

# Serial Instrument Control Interfaces for USB

New

## NI USB-232 Series, NI USB-485 Series

- Compatible with standard PC serial port
- 1, 2, and 4-port versions
- Handle RTS/CTS hardware handshake lines
- 128 B transmit and receive FIFOs
- 5,6,7, or 8 data bits

### NI USB-485

- RS-485 or RS-422 interface
- 460.8 kb/s maximum transfer rate
- Communicates with up to 31 devices
- Automatic transceiver-control mode for 2-wire RS-485 devices
- Software-selectable biasing
- Cable lengths up to 1.2 km (4,000 ft)

### NI USB-232

- RS-232 interface
- 230.4 kb/s maximum transfer rate
- Software-selectable DTE or DCE transceiver modes (2 and 4-port models only)

### Operating Systems

Windows 2000/XP

### Recommended Software

- LabVIEW™
- LabWindows™/CVI™
- Measurement Studio™

### Other Compatible Software

- C/C++
- Visual Basic
- Any package with the Microsoft serial driver interface

### Driver Software (included)

- NI-Serial



## Overview

The National Instruments USB-232 and USB-485 transform your Universal Serial Bus (USB) port into asynchronous serial ports for communication with serial devices. The NI USB-232 and USB-485 are available in either 1, 2, or 4-port versions and use standard RS-232, RS-422, or RS-485 communications. All products include driver software for Windows 2000/XP. You can install and use the USB-232 and USB-485 as standard serial ports from your existing applications or with applications written with NI-VISA.

Additionally, the USB-232 2 and 4-port versions feature software-selectable DTE or DCE transceiver modes, as well as an automatic transceiver detection mode, or Auto232. The USB-485 features software selectable biasing; therefore, you can turn biasing on and off for each port through software.

Development environments, such as Visual Basic, Visual C++, and Excel, as well as National Instruments LabVIEW, LabWindows/CVI and Measurement Studio, can access the serial ports using standard serial I/O functions.

### INFO CODES

For more information or to order products online, visit [ni.com/info](http://ni.com/info) and enter:

usb232  
usb485

**BUY ONLINE!**

## Specifications

FIFO size .....	128 B
Maximum transfer rate.....	460.8 kb/s (RS-485); 230.4 kb/s (RS-232)
USB connector (1 port) .....	captive cable with USB series A plug
USB connector (2 and 4 port) .....	USB standard series B connector
Serial connectors.....	DB-9
Noise emissions.....	Class A

### Power Requirements

5 VDC (from USB) .....	USB-232 (100 mA typ, 200 mA max), USB-232/2 (200 mA typ, 500 mA max), USB-232/4 (300 mA typ, 500 mA max), USB-485 (175 mA typ, 500 mA max), USB-485/2 (300 mA typ, 500 mA max),
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+12 VDC (from supply furnished)..... USB-485/4 (225 mA typ, 500 mA max)

### Operating Environment

Ambient temperature.....	0 to 70 °C
Relative humidity.....	10 to 90%, noncondensing

### Storage Environment

Ambient temperature (1 port).....	-40 to 80 °C
Ambient temperature (2 and 4 port).....	-40 to 85 °C
Relative humidity.....	10 to 90%, noncondensing

### Electrostatic Discharge Protection

Case contact and air discharge.....	±4 kV
RS-232 and RS-435 data lines .....	±15 kV (HBM)

## Ordering Information

Model	Serial Port	Number of Ports	Part Number
NI USB-232	RS-232	1	778472-01
NI USB-232/2	RS-232	2	778473-02
NI USB-232/4	RS-232	4	778473-04
NI USB-485	RS-485/RS-422	1	778475-01
NI USB-485/2	RS-485/RS-422	2	778476-02
NI USB-485/4	RS-485/RS-422	4	778476-P4*

\*External 12 VDC power supply included

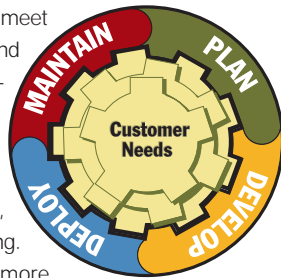
P = Power Cord Type	0 = U.S. 120 VAC	4 = Universal Euro 240 VAC
	2 = Swiss 220 VAC	5 = North American 240 VAC
	3 = Australian 240 VAC	6 = United Kingdom 240 VAC



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