NI-9263 Specifications

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Contents

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These specifications apply to the NI-9263.

Revision History

Version	Date changed	Description
378838B-01	August 2025	Added the product pinout and clarified the weight of the spring terminal variant.
378838A-01	June 2022	Initial release.

Looking For Something Else?

For information not found in the specifications for your product, such as operating instructions, browse ***Related Information***.

Related information:

- NI-9263 Getting Started
- NI-9263 Calibration Procedure
- Software Support for CompactRIO, CompactDAQ, Single-Board RIO, R Series, and EtherCAT
- Software and Driver Downloads
- Dimensional Drawings
- Product Certifications
- Letter of Volatility
- Discussion Forums
- NI Learning Center

Connector Types

The NI-9263 has more than one connector type: NI-9263 with screw terminal and

NI-9263 with spring terminal. Unless the connector type is specified, NI-9263 refers to both connector types.

Definitions

Warranted specifications describe the performance of a model under stated operating conditions and are covered by the model warranty.

Characteristics describe values that are relevant to the use of the model under stated operating conditions but are not covered by the model warranty.

- ***Typical*** specifications describe the performance met by a majority of models.
- ***Nominal*** specifications describe an attribute that is based on design, conformance testing, or supplemental testing.

Specifications are ***Typical*** unless otherwise noted.

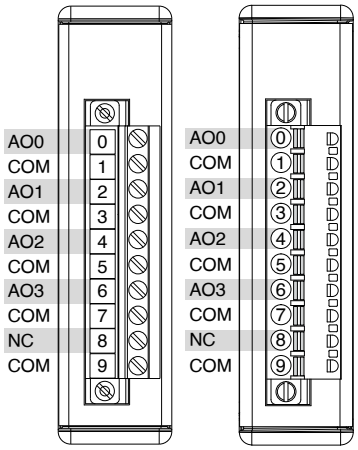
Conditions

Specifications are valid under the following conditions unless otherwise noted.

- -40 °C to 70 °C
- All voltages are relative to COM

NI-9263 Pinout

Figure 1. NI-9263 Connector Pinouts



Note To create a secure connection when connecting more than one wire to a single terminal on the NI-9263, use 2-wire ferrules.

Table 1. Signal Descriptions

Signal Name	Description
AO	Analog output signal connection
COM	Common reference connection to isolated ground
NC	No connection

Physical Characteristics

Table 2. Physical Characteristics

Dimensions	Visit ***ni.com/dimensions*** and search by module number.
Weight	• NI-9263 with screw terminal: 150 g (5.3 oz) • NI-9263 with spring terminal: 139 g (4.9 oz)

Table 3. Screw-Terminal Wiring

Gauge	0.2 mm^2 to 2.5 mm^2 (26 AWG to 14 AWG) copper conductor wire
Wire strip length	13 mm (0.51 in.) of insulation stripped from the end
Temperature rating	90 °C, minimum
Torque for screw terminals	0.5 N · m to 0.6 N · m (4.4 lb · in. to 5.3 lb · in.)
Wires per screw terminal	One wire per screw terminal; two wires per screw terminal using a 2-wire ferrule
Ferrules	0.25 mm^2 to 2.5 mm^2

Table 4. Spring-Terminal Wiring

Gauge	0.2 mm^2 to 2.5 mm^2 (26 AWG to 14 AWG) copper conductor wire
Wire strip length	10 mm (0.39 in.) of insulation stripped from the end
Temperature rating	90 °C, minimum
Torque for spring terminals	0.5 N · m to 0.6 N · m (4.4 lb · in. to 5.3 lb · in.)
Wires per spring terminal	One wire per spring terminal; two wires per spring terminal using a 2-wire ferrule
Ferrules	0.25 mm^2 to 2.5 mm^2

Table 5. Connector Securement

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

Environmental Guidelines

Notice Failure to follow the mounting instructions in the product documentation can cause temperature derating.

Notice This model is intended for use in indoor applications only.

Environmental Characteristics

Table 6. Temperature

Characteristic	**Specification**
Operating	-40 °C to 70 °C
Storage	-40 °C to 85 °C

Table 7. Humidity

Characteristic	Specification
Operating	10% RH to 90 % RH, noncondensing
Storage	5% RH to 95 % RH, noncondensing

Table 8. Ingress Protection

Characteristic	Specification
Ingress protection	IP40

Table 9. Pollution Degree

Characteristic	Specification
Pollution degree	2

Table 10. Maximum Altitude

Characteristic	Specification
Maximum altitude	• NI-9263 with screw terminal: 2,000 m • NI-9263 with spring terminal: 2,000 m

Table 11. Shock and Vibration

Operating vibration - Random	5 g RMS, 10 Hz to 500 Hz
Operating vibration - 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

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

Output Characteristics

Table 12. Output Characteristics

Number of channels	4 analog output channels

DAC resolution	16 bit
DAC type	String
Power-on output state	Channels off
Startup voltage[1]	0 V
Power-down voltage[2]	0 V
Current drive	±1 mA per channel maximum
Output impedance	2 Ω
Slew rate	4 V/µs
Crosstalk	76 dB
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

Table 13. Output Voltage Range

Nominal	±10 V
Minimum	±10.4 V
Typical	±10.7 V
Maximum	±11 V

Table 14. Accuracy

Measurement Conditions	**Temperature Range**	**Percent of Reading (Gain Error)**	**Percent of Range[3] (Offset Error)**
Calibrated	Maximum (-40 °C to 70 °C)	0.35%	0.75%

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. To reduce the peak voltage, add a 10 kΩ load.
3. Range equals ±10.7 V

Measurement Conditions	Temperature Range	Percent of Reading (Gain Error)	Percent of Range (Offset Error)
Calibrated	Typical (25 °C, ±5 °C)	0.35%	0.75%
Uncalibrated [4]	Maximum (-40 °C to 70 °C)	2.2%	1.7%
Uncalibrated	Typical (25 °C, ±5 °C)	0.3%	0.25%

Table 15. Stability

Gain drift	11 ppm/°C
Offset drift	110 µV/°C

Table 16. Protection

Overvoltage	±30 V
Short-circuit	Indefinitely

Table 17. Update Time

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

Table 18. Noise

Updating at 100 kS/s	600 µV RMS
Not updating	260 µV RMS

Table 19. Settling Time (100 pF load, to 1 LSB)

Full-scale step	20 µs

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.

1 V step	13 µs
0.1 V step	10 µs

Power Requirements

Table 20. Power Consumption from Chassis

Active mode (at -40 °C)	500 mW maximum
Sleep mode	25 µW maximum

Table 21. Thermal Dissipation (at 70 °C)

Active mode	750 mW maximum
Sleep mode	25 µW maximum

Safety Voltages

Connect only voltages that are within the following limits:

Table 22. Channel to Channel

Channel-to-channel	None

Table 23. Channel to Earth Ground

Continuous	250 V RMS, Measurement Category II
Withstand	2,300 V RMS, verified by a 5 s dielectric withstand test

Measurement Category II

Caution Do not connect the product to signals or use for measurements within Measurement Categories III or IV.

Attention Ne pas connecter le produit à des signaux dans les catégories de mesure III ou IV et ne pas l'utiliser pour effectuer des mesures dans ces

> catégories.

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.

Calibration

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

Recommended calibration interval	1 year