



USB to RS232 converter

**SB232**

Isolation

Virtual serial port



# SB232

## Datasheet

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## **DESCRIPTION**

This module is suitable for converting USB interface to a RS232 line. A virtual serial port is created in the PC, via which the RS232 can be accessed. The indicators show the ON/OFF status and both directions of data flow.

## **FEATURES**

- Access to the RS232 via Virtual serial port
- Isolation of the USB interface from RS232, surge protection
- Transmission speed up to 460 Kbps (1 Mbps possible)
- Indication of power supply and data flow by three indicators (ON, TxD, RxD)
- A unique serial number, which enables connection of several converters with other USB devices via a USB-HUB
- Connection to a PC via a usual USB cable (included in the converter's delivery)
- Possible installation on a DIN rail
- 5 V power supply from the USB interface
- Dimensions 55 × 59 × 24 mm

## TECHNICAL PARAMETERS

Power supply voltage .....	5 V (from the USB interface)
USB specification .....	1.1 (USB 2.0 compatible)
Length of included USB cable .....	1.8 m
RS232 line signals .....	All in RS232 Specification: TxD, RxD, RTS, CTS, DTR, DSR, DCD, RI
Maximal RS232 voltage.....	±30 V
RS232 shortage protection.....	typically 25 mA
Maximum communication speed .....	460 kbps or up to 1 Mbps depending on type
Mechanical workmanship .....	anodized aluminum box
Dimensions (without connector) .....	54 × 62 (55) × 24 mm
Weight .....	75 g
Ingress protection .....	IP 40
Electronics working temperature range .....	-20 to +70 °C
Connector .....	D-SUB 9 M (Identical to PC serial port, see Fig. 1)

## IDICATORS

There are three indicators on the SB232 module.

ON (green).....	it is on when the USB port provides power supply
TxD (yellow).....	it indicates data transmission from USB to RS232
RxD (yellow) .....	it indicates data receiving from RS232 to USB

## INSTALLING OPTIONS

### Bracket:

- Without a DIN rail holder (*standard*)
- With a DIN rail holder

Please do not hesitate to contact us if you have specific requirements for the SB232 module's workmanship and functionality.

**CONNECTION AND INSTALLATION****Connection**

The **USB** is connected to a PC via cable with a USB connector (type B).

The **RS232** is connected via D-SUB 9M. See Fig. 1.

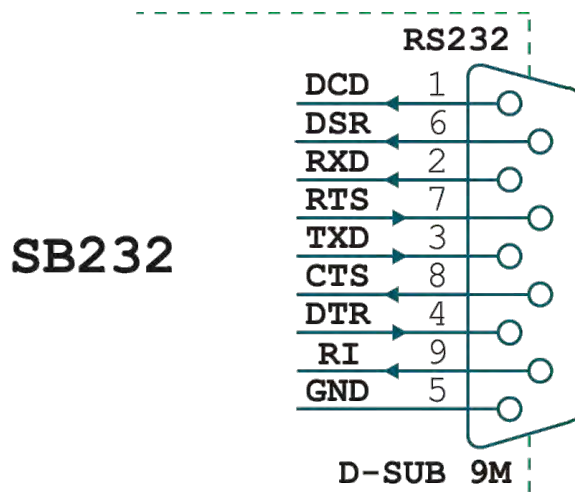


Fig. 1 – RS232 connector

## Installation under Windows XP

### Procedure

A driver must be installed for the SB232 converter. Connect the SB232 converter to USB port of a switched-on PC with an MS Windows operating system. The green indicator on the converter is on and after a while (in which the Windows OS detects the new device), the screen shown in Fig. 2 is displayed.<sup>1</sup>



Fig. 2 – Found New Hardware Wizard

Select "Install from a list or specific location." Select the "Next" button.

<sup>1</sup> If the operating system has not detected the new device, you can activate the driver installation manually – cf. the "Manual installation of the driver" on p. 14.

In the screen of Fig. 3 choose "Search for the best driver in these locations" and specify the path (A:\). Put the supplied floppy disk into the floppy-disk drive and select "Next" again. (You can also download the drivers from [www.papouch.com](http://www.papouch.com).)

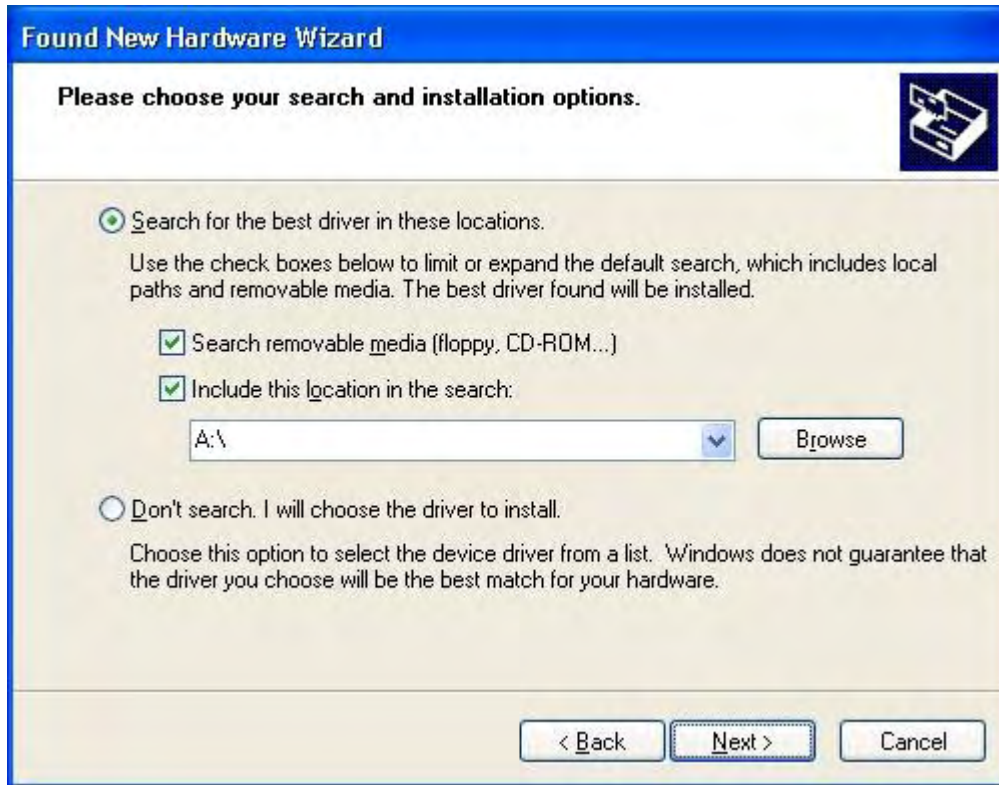


Fig. 3 – Driver Location

In the dialog box of Fig. 4 select the "Continue Anyway" button.



Fig. 4

Select the "Finish" button. You have successfully completed the first part of the installation now.



Fig. 5

In the second part, a driver is installed for the virtual serial port via which the RS232 line can be accessed.

The screen shown in Fig. 6 is displayed. Select "Install from a list or specific location" as before. Select the "Next" button.



Fig. 6 – Found New Hardware Wizard

The screen shown in Fig. 3 is displayed. In the screen for driver selection, choose "Search for the best driver in these locations" and specify the path (A:\). Put the supplied floppy disk into the floppy-disk drive and select "Next" again.

In the dialog box of Fig. 7 select the "Continue Anyway" button.



Fig. 7

In the dialog box of Fig. 7 select the "Next" button. At this moment, both drivers for the SB232 converter and for the virtual serial port have been successfully installed.



obr. 8 – Finish

The "Device Manager" can be viewed as follows (the actual procedure may be slightly different according to the Windows version): Right click the "My Computer" icon and choose "Properties" in the dropdown menu. Select the "Hardware" tab and the "Device Manager" button (cf. the dialog box shown in Fig. 9).<sup>2</sup>

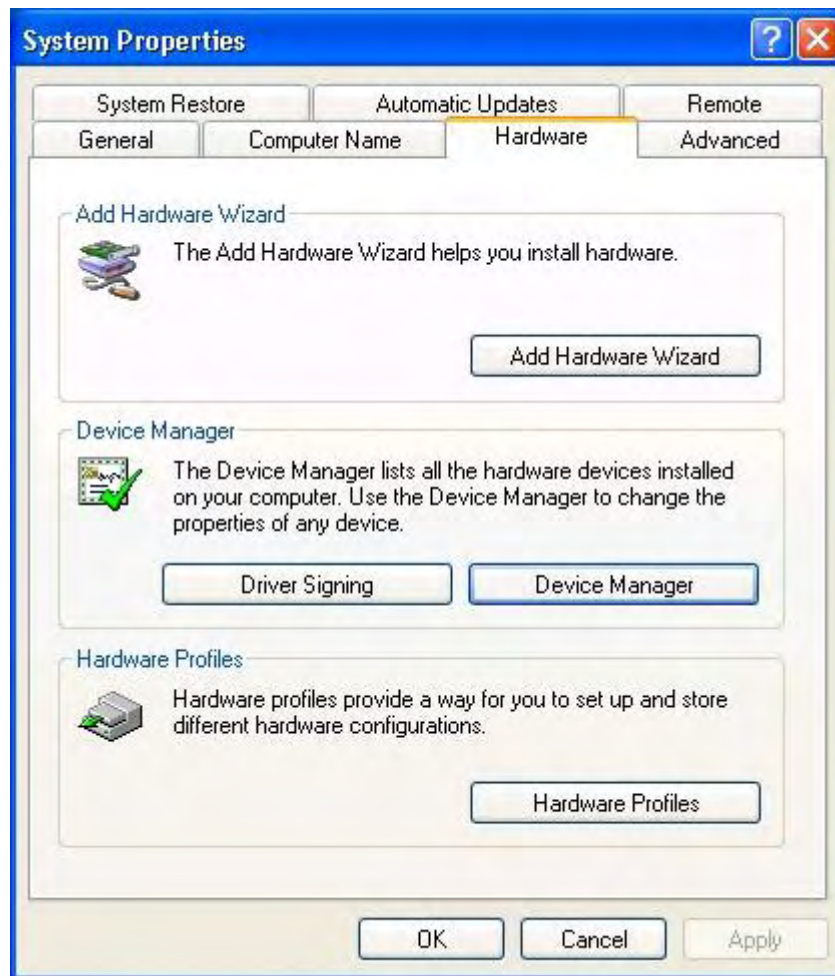


Fig. 9 – System Properties

<sup>2</sup> Alternatively, click the "Start" menu and go Control Panel / System, tab "Hardware," button "Device Manager"

In the "Ports (COM & LPT)" item of the "Device Manager," you can see the COM port on which the RS232 line is accessible. Set the number of this port in your application. The SB232 converter is shown in the "Universal Serial Bus controllers." (cf. the dialog box shown in Fig. 10)

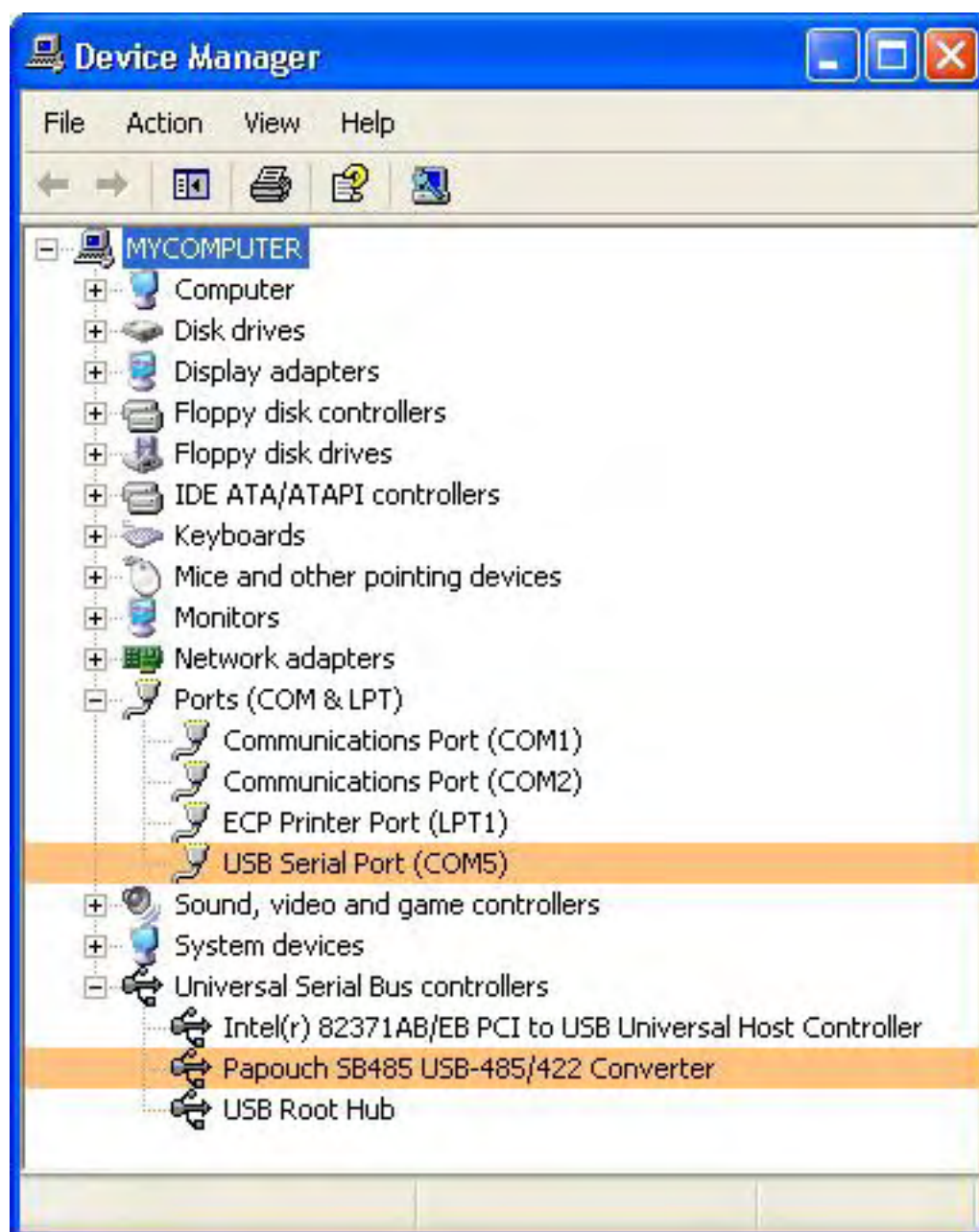


Fig. 10 – Device Manager

## Changing the COM port number

If the automatically assigned number of the COM port is unsuitable, you can change it. Click on the "Ports (COM & LPT)" item of the "Device Manager." Right-click the "USB Serial Port" and choose "Properties." Select the "Port Settings" tab and the "Advanced..." button. Here you can select the "Com Port Number."

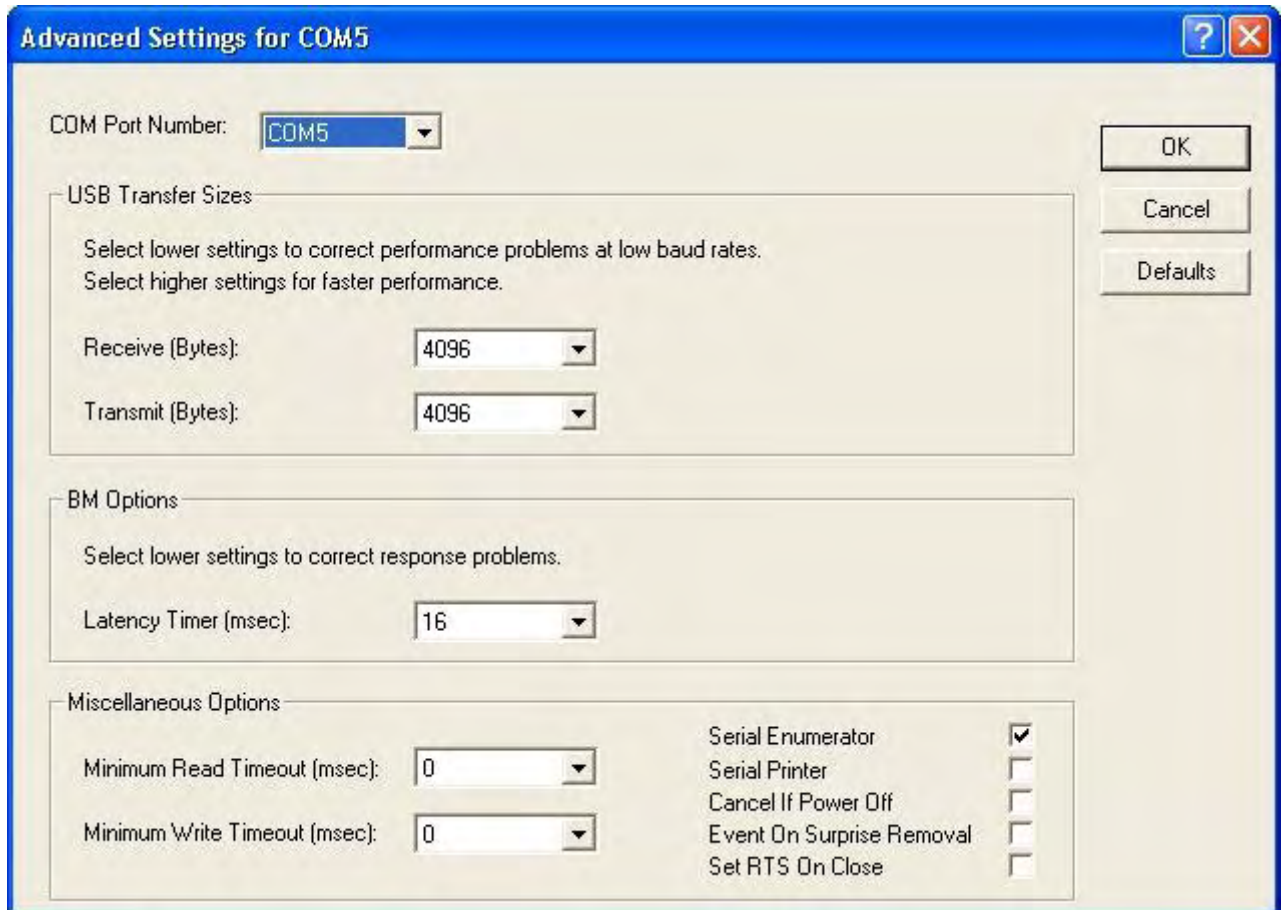


Fig. 11 – Changing the COM port number

Confirm the change by the "OK" button.

## Manual installation of the driver

If the system does not start searching for the driver automatically after connection of the new device, you can proceed as follows: Open the "Control Panel" (in the "Start" menu, go Settings / Control Panel), choose the "Add Hardware" item and select the "Next" button. When installing the driver, insert the floppy disk and continue as described above.

## Uninstalling

If you wish to completely uninstall the converter, it is not sufficient to remove the port from the system. Disconnect the SB232 converter from the PC and uninstall the driver using the "Add or Remove Programs" item in the "Control Panel."

## Temporarily removing the converter

When the SB232 converter is disconnected, the COM port will disappear from the "Device Manager." After reconnecting the converter, the port will be displayed in the Device Manager again, with the original settings.

## Installation in Linux Operating System

Linux drivers can be downloaded from <http://www.ftdichip.com> .





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Data transmission in industry, line and protocol conversions, RS232/485/422/USB/Ethernet/GPRS/WiFi, measurement modules, intelligent temperature sensors, I/O modules, and custom-made electronic applications.

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