
PXI-2536

Specifications

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Contents

PXI-2536 Specifications..... 3

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Caution The protection provided by the PXI-2536 can be impaired if it is used in a manner not described in this document.



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



Caution Refer to the **Read Me First: Safety and Electromagnetic Compatibility** document for important safety and compliance information.

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 **Warranted** unless otherwise noted.

Conditions

Specifications are valid at 23 °C unless otherwise noted.

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

Topology

Topology	1-wire 8 × 68 matrix
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Input

Maximum switching voltage (channel-to-ground)	±12 VDC, 8 VAC
Maximum switching power (per channel, resistive)	1.2 W
Maximum switching current	100 mA
DC isolation resistance (between open terminals)	
23° C	>1 GΩ, typical
55° C	>334 MΩ, typical
Current leakage between column and ground (closed path) ^[1]	10 nA, typical
Offset voltage	10 μV, typical
Overvoltage protection	
Powered on	±36 VDC
Powered off	±40 VDC
Total path resistance, row-to-column	10 Ω, typical

Maximum total path resistance, row-to-column	15.5 Ω , maximum
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RF Performance^[2]

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

Dynamic

FET operate time ^{[3][4]}	12 μ s, typical 16 μ s, maximum
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	7.5 μC
	<500 μA for a 20 ms time interval, typical
Column	1.5 μC
	<40 μA 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)

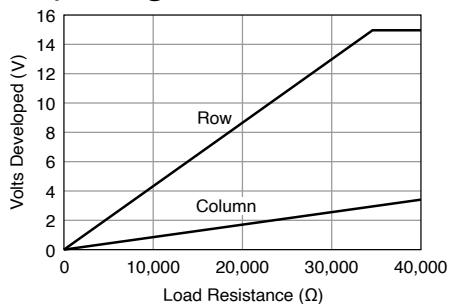
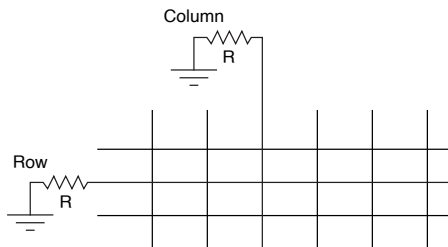


Figure 2. Test Setup for Row and Column Connections



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 μ s to 62 μ s

Physical

Relay type	FET switch
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 \times W \times H)	3U, one slot, PXI/cPCI module 21.6 \times 2.0 \times 13.0 cm (8.5 \times 0.8 \times 5.1 in.)
Weight	159 g (5.6 oz)

Environment

Operating temperature	0 $^{\circ}$ C to 55 $^{\circ}$ C
Storage temperature	-40 $^{\circ}$ C to 70 $^{\circ}$ C
Relative humidity	5% to 85%, noncondensing
Pollution Degree	2

Maximum altitude	2,000 m
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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.)
<p>Random Vibration</p> <p>Operating 5 Hz to 500 Hz, 0.3 g_{rms}</p> <p>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.)</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

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 12 VDC applied at 25° C

² Test setups for RF characteristics used two 1-meter cables and two TBX-68 connector blocks.

³ **Operate time** is the time from trigger received by hardware to switch output activation.

⁴ Certain applications may require additional time for proper settling.