PXI-2533 Specifications

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Contents

PXI-2533 Specifications

This document lists specifications for the PXI-2533 . All specifications are subject to change without notice.

PXI-2533 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.

Notice To ensure the specified EMC performance, operate this product only with shielded cables and accessories.

Caution The protection provided by the PXI-2533 can be impaired if it is used in a manner not described in this document.

Topology

Topology	1-wire 4 × 64 matrix

Input

Maximum switching voltage (channel-to-ground and channel-to-channel)[1]	±55 VDC, 30 VAC_{rms}

Maximum switching power	55 W
Maximum switching current	1 A
DC isolation resistance	>2 GΩ, typical
Offset voltage	2 µV, typical
Total path resistance, row-to-column	1 Ω, typical
Maximum total path resistance, row-to-column	1.4 Ω, warranted

RF Performance Characteristics

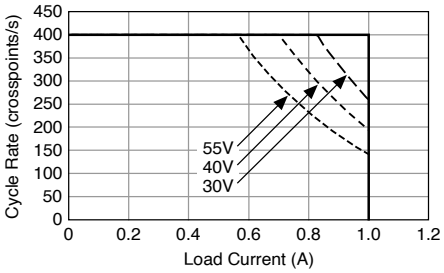
Typical single crosspoint bandwidth (50 Ω system, one row to one column)	>1.5 MHz
Typical crosstalk (50 Ω system)	
10 kHz	<-40 dB
100 kHz	<-20 dB

Dynamic

SSR operate time[2]	724 µs, typical 2.5 ms, maximum
Maximum scan rate[3]	400 crosspoints/s
Simultaneous drive limit	256 relays

Expected relay life	Unlimited, when operated within specified limits

Figure 1. SSR Cycle Frequency Derating by Load Current and Load Voltage



Trigger

Input trigger	
Sources	PXI trigger lines <0…7>
Minimum pulse width	70 ns
Output trigger	
Destinations	PXI trigger lines <0…7>
Pulse width	Software-selectable: 1 µs to 62 µs

Physical

Relay type	Solid-state relay (SSR)
I/O connector	68-pin male SCSI
Power requirement	1 W at 3.3 V, typical 8 W at 5 V, typical (all crosspoints closed)

Dimensions (L × W × H)	3U, one slot, PXI/cPCI module 21.6 × 2.0 × 13.0 cm (8.5 × 0.8 × 5.1 in.)
Weight	238 g (8.4 oz)

Environment

Operating temperature	0 °C to 55 °C
Storage temperature	-40 °C to 70 °C
Relative humidity	5% to 85%, noncondensing
Pollution Degree	2
Maximum altitude	2,000 m

Indoor use only.

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, 0.3 g_{rms}
Nonoperating	5 Hz 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.)

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

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)
- 2011/65/EU; Restriction of Hazardous Substances (RoHS)
- 2014/53/EU; Radio Equipment Directive (RED)
- 2014/34/EU; Potentially Explosive Atmospheres (ATEX)

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, 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. 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.

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。(For information about China RoHS compliance, go to ni.com/environment/rohs_china.)

[1] 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 induct.

[2] Operate time is the time from trigger received by hardware to switch output activation. Certain applications may require additional time for proper settling.

[3] The value given for maximum scan rate applies when switching <20 V and 1 A. Refer to the SSR Cycle Frequency Derating by Load Current and Load Voltage figure for other voltages.