

General-Purpose 4-Slot Chassis for PXI

NI PXI-1031

- Accepts both 3U PXI and 3U CompactPCI modules
- Low acoustic noise emissions
- 300 W universal AC power supply
- HALT tested for risk-free operation up to 50 °C
- Auto/High temperature controlled fan speed
- Software configuration of chassis/system

Options

- Rack-mount/wall-mount kit
- Handle and rubber feet kit
- Slot blockers for improved cooling performance
- Factory installation services



Overview

The National Instruments PXI-1031 is a 4-slot PXI chassis designed for a wide range of desktop, rack-mounted, and portable applications. With its enhanced cooling capability, 300 W universal AC power supply, and HALT-tested chassis design, the NI PXI-1031 guarantees risk-free operation for the demanding cooling and power requirements of today's high-performance PXI applications.

Low Acoustic Noise Emissions

The PXI-1031 chassis is equipped with an Auto/High fan switch for quiet operation in office, laboratory, and educational environments. Acoustic noise emissions as low as 40 dBA are realized at the lowest fan speed (sound pressure measured according to ISO 7779 at operator position). With such low acoustic noise emissions, users can make precision measurements for audio measurements and applications such as NVH (noise, vibration, harshness) where measurement accuracy is paramount. In environments with fluctuating temperatures, an onboard temperature-sensing device automatically increases/decreases fan speed when switch is set to Auto, thus ensuring sufficient cooling of the PXI chassis and peripheral devices.

Software System Configuration

The PXI-1031 is configured with NI Measurement & Automation Explorer (MAX). With this software configuration tool, users can easily configure PXI-1031 based systems without time-consuming manual installation of initialization files. MAX creates the pxsys.ini file that defines the layout and parameters of your PXI system including chassis, controller, and plug-in devices.

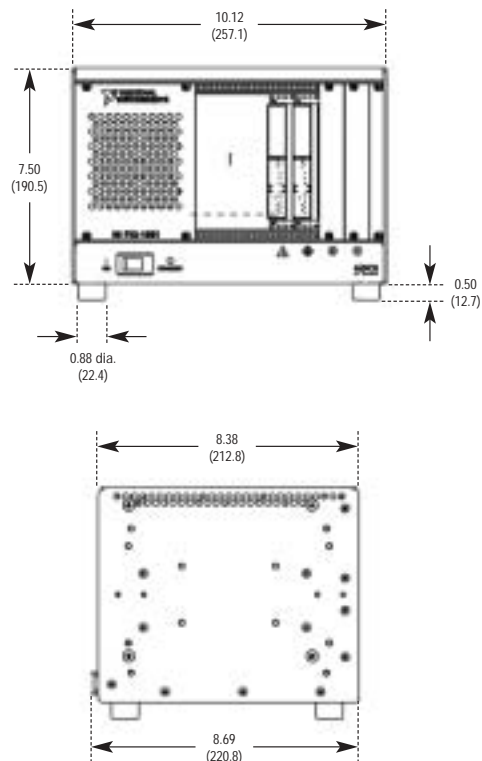


Figure 1. PXI-1031 Dimensions (Front and side) in Inches (mm)

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PXI-1031 Optional Accessories

The PXI-1031 has a number of optional accessories for optimized chassis functionality. A front rack-mount kit is available for 19 in. rack-mounted systems or wall-mounted systems. Use the handle and rubber feet kit for portable and desktop applications. Slot blockers can be inserted into empty slots of the PXI-1031 to improve the overall cooling performance of the chassis.

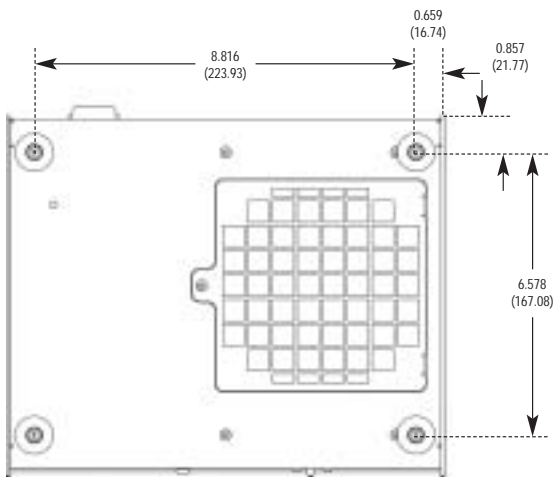


Figure 2. PXI-1031 Dimensions (Bottom) in Inches (mm)

PXI Factory Installation Services and Global Technical Support

With National Instruments Factory Installation Services (FIS), users receive complete system level functional testing of the PXI chassis, controller, and all peripheral devices, as well as installation of all device drivers and software programs (such as LabVIEW™). After purchasing FIS, you can use PXI systems right out of the box with little or no installation and configuration of hardware or software. In addition, National Instruments offers global technical support for all PXI systems and provides access to a wealth of online Web support information. See ni.com/pxiadvisor and ni.com/support for more information on FIS and technical support resources.

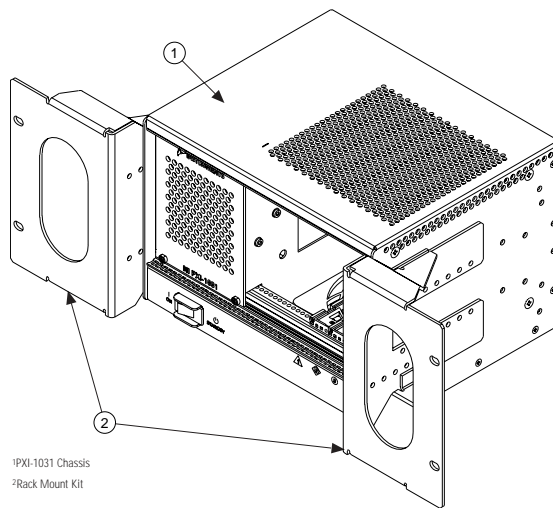


Figure 3. PXI-1031 Rack Mount Configuration

Ordering Information

Step 1. Select your chassis.	
NI PXI-1031	778932-01
Step 2. Select one or more power cords.	
U.S. 120 VAC	763000-01
Japan 100 VAC	763000-01
United Kingdom 240 VAC	763064-01
Swiss 220 VAC	763065-01
Australian 240 VAC	763066-01
Universal Euro 240 VAC	763067-01
North American 240 VAC	763068-01

Step 3. Select additional accessories.	
Rack-mount/wall-mount kit	778948-01
Filler panel kit (4-slot)*	778933-01
Handle and feet kit	778949-01

*Every NI PXI-1031 includes a filler panel kit

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Specifications

Complies with PXI-Specification
 Accepts modules compliant with CompactPCI, PICMG 2.0 specification

Electrical

AC Input

Input voltage range	100 to 240 VAC
Operating voltage range1	90 to 264 VAC
Input frequency	50/60 Hz
Operating frequency range1	47 to 63 Hz
Input current rating	4 to 2 A
Over-current protection	5 A fuse in power supply

DC Output
 DC Current Capacity (0 to 50 °C)

Voltage (V)	Current (A)
+3.3	12
+5	17
+12	2
-12	0.8

Chassis Cooling

Per slot cooling capacity	25 W
Fan	86 cfm

Environmental

Operating location	Indoor use
Maximum altitude	2000 m
Installation Category	II

Acoustic Emissions

Sound Pressure Level - L_p (at Operator Position)
 (Tested in accordance with ISO 7779)

Auto Fan (at 25°C ambient temperature)	40.7 dBA
High Fan	49.4 dBA

Sound Power - L_w
 (Tested in accordance with ISO 7779)

Auto Fan (at 25°C ambient temperature)	51.8 dBA
High Fan	57.5 dBA

Mean Time Between Failure (MTBF)

MTBF (at 25°C)	260,372 hours
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(Prediction performed in accordance with Bellcore methods)

Operating Environment

Ambient temperature range	0 to 50 °C (Tested in accordance with IEC-60068-2-1 and IEC-60068-2-2.)
Relative humidity range	10 to 90%, noncondensing (Tested in accordance with IEC-60068-2-56.)

Storage Environment

Ambient temperature range	-20 to 70 °C (Tested in accordance with IEC-60068-2-1 and IEC-60068-2-2.)
Relative humidity range	5 to 95%, noncondensing (Tested in accordance with IEC-60068-2-56.)

Shock and Vibration

Operational shock	30 g peak, half-sine, 11 ms pulse (Tested in accordance with IEC-60068-2-27. Test profile developed in accordance with MIL-PRF-28800F.)
Random Vibration	
Operating	5 to 500 Hz, 0.3 g_{rms}
Nonoperating	5 to 500 Hz, 2.4 g_{rms} (Tested in accordance with IEC-60068-2-64. Nonoperating test profile exceeds the requirements of MIL-PRF-28800F, Class 3.)

Mechanical

Overall dimensions (standard chassis)

Height	177 mm (6.97 in.) ¹
Width	257.1 mm (10.12 in.)
Depth	212.8 mm (8.38 in.)
Weight	5 kg (11.0 lbs)
Chassis materials	Sheet aluminum, extruded aluminum, cold rolled steel, nylon

¹12.7 mm (0.50 in.) is added to height when feet are installed.

Safety

The PXI-1031 was evaluated using the criteria of EN 61010-1 and meets the requirements of the following standards for safety and electrical equipment for measurement, control, and laboratory use:
 EN 61010-1, IEC 61010-1
 UL 3111-1, UL 61010B-1
 CAN/CSA C22.2 No. 1010.1
 Note: For UL and other safety certifications, refer to the product label, or visit ni.com/hardref.nsl/, search by model number or product line, and click the appropriate link in the Certification column.

Electromagnetic Compatibility

EMC	CE, C-Tick, and FCC Part 15 (Class A) compliant
Emissions	EN 55011 Class A @ 10 m FCC Part 15A above 1 GHz
Immunity	Evaluated to EN 61326:1997 + A2:2001, Table 1

Note: For EMC compliance, operate this device with shielded cabling. In addition, all covers and filler panels must be installed.

CE Compliance

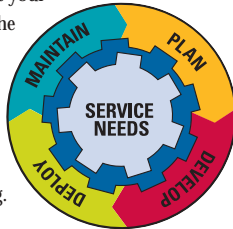
This product meets the essential requirements of applicable European Directives, as amended for CE marking, as follows:
 Low-Voltage Directive (safety)

Low-Voltage Directive (safety)	73/23/EEC
Electromagnetic Compatibility Directive (EMC)	89/336/EEC

Note: Refer to the Declaration of Conformity (DoC) for this product for any additional regulatory compliance information. To obtain the DoC for this product, visit ni.com/hardref.nsl/, search by model number or product line, and click the appropriate link in the Certification column.

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Basic Service Level

- Upgrades purchased separately
- Support by NI applications engineers, R&D engineers, partners, and community members through online Developer Exchange
- Access to Knowledgebase, example code, troubleshooting wizards, solutions, and white papers

Standard Service Level

- Automatic upgrades included
- All the benefits of Basic Service
- Support by NI applications engineers through direct phone or e-mail access
- 10 percent discount on training courses and materials

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- All the benefits of Standard Service
- Support by NI senior applications engineers through direct phone or e-mail access with extended hours of operation



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