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# PXI-2571

# Specifications

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# PXI-2571 Specifications

This document lists specifications for the PXI-2571. All specifications are subject to change without notice.

## Definitions

**Warranted** specifications describe the performance of a model under stated operating conditions and are covered by the model warranty.

**Characteristics** describe values that are relevant to the use of the model under stated operating conditions but are not covered by the model warranty.

- **Typical** specifications describe the performance met by a majority of models.
- **Nominal** specifications describe an attribute that is based on design, conformance testing, or supplemental testing.

Specifications are **Typical** unless otherwise noted.

## Conditions

Specifications are valid at 23 °C unless otherwise noted.

All voltages are specified in DC, AC<sub>pk</sub>, or a combination unless otherwise specified.

## Topology

Topology	66-channel SPDT, latching
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## Input Characteristics

### Maximum switching voltage

Channel-to-channel	100 V
Channel-to-ground	100 V, CAT I



**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. Do not connect to MAINS supply circuits (for example, wall outlets) of 115 or 230 VAC.<sup>[1]</sup>



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



**Caution** The switching power is limited by the maximum switching current and maximum voltage, and must not exceed 60 W, 62.5 VA.

Maximum switching power (per channel)	60 W, 62.5 VA (DC to 60 Hz)
Maximum current (switching or carry, per channel)	1 A
Simultaneous channels at maximum current ( $\leq 55$ °C)	66
Minimum switch load	20 mV/1 mA



**Caution** 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](http://ni.com/info) and enter the Info Code relayflyback.

#### DC path resistance

Initial	<0.5 $\Omega$
End-of-life	$\geq$ 1.0 $\Omega$

DC path resistance typically remains low for the life of the relay. At the end of relay life, the path resistance rises rapidly above 1  $\Omega$ . Load ratings apply to relays used within the specification before the end of relay life.

Thermal EMF	12 $\mu$ V, typical
Bandwidth (-3 dB, 50 $\Omega$ termination)	$\geq$ 35 MHz, typical
<b>Crosstalk, channel-to-channel (50 <math>\Omega</math> termination)</b>	
10 kHz	$\leq$ -80 dB, typical
100 kHz	$\leq$ -60 dB, typical
1 MHz	$\leq$ -40 dB, typical
10 MHz	$\leq$ -30 dB, typical
<b>Isolation, open channel (50 <math>\Omega</math> termination)</b>	
10 kHz	$\geq$ 80 dB, typical
100 kHz	$\geq$ 60 dB, typical

1 MHz	≥40 dB, typical
10 MHz	≥20 dB, typical

## Dynamic

Relay operate time <sup>[2]</sup>	1 ms, typical 3.4 ms, maximum
<b>Expected relay life<sup>[3]</sup></b>	
Mechanical	$1 \times 10^8$ cycles
<b>Electrical</b>	
10 VDC, 100 mADC resistive	$2.5 \times 10^6$ cycles
10 VDC, 1 ADC resistive	$1 \times 10^6$ cycles
30 VDC, 1 ADC resistive	$5 \times 10^5$ cycles
60 VDC, 1 ADC resistive	$1 \times 10^5$ cycles

## Trigger

<b>Input trigger</b>	
Sources	PXI trigger lines <0...7>
Minimum pulse width <sup>[4]</sup>	150 ns

**Output trigger**

Destinations	PXI trigger lines <0...7>
Pulse width	Software-selectable: 1 $\mu$ s to 62 $\mu$ s

## Physical

Relay type	Electromechanical, latching
Relay contact material	Palladium-ruthenium, gold covered
I/O connector	200 POS LFH Matrix 50, receptacle
PXI power requirement	6 W at 5 V 2.5 W at 3.3 V
Dimensions (L $\times$ W $\times$ H)	3U, one slot, PXI/cPCI module 21.6 cm $\times$ 2.0 cm $\times$ 13.0 cm (8.5 in. $\times$ 0.8 in. $\times$ 5.1 in.)
Weight	174 g (6.1 oz)

## 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	-40 °C to 71 °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.)
<p><b>Random vibration</b></p> <p>Operating 5 Hz to 500 Hz, 0.31 g<sub>rms</sub> (Tested in accordance with IEC 60068-2-64.)</p> <p>Nonoperating 5 Hz to 500 Hz, 2.46 g<sub>rms</sub> (Tested in accordance with IEC 60068-2-64. Test profile exceeds the requirements of MIL-PRF-28800F, Class 3.)</p>	



# Compliance and Certifications

## Safety Compliance Standards

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 C22.2 No. 61010-1



**Note** For safety certifications, refer to the product label or the [Product Certifications and Declarations](#) 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
- EN 55022 (CISPR 22): Class A emissions
- EN 55024 (CISPR 24): Immunity
- AS/NZS CISPR 11: Group 1, Class A emissions
- AS/NZS CISPR 22: 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, certifications, and additional information, refer to the [Product Certifications and Declarations](#) section.

## Product Certifications and Declarations


Refer to the product Declaration of Conformity (DoC) for additional regulatory compliance information. To obtain product certifications and the DoC for NI products, visit [ni.com/product-certifications](https://ni.com/product-certifications), search by model number, and click the appropriate link.

## 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 **Engineering a Healthy Planet** web page at [ni.com/environment](https://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.

## EU and UK Customers

-  Waste Electrical and Electronic Equipment (WEEE)—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](https://ni.com/environment/weee).

## 电子信息产品污染控制管理办法 ( 中国 RoHS )

-  中国 RoHS— NI 符合中国电子信息产品中限制使用某些有害物质指令(RoHS)。关于 NI 中国 RoHS 合规性信息，请登录 [ni.com/environment/rohs\\_china](https://ni.com/environment/rohs_china)。(For information about China RoHS compliance, go to [ni.com/environment/rohs\\_china](https://ni.com/environment/rohs_china).)

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2 Certain applications may require additional time for proper settling. Refer to **NI Switches Help** for more information about including additional settling time.

3 Relays are field replaceable. Refer to **NI Switches Help** for more information about replacing a failed relay.

4 The PXI-2571 can recognize trigger pulse widths less than 150 ns if you disable digital filtering. Refer to the **NI Switches Help** for information about disabling digital filtering.