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DEVICE SPECIFICATIONS

NI PXI-2565

16-SPST Power Relay Module

This document lists specifications for the PXI-2565 power relay module. All specifications are subject to change without notice. Visit *ni.com/manuals* for the most current specifications.

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PXI-2565 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 PXI-2565 can be impaired if it is used in a manner not described in this document.

Topology

Refer to the *NI Switches Help* at *ni.com/manuals* for detailed topology information.

Topology	16-channel SPST

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Input Characteristics

Maximum switching voltage	
Channel-to-channel	125 V DC, 250 V AC
Channel-to-ground	125 V DC, 250 V AC, CAT II[1]

Caution This module is rated for Measurement Category II and intended to carry signal voltages no greater than 250 V AC/125 V DC. This module Features 1400 Vrms isolation between input signals and the backplane as verified by a dielectric withstand test, one minute maximum. Do not use this module for connection to signals or for measurements within Categories III or IV. Do not connect to Category II supply circuits (for example, wall outlets) greater than 250 V AC; do not connect to Category III MAINs circuits.

Caution When hazardous voltages (>42.4 Vpk/60 V DC) are present on any relay terminal, safety low-voltage (≤42.4 Vpk/60 V DC) cannot be connected to any other relay terminal.

Caution The switching power is limited by the maximum switching current, the maximum voltage, and must not exceed 150 W, 1750 VA.

Maximum switching current	5 A at 30 V DC
Maximum switching current (resistive, per channel)	7 A at 250 V AC
Maximum switching power (per channel)	150 W, 1750 VA
Maximum carry current (per channel)	5 A DC, 7A AC
Minimum switch load	10 mA, 5 V DC

Note Switching inductive loads (for example, motors and solenoids) can produce high voltage transients in excess of the rated voltage of the module. 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`.

DC path resistance	
Initial	<0.03 Ω
End of life	>1 Ω

[1] Measurement Category II is for measurements performed on circuits directly connected to the electrical distribution system. This category refers to local-level electrical distribution, such as that provided by a standard wall outlet, for example, 115 V for U.S. or 230 V for Europe.

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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.

Power dissipation	
All relays open	1.75 W
All relays closed, 0 A per channel	7 W
All relays closed, 5 A per channel	21.5 W
All relays closed, 7 A per channel	35.0 W

Dynamic Characteristics

Relay operate time (at 20 °C)	5 ms, typical 10 ms, maximum
Release time (at 20 °C)	4 ms, typical 5 ms, maximum

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

Expected relay life	
Mechanical	5×10^7 cycles
Electrical (maximum load)	1×10^5 cycles

Note The relays used in the PXI-2565 are field replaceable. Refer to the *NI Switches Help* at *ni.com/manuals* for information about replacing a failed relay.

Trigger Characteristics

Input trigger	
Sources	PXI trigger lines <0...7>
Minimum pulse width	70 ns

Note The PXI-2565 can recognize trigger pulse widths less than 150 ns if you disable digital filtering. Refer to the *NI Switches Help* at *ni.com/manuals* for information about disabling digital filtering.

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

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Physical Characteristics

Relay type	Electromechanical, non-latching
Relay contact material	Gold-flash over silver alloy
I/O connector	16 × 2 minicombicon header
PXI power requirement	5.5 W at 5 V
Dimensions (L × W × H)	3U, two-slot, PXI/cPCI, 21.6 × 4.1 × 13.0 cm (8.5 × 1.6 × 5.1 in.)
Weight	390 g (14 oz)

Environment

Operating temperature	0 °C to 50 °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

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.)

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Compliance and Certifications

Safety

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 61010-1

Note For UL and other safety certifications, refer to the product label or the *Online Product Certification* 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
- AS/NZS CISPR 11: Group 1, 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 and certifications, refer to the *Online Product Certification* section.

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)

Online Product Certification

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

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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 *Minimize Our Environmental Impact* 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.

Waste Electrical and Electronic Equipment (WEEE)



EU Customers 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）



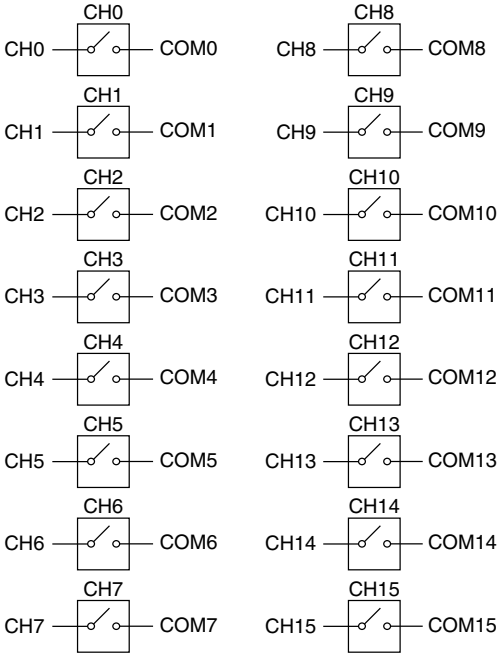
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Diagrams

The following figure shows the PXI-2565 power-on state diagram.

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Figure 1. PXI-2565 Power-on State



The following figure shows the PXI-2565 connector pinout.

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Figure 2. PXI-2565 Connector Pinout

	A	B	
CH0	1	1	CH8
COM0	2	2	COM8
CH1	3	3	CH9
COM1	4	4	COM9
CH2	5	5	CH10
COM2	6	6	COM10
CH3	7	7	CH11
COM3	8	8	COM11
CH4	9	9	CH12
COM4	10	10	COM12
CH5	11	11	CH13
COM5	12	12	COM13
CH6	13	13	CH14
COM6	14	14	COM14
CH7	15	15	CH15
COM7	16	16	COM15

Note For topology-specific connection information, refer to your device in the *NI Switches Help* at *ni.com/manuals* and associated cable or terminal block installation instructions.

Accessories

Refer to *ni.com* for more information about the following accessories.

Table 1. NI Accessories for the PXI-2565

Accessory	Part Number
16-pin screw terminal plug kit terminal block	761289-16
Relay replacement kit	777880-01

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