
NI-9265

Specifications

2022-10-28

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NI 9265 Specifications

The following specifications are typical for the range -40 °C to 70 °C unless otherwise noted. All voltages are relative to COM unless otherwise noted.

Caution Do not operate the NI-9265 in a manner not specified in this document. Product misuse can result in a hazard. You can compromise the safety protection built into the product if the product is damaged in any way. If the product is damaged, return it to NI for repair.

Output Characteristics

Number of channels	4 analog output channels
DAC resolution	16 bits
Type of DAC	String
Power-on output state	0
Startup current	0.0 mA
Power-down current	0.0 mA
Full-scale output current	
Minimum	20.1 mA
Typical	20.6 mA
Maximum	21.0 mA

Output range	0 mA to 20 mA
Compliance voltage	12 VDC maximum
Maximum load	600 Ω

Measurement Conditions	Percent of Reading (Gain Error)	Percent of Range ^[1] (Offset Error)
Calibrated, typical (25 °C, ± 5 °C)	0.11%	0.19%
Calibrated, maximum (-40 °C to 70 °C)	0.25%	0.4%
Uncalibrated ^[2] , typical (25 °C, ± 5 °C)	0.35%	1.4%
Uncalibrated, maximum (-40 °C to 70 °C)	0.85%	2.5%

Table 1. Accuracy

Stability		
Gain drift	30 ppm/°C	
Offset drift	45 ppm/°C	
External power supply voltage range (Vsup)		9 VDC to 36 VDC
Protection (AO, Vsup)		
Overvoltage	± 40 V	
Short-circuit	Indefinitely	
Number of Channels	Update Time for R Series Expansion Chassis	Update Time for Any Other Chassis
One	3.5 μ s	3 μ s
Two	6.5 μ s	5 μ s
Three	9 μ s	7.5 μ s

Number of Channels	Update Time for R Series Expansion Chassis	Update Time for Any Other Chassis
Four	12 μ s	9.5 μ s

Table 2. Update Time

Noise	600 nArms
Crosstalk	-90 dB
Settling time (to 1 LSB)	
Full-scale step	10 μ s
1 mA step	5 μ s
Glitch energy	Unmeasurable
Monotonicity	16 bits
DNL	1 LSB maximum
INL	\pm 16 LSB
MTBF	1,014,487 hours at 25 °C; Bellcore Issue 6, Method 1, Case 3, Limited Part Stress Method

Power Requirements

Power consumption from chassis	
Active mode	230 mW maximum
Sleep mode	25 μ W maximum

Thermal dissipation (at 70 °C)

Active mode	1.5 W maximum
Sleep mode	10 mW maximum

Power consumption from external power supply

Active mode	1.4 W maximum
Sleep mode	10 mW

Physical Characteristics

Spring-terminal wiring

Gauge	0.2 mm ² to 2.5 mm ² (30 AWG to 12 AWG) copper conductor wire
Wire strip length	10 mm (0.39 in.) of insulation stripped from the end
Temperature rating	90 °C, minimum
Wires per spring terminal	One wire per spring terminal; two wires per spring terminal using a 2-wire ferrule

Connector securement

Securement type	Screw flanges provided
Torque for screw flanges	0.2 N · m (1.80 lb · in.)

Safety Voltages

Connect only voltages that are within the following limits.

Channel-to-COM or Vsup-to-COM ±40 V maximum^[3]

Isolation Voltages

Channel-to-channel	None
Channel-to-earth ground, Vsup-to-earth ground, or COM-to-earth ground	
Continuous	
up to 2,000 m altitude	250 V RMS, Measurement Category II
up to 5,000 m altitude	60 V DC, Measurement Category I
Withstand	
up to 2,000 m altitude	2,300 V RMS, verified by a 5 s dielectric withstand test
up to 5,000 m altitude	1,000 V RMS, verified by a 5 s dielectric withstand test

Hazardous Locations

U.S. (UL)	Class I, Division 2, Groups A, B, C, D, T4; Class I, Zone 2, AEx nA IIC T4 Gc
Canada (C-UL)	Class I, Division 2, Groups A, B, C, D, T4; Ex nA IIC T4 Gc

Europe (ATEX) and International (IECEX)	<p>Ex nA IIC T4 Gc</p> <p>DEMKO 03 ATEX 0324020X</p> <p>IECEX UL 14.0089X</p>
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Safety Compliance and Hazardous Locations 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
- EN 60079-0, EN 60079-7
- IEC 60079-0, IEC 60079-7
- UL 60079-0, UL 60079-7
- CSA C22.2 No. 60079-0, CSA C22.2 No. 60079-7

Note For safety certifications, refer to the product label or the [Product Certifications and Declarations](#) section.

Electromagnetic Compatibility

- CE, C-Tick, ICES, and FCC Part 15; Class A emissions

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

CE Compliance

- 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.

Shock and Vibration

To meet these specifications, you must panel mount the system.

Operating vibration	
Random	5 g RMS, 10 Hz to 500 Hz
Sinusoidal	5 g, 10 Hz to 500 Hz
Operating shock	30 g, 11 ms half sine; 50 g, 3 ms half sine; 18 shocks at 6 orientations

Environmental

Refer to the manual for the chassis you are using for more information about meeting these specifications.

Operating temperature (IEC 60068-2-1, IEC 60068-2-2)	-40 °C to 70 °C
Storage temperature (IEC 60068-2-1, IEC 60068-2-2)	-40 °C to 85 °C
Ingress protection	IP40
Operating humidity (IEC 60068-2-30)	10% RH to 90% RH, noncondensing
Storage humidity (IEC 60068-2-30)	5% RH to 95% RH, noncondensing

Pollution Degree	2
Maximum altitude	2,000 m


Indoor use only.

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 Range equals 0 mA to 20.6 mA.

² Uncalibrated accuracy refers to the accuracy achieved when acquiring data in raw or unscaled modes and in which calibration constants that are stored in the module are not applied to the data.

³ The maximum voltage that can be applied between any channel or Vsup terminal and a COM terminal without damaging the module or other devices.