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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

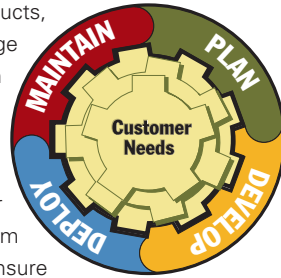
Ambient temperature -20 to 70 °C
 Relative humidity 5 to 95%, noncondensing

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

NI Services and Support

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