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.

Driver Software
• NI-SDS for Windows 2000/NT/Me/9x

Application Software
• LabVIEW
• Measurement Studio

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 ports ..............................................................777733-04
2 ports ..............................................................777733-02
PXI-8422 (with 2,000 V isolation)
4 ports ................................................................777736-04
2 ports ..............................................................777736-02
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 breakout box (186936-01) See page 56.

RS-485/RS-422
PXI-8421
8 ports (includes cable) .............................................777735-08
4 ports ................................................................777735-04
2 ports ..............................................................777735-02
PXI-8423 (with 2,000 V isolation)
4 ports ................................................................777737-04
2 ports ..............................................................777737-02
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.
Specifications
Complies with PXI Specification Revision, CompactPCI, PICMG 2.0

Transfer Rates
RS-485 .................................................. 460 kb/s
RS-232 .................................................. 230 kb/s

Power Requirements

<table>
<thead>
<tr>
<th>Module</th>
<th>+5 VDC Typical</th>
<th>+5 VDC Maximum</th>
<th>+12 VDC Typical</th>
<th>+12 VDC Maximum</th>
<th>Total Power</th>
<th>2000 V Optical Isolation</th>
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<tbody>
<tr>
<td>8420/2</td>
<td>150 mA</td>
<td>150 mA</td>
<td>20 mA</td>
<td>200 mA</td>
<td>740 mA</td>
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<td>125 mA</td>
<td>200 mA</td>
<td>40 mA</td>
<td>400 mA</td>
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<td>5.8 W</td>
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<tr>
<td>8420/8</td>
<td>150 mA</td>
<td>250 mA</td>
<td>50 mA</td>
<td>800 mA</td>
<td>1.7 W</td>
<td>10.85 W</td>
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<tr>
<td>8420/16</td>
<td>500 mA</td>
<td>1.6 A</td>
<td>-</td>
<td>-</td>
<td>2.5 W</td>
<td>5 W</td>
</tr>
<tr>
<td>8421/2</td>
<td>350 mA</td>
<td>1.6 A</td>
<td>-</td>
<td>-</td>
<td>1.75 W</td>
<td>3.75 W</td>
</tr>
<tr>
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<td>700 mA</td>
<td>1.3 A</td>
<td>-</td>
<td>-</td>
<td>3.5 W</td>
<td>6.5 W</td>
</tr>
<tr>
<td>8421/8</td>
<td>1.1 A</td>
<td>2.0 A</td>
<td>-</td>
<td>-</td>
<td>5.5 W</td>
<td>10.0 W</td>
</tr>
<tr>
<td>8422/2</td>
<td>400 mA</td>
<td>1.3 A</td>
<td>-</td>
<td>-</td>
<td>2.0 W</td>
<td>3.25 W</td>
</tr>
<tr>
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<td>500 mA</td>
<td>1.3 A</td>
<td>-</td>
<td>-</td>
<td>2.5 W</td>
<td>3.75 W</td>
</tr>
<tr>
<td>8423/2</td>
<td>800 mA</td>
<td>1.3 A</td>
<td>-</td>
<td>-</td>
<td>4.0 W</td>
<td>6.5 W</td>
</tr>
<tr>
<td>8423/4</td>
<td>1.0 A</td>
<td>1.5 A</td>
<td>-</td>
<td>-</td>
<td>5.0 W</td>
<td>7.5 W</td>
</tr>
</tbody>
</table>

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.

Specifications

Module/ +5 VDC +12 VDC Total Power Optical Isolation
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 50 mA 800 mA 1.7 W 10.85 W -
8420/16 500 mA 1.6 A - - 2.5 W 5 W -
8421/2 350 mA 1.6 A - - 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 1.3 A - - 2.0 W 3.25 W ✓
8422/4 500 mA 1.3 A - - 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 ✓

Serial Interfaces and Cables

Series Interfaces and Cables

Bus Interfaces

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

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-485 .................................. 185845-01
SCSI-68 to 8-port DB-9 for RS-485, 1 m

Bus Interfaces

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