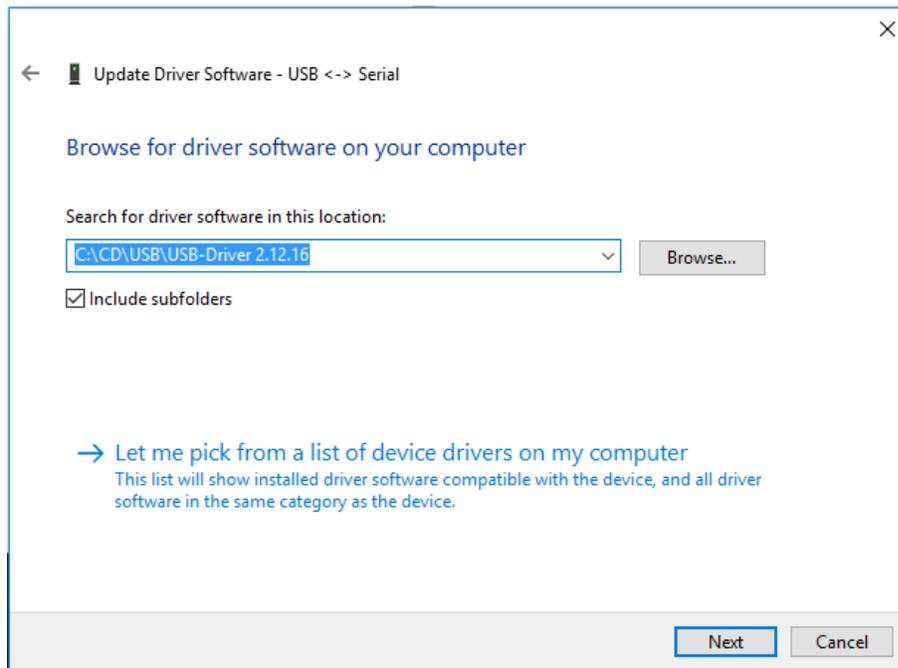
→ Search automatically for updated driver software

Windows will search your computer and the Internet for the latest driver software for your device, unless you've disabled this feature in your device installation settings.

→ Browse my computer for driver software

Locate and install driver software manually.

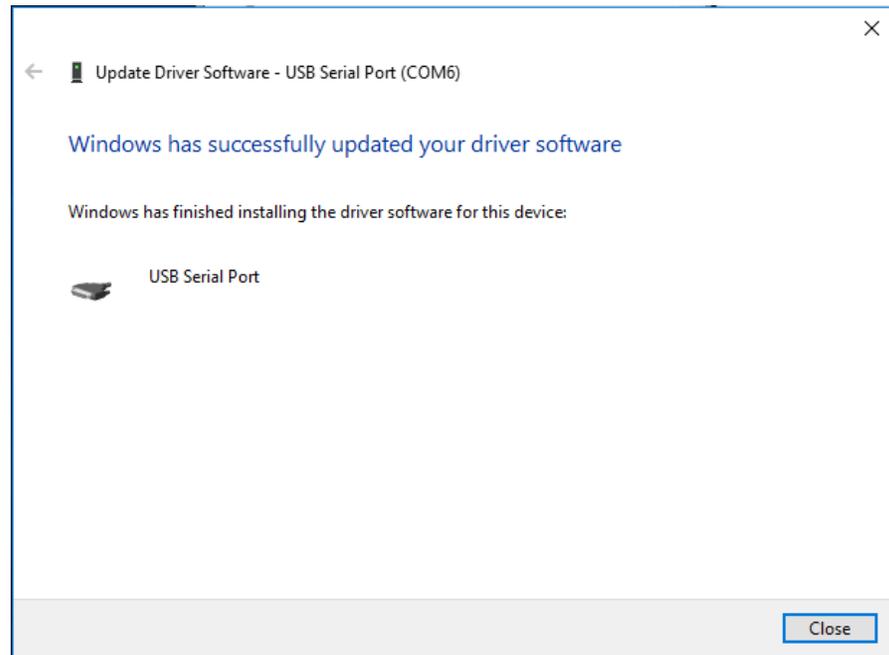
In the address box put the exact location where the drivers downloaded earlier were extracted. The location should be the top level folder of the extracted files and contains two *.INF files. It is not necessarily the same location as shown in the following example Figure.



After entering or browsing for the address, select “Next” to start the installation as shown ...



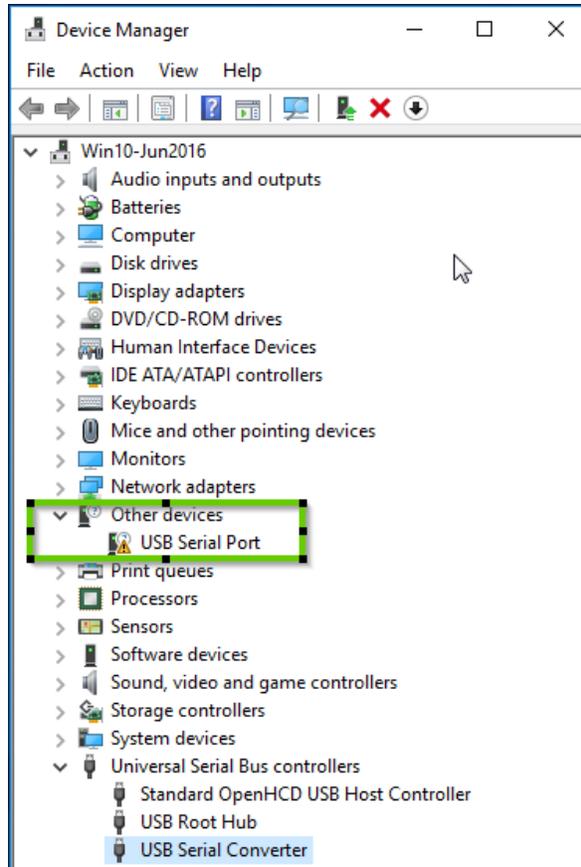
When the installation is complete, the following is displayed.



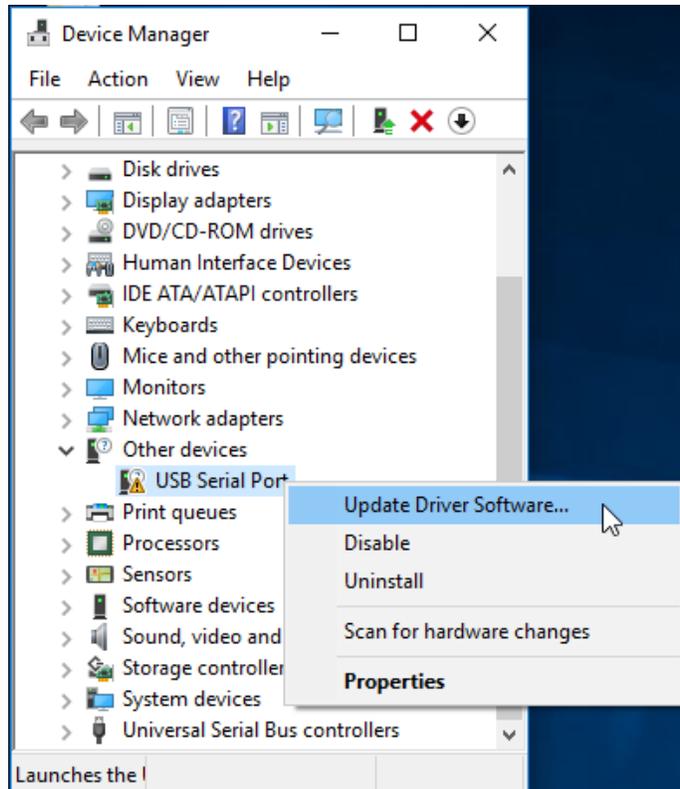
Click Close to close this window and return to the Device Manager Window.

2.2.2. Virtual Com Port Installation

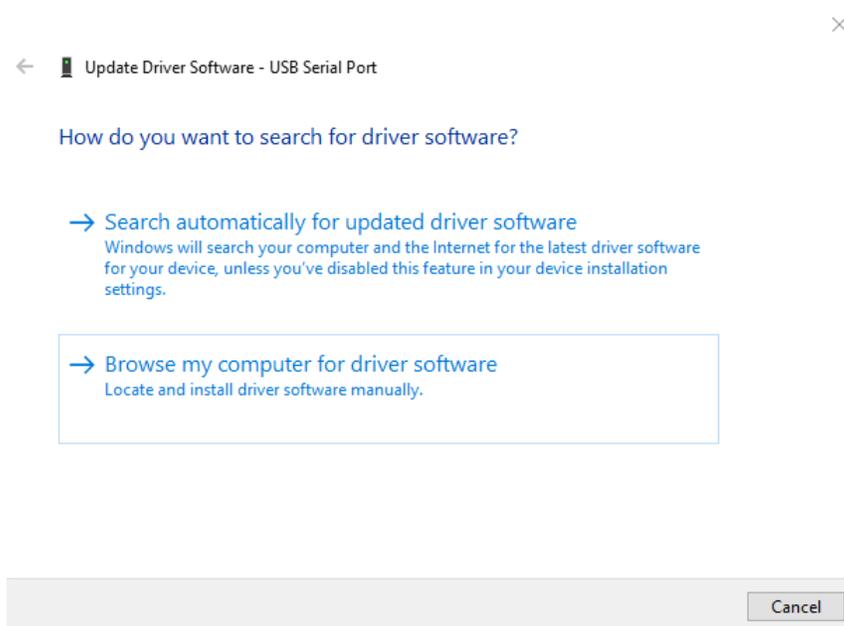
If the Virtual Com Port option has been selected then the Device Manager will show a device under “Other Devices” but in addition to this there is a new entry under Universal Serial Bus Controllers indicated in following Figure as the USB Serial Converter. This indicates the bus layer of the driver is installed. Installing the Virtual Com Port layer of the driver is almost a repeat of the last few steps.



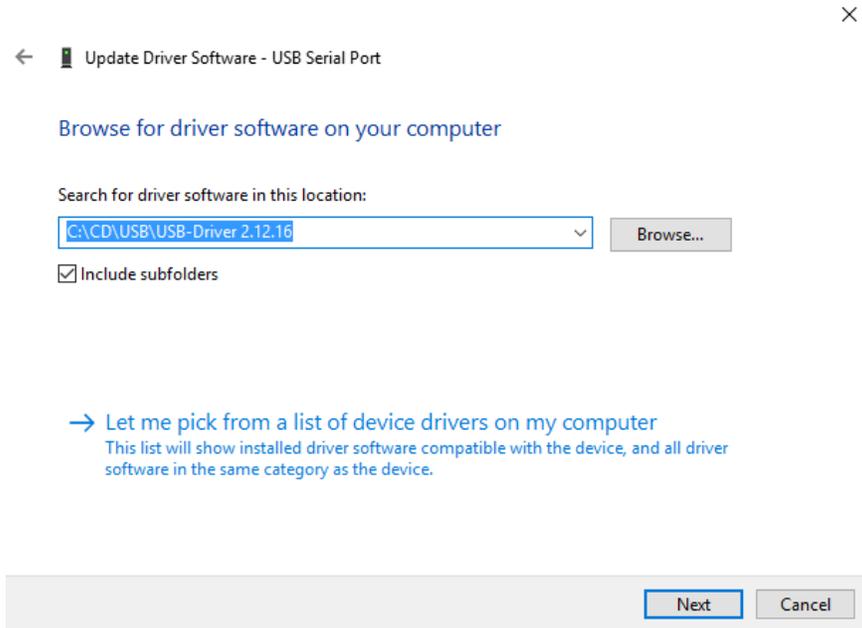
Right click on the other device (USB Serial Port) to bring up a menu as shown in next Figure. From the displayed menu select “Update Driver Software...”



This displays the option for an automatic search or a manual search as shown in next Figure. Select the second option to browse manually.



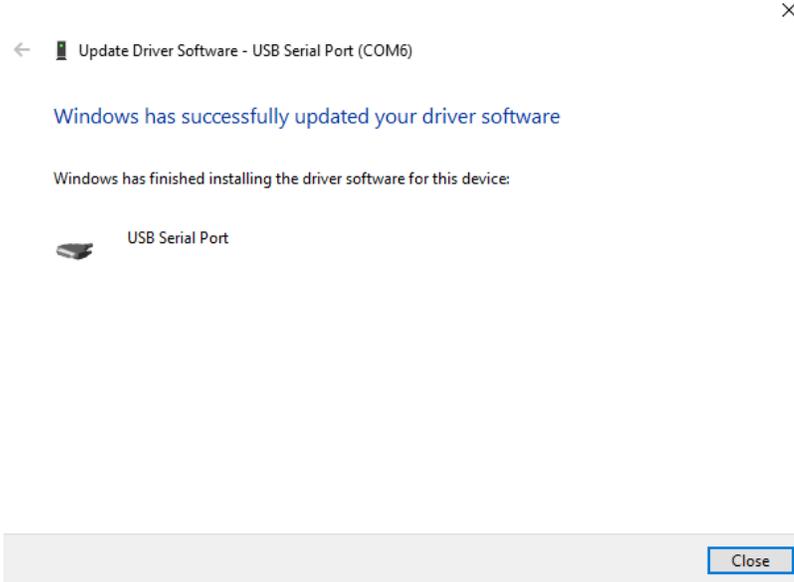
In the address box put the exact location where the drivers downloaded earlier were extracted. The location should be the top level folder of the extracted files and contains two *.INF files. It is not necessarily the same location as shown in the following example Figure.



After entering the address select “Next” to start the installation as shown

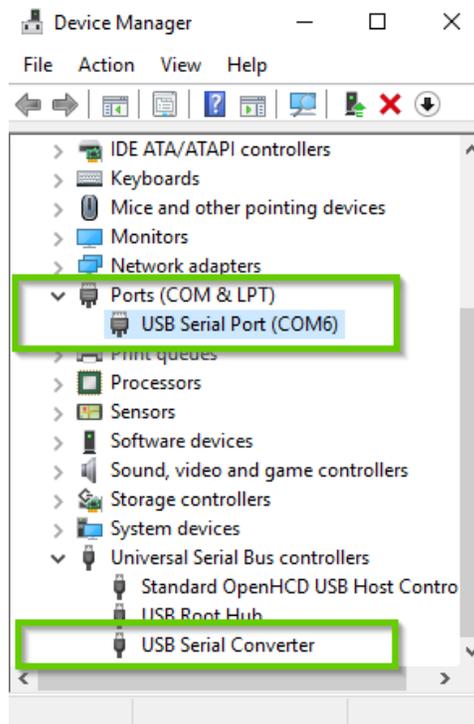


When the installation is complete, the following is displayed.



Note this screen also displays the COM port number assigned to the device.

Press Close to close this window and return to the Device Manager Window as shown in the following Figure.

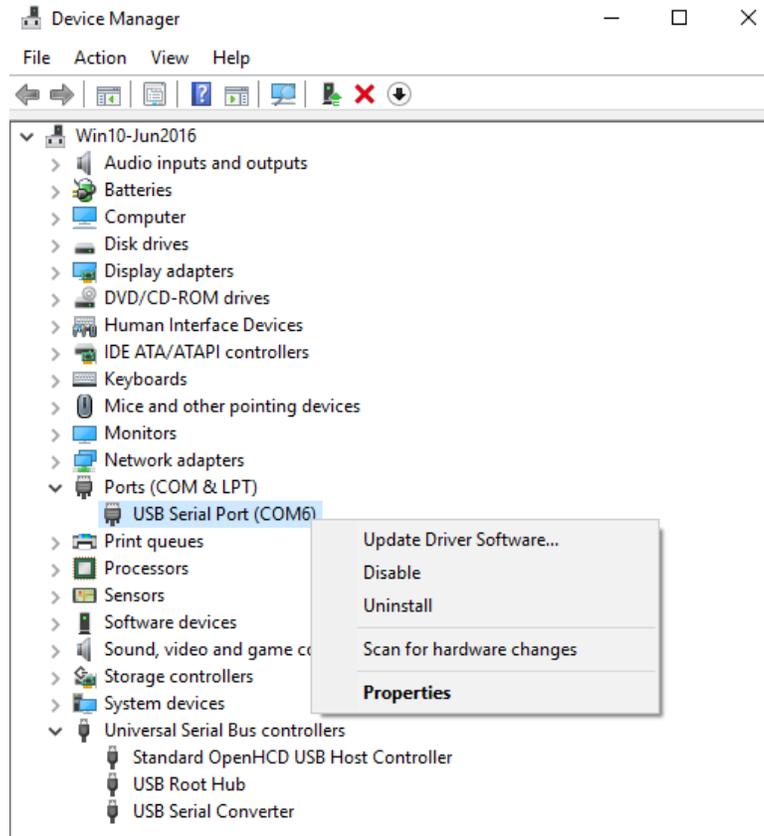


This time the Device Manager does not have an entry under Other Devices but does show entries under Universal Serial Bus Controllers and Ports (COM & LPT). The Figure above displays a correct installation. The device is now ready to use on COM6.

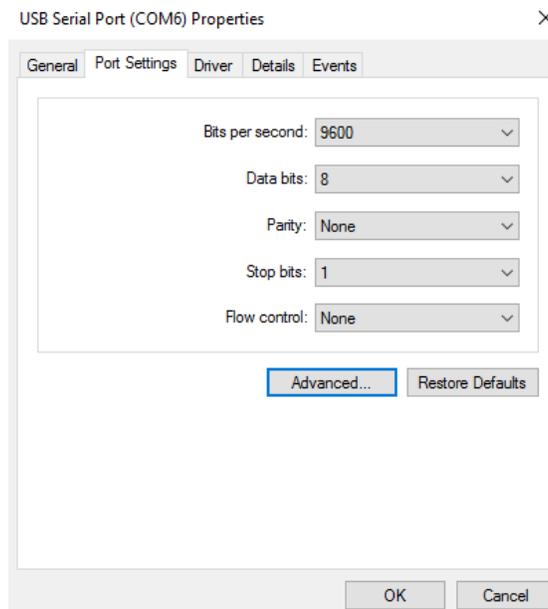
NOTE: Not all devices will install to COM6. The COM port allocation is determined by the installation wizard on the basis of the next free com port as designated in the PC registry.

3. Configuration

To configure the device, right click on “USB Serial Port” and select Properties. Port Property window appears.



Choose **Port Settings** and then click on **Advanced...**



COM Port Number: COM6

USB Transfer Sizes
Select lower settings to correct performance problems at low baud rates.
Select higher settings for faster performance.

Receive (Bytes): 64

Transmit (Bytes): 64

BM Options
Select lower settings to correct response problems.

Latency Timer (msec): 1

Timeouts

Minimum Read Timeout (msec): 0

Minimum Write Timeout (msec): 0

Miscellaneous Options

Serial Enumerator

Serial Printer

Cancel If Power Off

Event On Surprise Removal

Set RTS On Close

Disable Modem Ctrl At Startup

Enable Selective Suspend

Selective Suspend Idle Timeout (secs): 5

OK

Cancel

Defaults

Now the user can select an appropriate port number.

The Receive and Transmit Parameters of USB Transfer Sizes should be set to 64 Bytes. The Latency Timer should be set to 1ms to ensure maximum possible speed.

COM port number

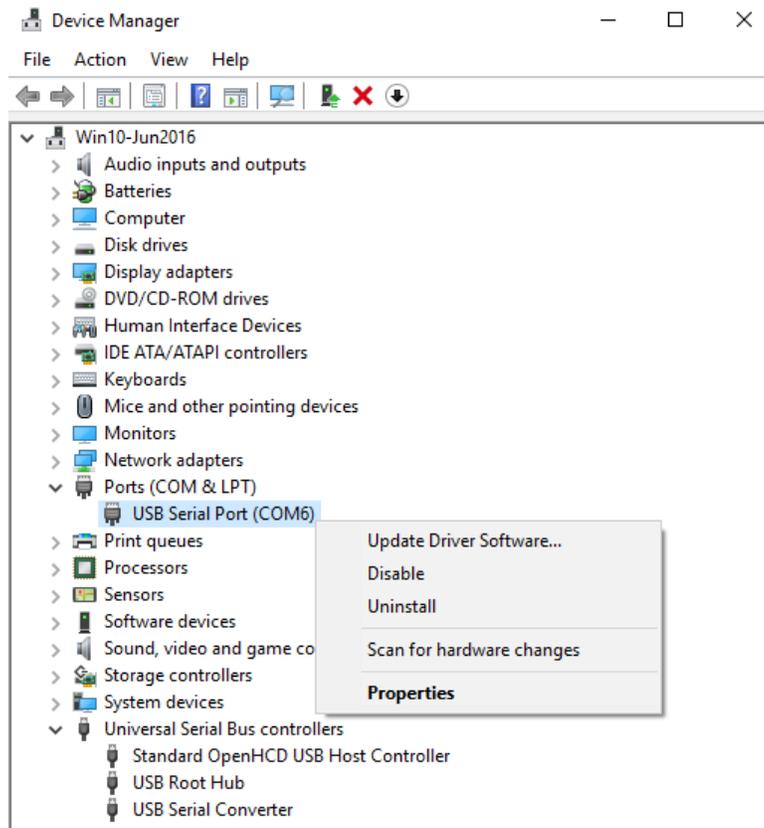
The USB interface converters contain a unique serial number.

The driver software is able to identify an interface converter and can always assign the same COM port number on the same PC.

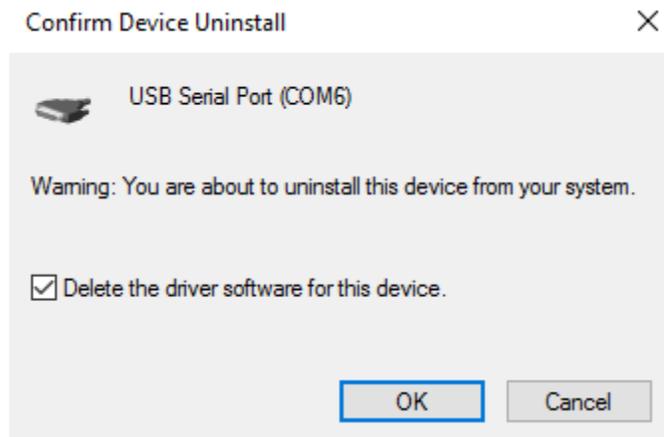
Attention: When porting a program to another PC, the COM port number may be different!

4. Removing the Driver Software

To uninstall both drivers, the user has to uninstall the “USB Serial Port” first. To uninstall, right click on “USB Serial Port” and select “Uninstall”.

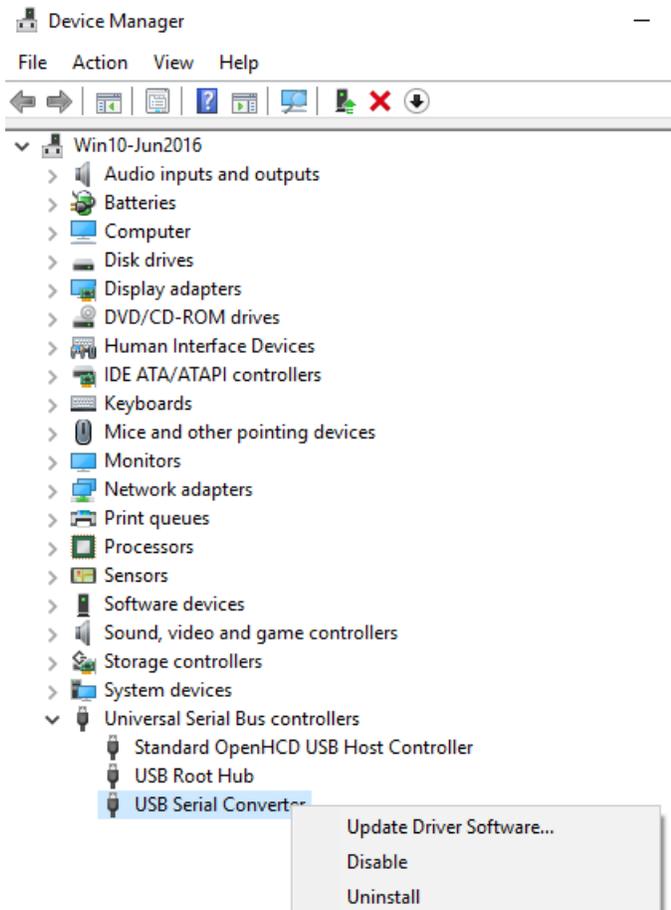


Confirm Device Uninstall, check checkbox “Delete the driver software for this device”



Uninstall the “USB Serial Converter” in Device Manager.

To uninstall, right click on “USB Serial Converter” and select “Uninstall”.



Confirm Device Uninstall, check checkbox “Delete the driver software for this device”

