

NI PXI-2568 Specifications

31-Channel SPST Relay Module

This document lists specifications for the NI PXI-2568 general-purpose relay module. All specifications are subject to change without notice. Visit ni.com/manuals for the most current specifications.

Configuration 31-channel SPST (form A),
latching

Input Characteristics

All input characteristics are DC, AC_{rms} , or a combination unless otherwise specified.

Maximum switching voltage

Channel-to-channel 150 V

Channel-to-ground 150 V, CAT I



Caution This module is rated for Measurement Category I and intended to carry signal voltages no greater than 150 V. This module can withstand up to 800 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. Refer to the *Safety and Radio-Frequency Interference Read Me First* document for more information on measurement categories.

When hazardous voltages ($>42.4 V_{\text{pk}}/60 \text{ VDC}$) are present on any relay terminal, safety low-voltage ($<42.4 V_{\text{pk}}/60 \text{ VDC}$) cannot be connected to any other relay terminal.

Maximum switching power 60 W, 62.5 VA (DC to 60 Hz)
(per channel)

Maximum current 2 A
(switching or carry, per channel)

Simultaneous channels
at maximum current ($\leq 55 \text{ }^\circ\text{C}$) 31

DC path resistance

Initial.....<0.15 Ω

End of life≥1 Ω

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 Ω. Load ratings apply to relays used within the specification before the end of relay life.

Thermal EMF (typical at 23 °C).....≤12 μV

Bandwidth (–3 dB, typical at 23 °C)

50 Ω termination.....≥40 MHz

Crosstalk (typical at 23 °C, 50 Ω termination)

Channel-to-channel

10 kHz≤–85 dB

100 kHz≤–70 dB

1 MHz.....≤–50 dB

10 MHz.....≤–30 dB

Isolation (typical at 23 °C, 50 Ω termination)

Open channel

10 kHz ≥85 dB

100 kHz ≥65 dB

1 MHz..... ≥45 dB

10 MHz..... ≥25 dB

Dynamic Characteristics

Maximum cycle speed145 cycles/s

Relay operate time

Typical.....1 ms

Maximum3.4 ms



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

Expected relay life	
Mechanical.....	1 × 10 ⁸ cycles
Electrical	
10 VDC, 100 mADC	
resistive.....	2.5 × 10 ⁶ cycles
10 VDC, 1 ADC resistive	1 × 10 ⁶ cycles
30 VDC, 1 ADC resistive	5 × 10 ⁵ cycles
30 VDC, 2 ADC resistive	1 × 10 ⁵ cycles

Trigger Characteristics

Input trigger	
Sources.....	PXI trigger lines 0–7
Minimum pulse width.....	150 ns



Note The NI PXI-2568 can recognize trigger pulse widths less than 150 ns by disabling digital filtering. For information about disabling digital filtering, refer to the *NI Switches Help*.

Output trigger	
Destinations	PXI trigger lines 0–7
Pulse width.....	Programmable (1 μs to 62 μs)

Physical Characteristics

Relay type	Electromechanical, latching
Relay contact material.....	Palladium-ruthenium, gold covered
I/O connector.....	62-pin D-subminiature, male
PXI power requirement.....	6 W at 5 V 2.5 W at 3.3 V
Dimensions (W × H × D).....	Single PXI slot, 3U 2 cm × 10 cm × 17.4 cm (0.8 in. × 3.9 in. × 6.9 in.)
Weight.....	227 g (8 oz)

Environment

Operating temperature0 °C to 55 °C

Storage temperature–20 °C to 70 °C

Relative humidity5% to 85% noncondensing

Pollution Degree2

Approved at altitudes up to 2,000 m.

Indoor use only.

Accessories

Table 1. Third-Party Accessories for the NI PXI-2568

Accessory	Description	Manufacturer
Mating front panel connector	62-position D-subminiature, female	Any

Glossary

channel	A single SPST (form A) relay. Each channel has two terminals—A and B.
cycle	The actuation of a SPST relay twice, leaving it in its original state.
operate	The actuation of a SPST relay once, leaving it in the opposite state.

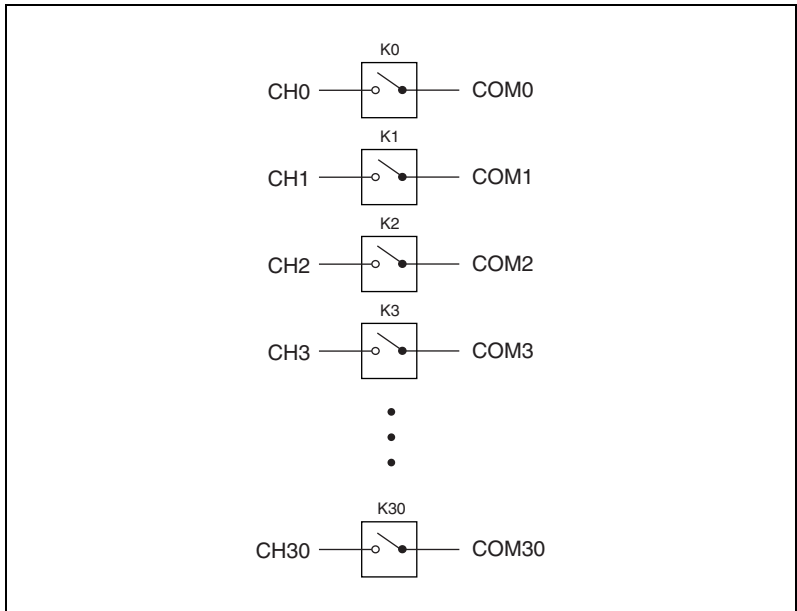


Figure 1. NI PXI-2568 Power-On State

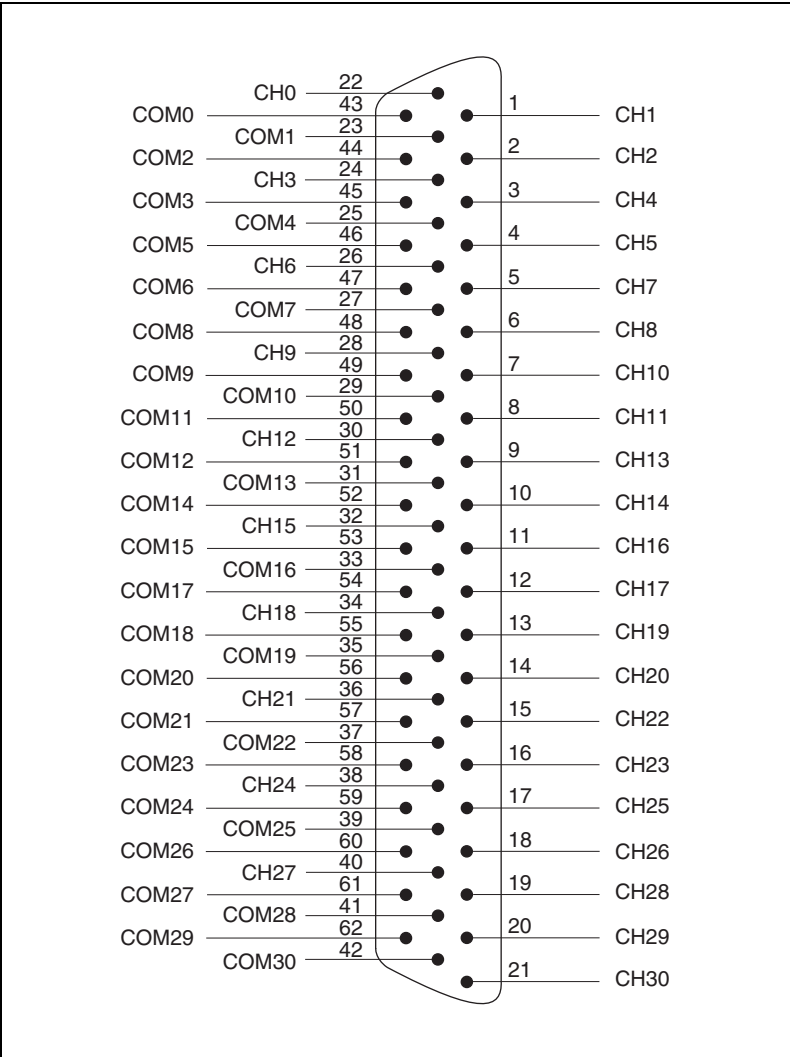


Figure 2. NI PXI-2568 Front Panel Pinout

Compliance and Certifications

Safety

This product is designed to meet the requirements of the following standards of safety for electrical equipment for measurement, control, and laboratory use:

- IEC 61010-1, EN 61010-1
- UL 3111-1, UL 61010B-1
- CAN/CSA C22.2 No. 1010.1



Note For UL and other safety certifications, refer to the product label or visit ni.com/hardref.nsf, search by model number or product line, and click the appropriate link in the Certification column.

Electromagnetic Compatibility

Emissions EN 55011 Class A at 10 m
FCC Part 15A above 1 GHz

Immunity EN 61326:1997 + A2:2001,
Table 1

CE, C-Tick, and FCC Part 15 (Class A) Compliant



Note For EMC compliance, operate this device with shielded cabling.

CE Compliance

This product meets the essential requirements of applicable European Directives, as amended for CE marking, as follows:

Low-Voltage Directive (safety) 73/23/EEC

Electromagnetic Compatibility
Directive (EMC) 89/336/EEC



Note Refer to the Declaration of Conformity (DoC) for this product for any additional regulatory compliance information. To obtain the DoC for this product, visit ni.com/hardref.nsf, search by model number or product line, and click the appropriate link in the Certification column.

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