

# USER'S MANUAL



## PH485Ux1P

RS-232, RS-485 and RS-422 ISOLATED USB ADAPTER

**IPEX**

**(IP Electronix)**

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ipelectronix.com

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## 1. INTRODUCTION

**IPEX PH485Ux1P** is a USB Adapter that provides a Serial COM Port via its USB connection and is compatible with RS-485 standard devices differential (Data+ & Data-); RS-422 standard devices differential (TX+, TX- & RX+, RX-) signals; and RS-232 standard devices RxD and TxD signals. **PH485Ux1P** is fully Plug & Play and enables your laptop or workstation with the ability to communicate between a USB port and a RS-232/RS-485/RS-422 serial peripheral with baud-rate from 300bps to 230400bps.

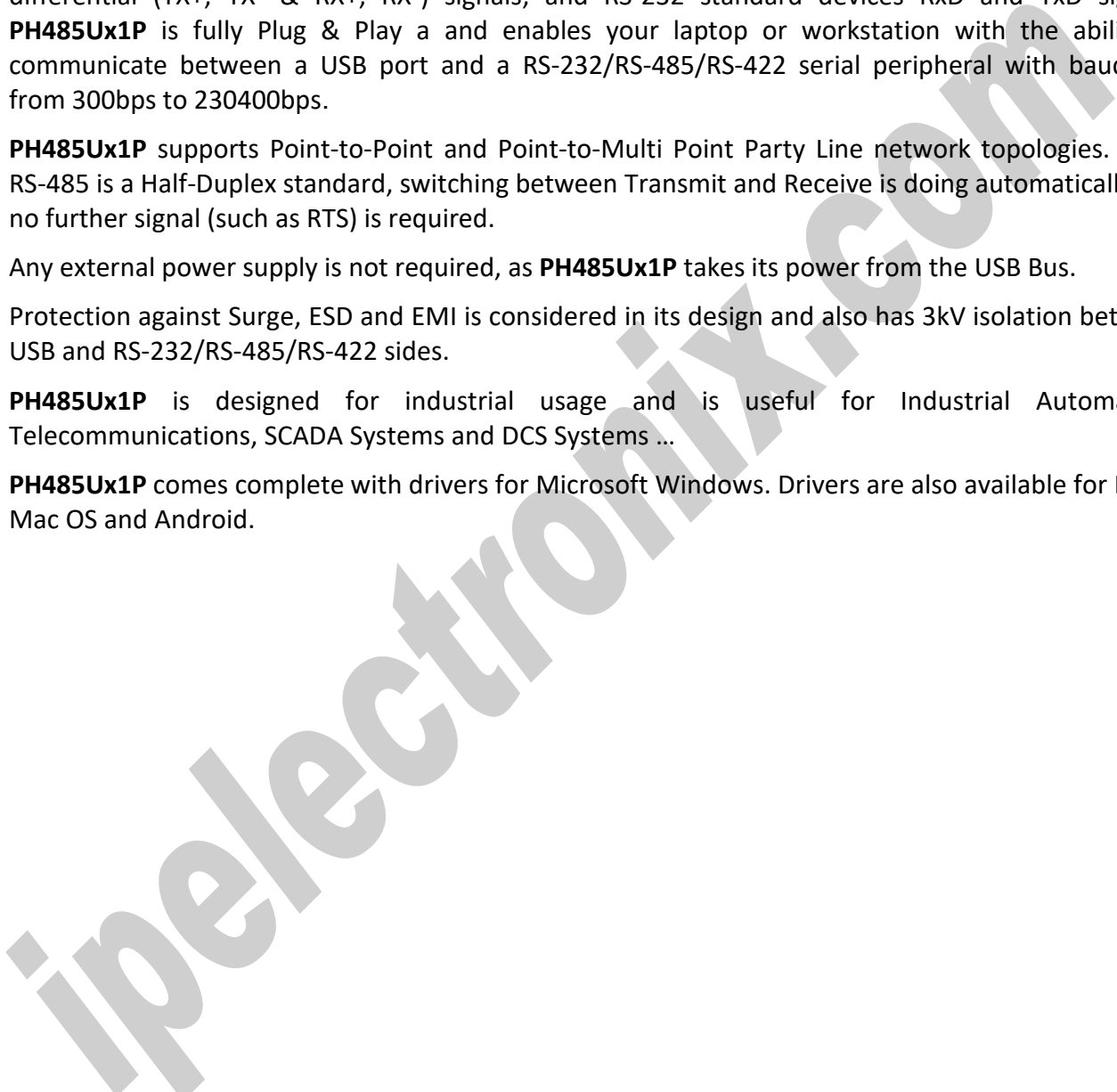
**PH485Ux1P** supports Point-to-Point and Point-to-Multi Point Party Line network topologies. Since RS-485 is a Half-Duplex standard, switching between Transmit and Receive is done automatically and no further signal (such as RTS) is required.

Any external power supply is not required, as **PH485Ux1P** takes its power from the USB Bus.

Protection against Surge, ESD and EMI is considered in its design and also has 3kV isolation between USB and RS-232/RS-485/RS-422 sides.

**PH485Ux1P** is designed for industrial usage and is useful for Industrial Automation, Telecommunications, SCADA Systems and DCS Systems ...

**PH485Ux1P** comes complete with drivers for Microsoft Windows. Drivers are also available for Linux, Mac OS and Android.



## 2. SPECIFICATIONS

- **USB to RS-232, RS-485 and RS-422 Bidirectional Converter;**
- **Hi-Speed USB 2.0** supported (up to 480 Mbps);
- **Number of Ports:** #1 RS-232/RS-485/RS-422 Serial Port, #1 USB Port;
- Adds #1 **COM Port** to the PC;
- Fully **Plug & Play**;
- **RS-232 Signal:** RxD, TxD, GND;
- **RS-485 Signal:** Data+, Data-, GND;
- **RS-422 Signal:** TX+, TX-, RX+, RX-, GND;
- **Maximum Communication Distance (RS-485/422):** 1200m (4000 feet);
- **Loading:** RS-485 and RS-422 Side up to 32 Nodes are supported;
- **Bus-Powered** (No External Power Supply Required);
- **Serial Transmission Speed** Up to 921.6 kbps;
- **Isolation Protection:** 3kV Instantaneous, 500V DC continuous;
- **Serial Standard:** Meets or Exceeds the Requirements of RS-485/RS-422 Standards;
- **RS-232/RS-485/422 Parity:** Even, Odd, None, Mark and Space; Selectable;
- **Driver Supported:** Microsoft Windows, Linux, Mac OS and Android (32 & 64 Bits) Operating Systems;
- **USB (Green)** LED Indicator;
- **Transmit (Blue)** and **Receive (Yellow)** LED Indicator;
- **ESD Protection:** RS-232/485/422 Bus-Pin ESD Protection Exceeds  $\pm 15$  kV Using Human-Body Model (HBM);
- **Dimensions:** 26mm x 71.6mm x 122 mm (1.03in x 2.8in x 4.82in);
- **Operating Temperature:** -10°C to +70°C (+14°F to +158°F);
- **1 Year Guarantee** and **5 Years Support.**

### 3. PACKAGE CHECKLIST

Before installing the PH485Ux1P, verify that the package contains the following items:



1) #1 PH485Ux1P



2) #1 USB Cable



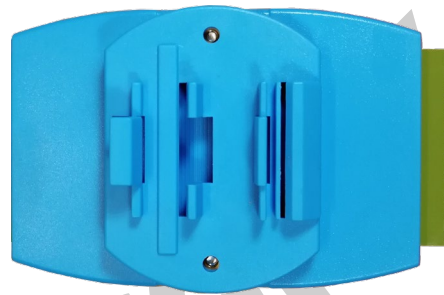
3) #1 Document and Driver CD-ROM

NOTE: Notify your sales representative if any of the above items is missing or damaged.

**4. TOP VIEW**



**5. BOTTOM VIEW**



**6. FRONT VIEW**

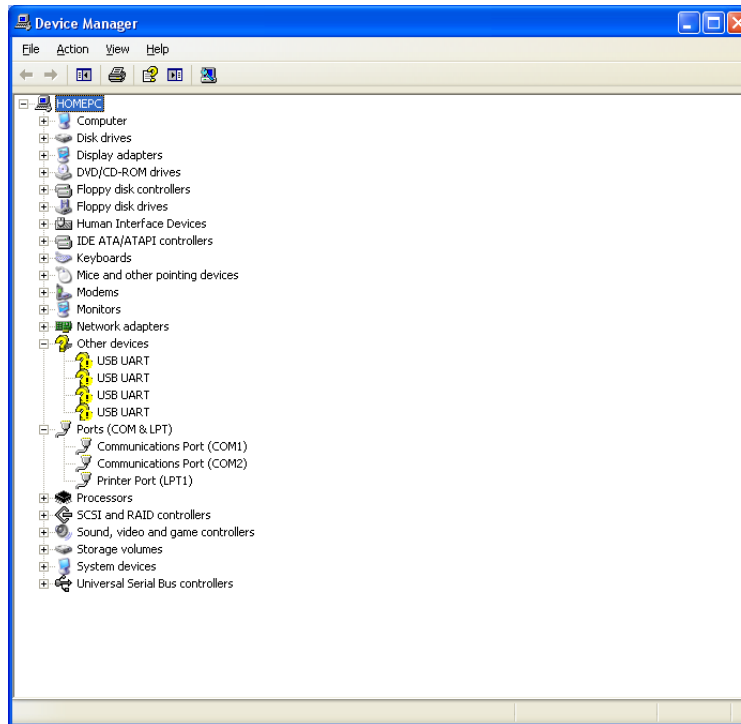


**7. BACK VIEW**

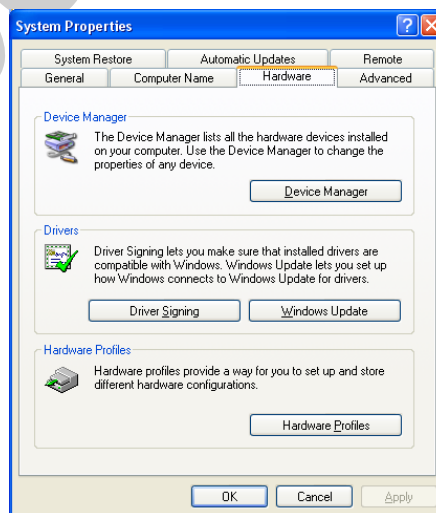


## 8. INSTALLATION ON WINDOWS

After you plug PH485Ux1P to USB port, you can see new device in the Device Manager window as below:



(To run Device Manager, right click on My Computer, select Properties and then select Hardware tab, finally click on Device Manager button like following picture or simply use "WIN-KEY + R" and then type DEVMGMT and press Enter)





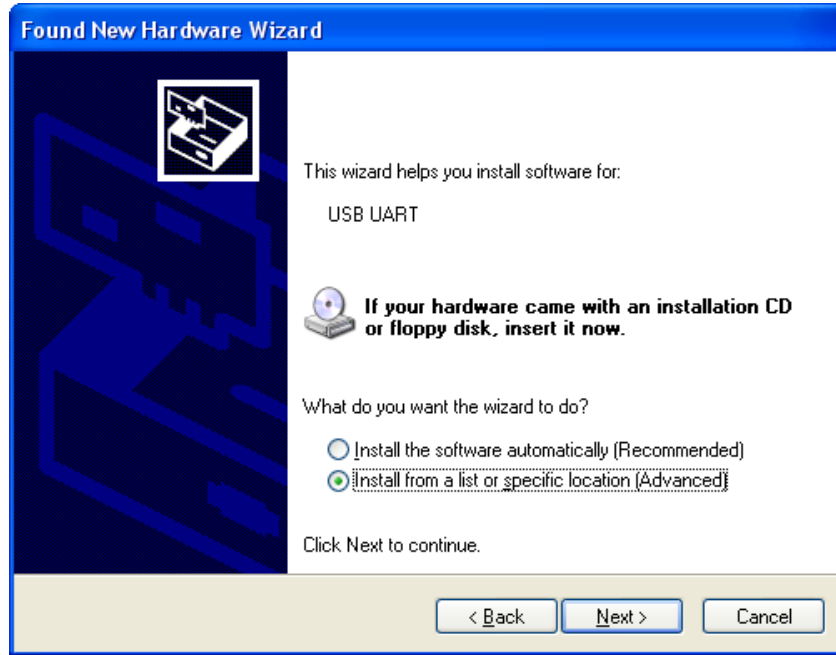
However, installation progress will be start automatically, and following window will be seen,



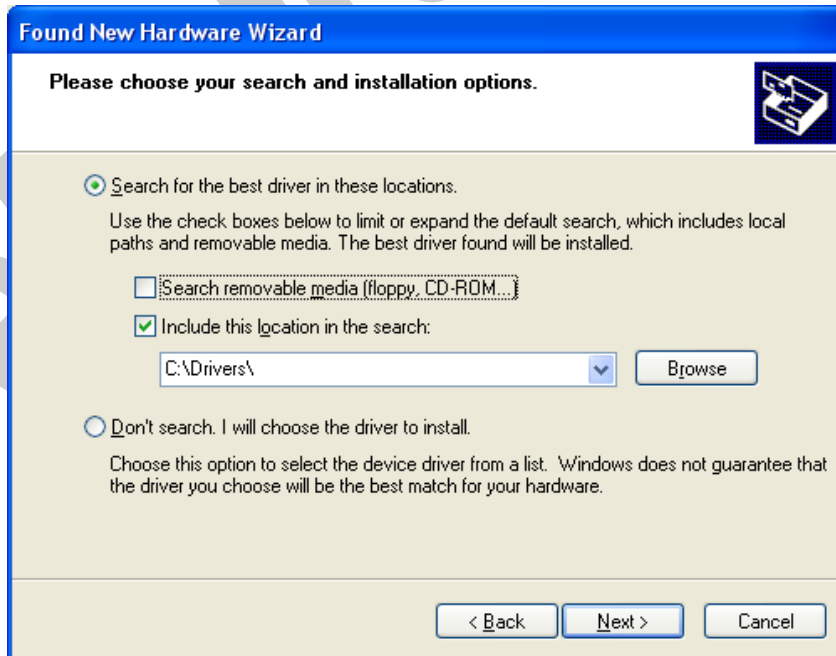
Select option "No, not this time" and then click "Next",



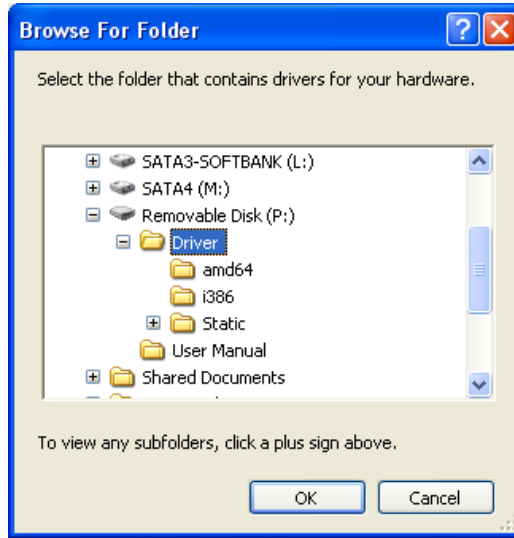
Select "Install from a list or specific location (Advanced)" and click "Next",



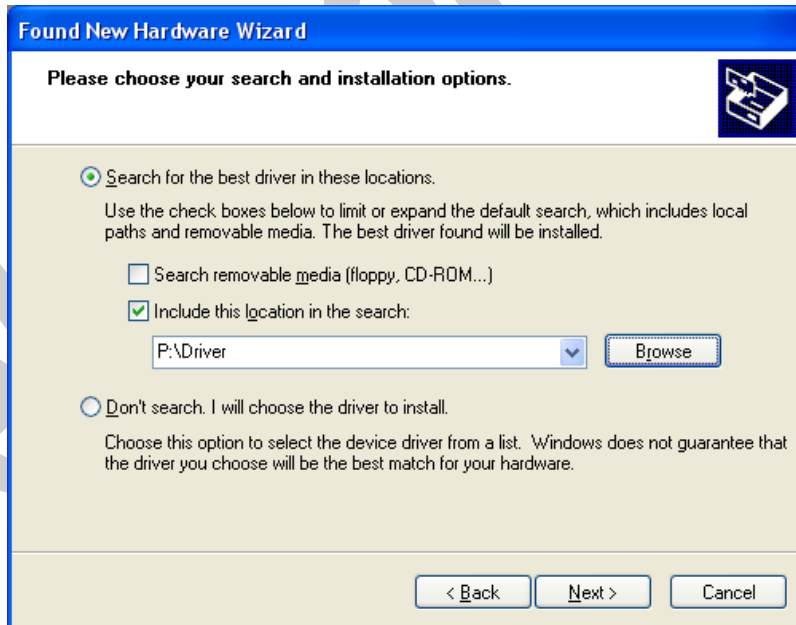
Select "Include this location in the search:" and click on "Browse",



Select "Driver Folder" on the Installation CD and click OK.



Now, click on "Next",



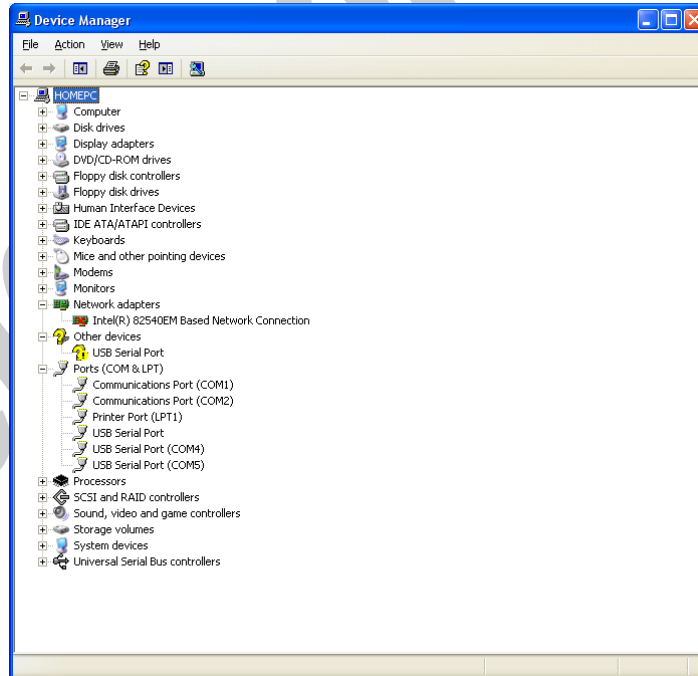
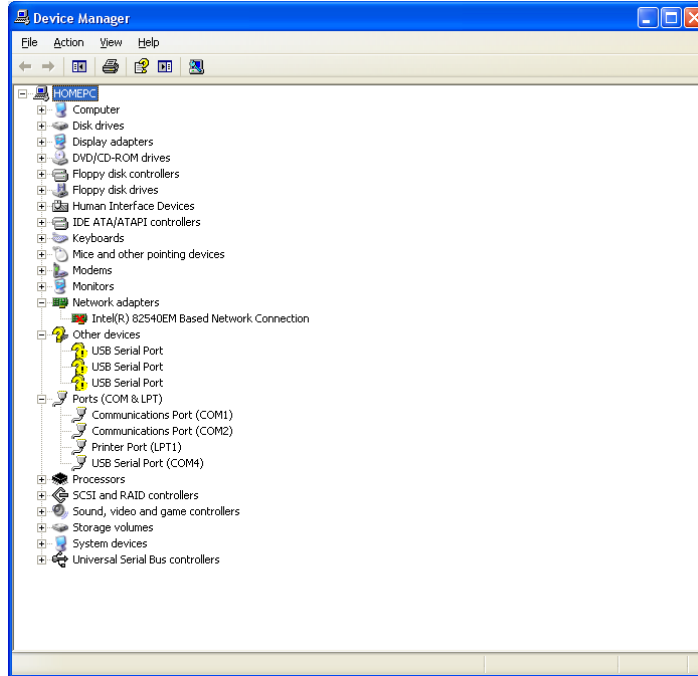
The driver will be installed,

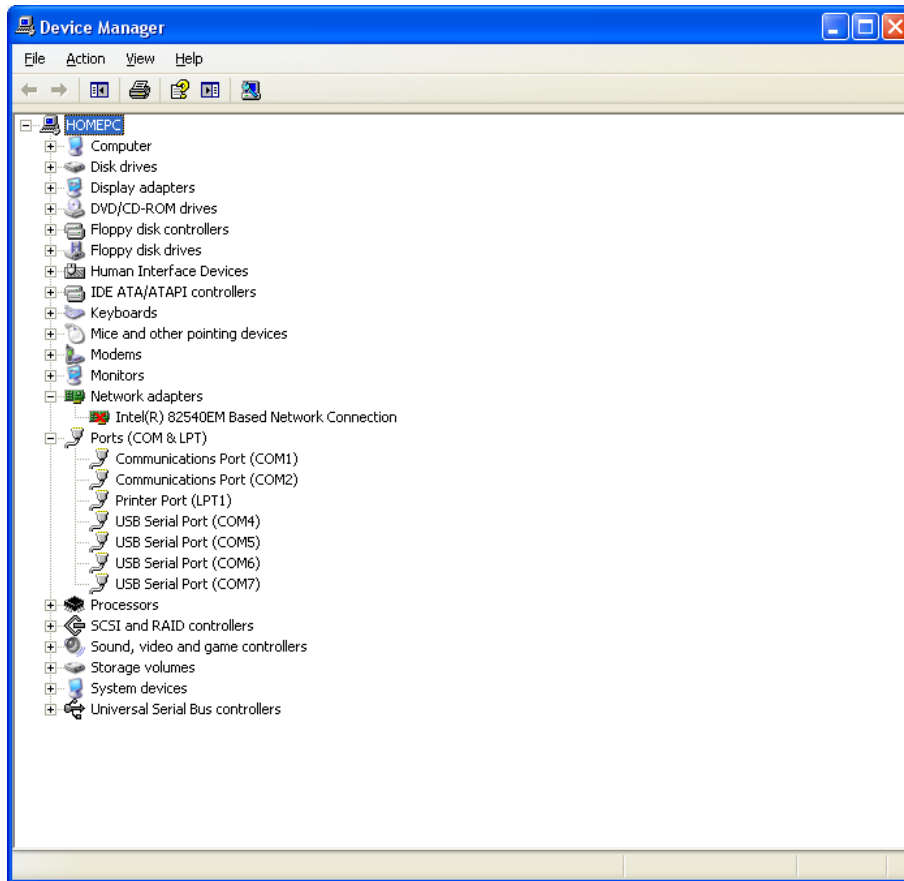


Now, click "Finish",



You should repeat these steps till all the ports will be installed.

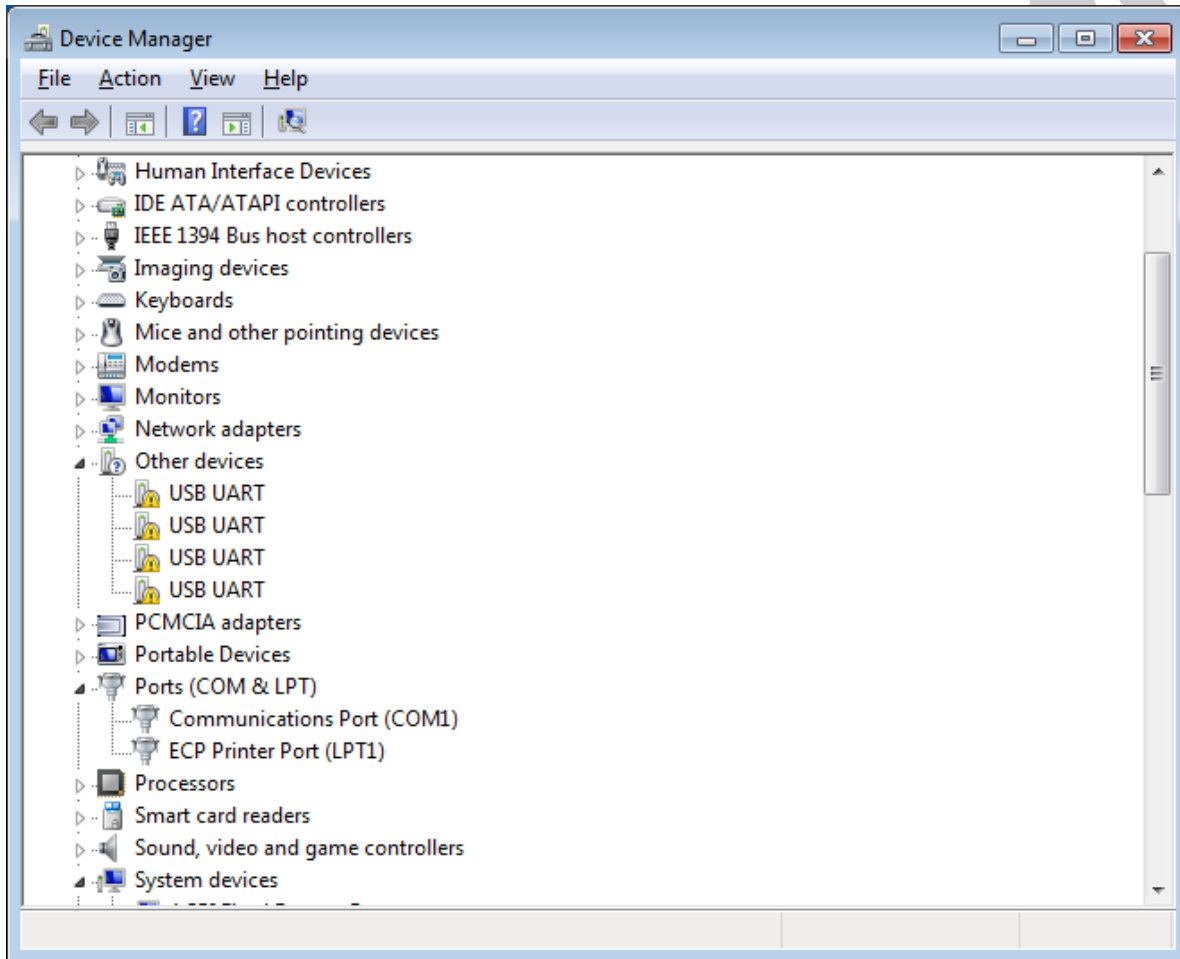


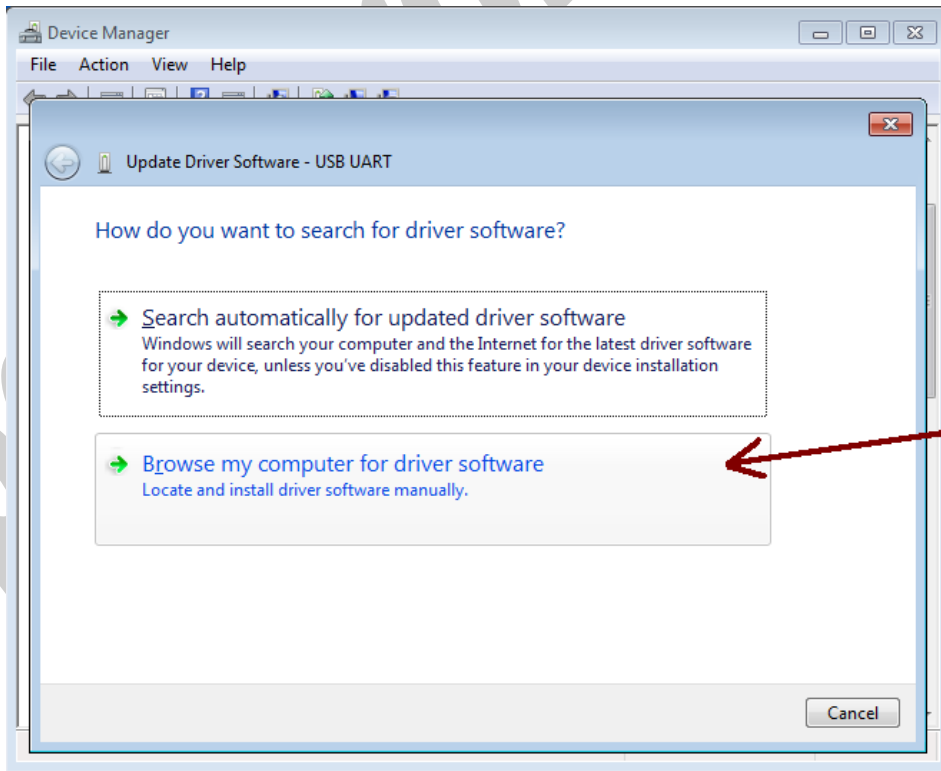
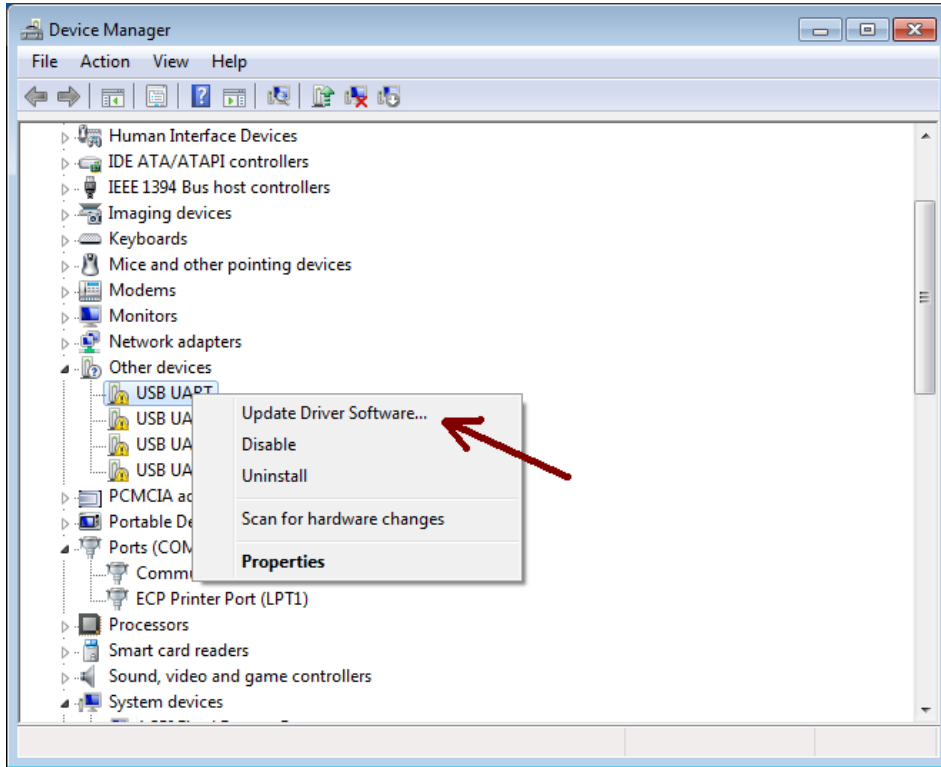


After finishing installation, you should see "USB Serial Port" in "Ports (COM&LPT)" section of Device Manager.

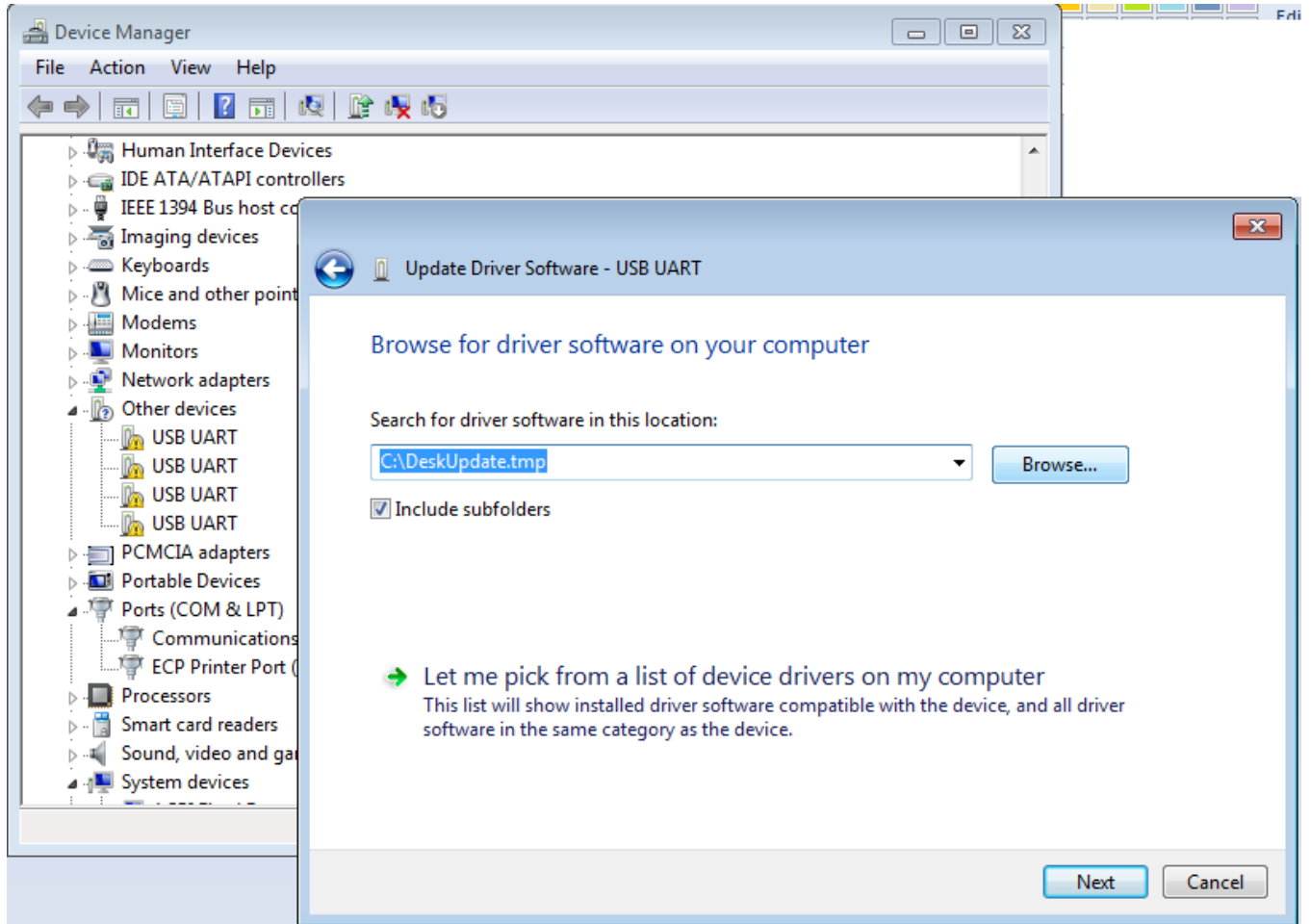
## 9. MANUAL INSTALLATION ON WINDOWS

If the installation procedure is not started after you plug the device to your computer you can install the driver manually as follow:

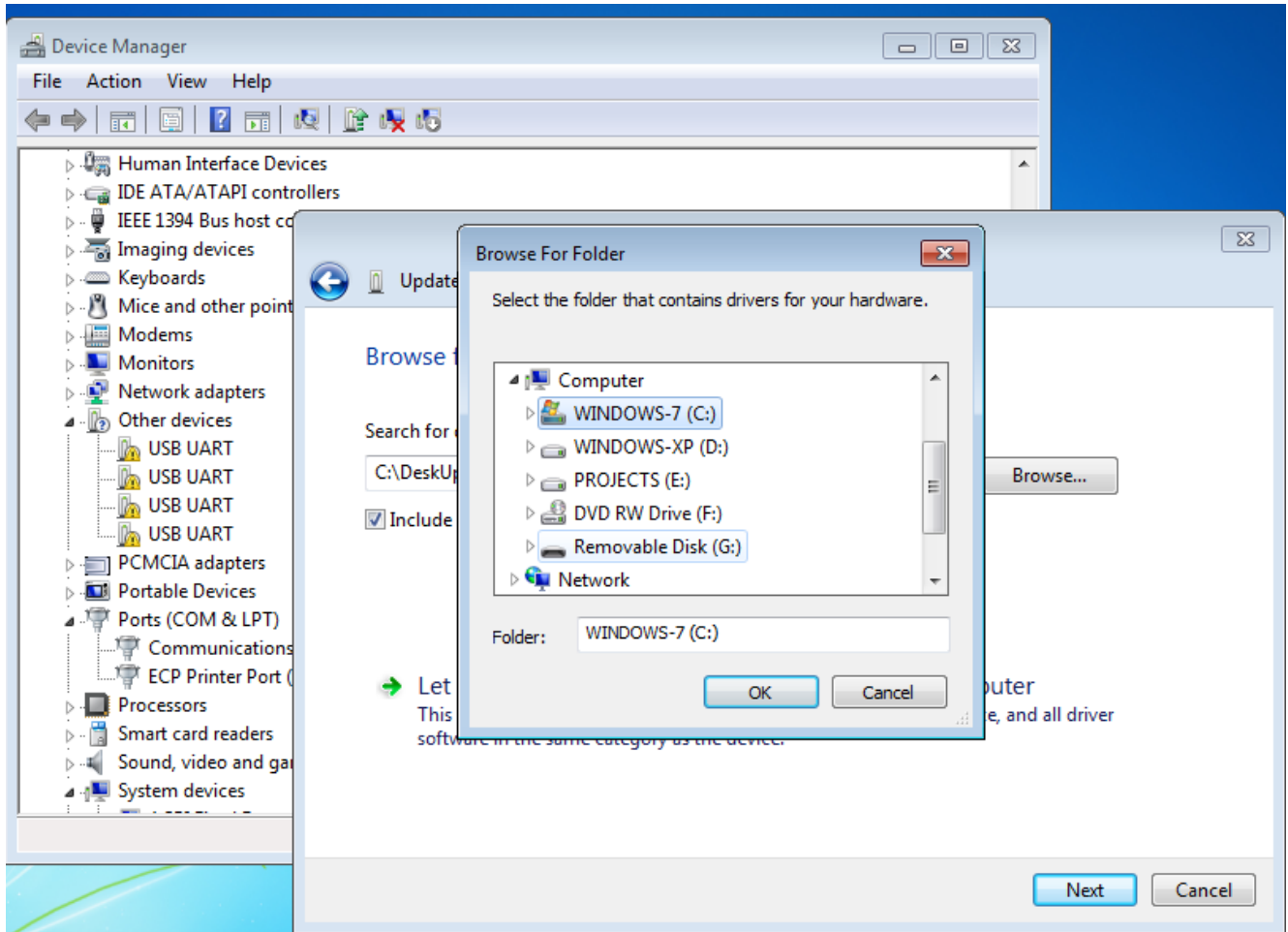




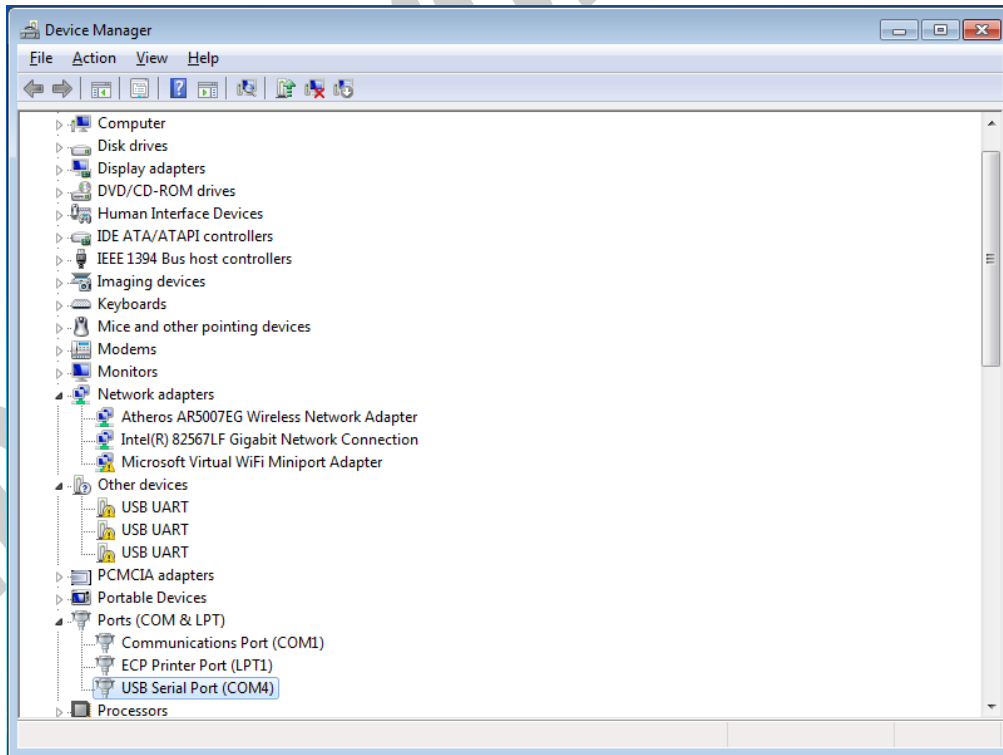
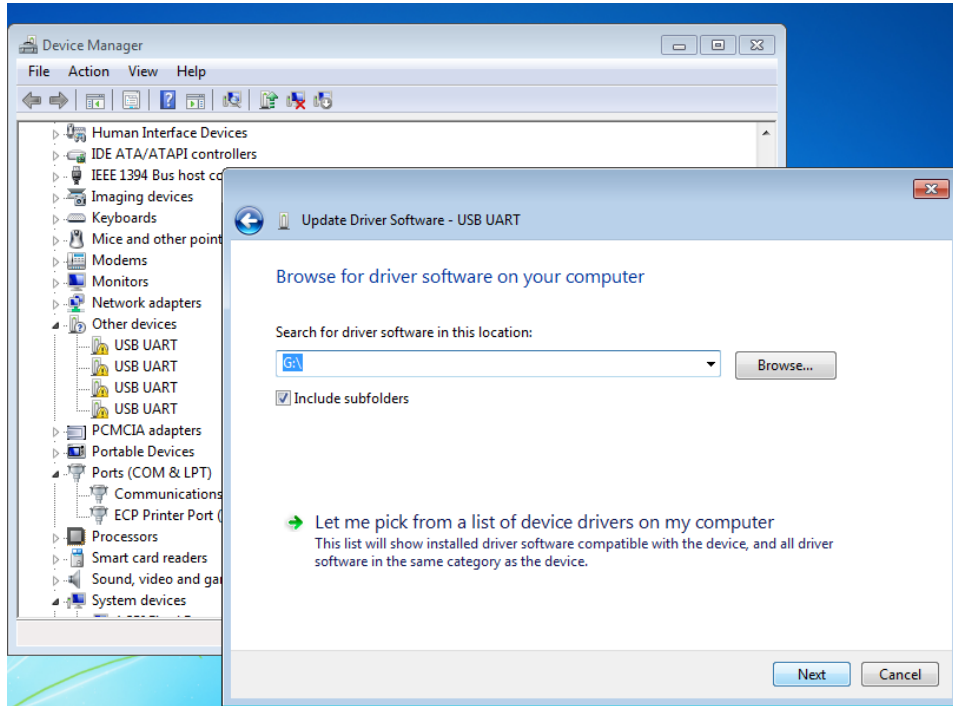


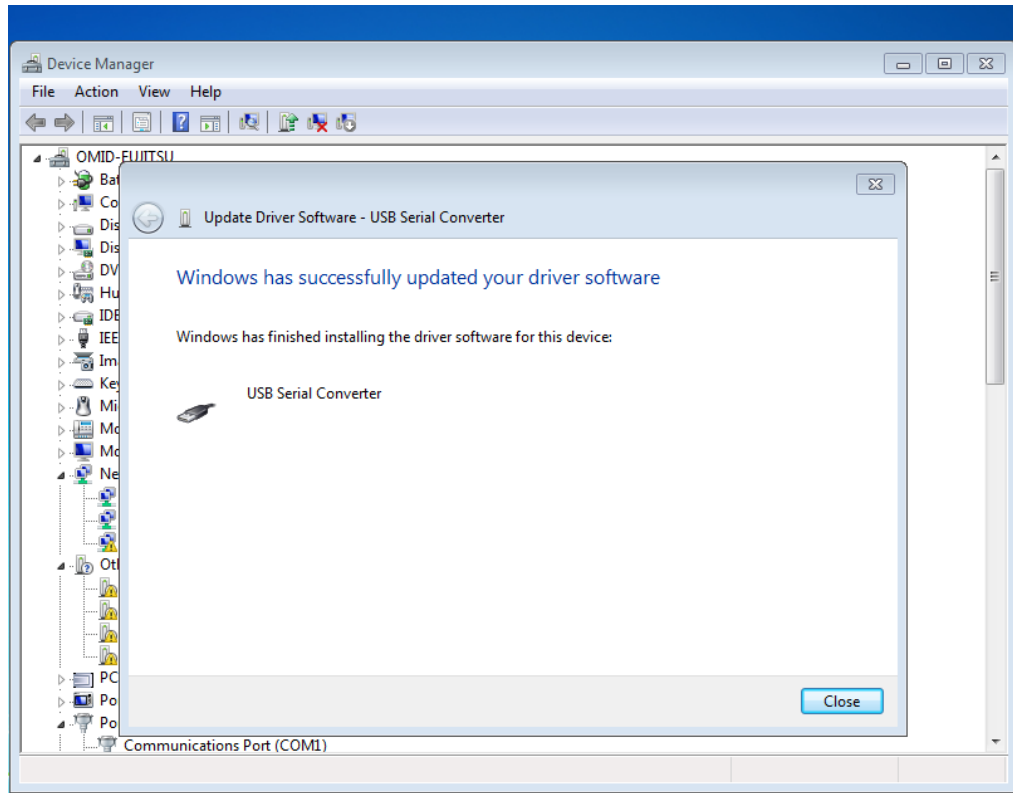


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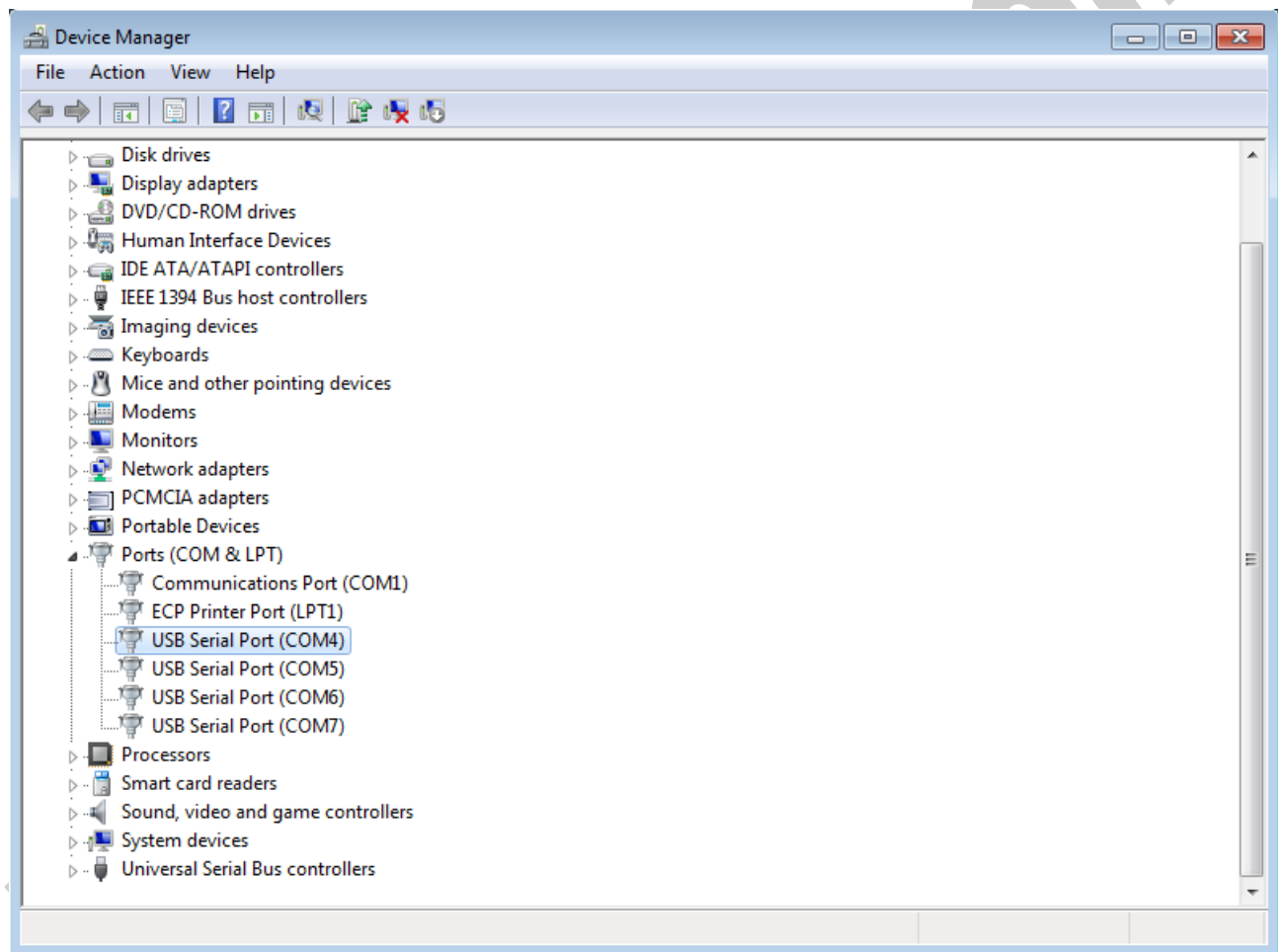


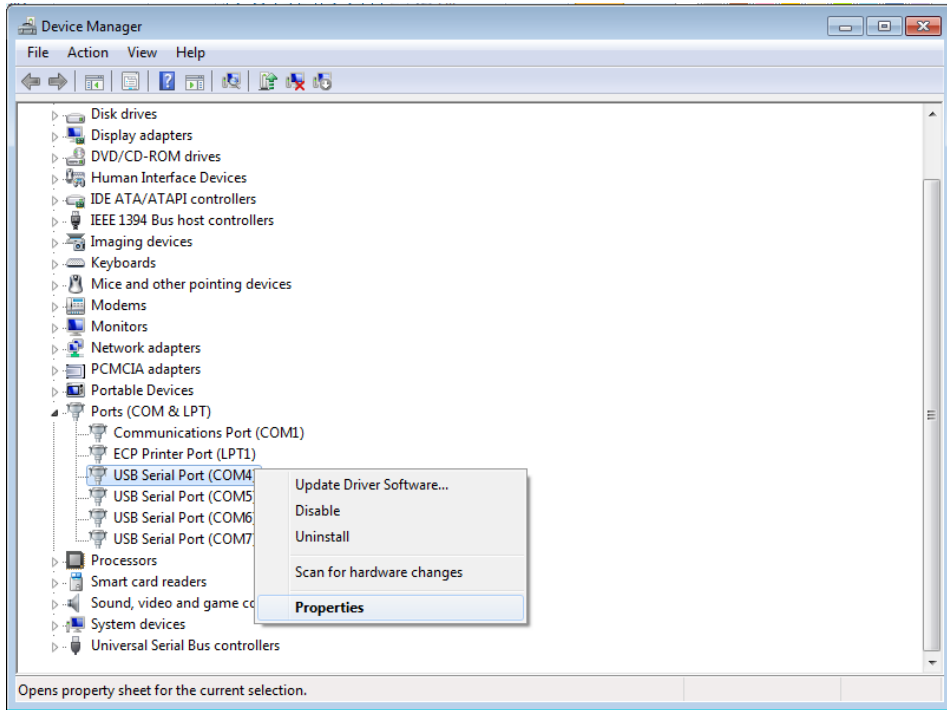


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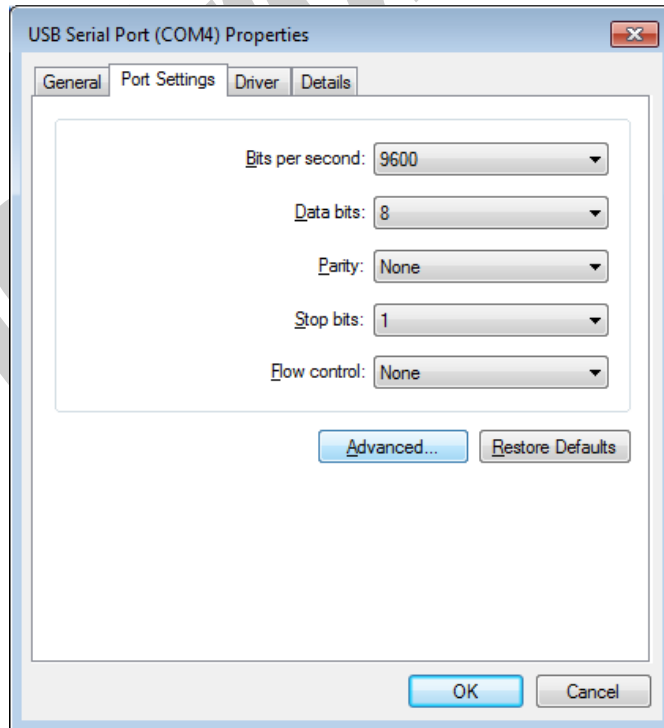
## 10. CHANGING COM PORT NUMBER

To change COM Port Number, right click on the USB COM Port on Device Manager and select properties,

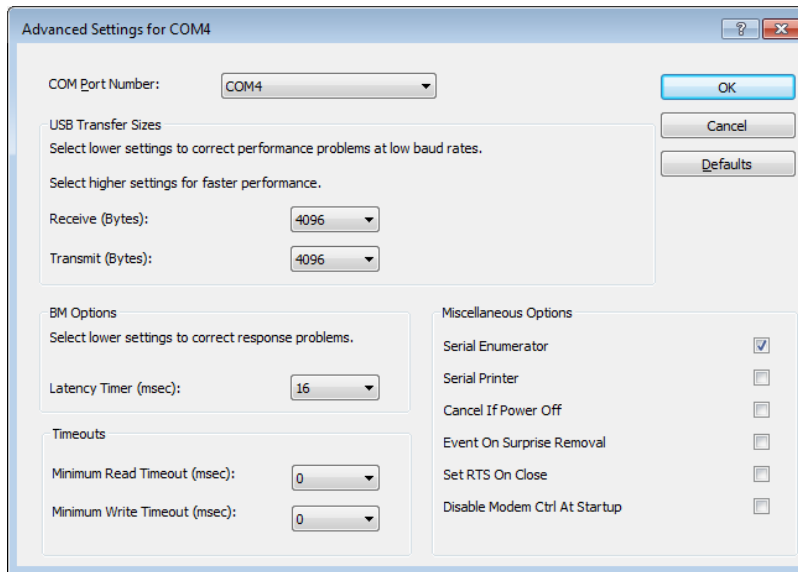




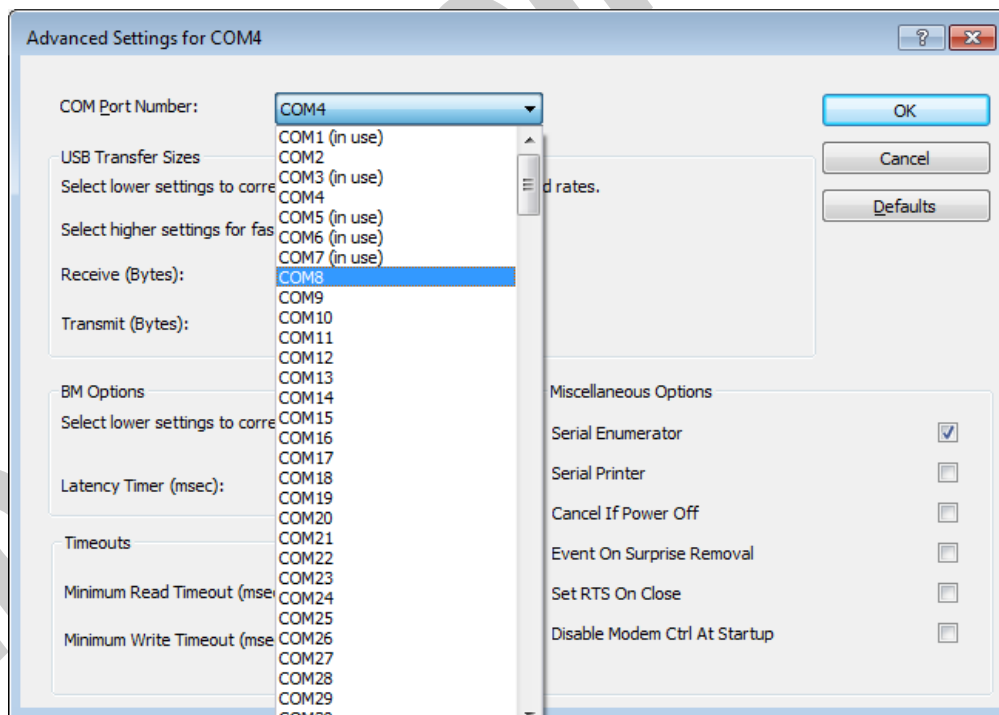
Select port setting:



And then click on "advanced...",



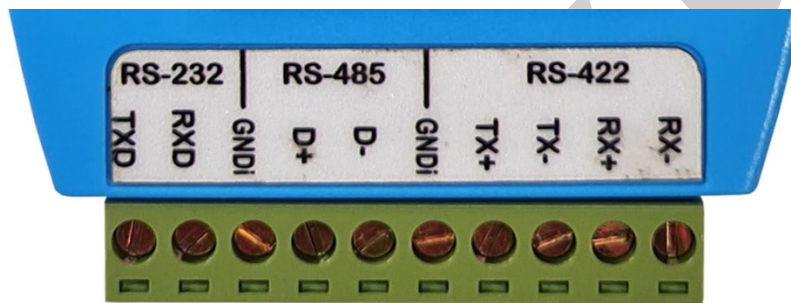
Now, you can choose a number from COM Port Number section and finally click ok.



## 11. IDENTIFYING DEVICE PORTS COM NUMBER

To identify which COM Port belongs to PH485Ux1P, you can use a terminal utility software like "HYPER TERMINAL" which is exist in the Utility Folder on Installation CD. After running "HYPER TERMINAL", select a COM port and type some characters to transmit them, now you can find device COM port by watching TX LED (Blue LED) .

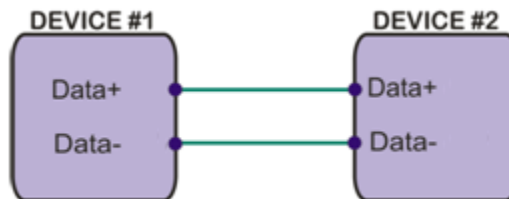
## 12. RS-232/485/422 SERIAL PORT PIN CONFIGURATION



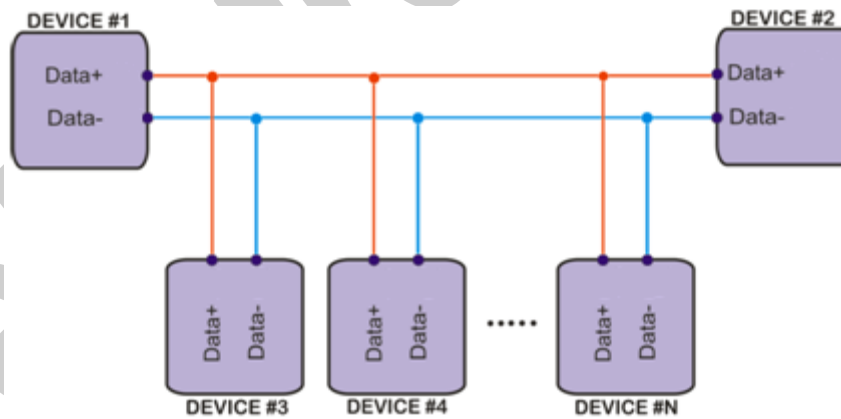


### 13. RS-485 CONNECTING METHODS

- RS-485: Point to Point Connection

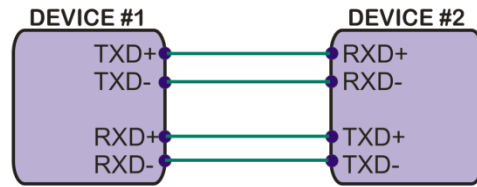


- RS-485: Multipoint Network

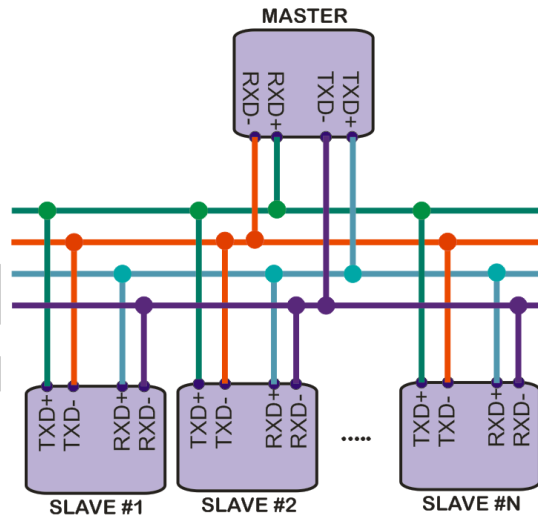


### 14. RS-422 CONNECTING METHODS

- **RS-422: Point to Point**



- **RS-422: Multi-Drop Network**

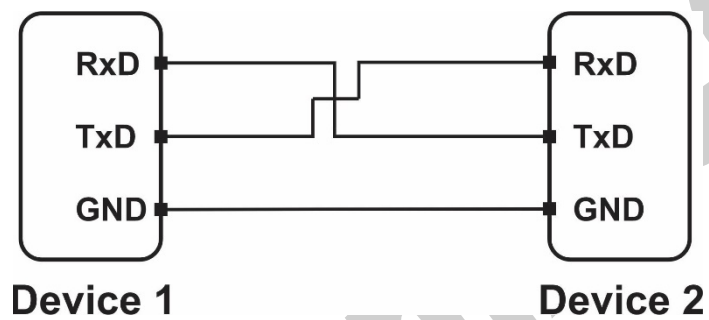


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## 15. RS-232 CONNECTING METHODS

Simple Null Modem Connection (to PC, PLC... Without Hardware Flow control)



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## 16. GUARANTEE

All products manufactured by **IP Electronix** are under warranty regarding defective materials for a period of one year from the date of delivery to the original purchaser.

## 17. TECHNICAL SUPPORT

If you have any technical question or need any technical support, please contact us using this Email address: [support@ipelectronix.com](mailto:support@ipelectronix.com).

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