
NI-9263

Specifications

2023-03-03



Contents

NI-9263 Datasheet.	3
-------------------------	---

NI-9263 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-9263 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.



Caution Le NI-9263 ne doit en aucun cas être utilisé d'une autre façon que celle spécifiée dans ce document. Une mauvaise utilisation du produit peut s'avérer dangereuse. Si le produit est endommagé de quelque manière que ce soit, la sécurité intégrée dans le produit risque d'en être compromise. Si le produit est endommagé, le renvoyer à NI pour réparation.

Output Characteristics

Number of channels	4 analog output channels
DAC resolution	16 bits
Type of DAC	String
Power-on output state	Channels off
Startup voltage ^[1]	0 V
Power-down voltage ^[2]	0 V
Output voltage range	

Nominal	± 10 V		
Minimum	± 10.4 V		
Typical	± 10.7 V		
Maximum	± 11 V		
Current drive	± 1 mA per channel maximum		
Output impedance	2Ω		
Measurement Conditions		Percent of Reading (Gain Error)	Percent of Range ^[3] (Offset Error)
Calibrated	Maximum (-40 °C to 70 °C)	0.35%	0.75%
	Typical (25 °C, ± 5 °C)	0.03%	0.1%
Uncalibrated ^[4]	Maximum (-40 °C to 70 °C)	2.2%	1.7%
	Typical (25 °C, ± 5 °C)	0.3%	0.25%

Table 1. Accuracy

Stability	
Gain drift	11 ppm/°C
Offset drift	110 μ V/°C
Protection	
Overvoltage	± 30 V
Short-circuit	Indefinitely

Number of Channels	Update Time for All Other Chassis	Update Time for NI cRIO-9151 R Series Expansion Chassis
1	3 μ s min	3.5 μ s min
2	5 μ s min	6.5 μ s min
3	7.5 μ s min	9 μ s min
4	9.5 μ s min	12 μ s min

Table 2. Update Time

Noise	
Updating at 100 kS/s	600 μ Vrms
Not updating	260 μ Vrms
Slew rate	4 V/ μ s
Crosstalk	76 dB
Settling time (100 pF load, to 1 LSB)	
Full-scale step	20 μ s
1 V step	13 μ s
0.1 V step	10 μ s
Capacitive drive	1,500 pF minimum
Monotonicity	16 bits
DNL	± 1 LSB maximum
INL (endpoint)	± 12 LSB maximum

MTBF	1,732,619 hours at 25 °C; Bellcore Issue 2, Method 1, Case 3, Limited Part Stress Method
------	--

Power Requirements

Power consumption from chassis	
Active mode (at -40 °C)	500 mW maximum
Sleep mode	25 µW maximum
Thermal dissipation (at 70 °C)	
Active mode	750 mW maximum
Sleep mode	25 µW maximum

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	
Connector securement	
Securement type	Screw flanges provided

Torque for screw flanges	0.2 N · m (1.80 lb · in.)
Weight	
NI-9263 with screw terminal	150 g (5.3 oz)
NI-9263 with spring terminal	139 g (4.9 oz)

Safety Voltages

Connect only voltages that are within the following limits:

Channel-to-channel	None
Channel-to-earth ground	
Continuous	250 V RMS, Measurement Category II
Withstand	2,300 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)	Ex nA IIC T4 Gc DEMKO 07 ATEX 0626664X IECEx UL 14.0089X

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

- EN 61326 (IEC 61326): Class A emissions; Industrial immunity

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.)

Calibration

You can obtain the calibration certificate and information about calibration services for the NI-9263 at ni.com/calibration.

Calibration interval	1 year
----------------------	--------

- ¹ When the module powers on, a glitch occurs for 20 μs peaking at -1.5 V.
- ² The power-down voltage peaks at 1.8 V before exponentially discharging to 0 V in 100 μs . You can add a 10 k Ω load to reduce the peak voltage.
- ³ Range equals ± 10.7 V
- ⁴ Uncalibrated accuracy refers to the accuracy achieved when acquiring in raw or unscaled modes where the calibration constants stored in the module are not applied to the data.