HO820
Dual Interface
Installation Guide
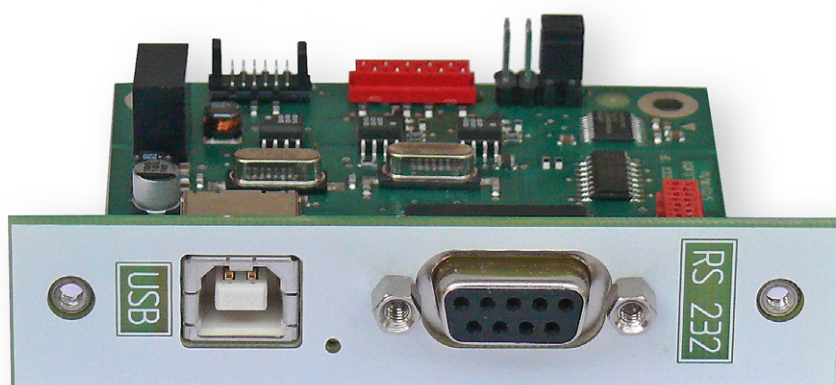
Content

1 General Information

1.1 Safety hints

> The installation or retrofit of the HO880 interface is recommended ex factory or later at Hameg service center. Otherwise the instrument has to be opened and the warranty seal will be broken.
>
> Fitting or exchanging of an interface must not be made unless the instrument is switched off and not connected to mains line. All test leads have be removed from the measuring inputs.
>
> All data and signal lines are electrically isolated from ground.

If the safety rules are disregarded, any damage to we will not take any responsibility for damage to people or equipment of other make.

1.2 Interface Description

The HO820 is a dual Interface that can be used alternatively as a USB 2.0 or as a RS-232 interface in connection with the HAMEG measuring instruments HM8112-3(S), HM8115-2, HM8118, HM8123, HM8134-3, HM8135, HM8150, as well as the HAMEG power supplies HM7044 and HM8143 for data transfer and remote control. Only one function (USB or RS-232) – not both at the same time – can be activated. It is also possible to establish a physical USB connection and to control the instrument via a virtual COM port. Both interfaces enable serial data transfer.

1.2.1 USB

The interface HO820 is equipped with a type B USB connector. For direct connection with a host controller or an indirect connection via a USB hub, a USB cable equipped with type B connector at one end and type A male connector at the other end is required.
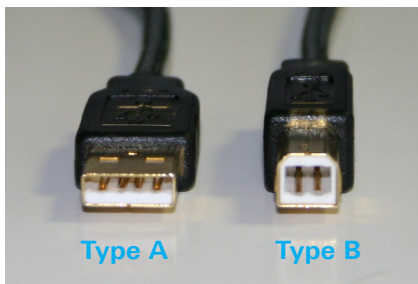

Fig. 1.1: USB type A and type B

1.2.2 RS-232

The HO820 RS-232 interface is built with a 9-pin D-SUB connector. This bidirectional interface allows the transfer of setup parameters, data and screenshots from an external device (e.g. PC) to the power supply or vice versa. It is possible to establish a direct connection from the PC (serial port) to the interface via 9-pin shielded cable (1:1 wired). The maximum length must not exceed 3 m. The pin assignment for the RS-232 interface (9-pin D-SUB connector) is specified as follows:
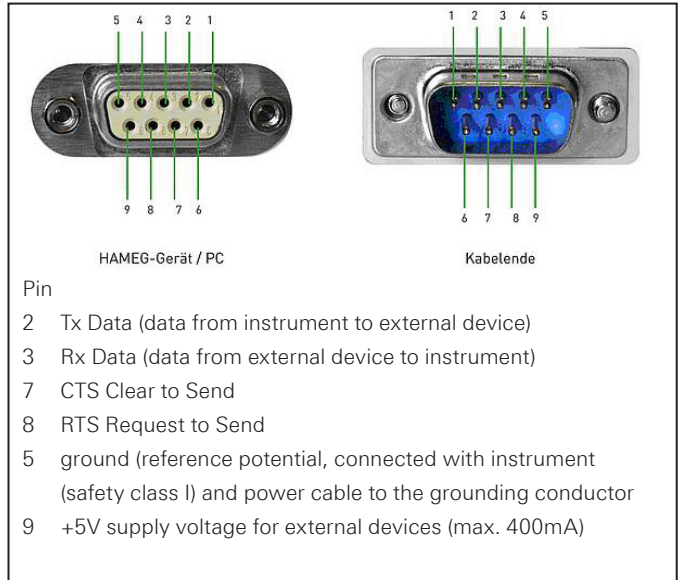

Pin

2   Tx Data (data from instrument to external device)
3   Rx Data (data from external device to instrument)
7   CTS Clear to Send
8   RTS Request to Send
5   ground (reference potential, connected with instrument (safety class I) and power cable to the grounding conductor
9   +5V supply voltage for external devices (max. 400mA)

Fig. 1.2: Pin assignment of the RS-232 interface

The maximum voltage variation at the Tx, Rx, RTS and CTS connections is ±12 Volt.

The RS-232 standard parameters for the interface are listed in the respective Hameg instrument user manual

> Please refer to the instrument user manual for detailed information about activating the desired interface (USB / RS-232) and setting interface parameters.

2   Interface Retro-fitting

The HO820 interface can be retrofitted by the user, but we recommend the interface installation ex factory. To install the interface please remove the instrument enclosure. Unscrew the 6 screws on the instrument rear panel and take off the plastic back cover; the enclosure can then be pulled off towards the back. Disconnect the cable which connects the instrument with the built-in interface and connects to the HO880 interface. Depending on the instrument's connector use the micromatch connector ② or the MICS connector ③. Remove the built-in interface. According to the instrument, the jumpers ① have to be placed in one of the following ways.
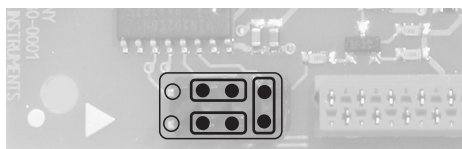
Insert the HO820 interface card into the interface card slot on the instrument back panel by using the 2 supplied self-tapping screws. Then, the enclosure can be slid back on. Please make sure that the edges of the metal enclosure slide exactly into the grooves of the plastic covers on the front and back. After the rear plastic cover has been replaced and fastened, the instrument is ready for operation.
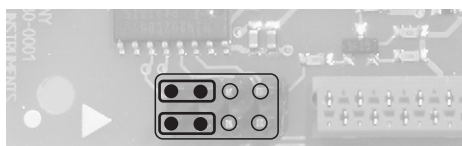

Fig. 2.1: Interface assembly

Description

① Jumper

② Connector Micromatch

③ Connector MICS

④ USB-Connector, Typ B

⑤ RS-232 Connector

Jumper position für HM8112-3 and HM7044:

Jumper position für HM8115-2, HM8118, HM8123, HM8131-2, HM8134-3, HM8135, HM8143 and HM8150:

3 USB Driver Installation

The following requirement for HO820 USB driver installation are necessary:

1 An instrument with an activated USB interface.

2 A PC with operating system Windows XP™, VISTA™, Windows 7™, Windows 8™ or Windows 10™ (32 or 64Bit).

3 Administrator rights are necessary for the installation of the driver. If an error message regarding spelling errors appears, the rights to install the driver are not given. In this case, please contact your IT department to obtain the necessary rights.

The actual USB driver can be downloaded from the Hameg homepage www.hameg.com for free. The HO820 USB driver ZIP file includes a native USB and virtual COM port driver

If a connection between PC and the instrument has been established and no HMC USB-VCP driver is installed, the operating system answers with "Found New Hardware". In addition, the "Found New Hardware Wizard" is displayed. Only in this case the USB driver must be installed.

3.1 Installation with Windows XP™

Please choose "No, not this time" and click "Next".
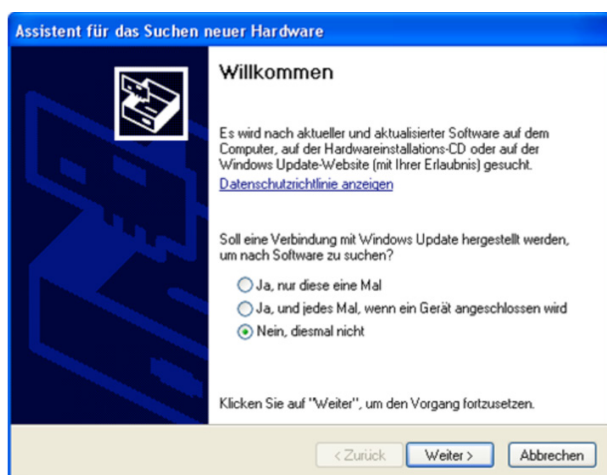

Fig. 3.1: Assistent for new hardware search

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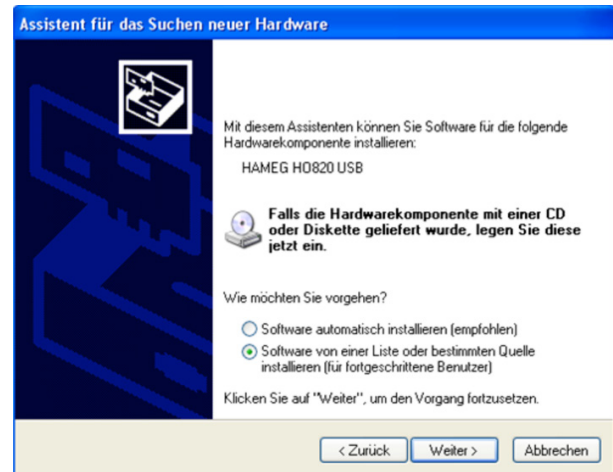

Fig. 3.2: Driver file assistant

„Browse" for the selected drive and select the folder containing the driver. Confirm with "OK".
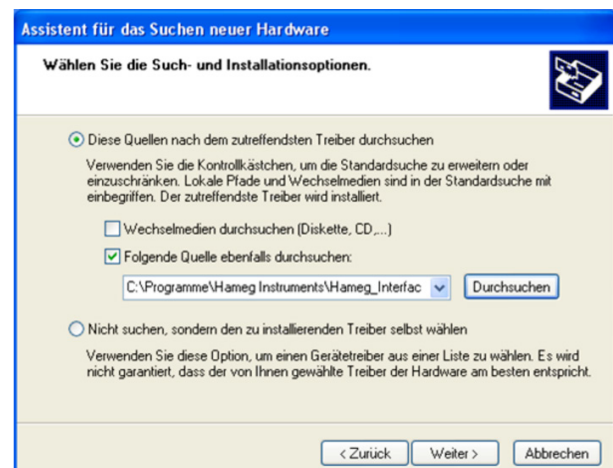

Fig. 3.3: File folder

After the selected path is displayed click "Next". The HO820 USB driver will be installed.
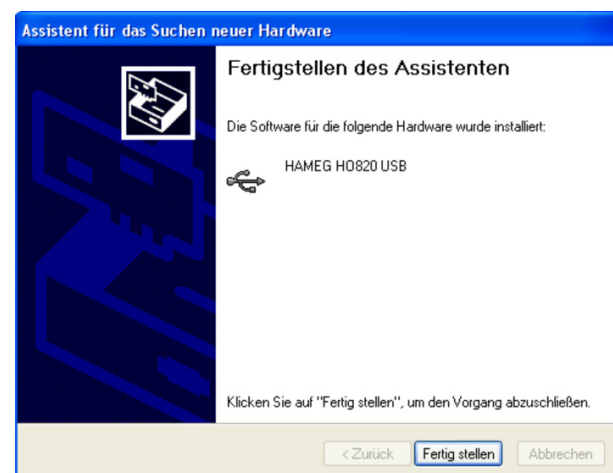

Fig. 3.4: Completition of the driver installation

Please click "Finish" to complete the installation. To activate the virtual COM port (VCP) in order to communicate with a terminal program or external software environments (NI) please refer to chapter 4.

3.2 Installation with Windows 7™

If the window „New Hardware found" appears, please click on „Skip downloading the driver with Windows Update" (menu bar).

If the window is disappeared, you have to open the device manager. The instrument will be displayed with a yellow exclamation mark in the device manager of the PC. Choose the instrument and update the driver software via right click.
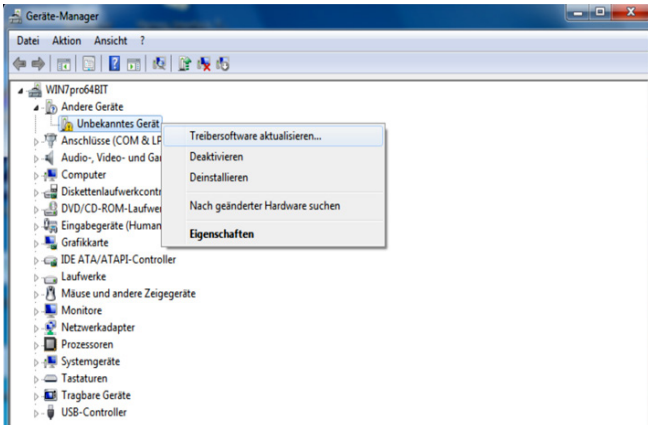

Fig. 3.5: Device manager
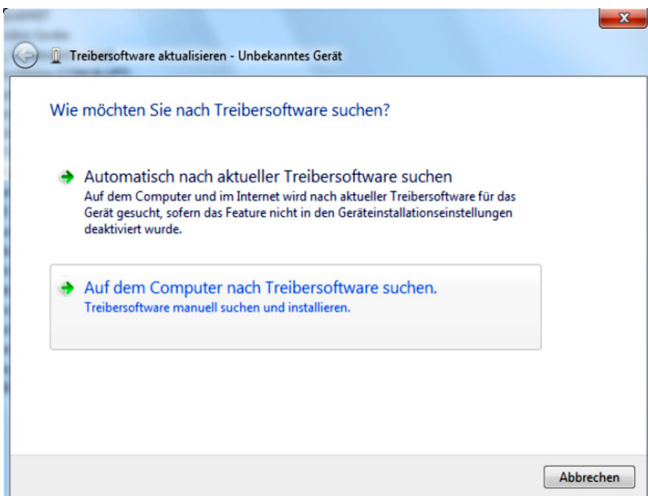
Choose „Browse my computer for driver software.

Fig. 3.6: Searching driver software

„Browse" the appropriate folder where the driver was unzipped and saved. Afterwards, press „Next".
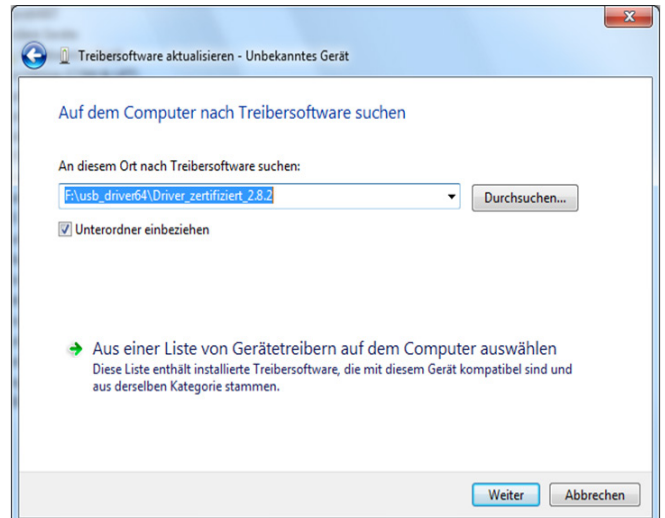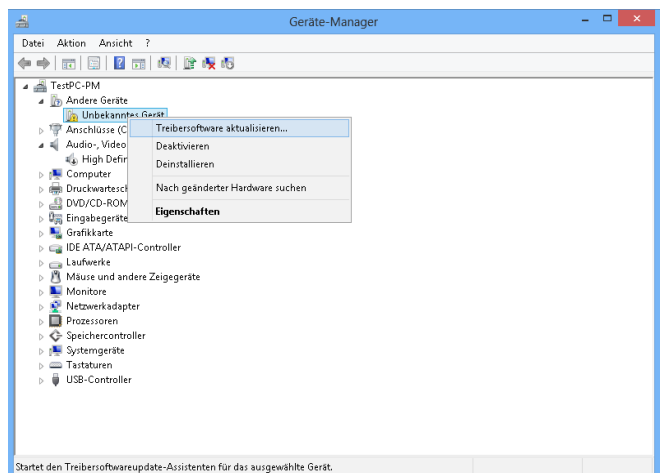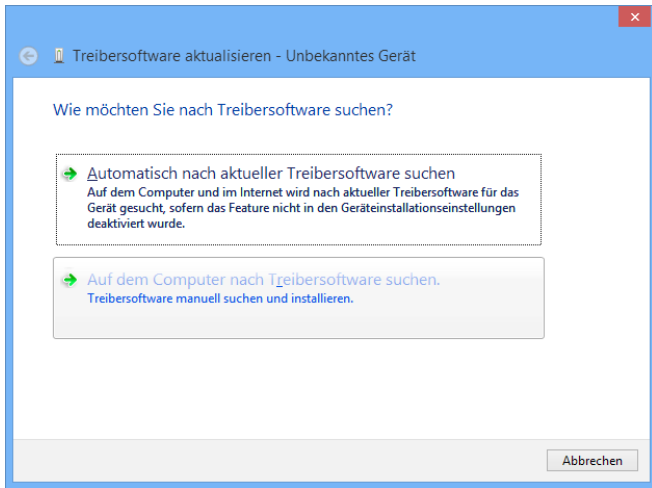

Fig. 3.7: Choosing driver folder

After successful installation of the HO820 USB driver the instrument will be displayed as „Hameg Measurement Device". To activate the virtual COM port (VCP) in order to communicate with a terminal program or external software environments (NI) please refer to chapter 4.

3.3 Installation with Windows 8™ / 10™

If the driver ZIP file is downloaded and saved, the driver file can be installed manually via the device explorer. The instrument will be displayed with a yellow exclamation mark in the device manager of the PC. Choose the instrument and update the driver software via right click.

Fig. 3.8: Dveice manager

Choose „Browse my computer for driver software.

Fig. 3.9: Searching driver software

„Browse" the appropriate folder where the driver was unzipped and saved. Afterwards, press „Next".
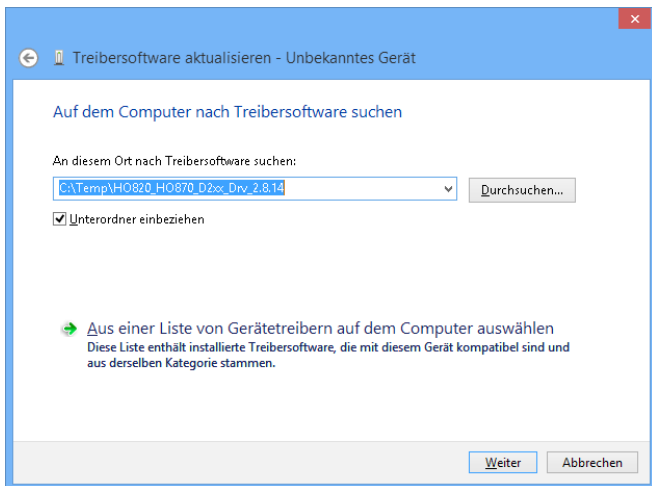

Fig. 3.10: Choosing driver folder

After successful installation of the USB driver the instrument will be displayed as „Hameg Measurement Device".
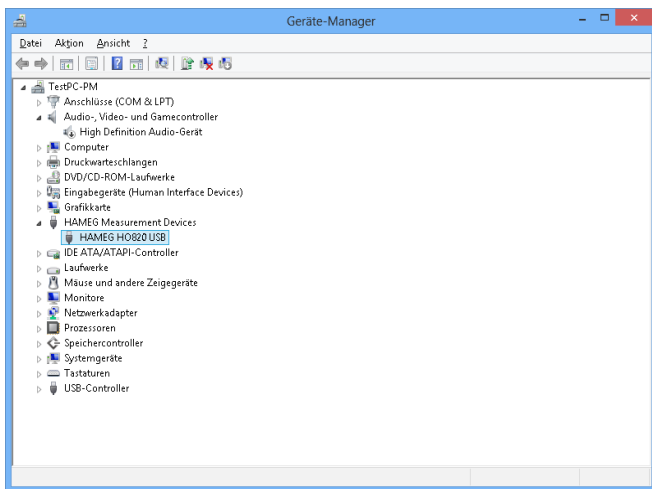

Fig. 3.11: Instrument display in the device manager

To activate the virtual COM port (VCP) in order to communicate with a terminal program or external software environments (NI) please refer to chapter 4.

4 Virtual COM port Installation (VCP)

If the native USB driver of the HO820 interface is installed and the instrument will be displayed in the device manager, the virtual COM port driver (VCP) can be installed.

Via right klick on „HAMEG HO820" the interface properties of the USB interface can be opened.
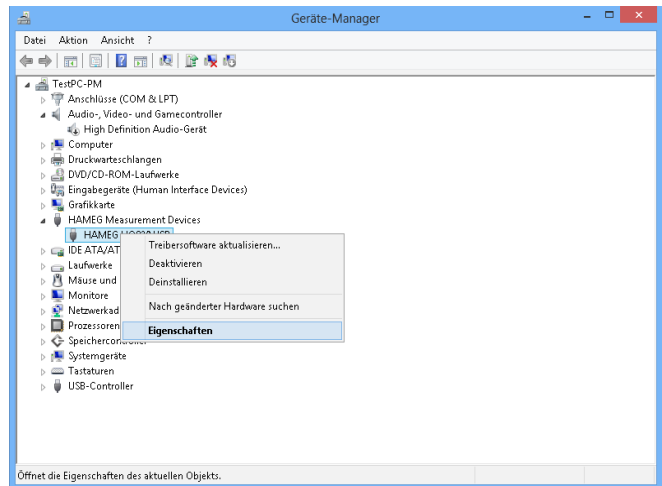

Fig. 4.1: Interface properties

Choose the tab „Advanced" and activate the VCP (virtual COM port. Press „Ok" to close the properties window.
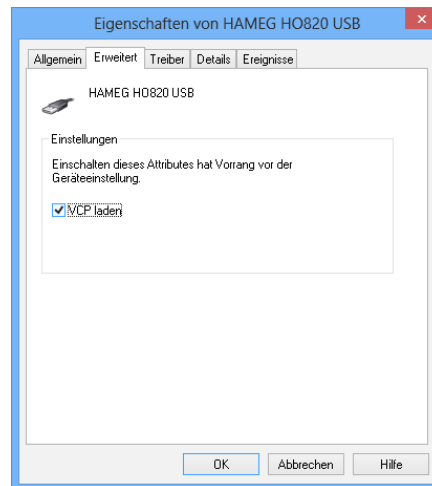

Fig. 4.2: VCP activation

After instrument restart or reconnection of the USB interface cable the instrument will be displayed in the device manager as COM port.

After the reconnection of the USB interface cable Windows will be started to search the VCP driver because the virtual COM port driver will be installed separately. Choose „Browse my computer for driver software.
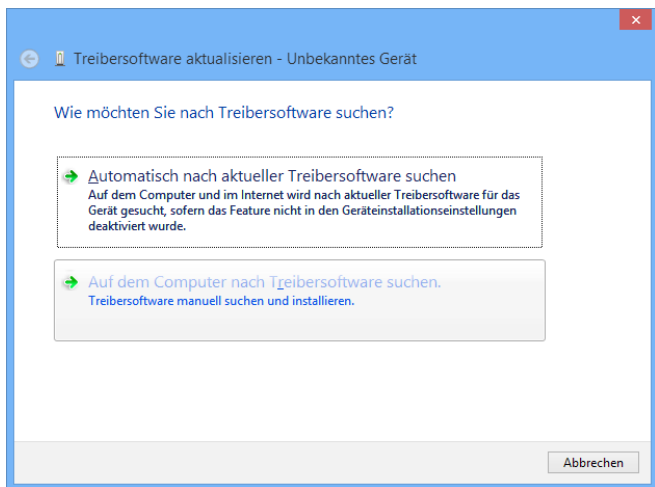

Fig. 4.3: Searching driver software

„Browse" the appropriate folder where the driver was unzipped and saved. Afterwards, press „Next".
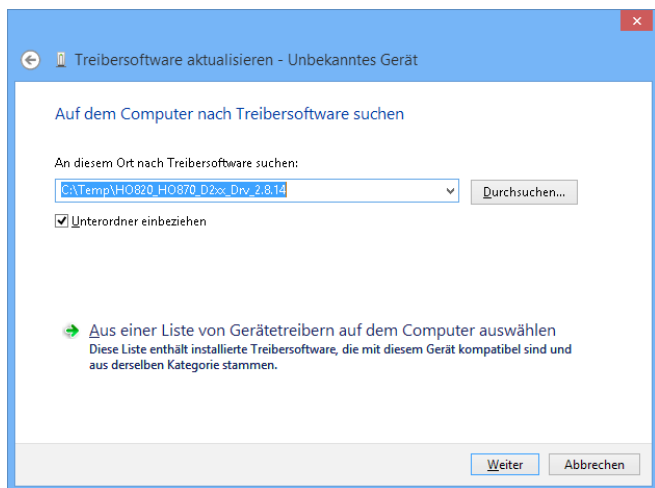

Fig. 4.4: Choosing driver folder

After successful installation of the HO820 USB VCP driver the instrument will be displayed as „Ports (COM & LPT)".
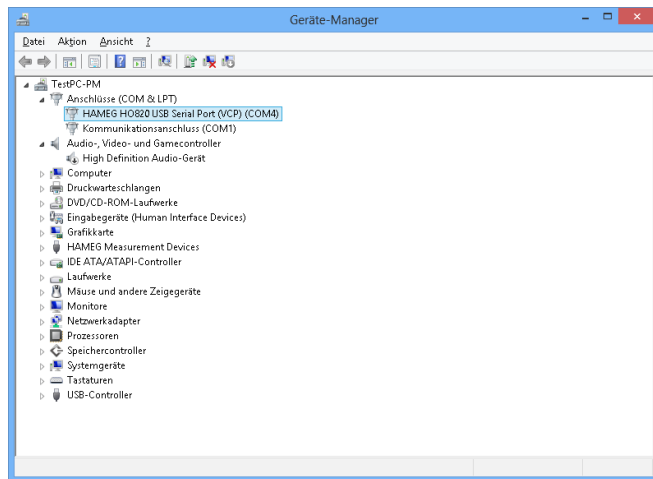

Fig. 4.5: VCP installed

Double click on the new installed COM port will open the „Properties" window. Choose the tab „Port Settings" to select the RS-232 settings for the virtual COM port (including hardware / software handshake).

Further settings may be selected via „Advanced" tab, e.g. assignation of the virtual COM port from COM1 to COM 256.