

Gigabit Ethernet Interfaces for PXI

NI PXI-8231, NI PXI-8232

- Gigabit Ethernet Interfaces with up to 1000 Mb/s (1000BaseT) transfers
- Compatible with 10BaseT and 100BaseTX
- Automatic cable polarity detection
- Complete IEEE 488.2 compatibility (PXI-8232 only)
- Maximum GPIB transfer rates (PXI-8232 only)
 - More than 1.5 Mbytes/s using IEEE 488.1
 - More than 7.7 Mbytes/s using HS488

Operating Systems

- Windows 2000/NT/XP/Me/98

Recommended Software

- LabVIEW
- LabWindows/CVI
- Measurement Studio for Microsoft Visual Studio

Driver Software (included)

- NI-488.2



Overview

The National Instruments PXI-8231 and PXI-8232 are high-performance Gigabit Ethernet interfaces for PXI based on the Intel® 82540EM Gigabit Ethernet Controller. The NI PXI-8232 also includes an IEEE 488 interface within the single-slot PXI module, saving a slot in your PXI system. 1000 Mb/s Gigabit Ethernet provides a substantial performance increase over 100 Mb/s Fast Ethernet, while remaining completely compatible with 10BaseT and 100BaseTX Fast Ethernet networks.

Real Performance Gains

Gigabit Ethernet theoretically provides a 1000 Mb/s transmission speed. However, 1000 Mb/s approaches the limit of PCI bus bandwidth, and as a result, actual maximum transmission speeds will be system specific. Variables such as your CPU speed, other PCI traffic, and Ethernet network configuration will determine performance, and as a practical guideline, one might attain transmission speeds of 500 Mb/s and receive speeds of 800 Mb/s. This remains five to eight times the performance of 100BaseTX Fast Ethernet.

Compatibility and Cabling

The PXI-8231 and PXI-8232 modules are fully compatible with existing Ethernet standards and cabling. You can continue to use standard Category 5 Ethernet cables and achieve Gigabit Ethernet performance, provided all the conductor pairs in the cable are connected (4 pairs x 250 Mb/s per pair = 1000 Mb/s). Additionally, the Gigabit Ethernet modules automatically detect cable polarity, so there is no need to swap between crossover and straight-through cabling for different network configurations. The Gigabit Ethernet port will also automatically switch between 10, 100, and 1000 Mb/s modes, depending on your networks capability, as determined by your server speed, switch/router capacity, and wiring capacity.

INFO CODES

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

pxi8231

pxi8232

BUY ONLINE!

Ordering Information

NI PXI-8231 for	
Windows 2000/NT/XP/Me/98.....	778657-01
NI PXI-8232 and NI-488.2 for	
Windows 2000/XP/Me/98	778658-01
Windows NT	778659-01

Gigabit Ethernet Interfaces for PXI

Specifications

Complies with PXI Specification and CompactPCI, PICMG 2.0
Complies with IEEE 802.3, IEEE 802.3u, IEEE 802.3ab
Complies with IEEE 488.1 and 488.2 (NI PXI-8232 only)

Performance

Ethernet Interface
10BaseT 10 Mb/s
100BaseTX 100 Mb/s
1000BaseT 1000 Mb/s
GPIB Interface (NI PXI-8232 only)
HS488 7.7 Mbytes/s
IEEE 488.1 1.5 Mbytes/s

Power Requirements (typical)

Module	+3.3 VDC	Total Power
PXI-8231	788 mA	2.6 W
PXI-8232	910 mA	3.0 W

Physical

Dimensions 10.0 by 16.0 cm (3.9 by 6.3 in.), 3U
Weight 140 g (4.9 oz.)
I/O Connectors
External Ethernet RJ-45 with integrated LEDs
IEEE 488 (PXI-8232 only) Standard 24-pin

Operating Environment

Ambient temperature 0 to 55 °C
Relative humidity 10 to 90%, noncondensing

Storage Environment

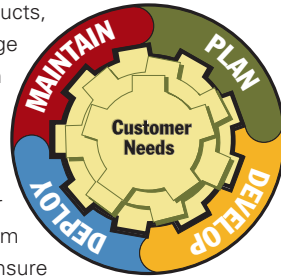
Ambient temperature -20 to 70 °C
Relative humidity 5 to 95%, noncondensing

For safety and EMC/EMI compliance specifications, please refer to the Declaration of Conformity at ni.com

NI Services and Support

As a registered user of our products, you are entitled to a wide range of services to assist you in realizing the full potential of your measurement and automation solution. Our goal is to maximize your productivity throughout your project life cycle ranging from concept to maintenance. We ensure that you achieve a lower cost of ownership

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- Developer community
- Application tips and customer solutions
- Example programs
- Frequently asked questions
- Troubleshooting wizards

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(800) 433-3488

National Instruments • Tel: (512) 683-0100 • Fax: (512) 683-9300 • info@ni.com

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