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USB – RS485 Modbus Converter

P/N 242411/00 and 242411/01

Installation Manual

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Important Notice

Rev.	Revision Date	Change Description
00	May 2010	Initial version

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1 Overview

1.1 Introduction

The ARC Sensor Configurator is a PC application for calibration and configuration of ARC Sensors and VISIFERM DO Sensors.

For PC-to-sensor communication, a RS485 interface for Modbus is needed. HAMILTON recommends to use the USB-RS485 Modbus converter (P/N: 242411).

This document guides you through the installation of the USB-RS485 Modbus converter recommended by HAMILTON.

1.2 Operating System Requirements

The USB-RS485 Modbus converter driver is tested with Windows XP, Windows Vista and Windows 7.

2 Installation of the USB-RS485 Modbus Converter

Attention:

Do not plug the converter into the computer's USB port until the tasks described in chapter 2.1 are completed.

2.1 Download the USB-RS485 Modbus Converter Driver

1. Go to URL **http://www.hamiltoncompany.com** and select
    "**Lab & Process Sensors**" – "**Downloads**".

2. Download "**PN242411-01_USB-RS485-Converter-Driver.zip**".

3. In the window "**File Download**" click "**Save**" and select a directory on your computer where you want to download and save the file. After the download is completed, click "**Close**".

4. Unpack the downloaded file into an empty directory. If you are using Windows Explorer to open and extract the downloaded file, double-click on the ZIP-file, select "**File**" – "**Extract All**…" and follow the "**Extraction Wizard**" to extract and save all included files and subdirectories into the desired directory.

2.2   Installation of the USB-RS485 Modbus Converter Driver

⚠️ **Attention**:

Make sure you have unpacked the downloaded driver with all included files and subdirectories into a selected directory. Remember the name of this directory.

For the installation, administrator rights are needed on your computer.

2.2.1   Windows XP

⚠️ **Attention**:

The installation is divided in two steps:
**Step 1: Wizard-guided installation of the driver for the converter.**
Step 2: Wizard-guided installation of the driver for the serial port.

**The installation will be repeated every time you plug in a new converter.**

1. Plug the converter into the computer's USB port.

2. After a few seconds the wizard for installing new hardware pops up.
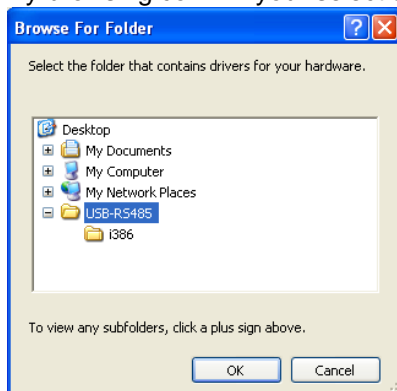   Select "**Yes, this time only**" and click "**Next**".

3. Select "**Install from a list or specific location (Advanced)**" and click "**Next**".
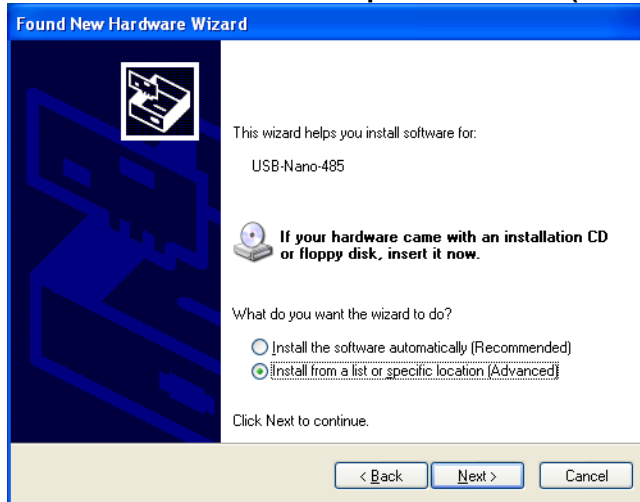
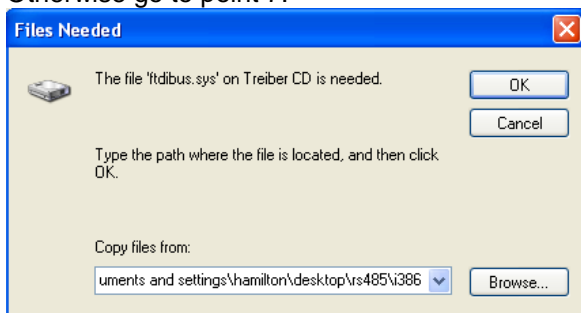4. "**Browse**" the directories to locate the unzipped driver and go on with "**Next**".
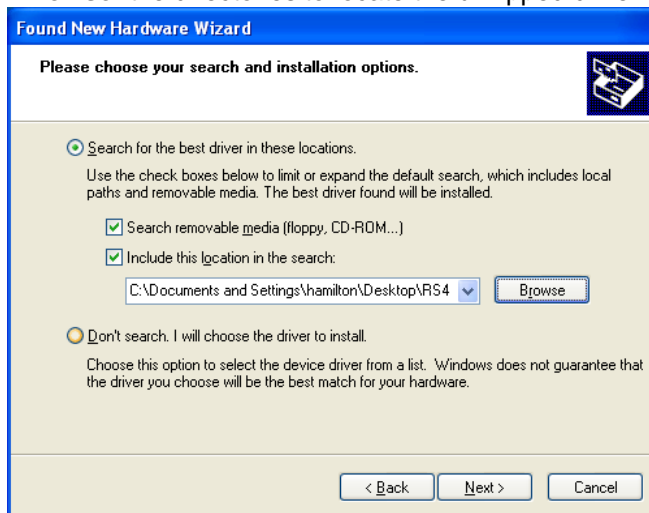
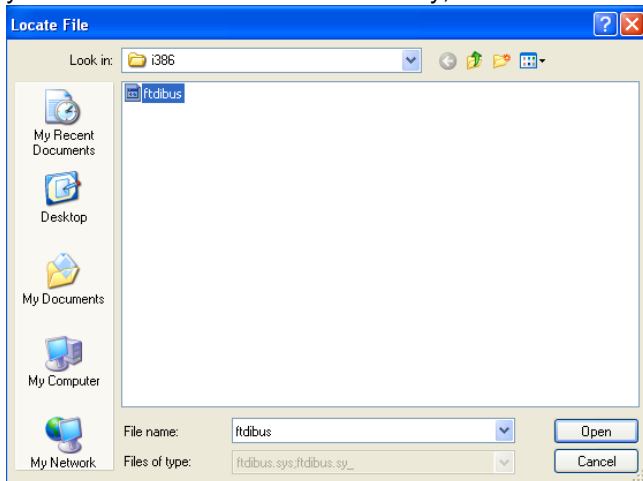By browsing confirm your selection with "**OK**".

5. If a message appears about concerning "**Windows Logo testing**", press "**Continue Anyway**". The installation finishes automatically.

6. If Windows asks you to locate the file "**ftdibus.sys**", select it with the button "**Browse**". Otherwise go to point 7.

Change into the subdirectory "**i386**" for Intel-processors or "**amd64**" for AMD-processors of your USB-RS485-converter-directory, select the file and confirm with the button "**Open**".

Click "**OK**" in the window "**Files Needed**".

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7. The driver for the converter is now successfully installed on your computer. Click "**Finish**".
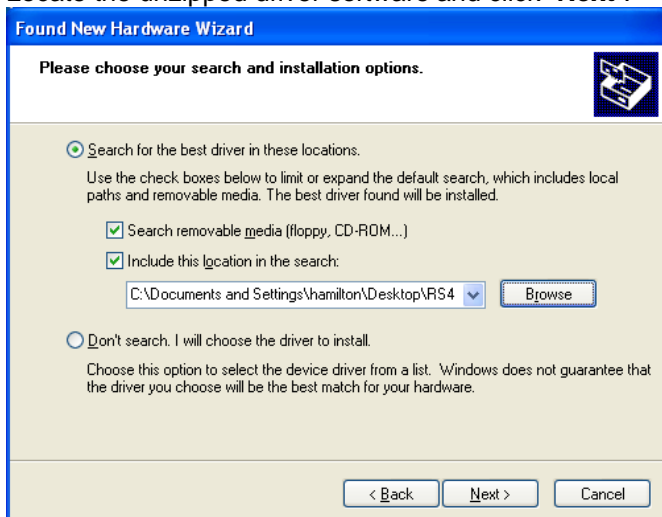

8. After a few seconds the wizard for installing new hardware appears again. This time the driver for the serial port is installed.
   Select "**Yes, this time only**" and click "**Next**".

9. Select "**Install from a list or specific location (Advanced)**" and click "**Next**".

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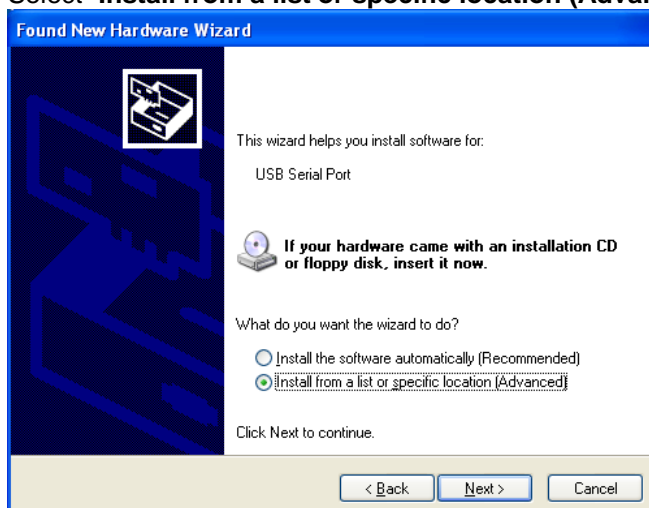
10. Locate the unzipped driver software and click "**Next**".

11. If a message appears concerning "**Windows Logo testing**", press "**Continue Anyway**". Now the installation finishes automatically.

12. If Windows asks you to locate the file "**ftser2k.sys**", select it with the button "**Browse**". Otherwise go to point 13.
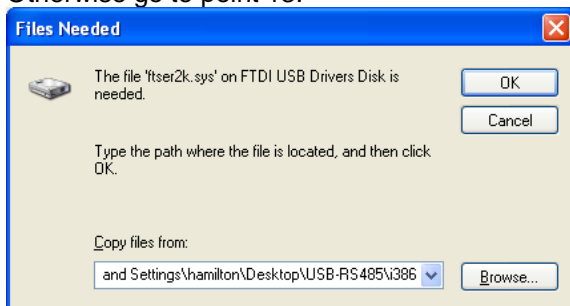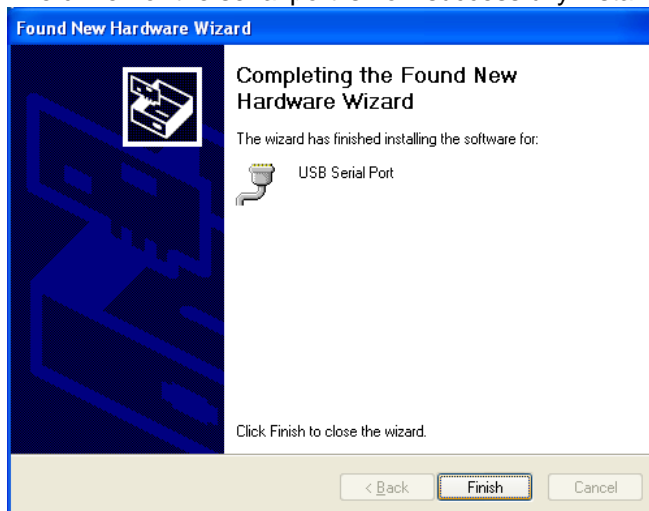
Change into the subdirectory "**i386**" for Intel-processors or "**amd64**" for AMD-processors of your USB-RS485-converter-directory, select the file and confirm with the button "**Open**".
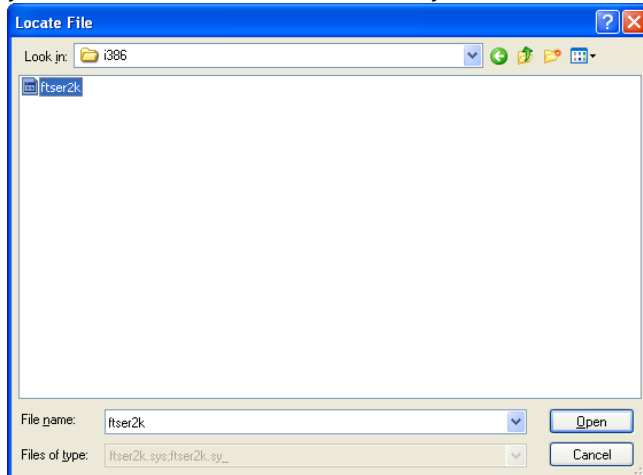
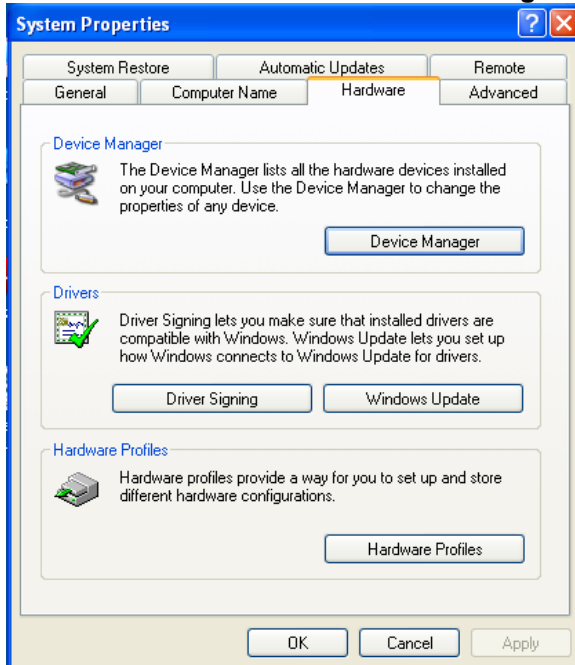Click "**OK**" in the window "**Files Needed**".

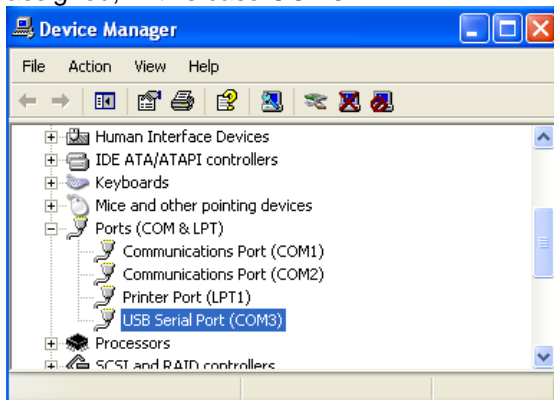13. The driver for the serial port is now successfully installed on your computer. Click "**Finish**".

14. Now check the COM-port that has been assigned to the converter.
Right-click on "**My Computer**" and select "**Properties**".
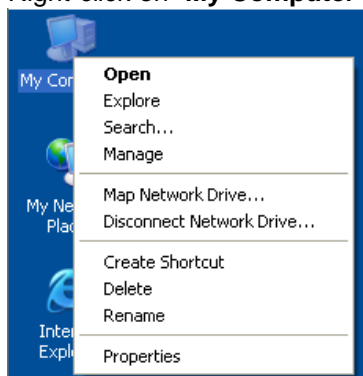
15. In the tab "**Hardware**" select "**Device Manager**".

16. "**Ports**" shows a new item named "**USB Serial Port (COMx)**". x indicates the COM-port assigned, in this case COM3.

"**Universal Serial Bus controllers**" shows a new item named "**USB-Nano-485**". If both items "**USB Serial Port**" and "**USB-Nano-485**" appear without any indication of failure, the installation was complete and successful.

17. The USB-RS485 Modbus converter will now operate on COM3 (in this example).

## 2.2.2 Windows Vista

⚠ **Attention:**

Unlike installation for Windows XP the installation proceeds in one single step: Wizard-guided installation of the driver for the converter and the serial port.

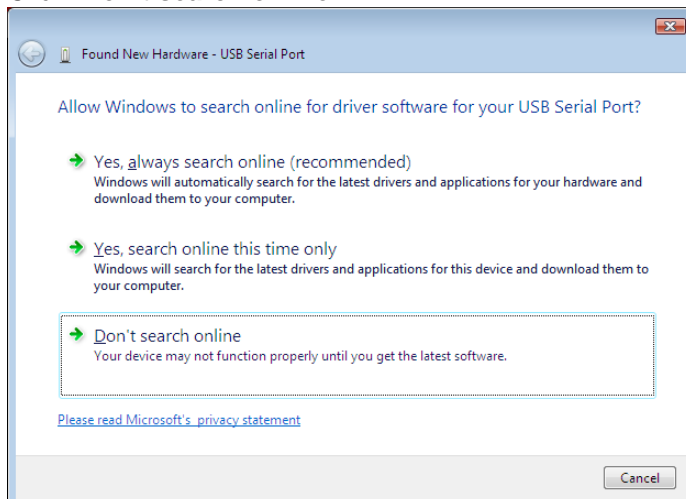**The installation will be repeated every time you plug in a new converter.**

1. Plug the converter into the computer's USB port.

2. After a few seconds the wizard for installing new hardware pops up.
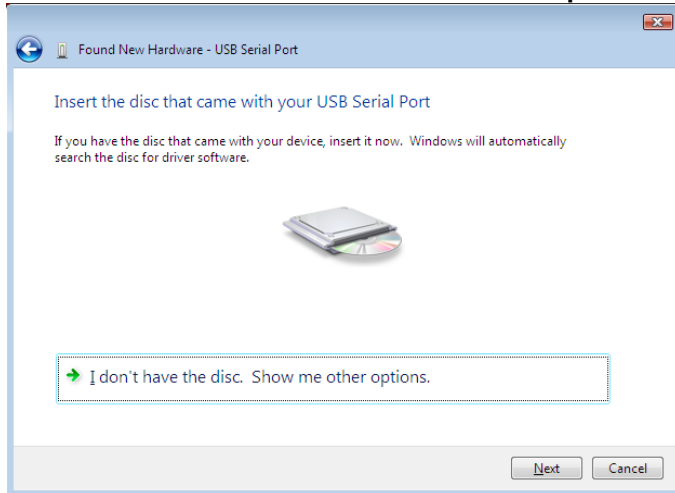   Click "**Locate and install driver software (recommended)**".
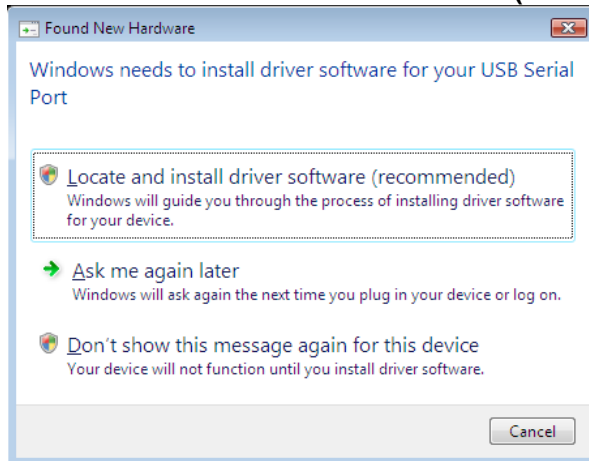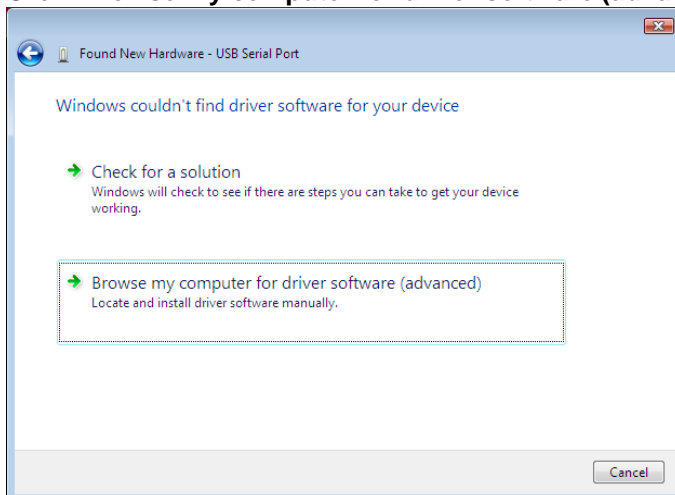

3. Click "**Continue**".
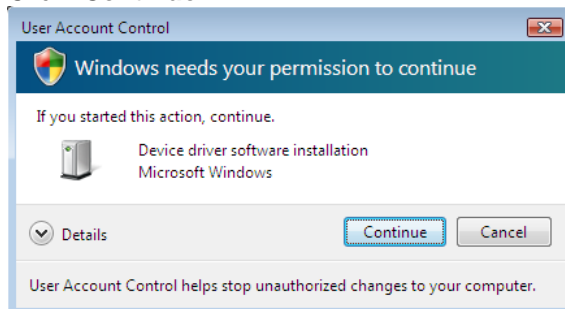
4. Click "**Don't search online**".
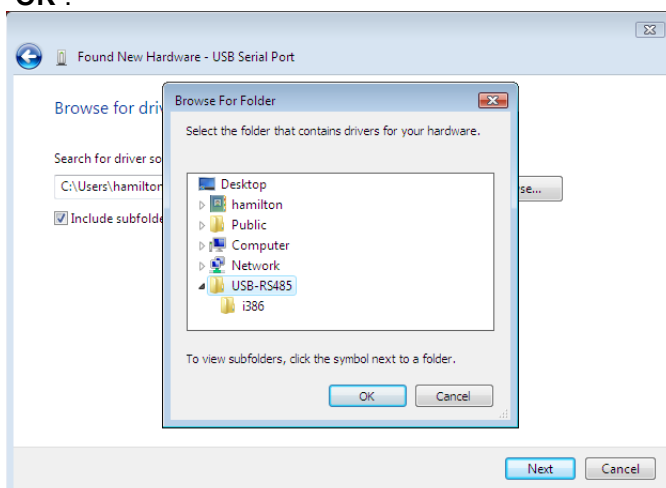
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5. Click "**I don't have the disc. Show me other options**".
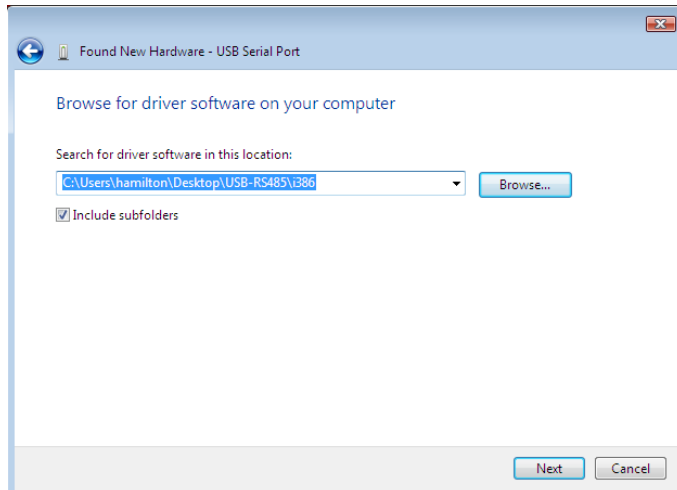

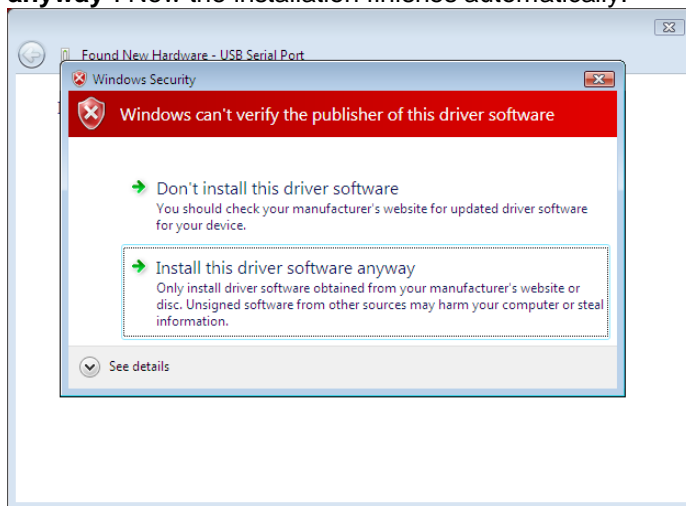6. Click "**Browse my computer for driver software (advanced)**".

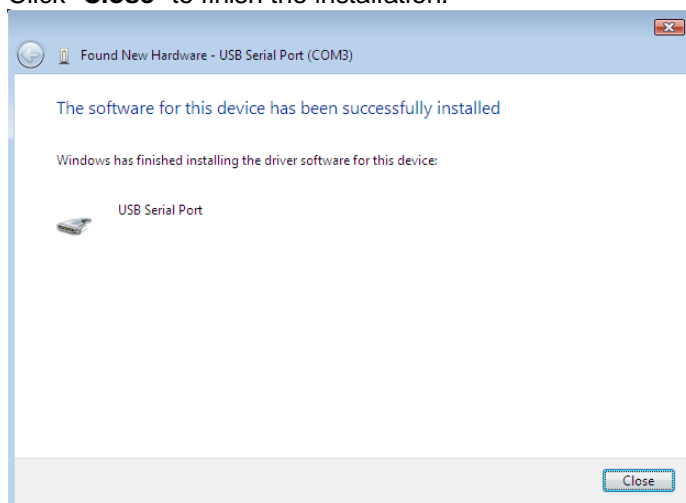7. Browse the directories to locate the unzipped driver software and confirm your selection with "**OK**".
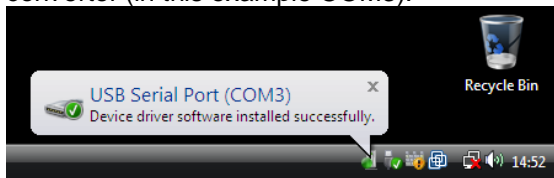
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8. Click "**Next**".

9. If a message appears about the certification of the driver, press "**Install this driver software anyway**". Now the installation finishes automatically.

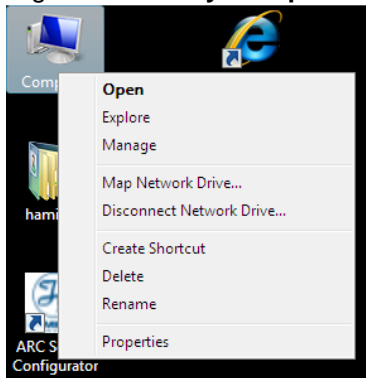10. Click "**Close**" to finish the installation.

11. Windows Vista reports the number of the serial port assigned to the USB-RS485 Modbus converter (in this example COM3).
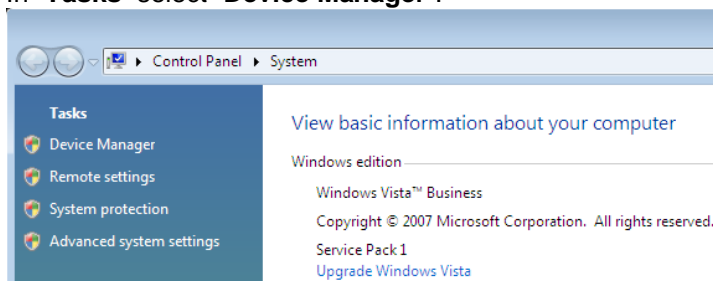

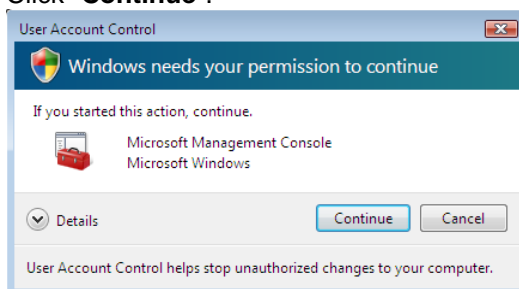12. If you have missed the previous message you can find out the number of the COM-port as follows.
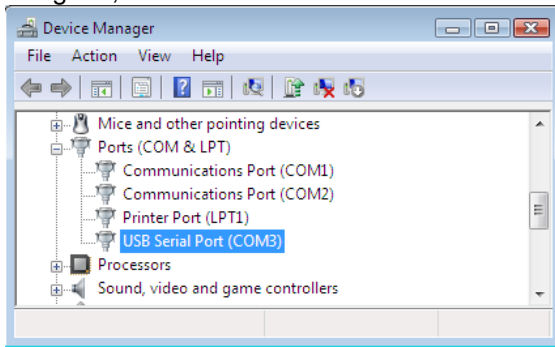Right-click on "**My Computer**" and select "**Properties**".

13. In "**Tasks**" select "**Device Manager**".

14. Click "**Continue**".

15. "**Ports**" shows a new item named "**USB Serial Port (COMx)**". x indicates the COM-port assigned, in this case COM3.

"**Universal Serial Bus controllers**" shows a new item named "**USB-Nano-485**". If both items "**USB Serial Port**" and "**USB-Nano-485**" appear without any indication of failure, the installation was complete and successful.

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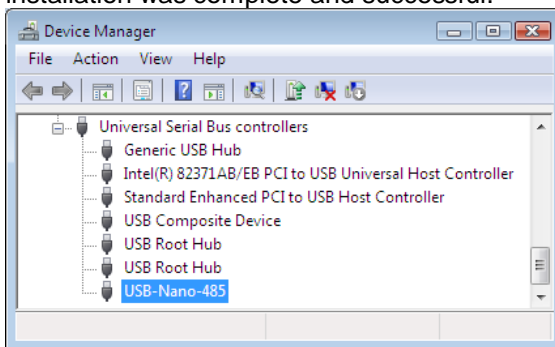
2.2.3 Windows 7

⚠️ **Attention:**

Unlike installation for Windows XP and Vista the installation procedure described below is executed only the first time. If you plug in a new USB-RS485 Modbus converter you do not need to repeat the installation (see point 21)**.**
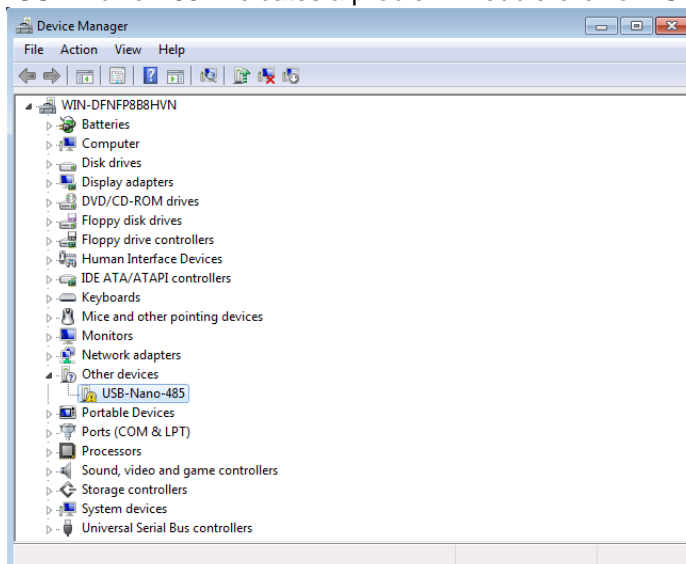
1. Plug the converter into the computer's USB port.

2. The PC will react in two different ways:
   - A wizard starts as described in chapter 2.2.2.
   - The wizard does not start and you have to follow the procedure as described below.
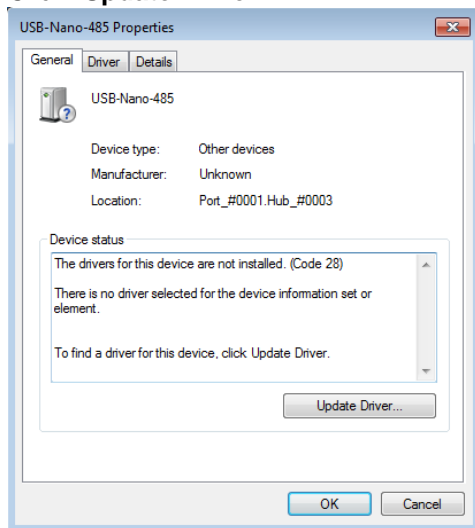
3. An error message appears:
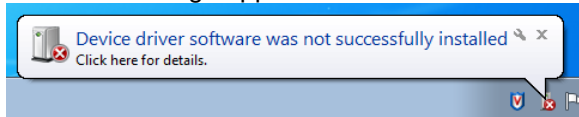
4. Click "**Start**" – "**Control Panel**" and select "**Device Manager**".
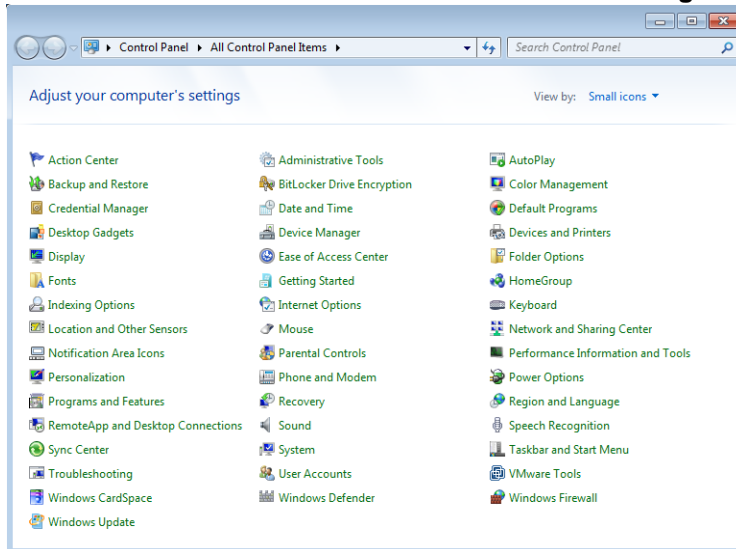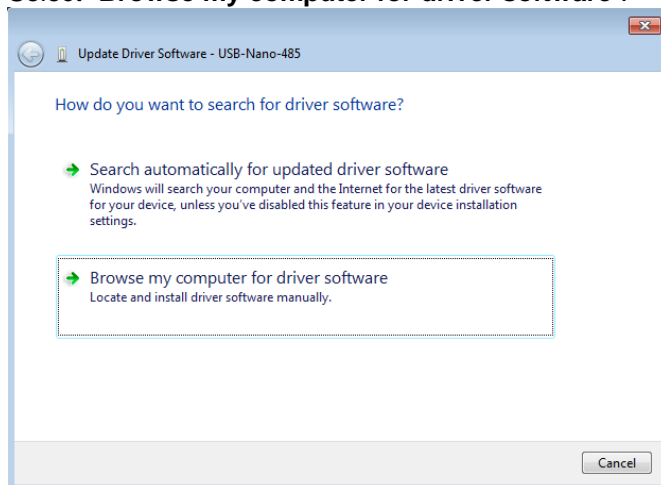

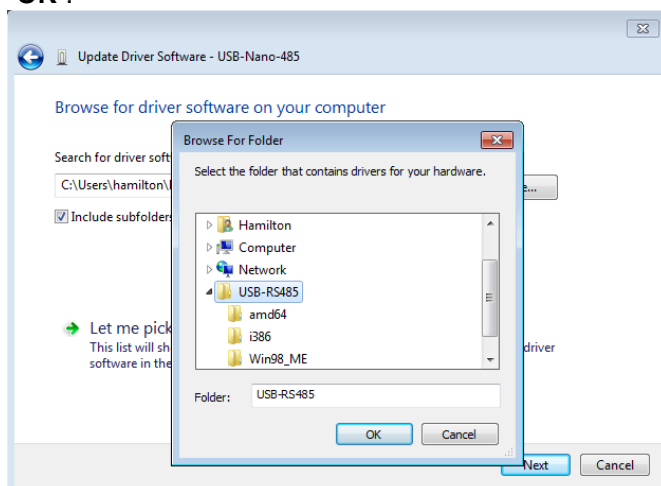5. "**USB-Nano-485**" indicates a problem. Double-click on "**USB-Nano-485**".
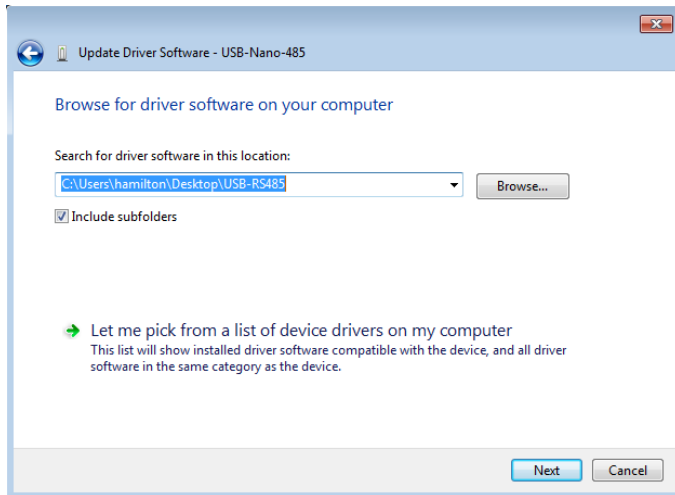
6. Click "**Update Driver …**".
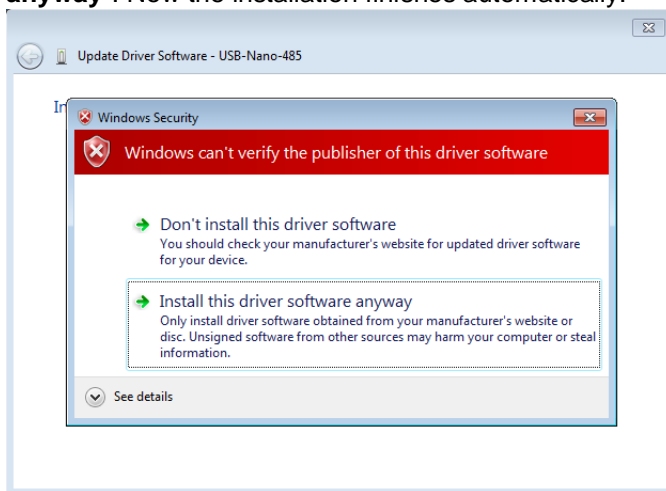

7. Select "**Browse my computer for driver software**".

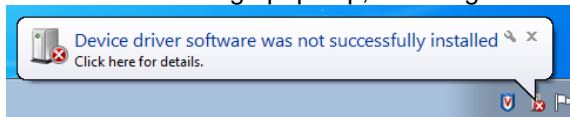8. Browse the directories to locate the unzipped driver software and confirm your selection with "**OK**".

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9. Click "**Next**".

10. If a message appears about the certification of the driver, press "**Install this driver software anyway**". Now the installation finishes automatically.

A new error message pops up, meaning an other step is needed:

11. The driver for the converter is now successfully installed on your computer. Click "**Close**".

12. "**Close**" the Window "**USB-Nano-485 Properties**" (see point 6).

13. Now check in the "**Device Manager**" that "**USB-Nano-485**" converter has bin installed successfully.
    "**USB Serial Port**" indicates now a problem. Double-click on "**USB Serial Port**".

14. Click "**Update Driver …**".

15. Select "**Browse my computer for driver software**".

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16. Locate the unzipped driver software and click "**Next**".
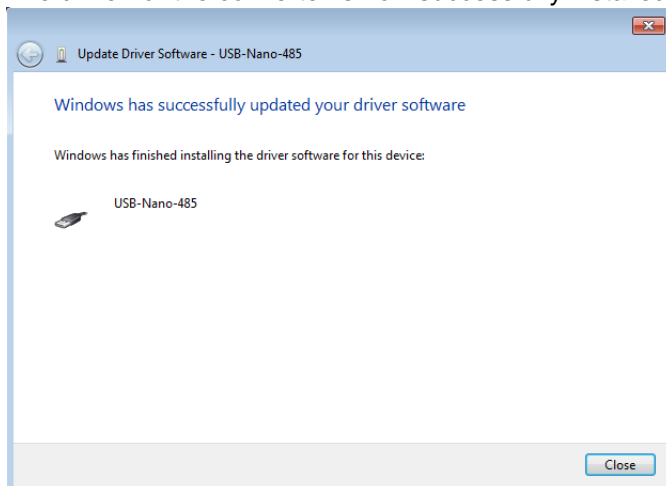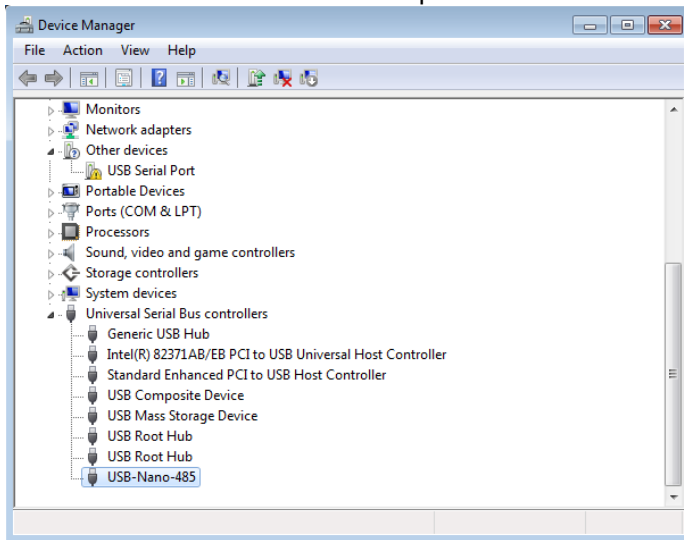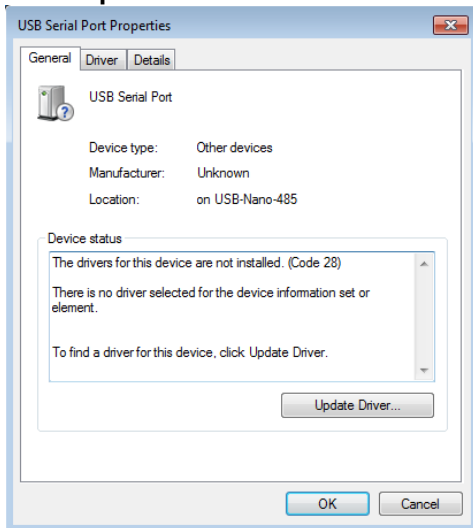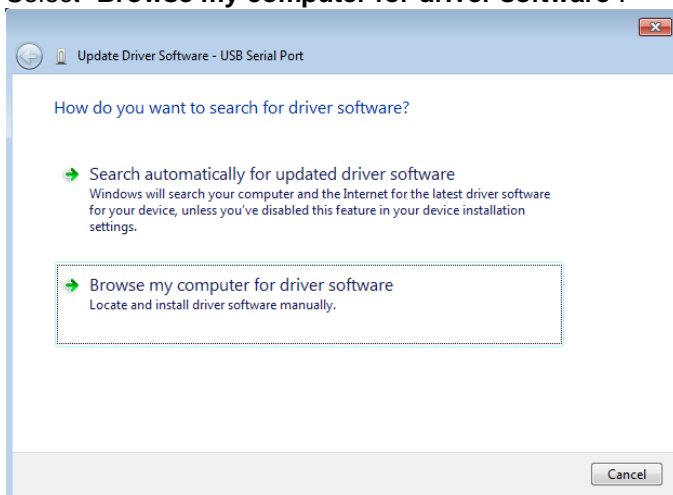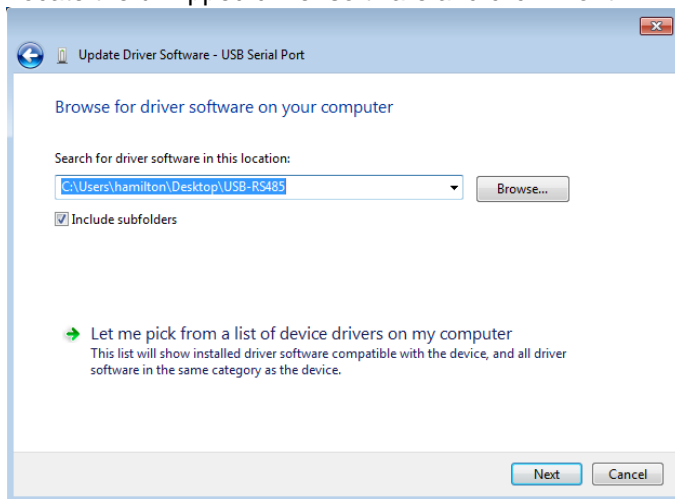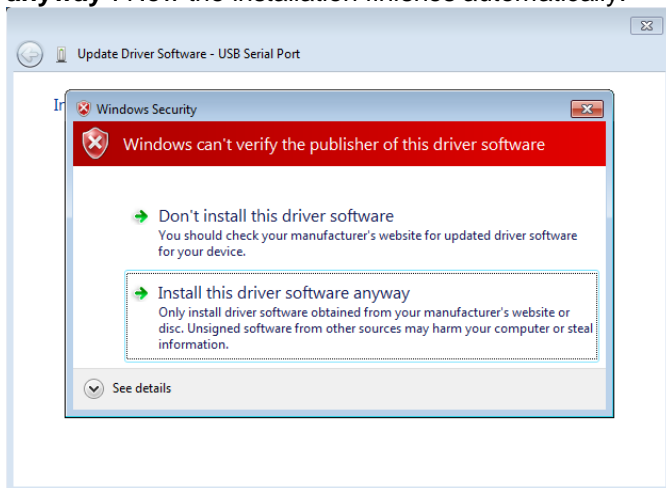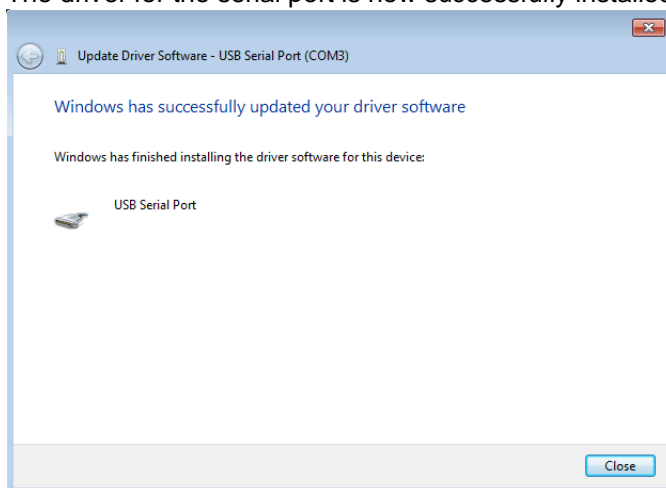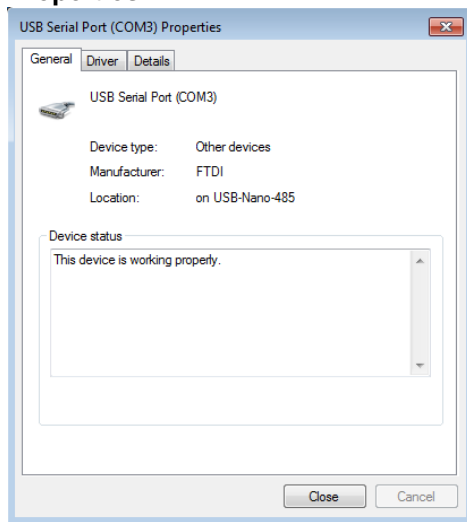

17. If a message appears about the certification of the driver, press "**Install this driver software anyway**". Now the installation finishes automatically.


18. The driver for the serial port is now successfully installed on your computer. Click "**Close**".

19. In this example the "**USB Serial Port**" is set to "**COM3**". "**Close**" "**USB-Serial Port (COMx) Properties**".

20. The driver-installation for the USB-RS485 Modbus converter has completed successfully, if both items "**USB Serial Port**" and "**USB-Nano-485**" appear without any indication of failure. Close the "**Device Manager**".
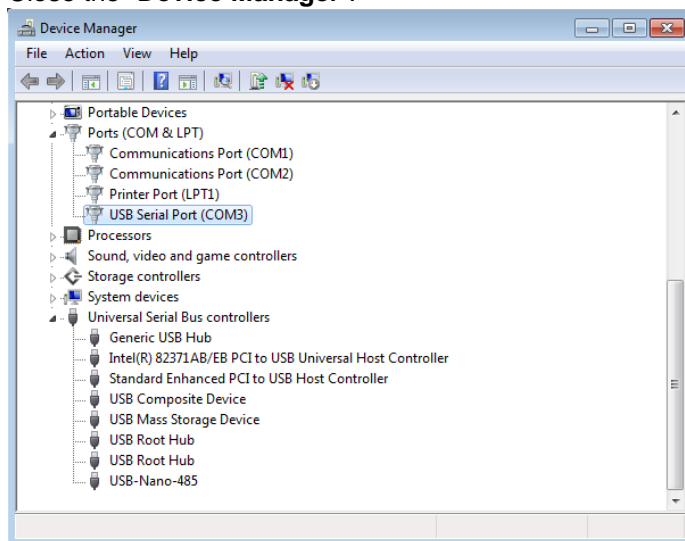
21. If you plug an other USB-RS485 Modbus converter into the computer's USB port, you do not need to repeat the installation as this is done automatically. Windows 7 reports the number of the serial port assigned to the USB-RS485 Modbus converter. If you have missed the message, see point 20.

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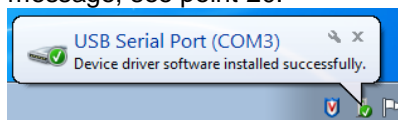
2.3   Uninstall USB-RS485 Modbus Converter Driver and unblock COM-Port

⚠️   **Attention**:

To uninstall, administrator rights are needed on your computer.

1. The USB-RS485 Modbus converter is plugged into the computer's USB port.

2. **Windows XP**:
    Right click on "**My Computer**". In the context menu displayed, select "**Properties**". In the window "**System Properties**", on the tab "**Hardware**", click on "**Device Manager**".

    Windows Vista and **Windows 7**:
    Click "**Start**" – "**Control Panel**" and select "**Device Manager**".

3. Open the tree "**Ports (COM & LPT)**" and right click on "**USB Serial Port (COMx)**". x = Number of the port you want to uninstall.
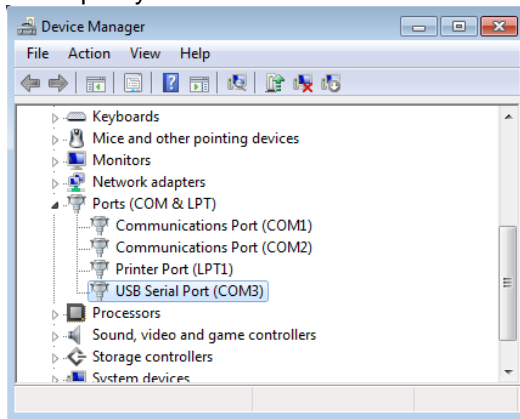
4. In the context menu displayed, select "**Uninstall**".

5. **Windows XP**:
    In the window "**Confirm Device Removal**", confirm with "**OK**".

    Windows Vista and **Windows 7**:
    In the window "**Confirm Device Removal**", confirm with "**OK**".
    1) If you want to remove the driver completely select the field "**Delete the driver software for this device**".
    2) If you want to keep the driver installed and unblock the COM-port do not select the field "**Delete the driver software for this device**". The advantage here is that a new USB-RS485 Modbus converter will be recognised automatically if plugged in.

6. The USB-RS485 Modbus converter is removed and the allocated COM-port is free for other uses.

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