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Find the *National Instruments PXI-2576* at our website: *Click HERE*

DEVICE SPECIFICATIONS

PXI-2576 Specifications

Multi-Bank Multiplexer

This document lists specifications for the PXI-2576 multiplexer module. All specifications are subject to change without notice. Visit *ni.com/manuals* for the most current specifications.

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PXI-2576 Specifications

Specifications characterize the warranted performance of the instrument under the stated operating conditions. Data in this document are *Specifications* unless otherwise noted.

Typical Specifications are specifications met by the majority of the instrument under the stated operating conditions and are tested at 23 °C ambient temperature. Typical specifications are not warranted.

All voltages are specified in DC, AC_{pk}, or a combination unless otherwise specified.

Caution The protection provided by the PXI-2576 can be impaired if it is used in a manner not described in this document.

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Topology

Refer to the *NI Switches Help* at *ni.com/manuals* for detailed topology information.

Topologies	Independent 2-wire sixteen 4 × 1 multiplexer 2-wire octal 8 × 1 multiplexer 2-wire quad 16 × 1 multiplexer 2-wire dual 32 × 1 multiplexer 2-wire 64 × 1 multiplexer

Input Characteristics

Caution This module is rated for Measurement Category I and intended to carry signal voltages no greater than 100 V. This module can withstand up to 500 V impulse voltage. Do not use this module for connection to signals or for measurements within Categories II, III, or IV.

Caution When hazardous voltages (>42.4 Vpk/60 V DC) are present on any channel, safety low-voltage (≤42.4 Vpk/60 V DC) cannot be connected to any other channel.

Maximum switching voltage	
Channel-to-channel	100 V
Channel-to-ground	100 V, Measurement Category I
Maximum current (per channel or common, switching or carry)	1 A

Caution The switching power is limited by the maximum switching current and the maximum voltage.

Maximum switching power (per channel)	30 W, 37.5 VA

Note Switching inductive loads (for example, motors and solenoids) can produce high voltage transients in excess of the module's rated voltage. Without additional protection, these transients can interfere with module operation and impact relay life. For more information about transient suppression, visit *ni.com/info* and enter the Info Code `relayflyback`.

Maximum DC path resistance (channel-to-common)	
Initial	<1.1 Ω (0.5 Ω, typical)
End-of-life	≥2 Ω

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Path resistance is a combination of relay contact resistance and trace resistance. Contact resistance typically remains low for the life of a relay. At the end of relay life, the contact resistance may rise rapidly above 1 Ω.

Thermal EMF	<10 µV, typical
Minimum switch load	20 mV/1 mA
Bandwidth	
50 Ω system	
4 × 1, 8 × 1 configurations	>30 MHz, typical
16 × 1 configuration	>20 MHz, typical
32 × 1 configuration	>15 MHz, typical
64 × 1 configuration	>10 MHz, typical
100 Ω system	
4 × 1, 8 × 1 configurations	>60 MHz, typical
16 × 1 configuration	>40 MHz, typical
32 × 1 configuration	>20 MHz, typical
64 × 1 configuration	>10 MHz, typical
Bank-to-bank crosstalk (50 Ω or 100 Ω system, 4 × 1 configuration)	
100 kHz	<-75 dB, typical
1 MHz	<-53 dB, typical
10 MHz	<-35 dB, typical
Open-channel isolation (50 Ω or 100 Ω system, 4 × 1 or 8 × 1 configuration)	
100 kHz	>79 dB, typical
1 MHz	>52 dB, typical
10 MHz	>40 dB, typical

Dynamic Characteristics

Relay operate time	2 ms, typical 3.4 ms, maximum

Note Certain applications may require additional time for proper settling. Refer to the *NI Switches Help* at *ni.com/manuals* for more information about including additional settling time.

Expected relay life	
Mechanical	5×10^7 cycles, typical

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Electrical (resistive)	
30 V, 200 mA	2×10^6 cycles, typical
30 V, 400 mA	5×10^5 cycles, typical
30 V, 1 A	1×10^5 cycles, typical
100 V, 100 mA	2×10^6 cycles, typical
100 V, 200 mA	2.5×10^5 cycles, typical
100 V, 300 mA	1×10^5 cycles, typical

Note Relays are field replaceable. Refer to the *NI Switches Help* at *ni.com/manuals* for more information about replacing a failed relay.

Trigger Characteristics

Input trigger	
Sources	PXI trigger lines <0...7>
Minimum pulse width	150 ns

Note The PXI-2576 can recognize trigger pulse widths less than 150 ns if you disable digital filtering. For information about disabling digital filtering, refer to the *NI Switches Help* at *ni.com/manuals*.

Output trigger	
Destinations	PXI trigger lines <0...7>
Pulse width	Software-selectable: 1 µs to 62 µs

Physical Characteristics

Caution Clean the hardware with a soft, nonmetallic brush. Make sure that the hardware is completely dry and free from contaminants before returning it to service.

Relay type	Electromechanical, latching
Relay contact material	Silver, gold covered
I/O connector	LFH matrix 50, 160 positions, male
PXI power requirement	2.5 W at 3.3 V 10 W at 5 V
Dimensions (L × W × H)	3U, one slot, PXI/cPCI module, 21.6 cm × 2.0 cm × 13.0 cm (8.5 in. × 0.8 in. × 5.1 in.)
Weight	300 g (12 oz)

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Environment

Maximum altitude	2,000 m (at 25 °C ambient temperature)
Pollution Degree	2

Indoor use only.

Operating Environment

Ambient temperature range	0 °C to 55 °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 °C 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 Hz to 500 Hz, 0.31 g_{rms} (Tested in accordance with IEC 60068-2-64.)
Nonoperating	5 Hz to 500 Hz, 2.46 g_{rms} (Tested in accordance with IEC 60068-2-64. Test profile exceeds the requirements of MIL-PRF-28800F, Class 3.)

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Compliance and Certifications

Safety

This product is designed to meet the requirements of the following electrical equipment safety standards for measurement, control, and laboratory use:

- IEC 61010-1, EN 61010-1
- UL 61010-1, CSA 61010-1

Note For UL and other safety certifications, refer to the product label or the *Online Product Certification* section.

Electromagnetic Compatibility

This product meets the requirements of the following EMC standards for electrical equipment for measurement, control, and laboratory use:

- EN 61326-1 (IEC 61326-1): Class A emissions; Basic immunity
- EN 55011 (CISPR 11): Group 1, Class A emissions
- AS/NZS CISPR 11: Group 1, Class A emissions
- FCC 47 CFR Part 15B: Class A emissions
- ICES-001: Class A emissions

Note In the United States (per FCC 47 CFR), Class A equipment is intended for use in commercial, light-industrial, and heavy-industrial locations. In Europe, Canada, Australia, and New Zealand (per CISPR 11), Class A equipment is intended for use only in heavy-industrial locations.

Note Group 1 equipment (per CISPR 11) is any industrial, scientific, or medical equipment that does not intentionally generate radio frequency energy for the treatment of material or inspection/analysis purposes.

Note For EMC declarations and certifications, refer to the *Online Product Certification* section.

CE Compliance CE

This product meets the essential requirements of applicable European Directives, as follows:

- 2014/35/EU; Low-Voltage Directive (safety)
- 2014/30/EU; Electromagnetic Compatibility Directive (EMC)

Online Product Certification

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

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Environmental Management

NI is committed to designing and manufacturing products in an environmentally responsible manner. NI recognizes that eliminating certain hazardous substances from our products is beneficial to the environment and to NI customers.

For additional environmental information, refer to the *Minimize Our Environmental Impact* web page at *ni.com/environment*. This page contains the environmental regulations and directives with which NI complies, as well as other environmental information not included in this document.

Waste Electrical and Electronic Equipment (WEEE)

EU Customers At the end of the product life cycle, all NI products must be disposed of according to local laws and regulations. For more information about how to recycle NI products in your region, visit *ni.com/environment/weee*.

电子信息产品污染控制管理办法（中国 RoHS）

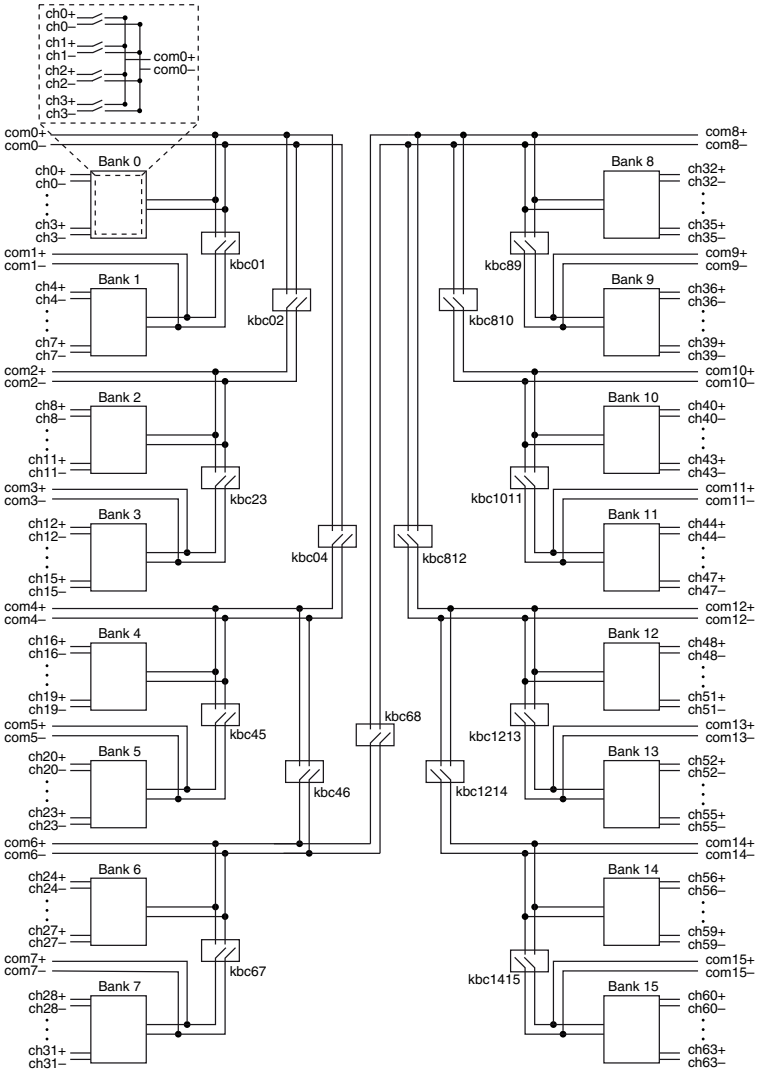
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Diagrams

The following figure shows the PXI-2576 default power-on state with all relays open.

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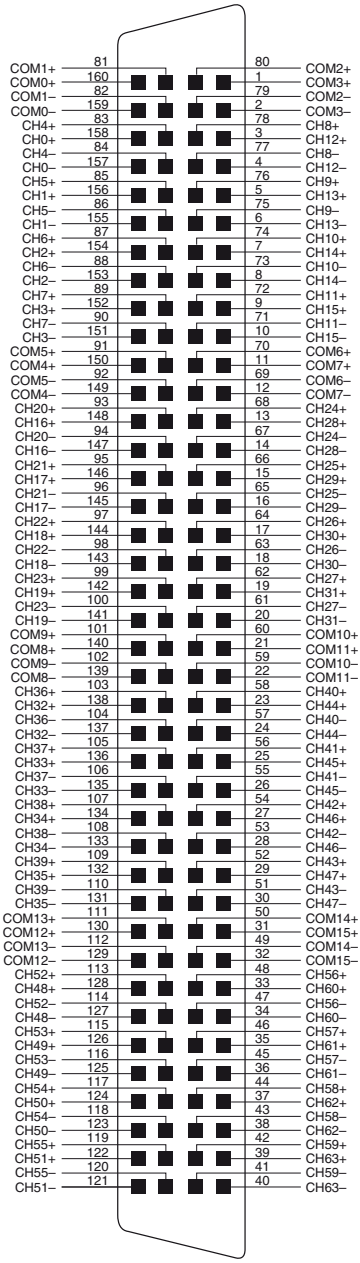
Figure 1. PXI-2576 Power-on State



The following figure shows the PXI-2576 connector pinout.

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Figure 2. PXI-2576 Connector Pinout



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Accessories

Visit *ni.com* for more information about the following accessories.

Caution You must install mating connectors according to local safety codes and standards and according to the specifications provided by the manufacturer. You are responsible for verifying the safety compliance of third-party connectors and their usage according to the relevant standard(s), including UL and CSA in North America and IEC and VDE in Europe.

Table 1. Accessories for the PXI-2576

Accessory	Manufacturer	Part Number
TB-2676 Terminal Block	NI	779535-01
Ribbon cable kit for the TB-2676 Terminal Block (not a shielded accessory)	NI	779669-01
LFH matrix 50 connector, 160 positions, female, vertical	Molex	51-24-1030
LFH 160 to 50-pin DSUB	NI	780009-01
Relay replacement kit for G6JU-2P-Y Relay	NI	780383-01
TBX-50B, 50-pin DSUB Screw Terminal Block	NI	782866-01

Note The PXI-2576 must be operated with shielded cables and accessories to ensure compliance with the Electromagnetic Compatibility (EMC) requirements defined in this document. Do not use unshielded cables or accessories unless they are installed in a shielded enclosure with properly designed and shielded input/output ports and connected to the PXI-2576 using a shielded cable. If unshielded cables or accessories are not properly installed and shielded, the EMC specifications for the product are no longer guaranteed.

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