NI-9269 Getting Started

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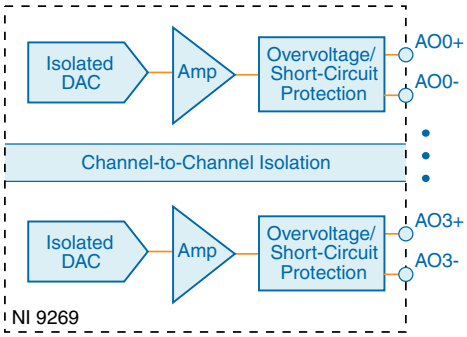
NI-9269 Getting Started 100 kS/s/ch Simultaneous, ±10 V, Isolated, 4-Channel C Series Voltage Output Module

Contents

Connector Types

The NI-9269 has more than one connector type: NI-9269 with screw terminals and NI-9269 with snap in terminals. Unless the connector type is specified, NI-9269 refers to all connector types.

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

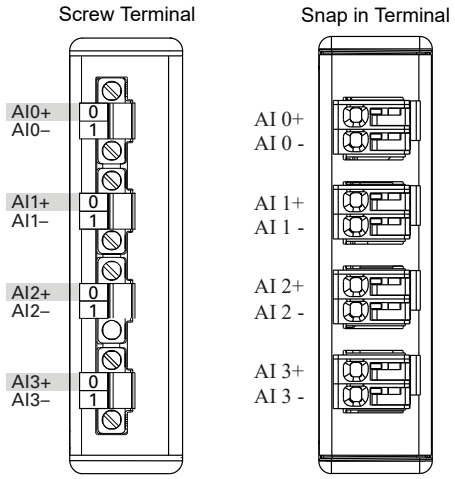
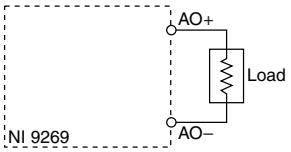


Table 1 : Signal Descriptions

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.

Wiring for High-Vibration Applications

If your application is subject to high vibration, NI recommends that you use the NI 9971 backshell kit to protect connections to the NI-9269 with screw terminals or NI 9990 backshell kit to protect connections to the NI-9269 with snap in terminals.

You must follow these guidelines to meet the shock and vibration performance specifications stated in the device datasheet on `ni.com/manuals`.

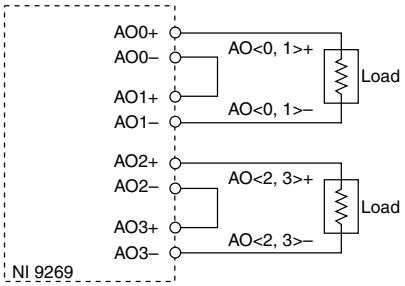
- Panel mount the system.
- Provide strain relief for the module by securing the cabling to a supporting fixture no more than 8 cm (3 in.) away from the opening of the connector backshell.
- Ensure that the supporting fixture for strain relief is stiff and rigidly coupled to the chassis mounting surface.
- Use ferrules to terminate wires to the detachable connector.

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 with screw terminals 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

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