PXIe-2725

Specifications

Contents

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This document lists specifications for the PXIe-2725. All specifications are subject to change without notice.

About These 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 PXIe-2725 can be impaired if it is used in a manner not described in this document.

PXIe-2725 Pinout

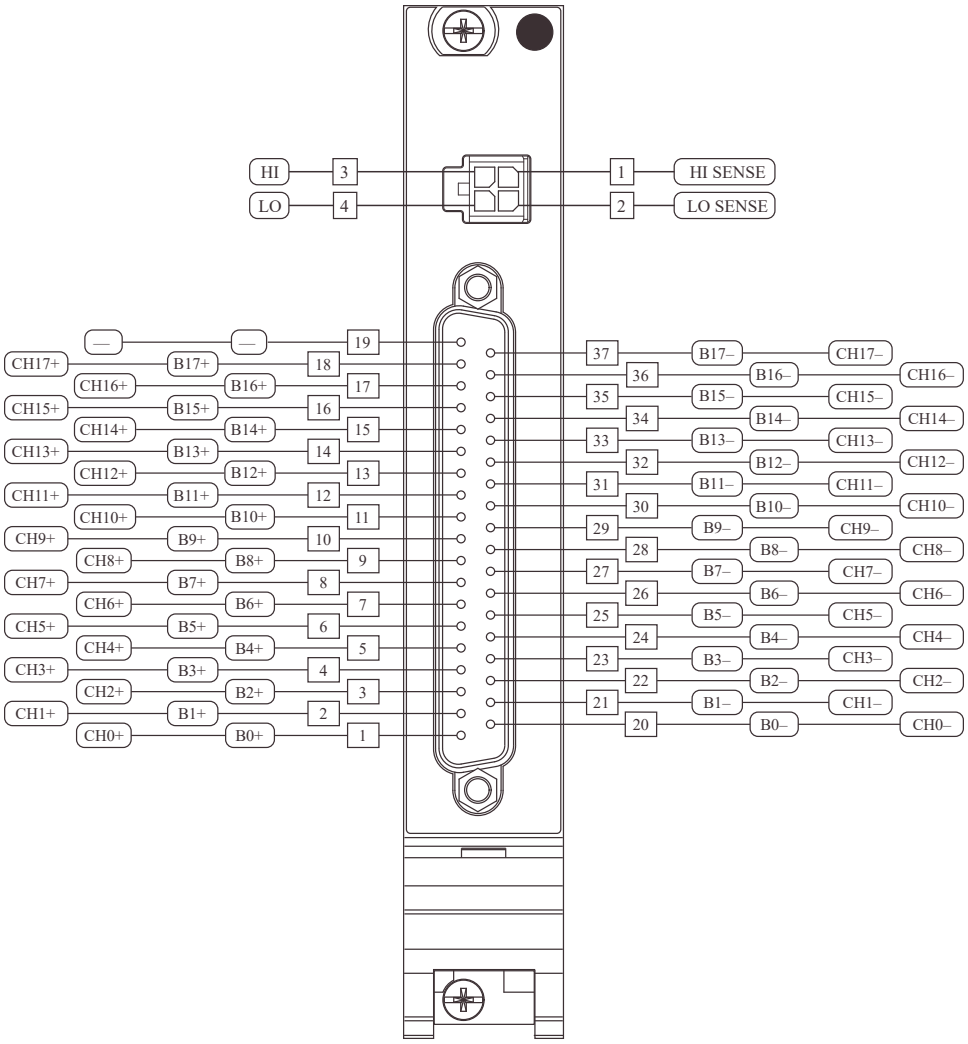


Table 1. Signal Descriptions

Signal	Description
B***x***+	Positive bank connection
B***x***-	Negative bank connection
CH***x***+	Positive signal connection
CH***x***-	Negative signal connection
HI	HI input connection
HI SENSE	HI sense connection
LO	LO input connection
LO SENSE	LO sense connection

Signal	Description
—	No connection

Related information:

- PXIe-2725 Hardware Diagram
- NI Switches Cable and Accessory Compatibility

Input Characteristics

Number of channels	18

Maximum voltage	
Channel-to-channel	60 VDC, 30 VAC_{rms}, CAT I[1]
Channel-to-ground	60 VDC, 30 VAC_{rms}, CAT I[1]

Maximum current	0.3 A (per channel)
Maximum power	0.25 W (per channel)
Resistor accuracy	0.5%
TCR	100 ppm

1. Measurement Categories CAT I and CAT O (Other) are equivalent. These test and measurement circuits are not intended for direct connection to the MAINs building installations of Measurement Categories CAT II, CAT III, or CAT IV.

Resolution	1 Ω steps
Range	1 Ω to 255 Ω (per channel)

Typical channel accuracy	
Channel set between 20 Ω and 64 Ω	<5.0%
Channel set between 64 Ω and 255 Ω	<2.0%

Channel accuracy is a function of the overall resistor accuracy, plus relay and trace path resistance, plus any effects of temperature.

The following figures show the expected resistance error and the expected resistance:

Figure 1. Expected resistance error between 0 Ω and 255 Ω

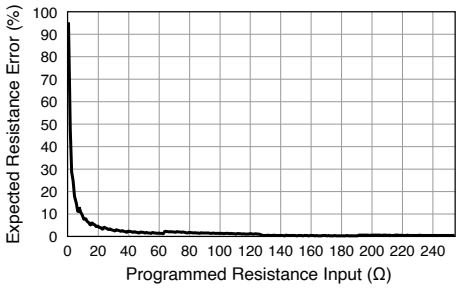
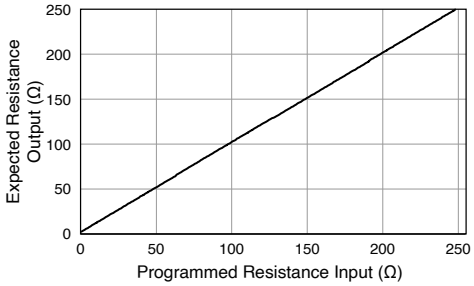


Figure 2. Expected resistance between 0 Ω and 255 Ω



Dynamic Characteristics

Simultaneous drive limit	161 relays
Relay operate/release time	250 µs

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

Typical relay life	
Low power load (<50 mW)	1×10^8 cycles
Full power load (<250 mW)	1×10^6 cycles

Note Reed relays are highly susceptible to damage caused by switching capacitive and inductive loads. Capacitive loads can cause high inrush currents, whereas inductive loads can cause high flyback voltages. The addition of appropriate resistive protection can greatly improve contact lifetime. For more information about adding protection circuitry to a capacitive load, visit ni.com/r/relaylifetime. For information about inductive loads, visit ni.com/r/relayflyback.

Note The relays used in the PXIe-2725 are field replaceable. Refer to the ***NI Switches Help*** for information about replacing a failed relay.

Trigger Characteristics

Input trigger	
Sources	PXI trigger lines <0...7>
Minimum pulse width	150 ns
Output trigger	
Destinations	PXI trigger lines <0...7>
Default pulse width	2 µs, typical

Note The PXIe-2725 can recognize trigger pulse widths that are less than 150 ns by disabling digital filtering. For information about disabling digital filtering, refer to the ***NI Switches Help***.

Physical Characteristics

Relay type	Reed

Note NI advises against installing reed relay modules directly adjacent to an embedded controller with a magnetic hard drive because of the sensitivity of reed relays and the possibility of interference.

Front panel connector	37-pin D-SUB connector

DMM port	2 × 2 Micro-Fit connector
Power requirement	1.2 W at 3.3 V 11 W maximum at 12 V
Dimensions (L × W × H)	3U, one slot, PXIe/cPCI module, 21.6 × 2.0 × 13.0 cm (8.5 × 0.8 × 5.1 in.)
Weight	323 g (11.3 oz)

Environment

Table 2. Environment

Operating temperature	0 °C to 55 °C
Storage temperature	-20 °C to 70 °C
Relative humidity	5% to 85%, noncondensing
Pollution Degree	2
Maximum altitude	2,000 m

Indoor use only.

Shock and Vibration

Table 3. 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}
Random vibration, 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

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 ***Product Certifications and Declarations***.

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`.)