
PXI-2535

Specifications

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PXI-2535 Specifications

This document lists specifications for the PXI-2535 . All specifications are subject to change without notice.

PXI-2535 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-2535 can be impaired if it is used in a manner not described in this document.

Topology

Topology	1-wire 4 × 136 matrix
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Input Characteristics

Maximum switching voltage (channel-to-ground)	±12 VDC, 8 VAC
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Maximum switching power (per channel, resistive)	1.2 W
Maximum switching current	100 mA
DC isolation resistance (between open terminals)	>1 G Ω , typical at 23 °C >334 M Ω , typical at 55 °C
Current leakage between column and ground (closed path)	10 nA, typical (12 VDC applied at 25 °C)
Offset voltage	10 μ V, typical
Overvoltage protection	
Powered on	\pm 36 VDC
Powered off	\pm 40 VDC
Total path resistance, row-to-column	
Typical	9 Ω
Maximum	14 Ω

RF Performance^[1]

Single crosspoint bandwidth (50 Ω system, one row to one column)	>1 MHz, typical
Crosstalk (50 Ω system)	
10 kHz	<-53 dB, typical
100 kHz	<-33 dB, typical

1 MHz	<-30 dB , typical
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Dynamic Characteristics

FET operate time^[2]

Typical	12 μ s
Maximum	16 μ s



Note Certain applications may require additional time for proper settling.

Maximum scan rate	50,000 crosspoints/s
Simultaneous drive limit	544 switches
Expected relay life	Unlimited, when operated within specified limits



Caution During chassis power up, the row and column connections may produce a charge injection. Refer to the following figures for information about how this might affect loads that are connected to the front panel I/O connectors and referenced to earth ground.

Chassis power-up charge injection

Row	9.7 μ C (<500 μ A for a 20 ms time interval, typical)
Column	0.7 μ C (<40 μ A for a 20 ms time interval, typical)

Figure 1. Impact of Charge Injection at Power Up: Typical Voltage Developed vs. Resistive Load (Using Test Setup in Figure 2)

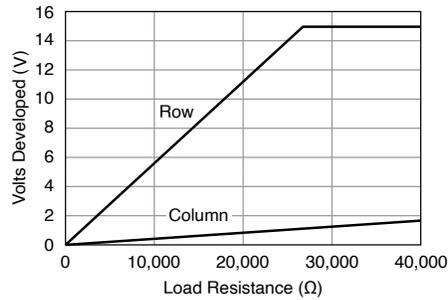
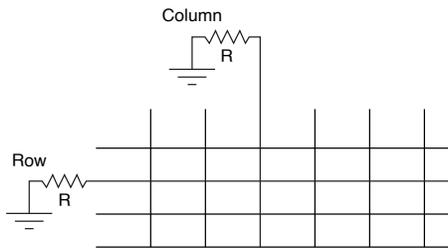


Figure 2. Test Setup for Row and Column Connections



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	FET switch
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I/O connector	Four 68-pin receptacle VHDCI
Power requirement	
3.3 V	1.7 W, typical
12 V	1.3 W, typical
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	159 g (5.6 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

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 Test setups for RF characteristics used two 1-meter cables and two TBX-68 connector blocks.

² Operate time is the time from trigger received by hardware to switch output activation.