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# 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)
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### 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

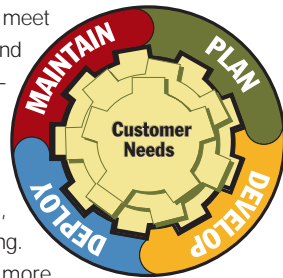
P = Power Cord Type	0 = U.S. 120 VAC	4 = Universal Euro 240 VAC
	2 = Swiss 220 VAC	5 = North American 240 VAC
	3 = Australian 240 VAC	6 = United Kingdom 240 VAC



# Global Services and Support

NI has the services and support to meet your needs around the globe and through the application life cycle – from planning and development through deployment and ongoing maintenance – and tailored for customer requirements in research, design, validation, and manufacturing.

We have direct operations in more than 37 countries and distributors in another 12 locations. Our local sales and support representatives are degreed engineers, ready to partner with you to find solutions that best fit your needs.



## Local Sales and Technical Support

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## Training and Certification

NI recognizes that both initial instruction and ongoing education contribute to your success. NI provides a variety of training alternatives, from self-paced tutorials and interactive CDs, to worldwide hands-on courses taught by experienced instructors – all designed so that you can choose how to learn about our products. Further, NI offers certifications acknowledging individual expertise in working with NI products and technologies. Visit [ni.com/training](http://ni.com/training) for more information.

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