# NI-9208 Getting Started

2025-03-04

# Contents

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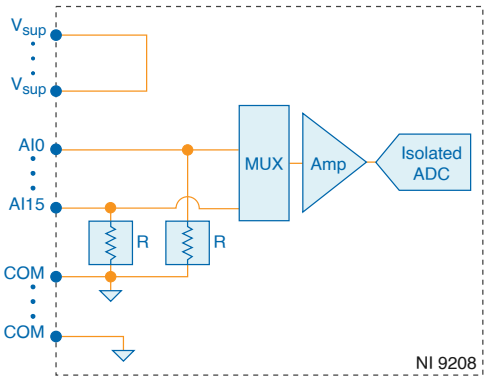
## Connector Types

The NI-9208 has more than one connector type: NI-9208 with spring terminal and NI-9208 with DSUB. Unless the connector type is specified, NI-9208 refers to all connector types.

## NI-9208 Block Diagram




The input signals are scanned, amplified, conditioned, and then sampled by a single 24-bit ADC. The module provides overvoltage protection for each channel. Only one channel can be in an overvoltage condition at a time.

## NI-9208 with Spring Terminal Pinout

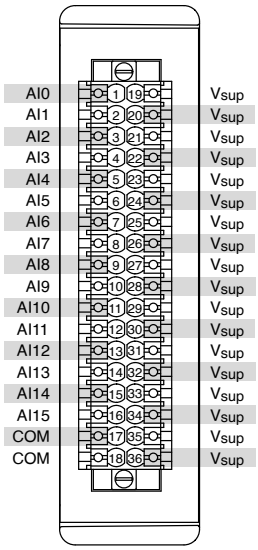



**Table 1.** Signal Descriptions

| Signal | Description |
|---|---|
| AI | Analog input signal connection |
| COM | Common reference connection to isolated ground |
| $V_{sup}$ | Voltage supply connection |

# NI-9208 with DSUB Terminal Pinout

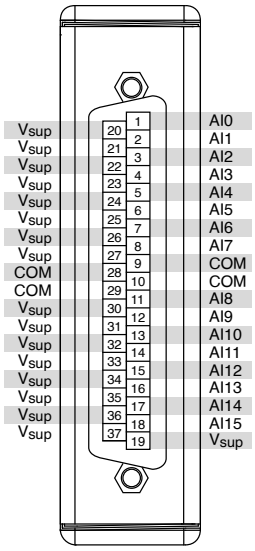


**Table 2.** Signal Descriptions

| Signal | Description |
|---|---|
| AI | Analog input signal connection |
| COM | Common reference connection to isolated ground |
| $V_{sup}$ | Voltage supply connection |

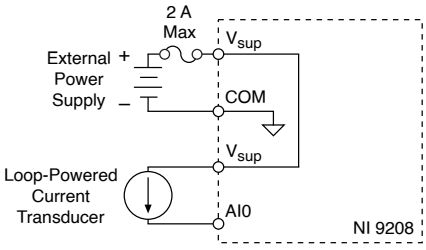
## Connecting an External Power Supply

You can connect an external power supply to the NI-9208. This power supply provides the current for the devices you connect to the module. Connect the positive lead of the power supply to a Vsup pin and the negative lead of the power supply to COM. Install a 2 A maximum, fast-acting fuse between the external power supply and the Vsup pin.

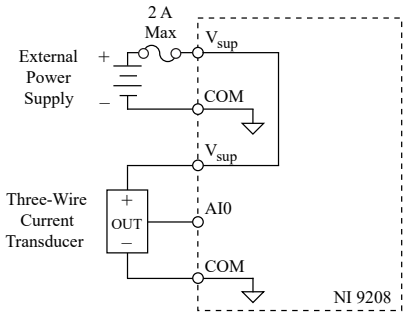
**Note** The Vsup pins are internally connected to each other. You can connect only one external voltage supply to the device.

**Caution** Do not remove or insert modules if the external power supply connected to the Vsup and COM pins is powered on.

## Connecting a Loop-Powered Current Transducer




## Connecting a Three-Wire Current Transducer




# NI-9208 Connection Guidelines

- Make sure that devices you connect to the NI-9208 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-9208 with spring terminal.
- When using a solid wire or a stranded wire with a ferrule with the NI-9208 with spring terminal, push the wire into the terminal.
- When using stranded wire without a ferrule with the NI-9208 with spring terminal, open the terminal by pressing the push button.

## High-Vibration Application Connections

If your application is subject to high vibration, NI recommends that you use the NI-9940 backshell kit to protect connections to the NI-9208 with spring terminal.

# Conformal Coating

The NI-9208 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-9208 Safety, Environmental, and Regulatory Information***, the NI-9208 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