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Find the *National Instruments PXIe-8820* at our website: *Click HERE*

For user manuals and dimensional drawings, visit the product page resources tab on ni.com.

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High-Value PXI Express Embedded Controller for Windows

NI PXIe-8820



- 2.2 GHz dual-core Intel Celeron 1020E processor
- Up to 1 GB/s system bandwidth and 250 MB/s slot bandwidth
- 2 GB 1333 MHz DDR3L RAM standard, 8 GB maximum
- 250 GB (or greater) 5400 RPM hard drive standard
- 1 Gigabit Ethernet, 4 Hi-Speed USB, serial, and other I/O
- Software: OS and drivers already installed and hard-drive-based recovery image
- Complete PXI system configuration at ni.com/pxiadvisor

Overview

The NI PXIe-8820 high-value embedded controller features an Intel dual-core Celeron 1020E processor and is designed for use in PXI and CompactPCI systems. With 2.2 GHz base frequency and 1333 MHz DDR3L standard memory, these embedded controllers offer an ideal balance of performance and value. The NI PXIe-8820 in a PXI chassis, such as the NI PXI-1078, provides a compact, high-value, PC-based platform for test, measurement, and control applications.

Back to Top

Application and Technology

NI PXIe-8820 Features

CPU	Intel Celeron 1020E dual-core 2.2 GHz processor
L2 cache	2 MB
Single-channel 1333 MHz DDR3 RAM, standard	2 GB (1 x 2 GB)
Single-channel 1333 MHz DDR3 RAM, maximum	8 GB (1 x 8 GB)
Hard drive (standard option), minimum	250 GB SATA (5400 rpm)
Hard drive (extended temperature and 24/7 option), minimum	80 GB SATA (5400 rpm)
10/100/1000BASE-TX (Gigabit) Ethernet ports	1
USB ports	4
Serial port (RS232)	
Parallel port	
Watchdog/trigger SMB	
Installed OS	Windows 7 Professional, Windows XP Professional SP3 for Embedded Systems

Table 1. NI PXIe-8820 Features

Overall Performance

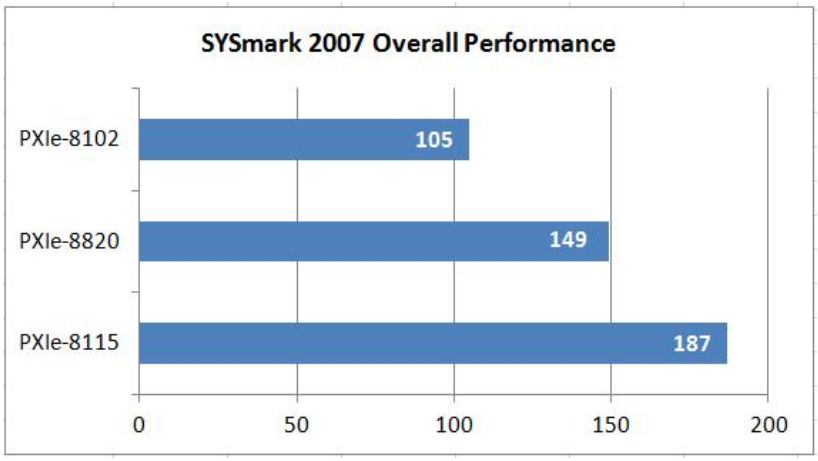


Figure 1. Embedded Controller Benchmarks

Hardware

With state-of-the-art packaging, the NI PXIe-8820 integrates an Intel processor and all standard and extended PC I/O ports into a single unit. By integrating many I/O ports on the controller, all active slots in the chassis remain available for measurement and control modules. This rugged one-piece controller design minimizes integration issues and eliminates the need for complex cabling to daughter boards. The NI PXIe-8820 block diagram is shown in Figure 2.

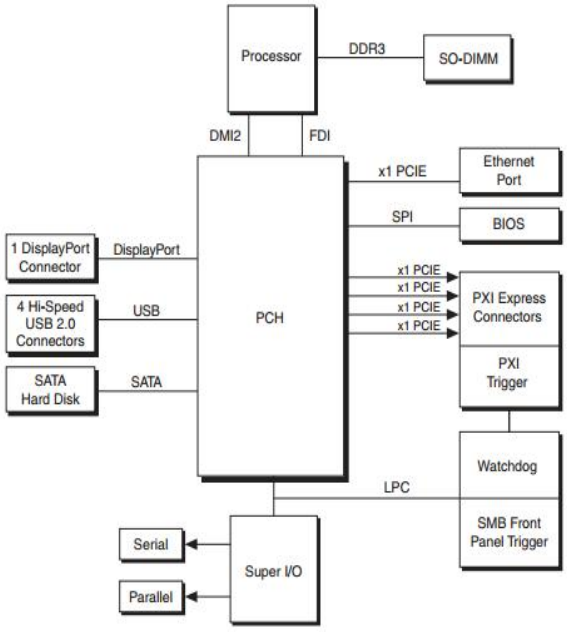


Figure 2. NI PXIe-8820 Block Diagram

Peripheral I/O

These controllers include high-performance peripheral I/O, such as 10/100/1000BASE-TX (Gigabit) Ethernet and two Hi-Speed USB ports for connection to a keyboard, a mouse, a CD-ROM/DVD-ROM drive for software installation, or other standard PC peripherals such as speakers, printers, or memory sticks. Use the IEEE 1284 ECP/EPP parallel port to connect to a wide variety of devices, including tape backup drives, printers, and scanners. An RS232 port is available for connecting to serial devices.

Memory

The NI PXIe-8820 uses 1333 MHz DDR3 RAM, which makes the controllers ideal for data-intensive applications requiring significant analysis. They have a single SO-DIMM socket for the DDR3 RAM. They feature a standard 2 GB (1 x 2 GB DIMM) of RAM with upgrade options to 8 GB.

Memory Options	Configuration	Part Number
Standard - 2 GB	1 x 2 GB DIMM	N/A
4 GB	1 x 4 GB DIMM	782911-4096
Recommended - 8 GB	1 x 8 GB DIMM	781736-8192

Table 2. Memory Upgrade Options

Software

The NI PXIe-8820 comes with the following minimum set of software already installed:

- Microsoft Windows OS (contact National Instruments or visit ni.com/pxiadvisor for a list of available Microsoft OSs and for localized versions)
-

NI-VISA and NI-488.2 drivers
- Drivers for all built-in I/O ports

With an NI system assurance program (base or standard) added to your PXI system order, your embedded controller is shipped already configured with all software and drivers applicable for your system. For example, assume you order a PXI system that includes NI LabVIEW and NI TestStand software as well as DAQ modules, a digitizer, an arbitrary waveform generator, and a digital multimeter (DMM). With an NI system assurance program, NI Not only assembles and tests your system, but also fully configures the embedded controller with the appropriate NI-DAQmx, NI-SCOPE, NI-FGEN, and NI-DMM drivers, as well as LabVIEW and NI TestStand.

Additionally, your embedded controller is configured with a customized hard-drive-based recovery image, so you can restore your controller to the as-shipped configuration at any time. This combination of software configuration and recovery tools provides both a productive and reliable development experience with your PXI system out of the box. To configure a complete PXI system with an NI system assurance program, contact National Instruments or visit ni.com/pxiadvisor.

Back to Top

Support and Services

System Assurance Programs

NI system assurance programs are designed to make it even easier for you to own an NI system. These programs include configuration and deployment services for your NI PXI, CompactRIO, or Compact FieldPoint system. The NI Basic System Assurance Program provides a simple integration test and ensures that your system is delivered completely assembled in one box. When you configure your system with the NI Standard System Assurance Program, you can select from available NI system driver sets and application development environments to create customized, reorderable software configurations. Your system arrives fully assembled and tested in one box with your software preinstalled. When you order your system with the standard program, you also receive system-specific documentation including a bill of materials, an integration test report, a recommended maintenance plan, and frequently asked question documents. Finally, the standard program reduces the total cost of owning an NI system by providing three years of warranty coverage and calibration service. Use the online product advisors at ni.com/advisor to find a system assurance program to meet your needs.

Calibration

NI measurement hardware is calibrated to ensure measurement accuracy and verify that the device meets its published specifications. To ensure the ongoing accuracy of your measurement hardware, NI offers basic or detailed recalibration service that provides ongoing ISO 9001 audit compliance and confidence in your measurements. To learn more about NI calibration services or to locate a qualified service center near you, contact your local sales office or visit ni.com/calibration.

Technical Support

Get answers to your technical questions using the following National Instruments resources.

- **Support** - Visit ni.com/support to access the NI KnowledgeBase, example programs, and tutorials or to contact our applications engineers who are located in NI sales offices around the world and speak the local language.
- **Discussion Forums** - Visit forums.ni.com for a diverse set of discussion boards on topics you care about.
- **Online Community** - Visit community.ni.com to find, contribute, or collaborate on customer-contributed technical content with users like you.

Repair

While you may never need your hardware repaired, NI understands that unexpected events may lead to necessary repairs. NI offers repair services performed by highly trained technicians who quickly return your device with the guarantee that it will perform to factory specifications. For more information, visit ni.com/repair.

Training and Certifications

The NI training and certification program delivers the fastest, most certain route to increased proficiency and productivity using NI software and hardware. Training builds the skills to more efficiently develop robust, maintainable applications, while certification validates your knowledge and ability.

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NI offers options for extending the standard product warranty to meet the life-cycle requirements of your project. In addition, because NI understands that your requirements may change, the extended warranty is flexible in length and easily renewed. For more information, visit ni.com/warranty.

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Back to Top

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