

Serial Interfaces

PXI-842x

- Compatible with standard PC serial port
- Full Windows 2000/NT/Me/9x Plug and Play compatibility for switchless configuration
- 2, 4, 8 or 16 ports
- Handles RTS/CTS hardware handshake lines
- 460 kb/s maximum transfer rates
- 64 B transmit and receive FIFOs
- Interrupt sharing between ports
- 2,000 V isolation

PXI-8420 and PXI-8422

- RS-232
- 15.6 m (50 ft) maximum cable length

PXI-8421 and PXI-8423

- RS-485 or RS-422
- Communicates with up to 31 devices
- Automatic transceiver-control mode for 2-wire RS-485 devices
- 1.2 km (4,000 ft) maximum cable length

Driver Software

- NI-SDS for Windows 2000/NT/Me/9x

Application Software

- LabVIEW
- Measurement Studio



Overview

The National Instruments PXI-842x serial interface modules for PXI and CompactPCI are asynchronous serial interfaces for communicating with RS-232, RS-485, and RS-422 serial devices. These interfaces are available with up to 16 ports and offer 2000 V of optical isolation (optional for 2 and 4-port versions only). Full Windows 2000/NT/Me/9x Plug and Play compatibility gives you the benefits of automatic configuration for easier installation and maintenance. Moreover, you can install and use these boards as standard serial ports from your existing applications. Development environments such as Microsoft Visual Basic, Visual C++, and Excel, as well as National Instruments LabVIEW and Measurement Studio application software can access the add-in serial ports using standard serial I/O functions. All interfaces include an enhanced serial driver for improved performance, reliable

interrupt sharing between ports, and access to the advanced transceiver control mode of the RS-485 interfaces. Under Windows 2000/NT/Me/9x, the configuration utility is fully integrated into the Device Manager.

The 8-port PXI-8420 and PXI-8421 kits include an adapter cable that connects to the 68-pin connector on the module and terminates in eight standard DB-9 male connectors. The 16-port RS-232 serial interface includes a breakout box that connects to the SCSI 100-pin connector on the module and terminates in 16 standard DB-9 male connectors.

INFO CODES

For more information, or to order products online visit ni.com/info and enter:

- pxi8420
- pxi8421
- pxi8422
- pxi8423

BUY ONLINE!

Ordering Information

RS-232

PXI-8420

- 16 ports (includes cable and breakout box).....777733-16
- 8 ports (includes cable)777733-08
- 4 ports777733-04
- 2 ports777733-02

PXI-8422 (with 2,000 V isolation)

- 4 ports777736-04
- 2 ports777736-02

Includes PXI module and Enhanced Serial Driver for Windows 2000/NT/Me/9x. The 8-port PXI-8420 includes 8-port DB-9 cable (185196-01), and, the 16-port PXI-8420 includes 16-port DB-9 breakoutbox (186936-01) See page 56.

RS-485/RS-422

PXI-8421

- 8 ports (includes cable)777735-08
- 4 ports777735-04
- 2 ports777735-02

PXI-8423 (with 2,000 V isolation)

- 4 ports777737-04
- 2 ports777737-02

Includes PXI module and Enhanced Serial Driver for Windows 2000/NT/Me/9x. The 8-port PXI-8421 includes 8-port DB-9 cable (185845-01). See Figure 2, page 56.

Serial Interfaces and Cables

Specifications

Complies with PXI Specification Revision, CompactPCI, PICMG 2.0

Performance

Transfer Rates

RS-485	460 kb/s
RS-232	230 kb/s

Power Requirements

Module/ Ports	+5 VDC		+12 VDC		Total Power		2000 V Optical Isolation
	Typical	Maximum	Typical	Maximum	Typical	Maximum	
8420/2	100 mA	150 mA	20 mA	200 mA	740 mW	3.15 W	-
8420/4	125 mA	200 mA	40 mA	400 mA	1.1 W	5.8 W	-
8420/8	150 mA	250 mA	80 mA	800 mA	1.7 W	10.85 W	-
8420/16	500 mA	1.0 A	-	-	2.5 W	5 W	-
8421/2	350 mA	750 mA	-	-	1.75 W	3.75 W	-
8421/4	700 mA	1.3 A	-	-	3.5 W	6.5 W	-
8421/8	1.1 A	2.0 A	-	-	5.5 W	10.0 W	-
8422/2	400 mA	650 mA	-	-	2.0 W	3.25 W	✓
8422/4	500 mA	750 mA	-	-	2.5 W	3.75 W	✓
8423/2	800 mA	1.3 A	-	-	4.0 W	6.5 W	✓
8423/4	1.0 A	1.5 A	-	-	5.0 W	7.5 W	✓

Physical

Dimensions (not including connector)	16.0 by 10.0 cm (6.3 by 3.9 in.), 3U
I/O connector	
2-port	DB-9 male
4-port	10 position RJ-45 jack
8-port	SCSI 68-pin male
16-port	SCSI 100-pin male

Operating Environment

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

Storage Environment

Ambient temperature	-40 to 125 °C
Relative humidity	5 to 90% noncondensing
Electrostatic Discharge Protection by MIL-883C, Section 3015C	
Nonisolated modules.....	1.5 kV
Isolated modules	15 kV

For environmental, safety, and EMC/EMI compliance specifications, refer to page 19.



Figure 1. 1-Port DB-9

Serial Cables

1-Port DB-9 (Figure 1).....182845-01
Nonisolated converter cable for 4-port boards
10-position RJ-45 modular jack to DB-9, 1 m

1-Port DB-25.....182846-01
Nonisolated converter cable for 4-port boards
10-position RJ-45 modular jack to DB-25, 1 m



Figure 2. 8-Port DB-9 cable

8-Port DB-9, RS-232 (Figure 2)185196-01
SCSI-68 to 8-port DB-9 for RS-232, 1 m

8-Port DB-9, RS-485185845-01
SCSI-68 to 8-port DB-9 for RS-485, 1 m

RS-485 DB-9 Terminator182844-01
DB-9 terminating connector for RS-485

16-Port DB-9, Breakout Box, RS-232 (Figure 3).....186936-01
SCSI-100 to 16-port DB-9 breakout box, 1 m



Figure 3. 16-Port DB-9, Breakout Box, RS-232