

USER'S MANUAL



PH485Ux4

#4 RS-485/RS-422 Over USB ISOLATED MULTI-PORT

IPEX

(IP Electronix)

13 January 2022

ipelectronix.com

CONTENTS

1. INTRODUCTION	4
2. SPECIFICATIONS	5
3. PACKAGE CHECKLIST.....	6
4. TOP VIEW	7
5. BOTTOM VIEW	7
6. FRONT VIEW.....	7
7. BACK VIEW.....	7
8. INSTALLATION ON WINDOWS.....	8
9. MANUAL INSTALLATION ON WINDOWS.....	15
10. CHANGING COM PORT NUMBER.....	21
11. IDENTIFYING DEVICE PORTS COM NUMBER.....	24
12. RS-485/RS422 SERIAL PORTS PIN CONFIGURATION	24
13. RS-485 CONNECTING METHODS	25
14. RS-422 CONNECTING METHODS	26
15. GUARANTEE.....	27
16. TECHNICAL SUPPORT	27

1. INTRODUCTION

IPEX PH485Ux4 is a USB Adapter Multiport that provides #4 Serial COM Ports via its USB connection and is compatible with RS-485 standard devices differential (Data+ & Data-); and RS-422 standard devices differential (TX+, TX- & RX+, RX-) signals. **PH485Ux4** is fully Plug & Play and enables your laptop or workstation with the ability to communicate between a USB port and up to #4 RS-485/422 serial peripherals with baud-rate from 300bps to 230400bps simultaneously.

PH485Ux4 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.

PH485Ux4 supports a wide range power supply and is working with DC voltage between 8V to 48V. Protection against Surge, ESD and EMI is considered in its design and also has 3kV insulation between USB and RS-485/422 sides. Furthermore, all the ports are insulated from each other too.

PH485Ux4 is designed for industrial usage and is useful for Industrial Automation, Telecommunications, SCADA Systems and DCS Systems ...

PH485Ux4 comes complete with drivers for Microsoft Windows. Drivers are also available for Linux, Mac OS and Android.

2. SPECIFICATIONS

- **USB to RS-485 and RS-422** Bidirectional Converter;
- **Hi-Speed USB 2.0** supported (up to 480 Mbps);
- **Number of Ports:** #4 RS-485/RS422 Serial Port, #1 USB Port;
- Adds **#4 COM Port** to the PC;
- Fully **Plug & Play**;
- **RS-485 Signal:** Data+, Data-, GND;
- **RS-422 Signal:** TX+, TX-, RX+, RX-, GND;
- **Maximum Communication Distance:** 1200m (4000 feet);
- **Loading:** RS-485 and RS-422 Side up to 32 Nodes are supported;
- **Self-Powered:** works by 8V to 48V external DC power supply;
- **Serial Transmission Speed** Up to 230.4 kbps;
- **Insulation Protection:** 3kV Instantaneous, 500V DC continuous;
- **Serial Standard:** Meets or Exceeds the Requirements of RS-485/RS-422 Standards;
- **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;
- **Power & USB (Green)** LED Indicator;
- **Transmit (Blue)** and **Receive (Yellow)** LED Indicator;
- **ESD Protection:** RS-232 Bus-Pin ESD Protection Exceeds ± 15 kV Using Human-Body Model (HBM);
- **Dimensions:** 218mm x 122mm x 30mm (8.58in x 4.80in x 1.18 in);
- **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 PH485Ux4, verify that the package contains the following items:



1) #1 PH485Ux4 Multiport



2) #1 USB Cable



3) #1 Document and Driver CD-ROM



4) #4 DB9 Female Connector

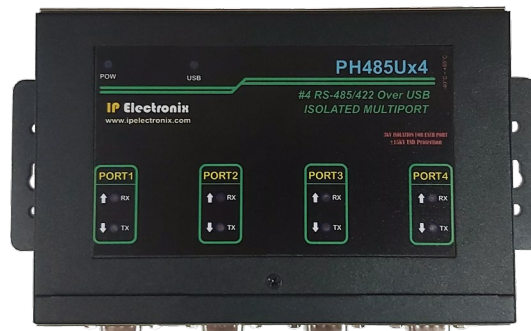


5) #1 220V AC to 12V DC Adaptor



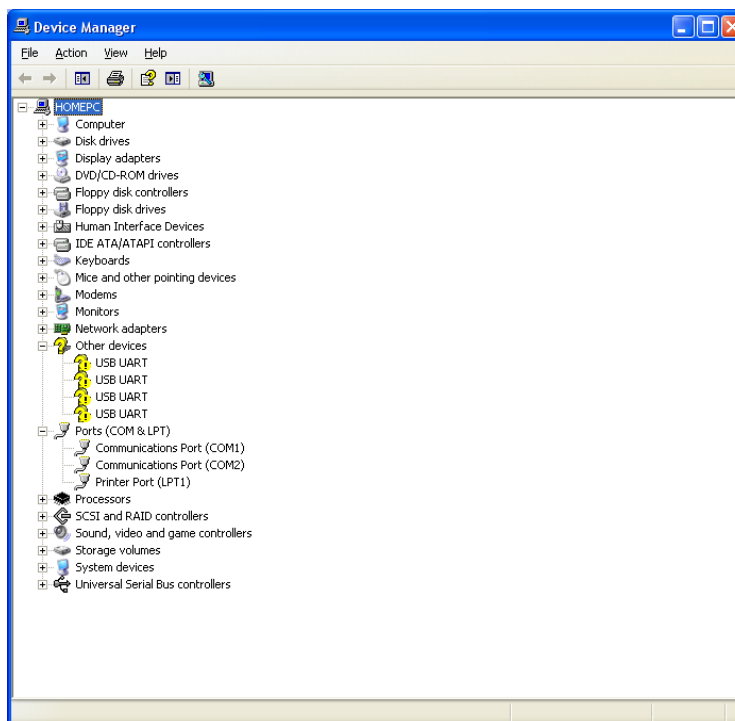
6) #2 Din Rail Brackets with the corresponding screws

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

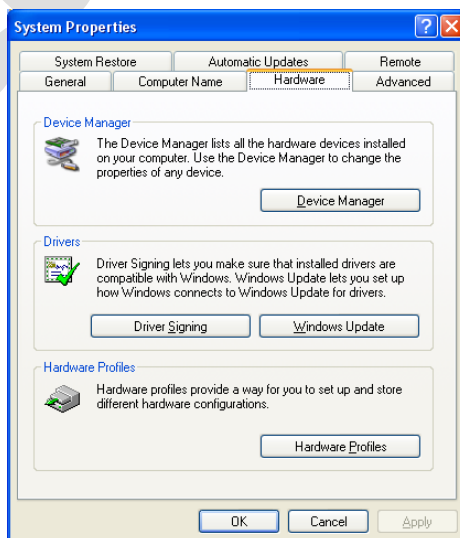
4. TOP VIEW**5. BOTTOM VIEW****6. FRONT VIEW****7. BACK VIEW**

8. Installation on Windows

After you plug PH485Ux4 to USB port, you can see 4 new devices 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)



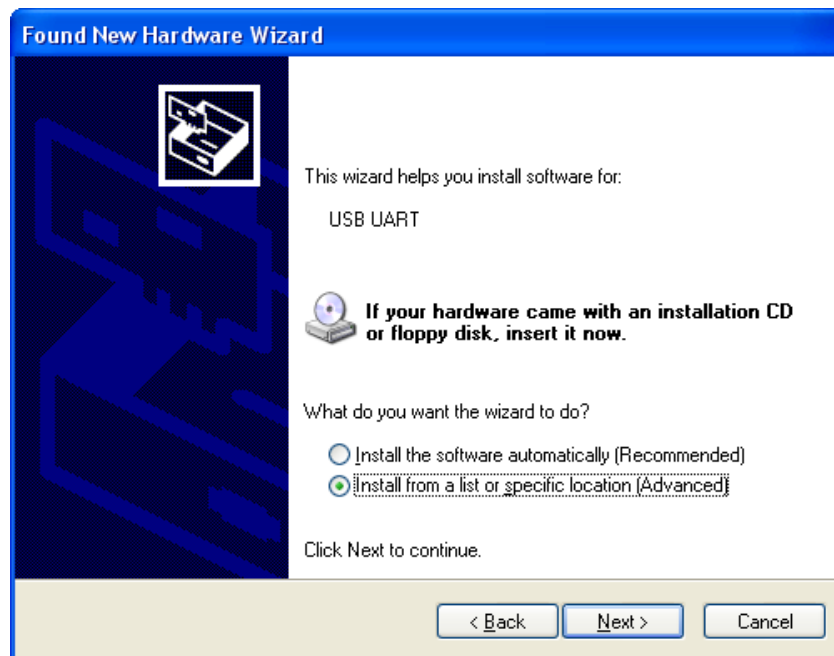
However, installation progress will be start automatically, and following window will be seen,



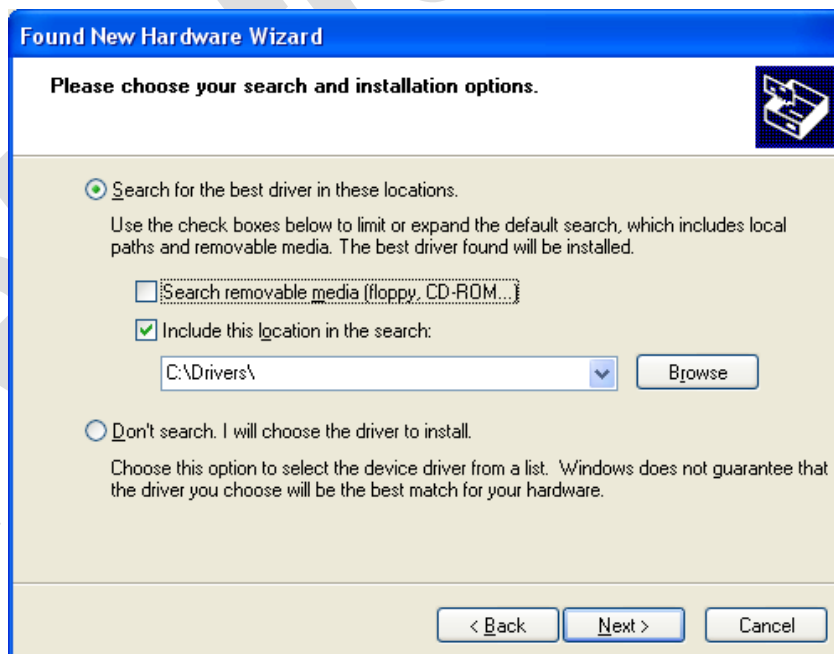
Select option "No, not this time" and then click "Next",



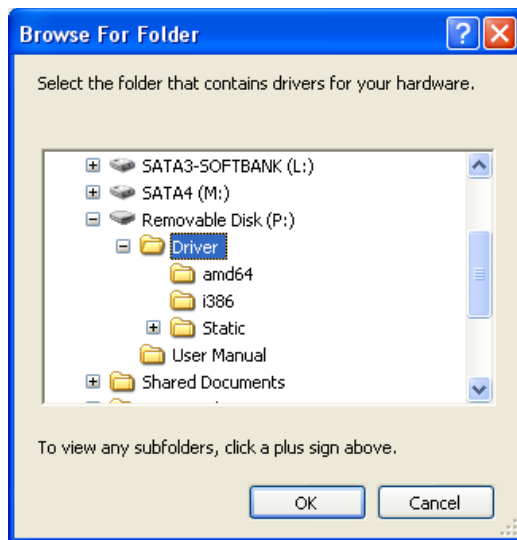
Select "Install from a list or specific location (Advanced)" and click "Next",



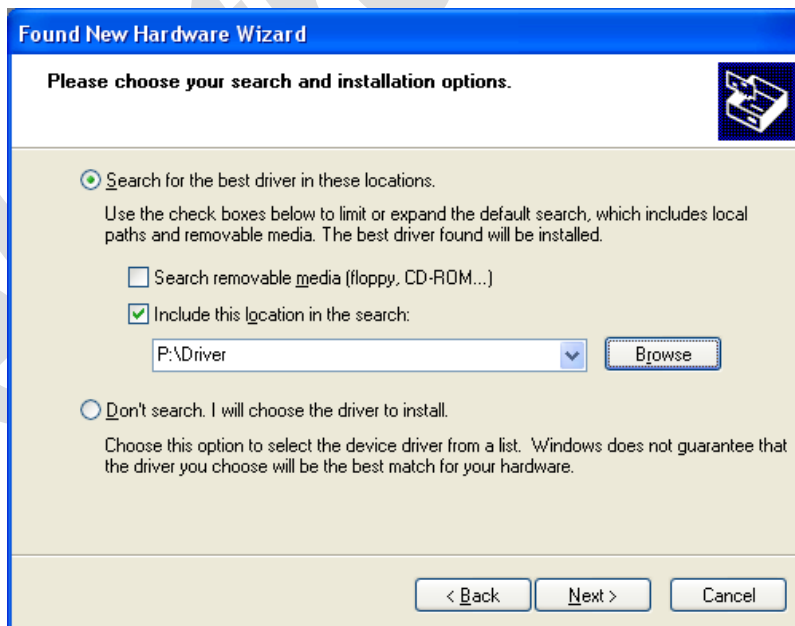
Select "Include this location in the search:" and click on "Browse",



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



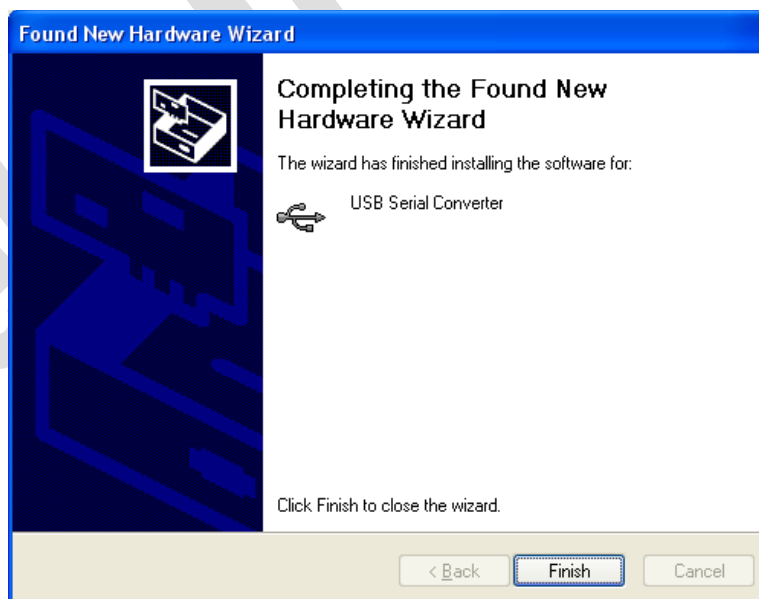
Now, click on "Next",



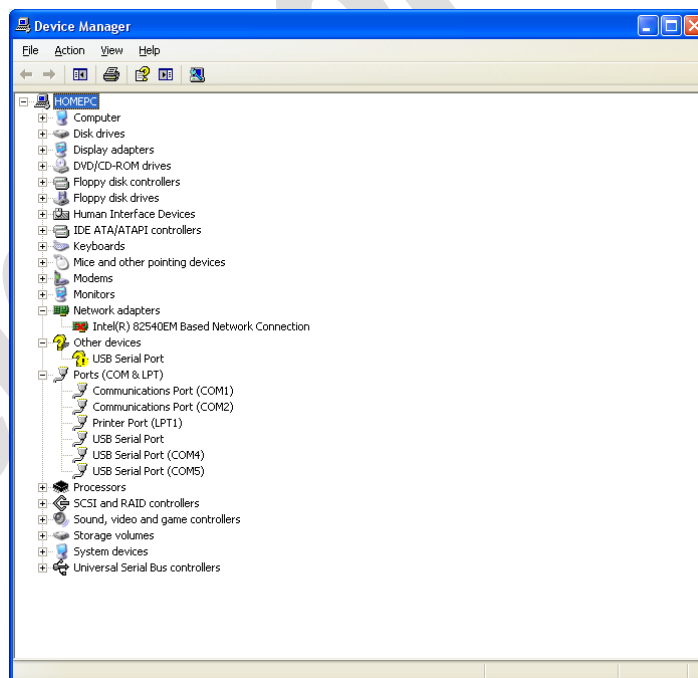
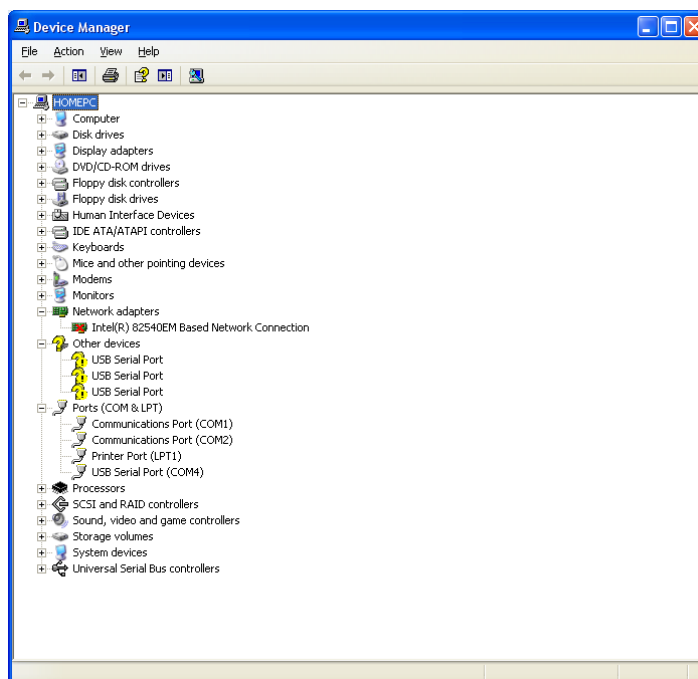
The driver will be installed,

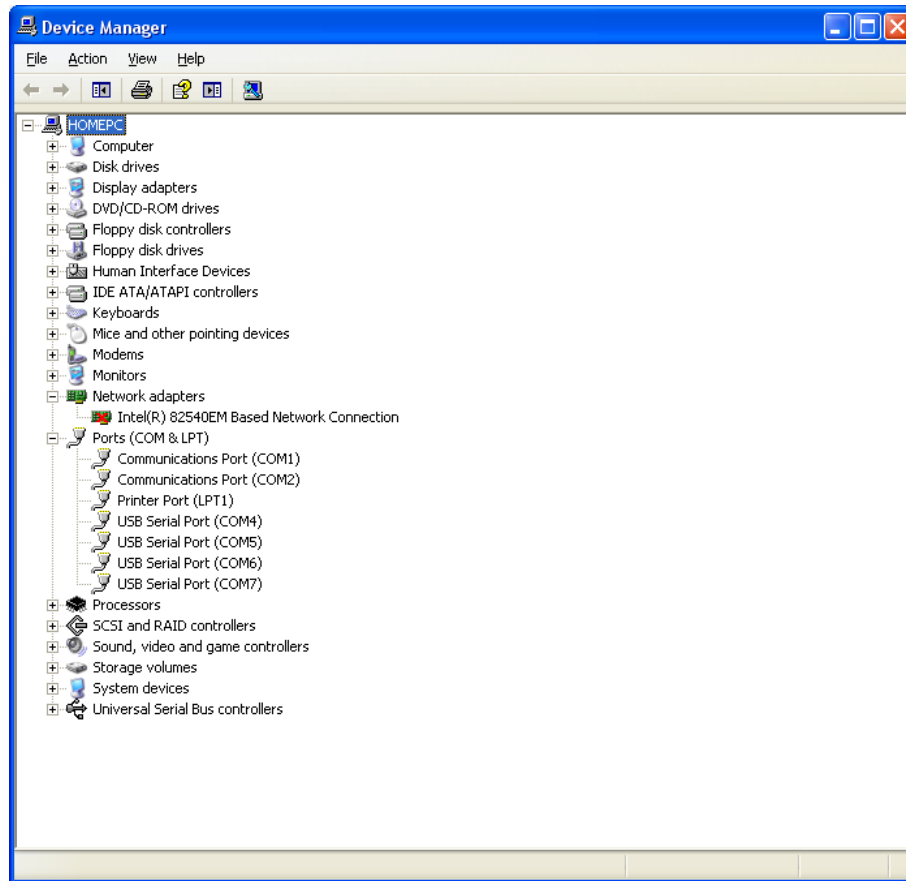


Now, click "Finish",



You should repeat this steps 4 times, so all the ports will be installed.

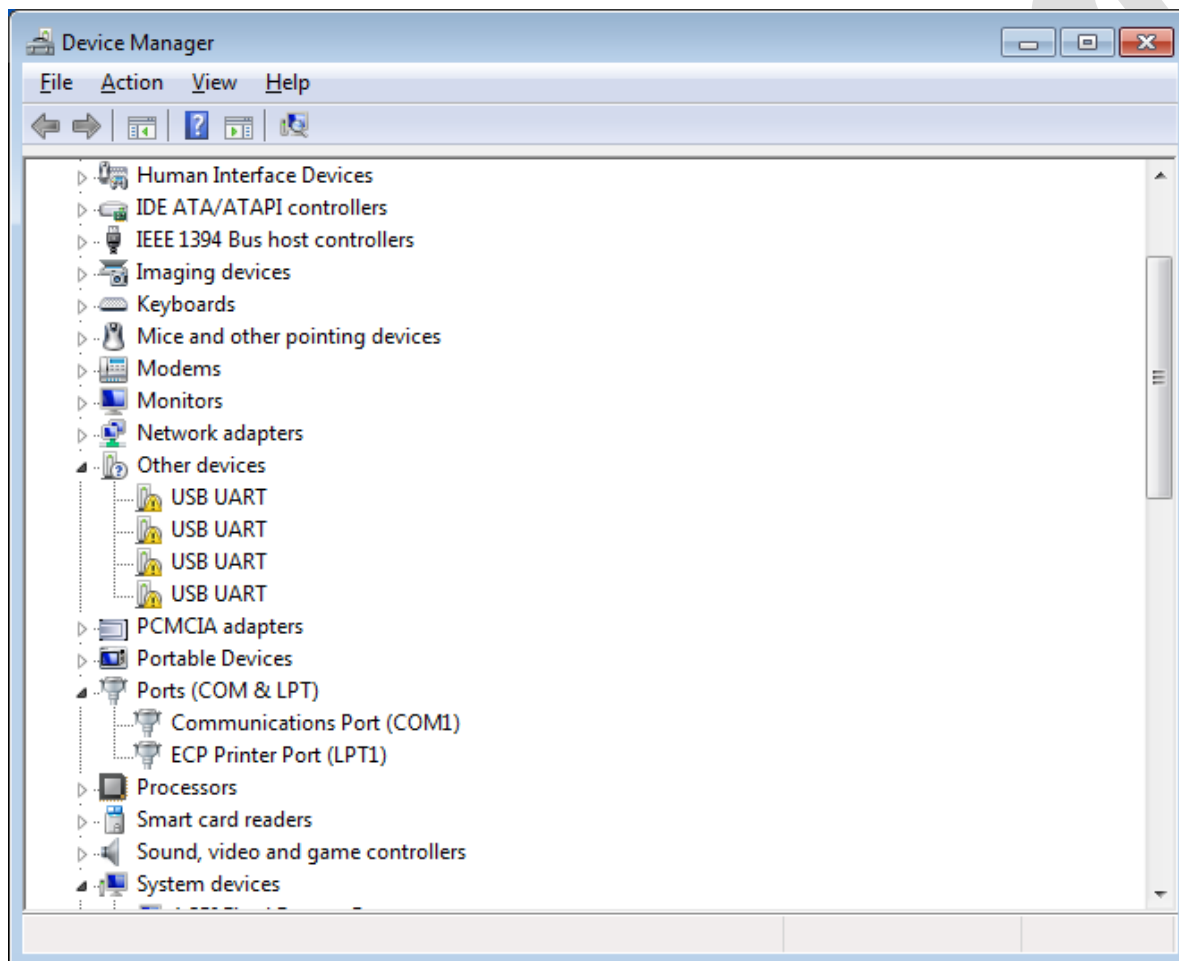


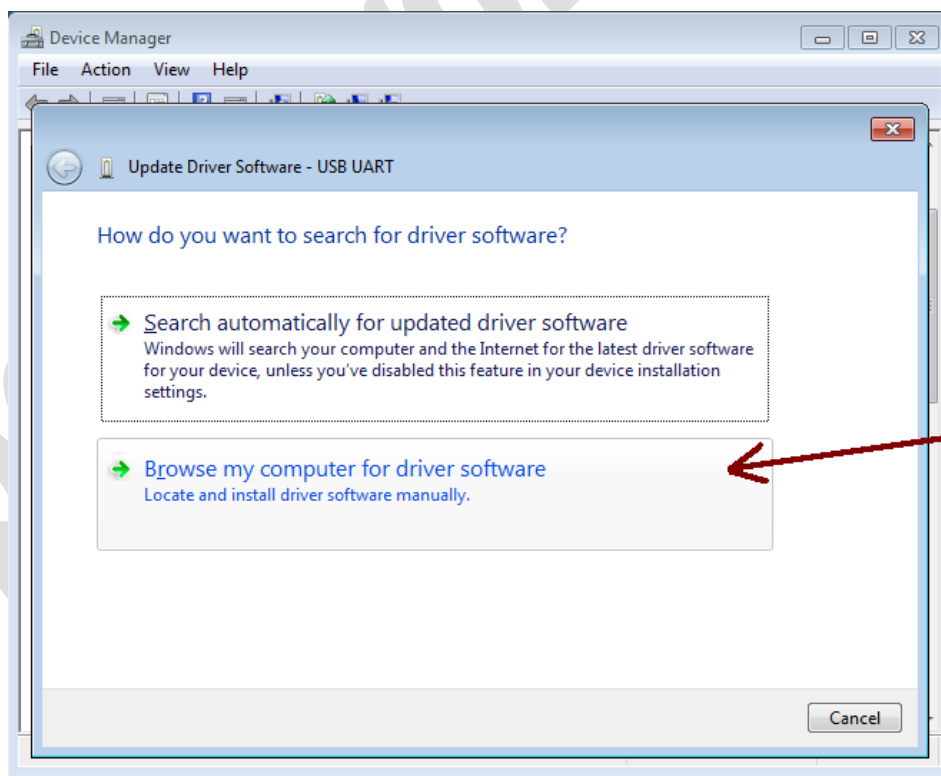
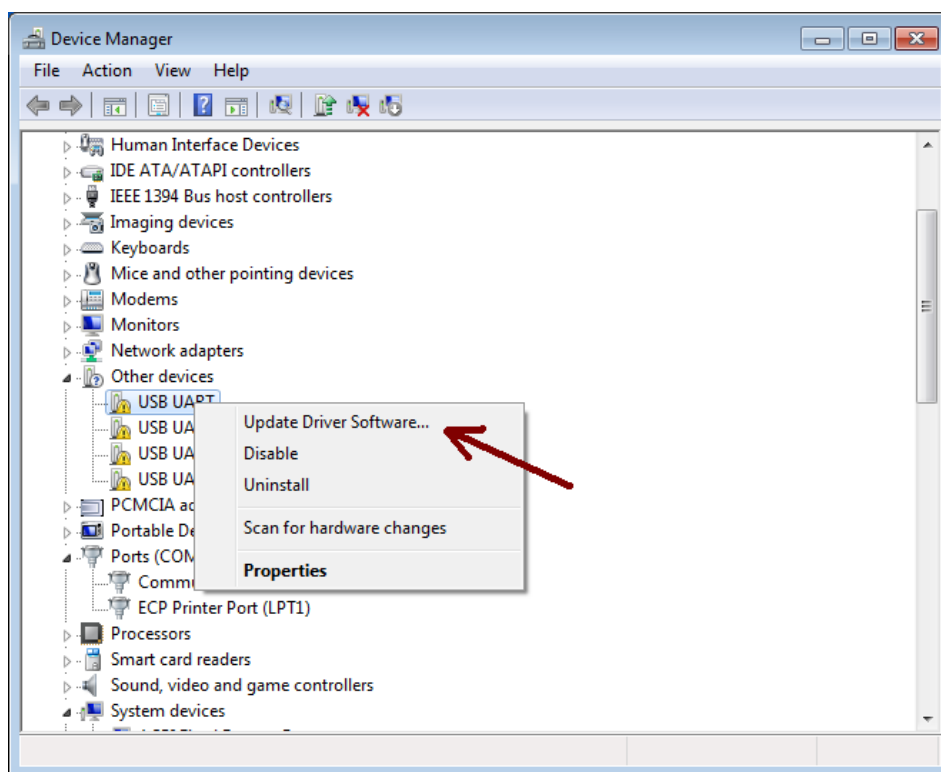


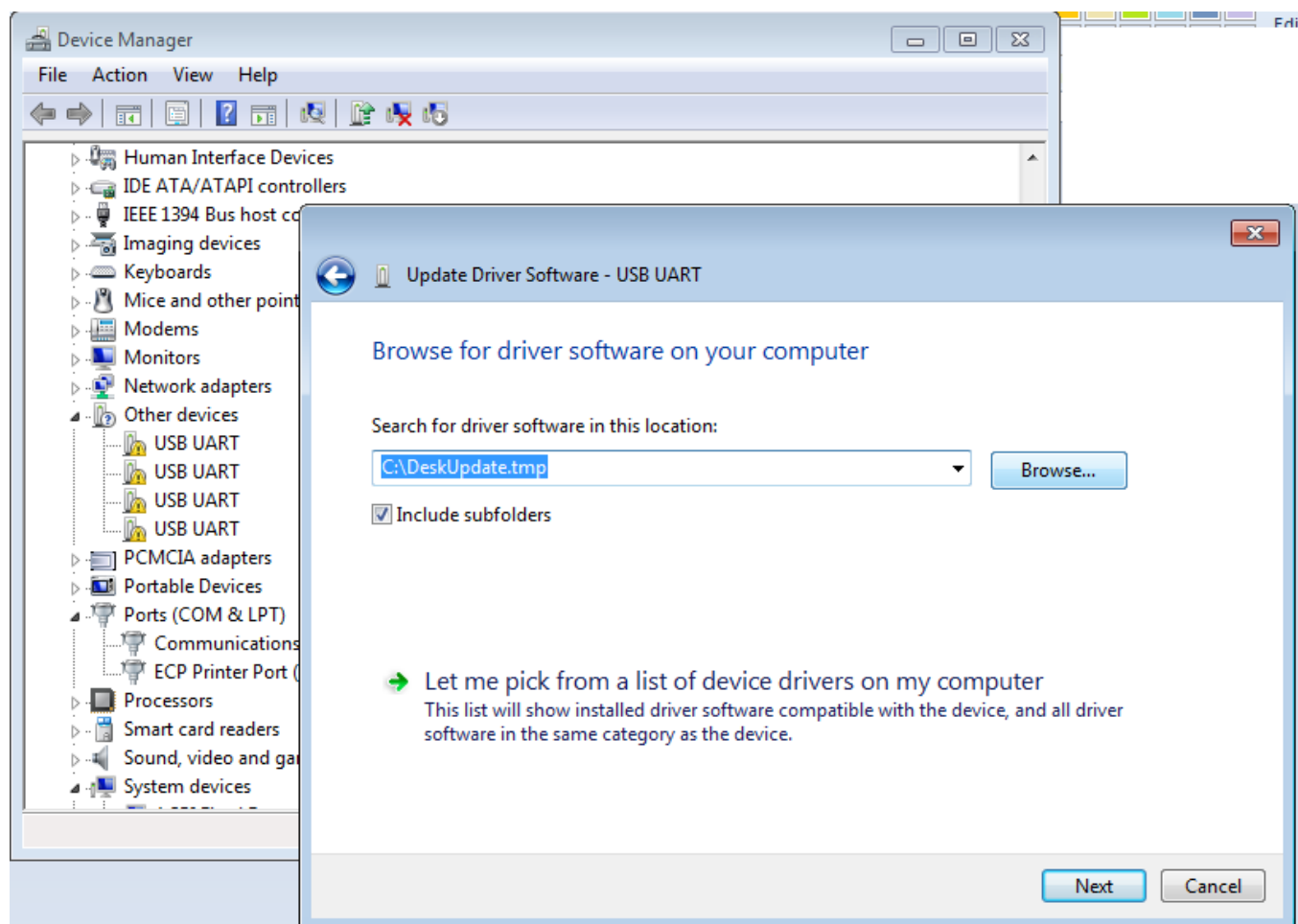
After finishing installation, you should see 4 "USB Serial Port" in "Ports (COM&LPT)" section of Device Manager.

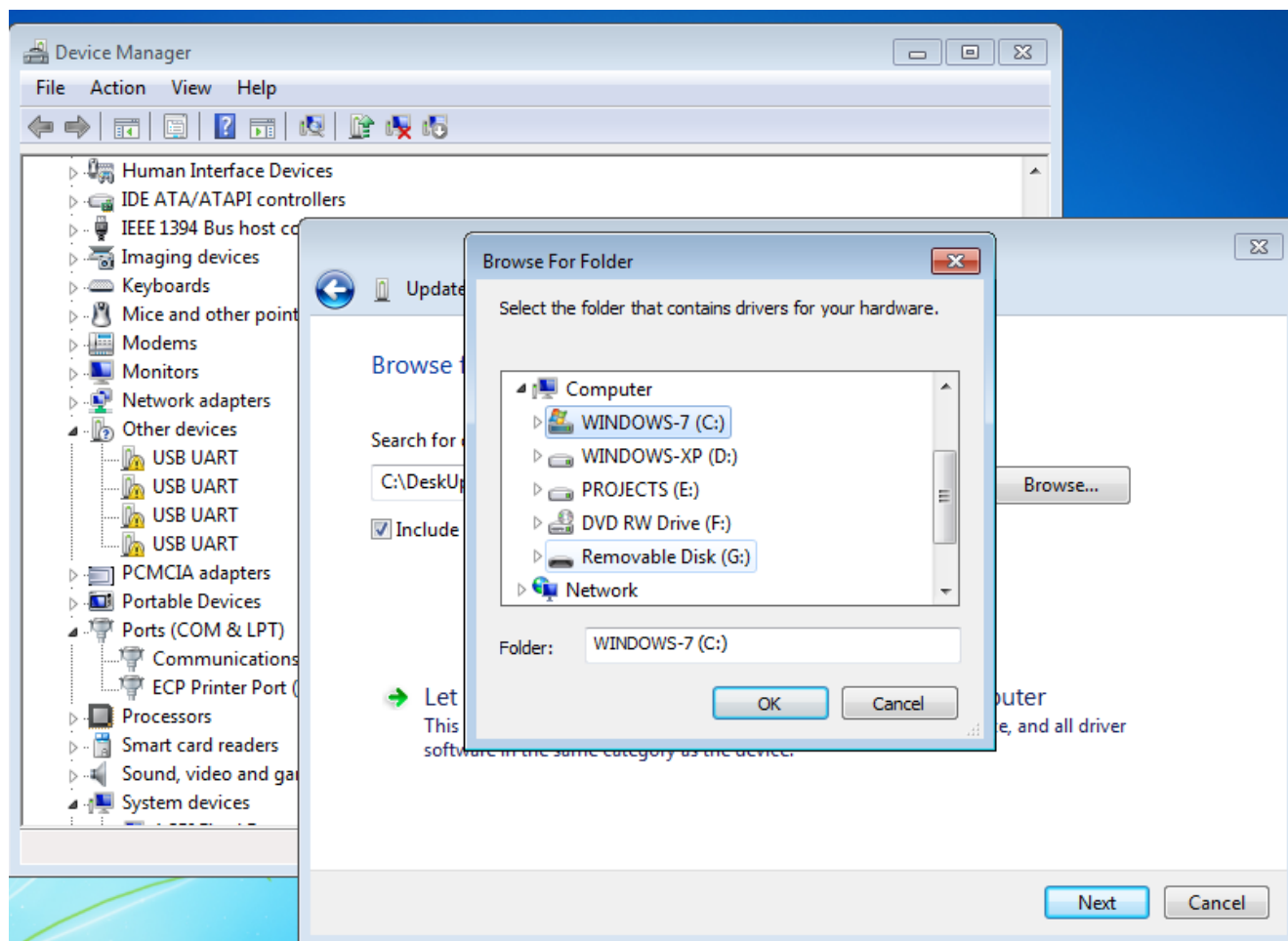
9. MANUAL INSTALLATION ON WINDOWS

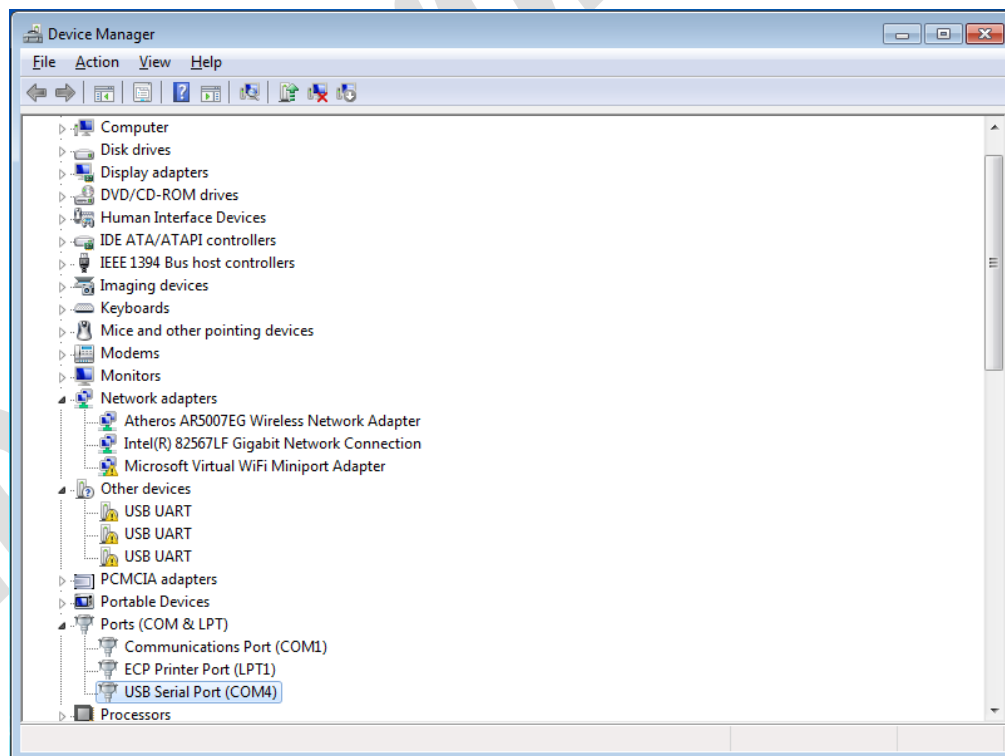
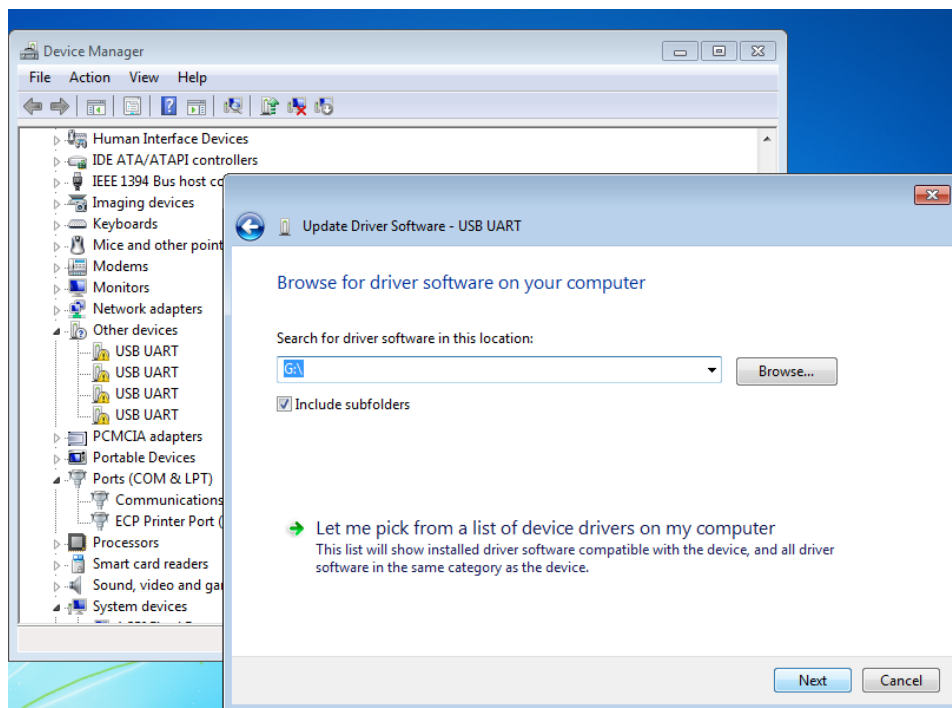
If the installation procedure is not started after you plug the device to your computer you can install the driver manually as follow:

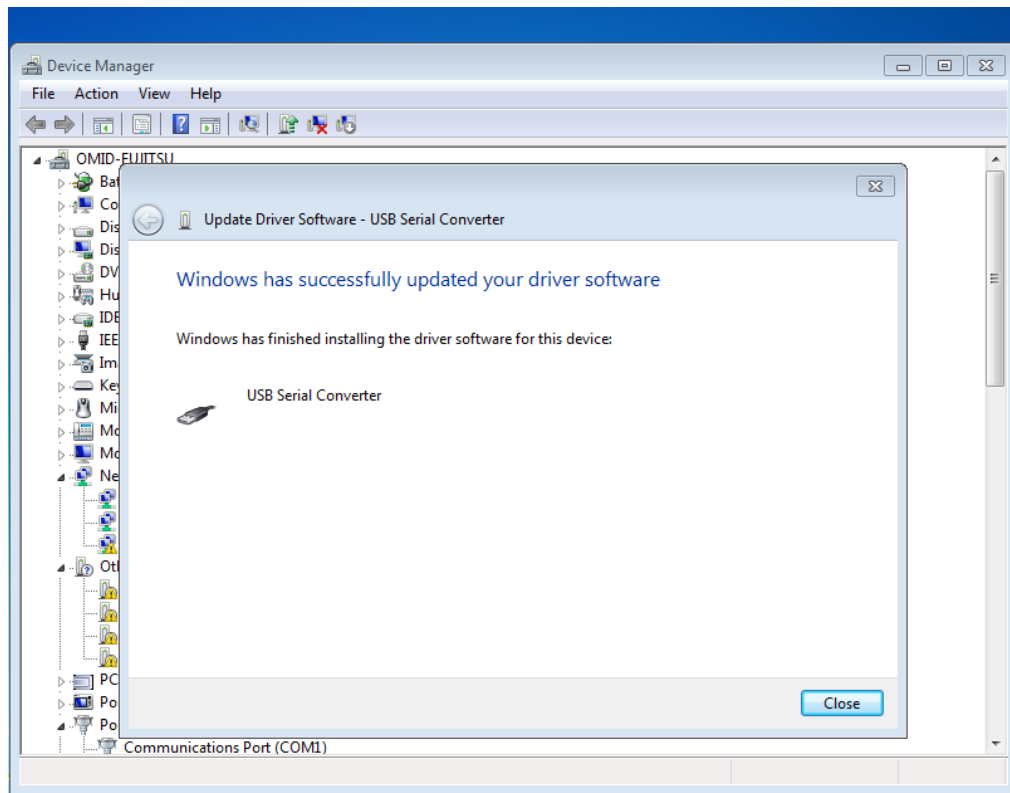






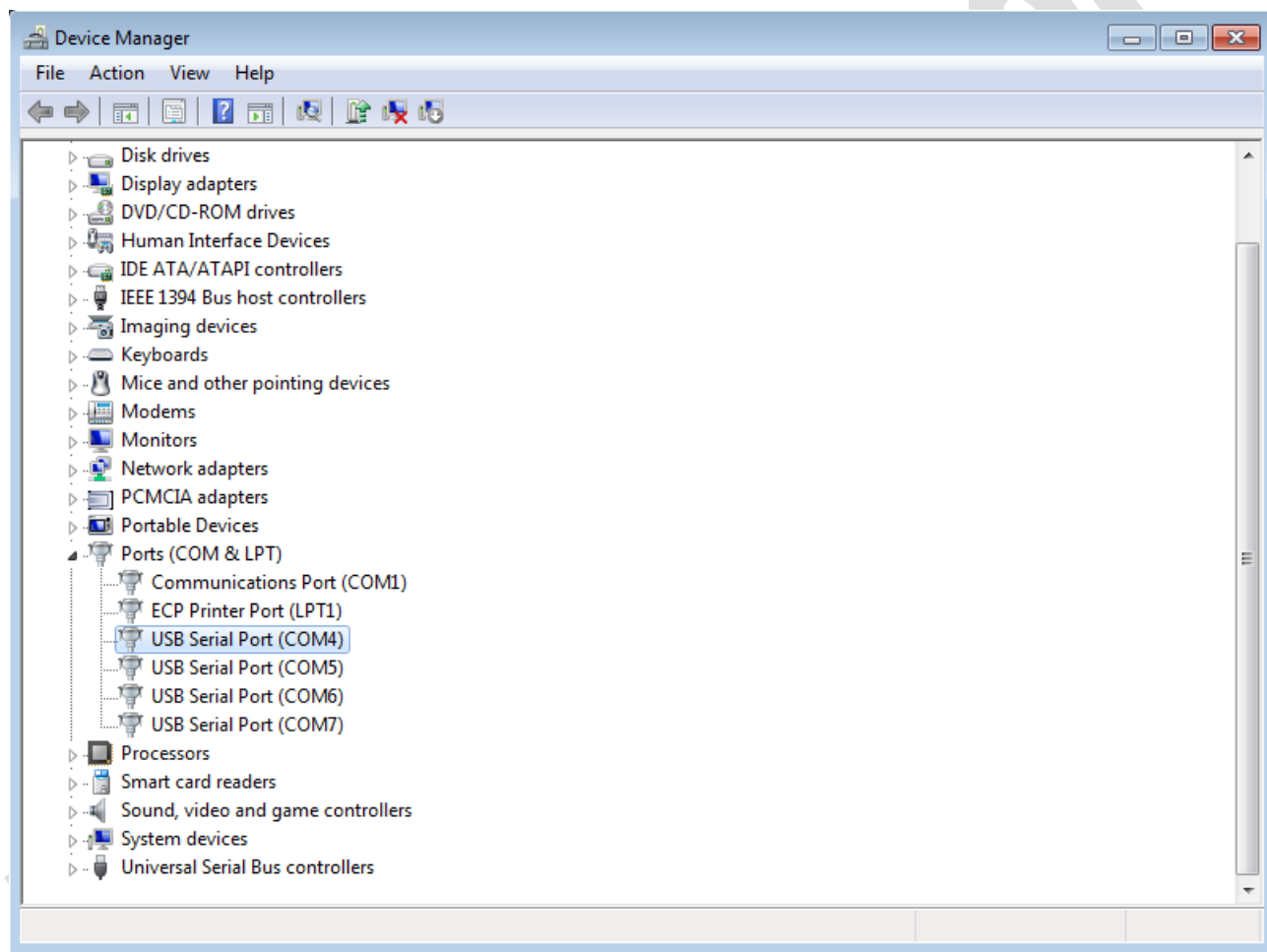


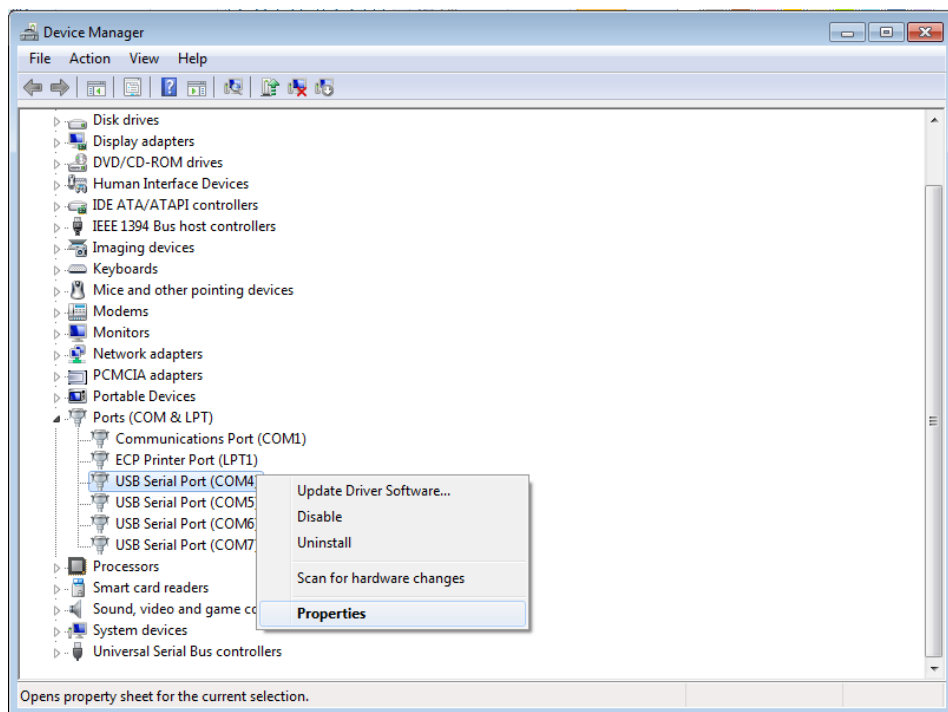




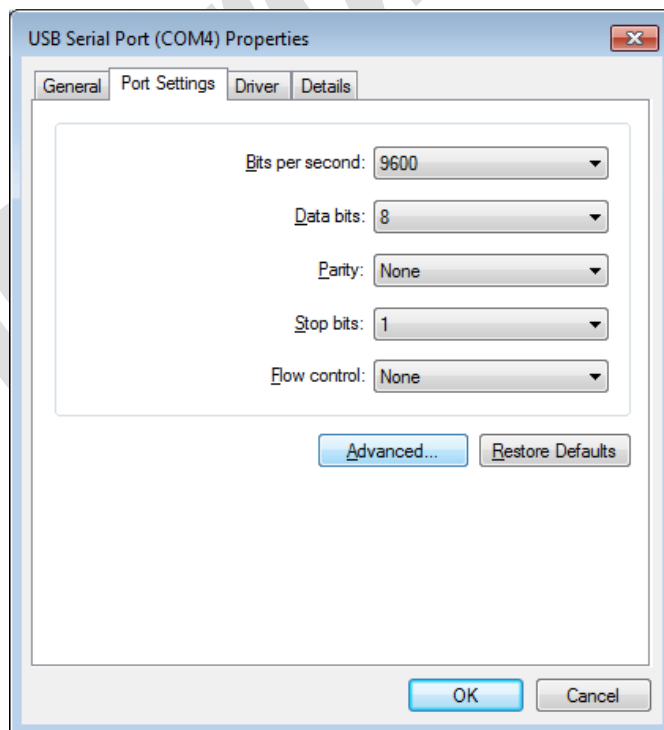
10. CHANGING COM PORT NUMBER

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

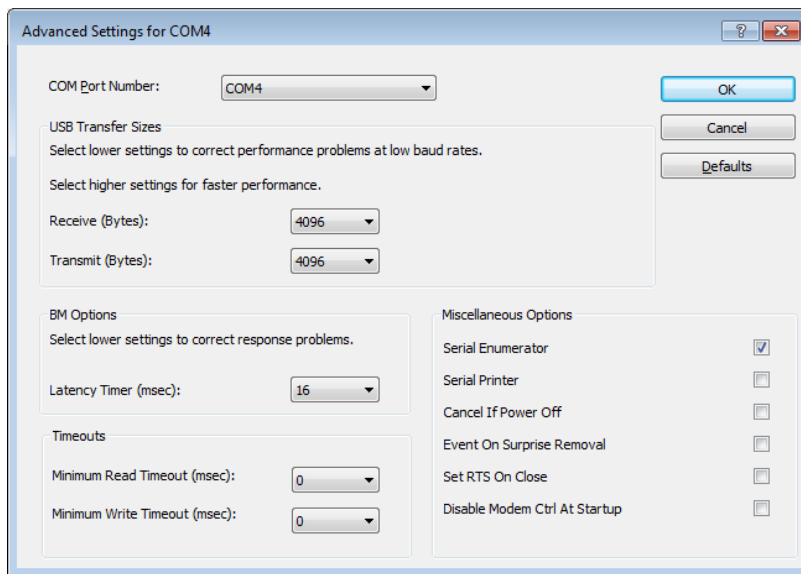




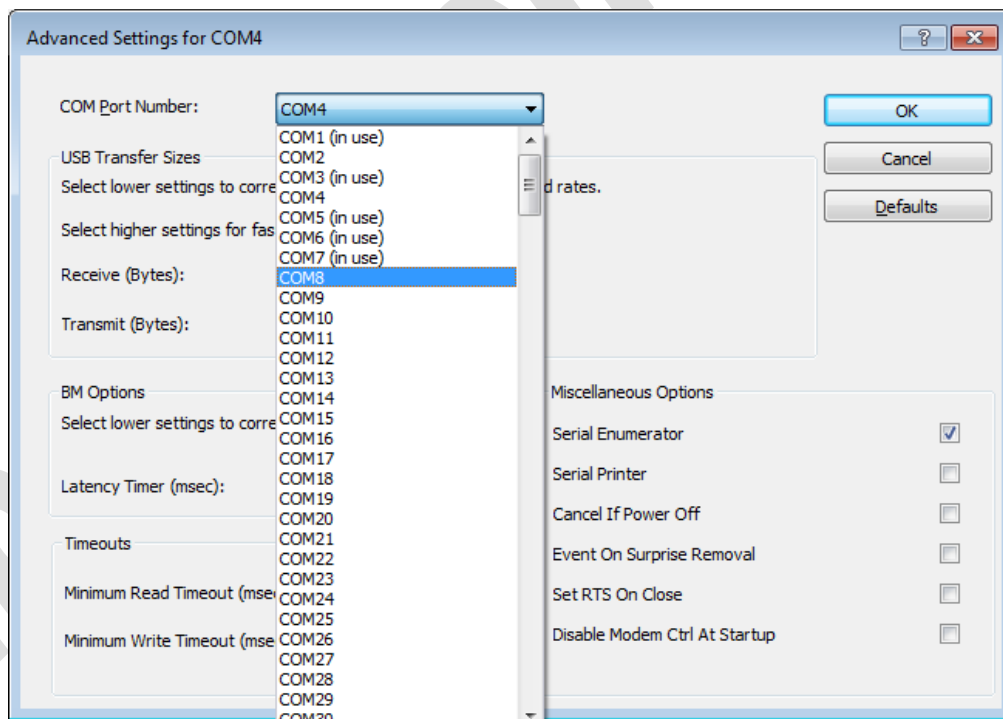
select port setting:



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 which PH485Ux4 Port, 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 port by watching TX LED (Blue LED) of the corresponding port that is blinking on the top panel of the device.

12. RS-485/RS422 SERIAL PORTS PIN CONFIGURATION

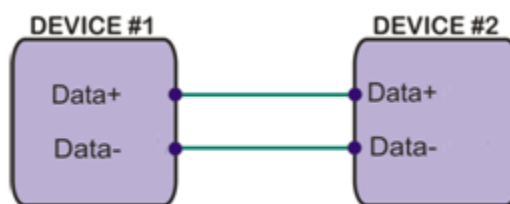
Port	Pin #	Name	Task	Type
RS-422	1	TX+	Transmit +	Output
	2	TX-	Transmit -	Output
	3	RX+	Receive +	Input
	4	RX-	Receive -	Input
	5	GND	Ground	GND
RS-485	6	NC	No Connection	-----
	7	DATA-	Data -	Bi-Directional
	8	DATA+	Data +	Bi-Directional
	9	GND	Ground	GND

Connector Type: DB9 Male

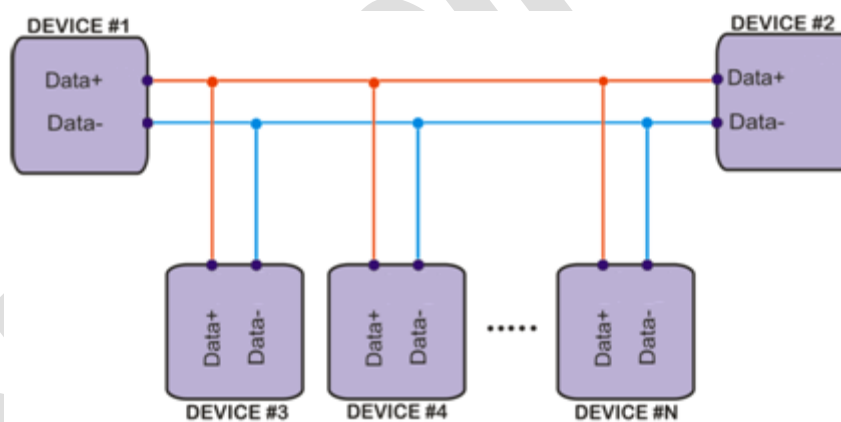


13. RS-485 CONNECTING METHODS

- RS-485: Point to Point Connection

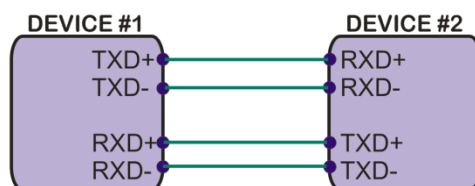


- RS-485: Multipoint Network

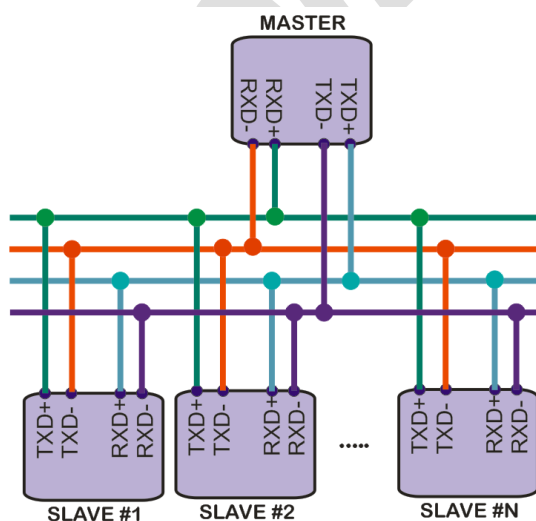


14. RS-422 CONNECTING METHODS

- RS-422: Point to Point



- RS-422: Multi-Drop Network



15. GUARANTEE

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

16. TECHNICAL SUPPORT

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

ipelectronix.com