NI-9269 Getting Started

2025-03-21

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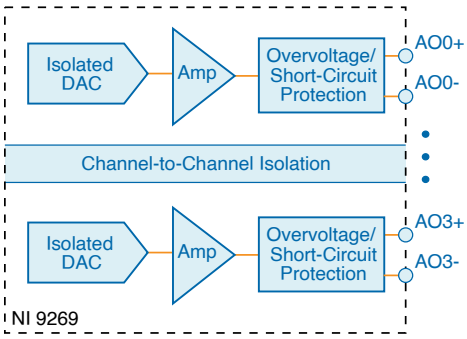
NI-9269 Block Diagram



The analog output channels are floating with respect to earth ground and each other. Each channel has a digital-to-analog converter (DAC) that produces a voltage signal. Each channel provides an independent signal path, enabling you to update all four channels simultaneously. Each channel also has overvoltage and short-circuit protection.

NI-9269 Pinout

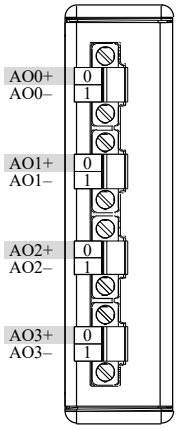
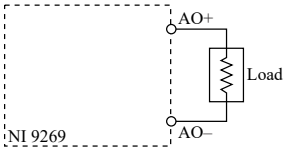


Table 1. Signal Descriptions

Signal	Description
AO+	Positive analog output signal connection
AO-	Negative analog output signal connection

Analog Output Connections



NI-9269 Connection Guidelines

- Make sure that devices you connect to the NI-9269 are compatible with the module specifications.
- You must use 2-wire ferrules to create a secure connection when connecting more than one wire to a single terminal on the NI-9269.

High-Vibration Application Connections

If your application is subject to high vibration, NI recommends that you follow these guidelines to protect connections to the NI-9269:

- Use ferrules to terminate wires to the detachable connector.
- Use the NI-9971 connector backshell kit.

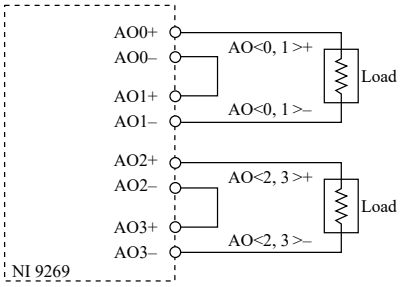
Increasing Output Voltage Range

Each channel of the NI-9269 has a nominal output range of ±10 V and can drive up to ±10 mA of current. The total output current of all channels is limited to ±20 mA. For example, if the output current of AO0 is ±10 mA, the output current of AO<1, 2, 3> is limited to ±10 mA total or ±3.33 mA each.

If you want to increase the nominal output voltage range, you can stack up to four

output channels for a maximum of ±40 V nominal. For example, if you want two channels with a nominal output voltage range of ±20 V each, connect AO<0, 1> and AO<2, 3>. The output current of the stacked channels flows across two channels, limiting the total output current to ±10 mA.

Figure 1. Increasing the Output Voltage Range of the NI-9269



Stacking more than four output channels of multiple NI-9269 modules violates the electrical safety and overvoltage protection ratings.

Because the NI-9269 outputs can source and sink current, it is not possible to increase the current drive by connecting output channels in parallel.

Note Refer to the module specifications on ni.com/docs for more information about the overvoltage protection rating.

Conformal Coating

The NI-9269 is available with conformal coating for additional protection in corrosive and condensing environments, including environments with molds and dust.

In addition to the environmental specifications listed in the ***NI-9269 Safety, Environmental, and Regulatory Information***, the NI-9269 with conformal coating meets the following specification for the device temperature range. To meet this specification, you must follow the appropriate setup requirements for condensing environments. Refer to ***Conformal Coating and NI RIO Products*** for more information about conformal coating and the setup requirements for condensing environments.

Operating humidity (IEC 60068-2-30 Test Db)	80 to 100% RH, condensing

Related information:

- Conformal Coating and NI RIO Products