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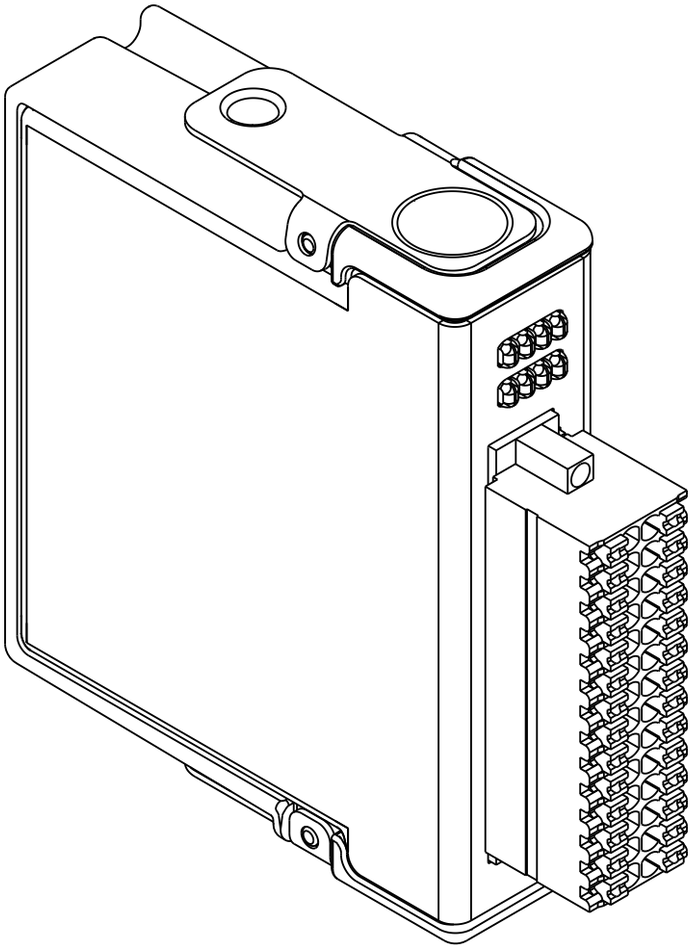
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GETTING STARTED GUIDE

NI 9253

8 AI, ±20 mA, 24 bit, 50 kS/s/ch Simultaneous



NATIONAL INSTRUMENTS™

This document explains how to connect to the NI 9253.



Note Before you begin, complete the software and hardware installation procedures in your chassis documentation.



Note The guidelines in this document are specific to the NI 9253. The other components in the system might not meet the same safety ratings. Refer to the documentation for each component in the system to determine the safety and EMC ratings for the entire system.

NI 9253 Pinout

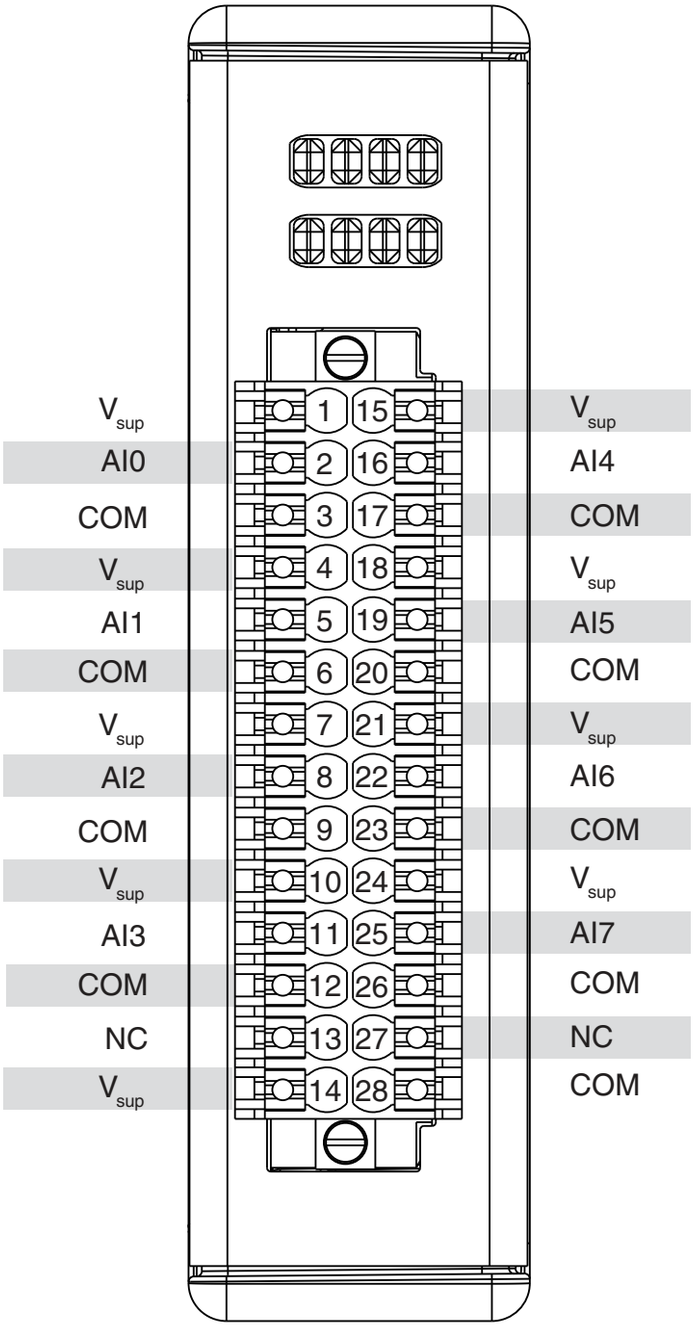


Table 1. Signal Descriptions

Signal	Description
AI	Analog input signal connection
V_{sup}	Voltage supply connection
COM	Common reference connection to isolated ground
NC	No connection

NI 9253 LEDs

Status	Color	Indication
ON	Green	• Channel is operational with input limits detection enabled • V_{sup} is in range if field side power fault detection is enabled
	Red	• Channel is in fault condition[1] • V_{sup} is in range if field side power fault detection is enabled

[1] The channel is in the over-current state and/or the data has exceeded user-defined input limits.

Status	Color	Indication
OFF	None	• Channel is operational without input limits detection enabled • V_{sup} is in range if field side power detection is enabled
		• Master timebase is absent
Flashing	Green	• Channel is operational • V_{sup} is out of range if field side power detection is enabled
	Red	• Channel is in fault condition[1] • V_{sup} is out of range if field side power detection is enabled
Alternating flashing rows	Green	• Module is powered on • First acquisition is not initiated

Connecting an External Power Supply

You can connect an external power supply to the NI 9253. This power supply provides the current for the devices you connect to the module. Connect the positive lead of the power supply to a V_{sup} 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 V_{sup} pin.



Note The V_{sup} pins are internally connected to each other. You can connect only one external voltage supply to the device.

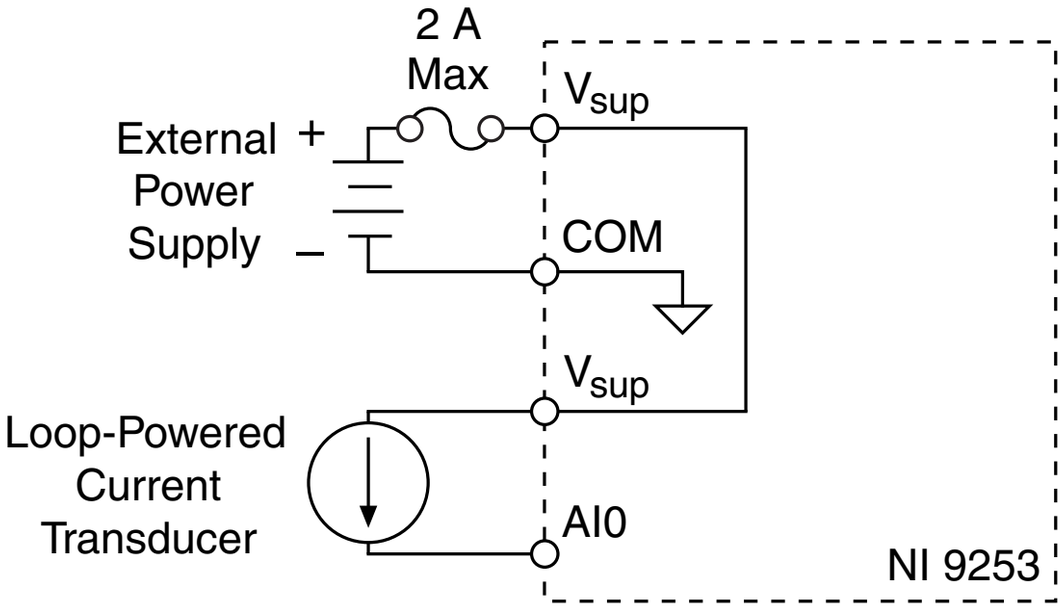


Caution Do not remove or insert modules if the external power supply connected to the V_{sup} and COM pins is powered on.

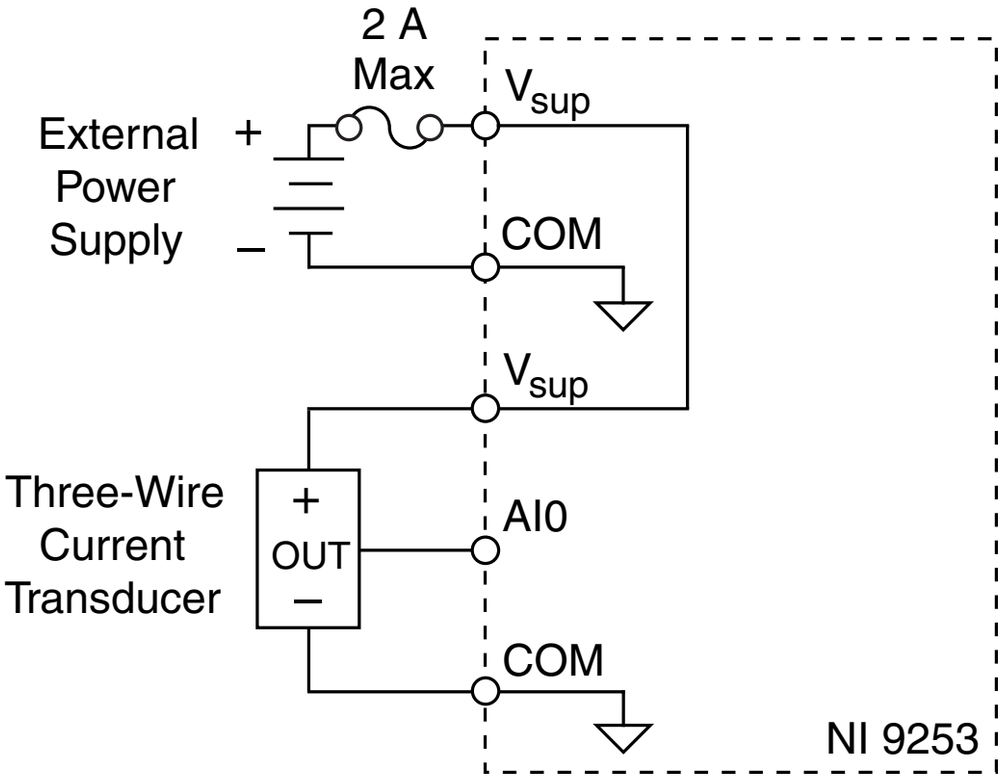


Attention Ne retirez ou n'insérez pas de modules si l'alimentation externe connectée aux broches V_{sup} et COM est sous tension.

Connecting a Loop-Powered Current Transducer



Connecting a Three-Wire Current Transducer



NI 9253 Connection Guidelines

- Make sure that devices you connect to the NI 9253 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 9253 with spring terminal.
- Push the wire into the terminal when using a solid wire or a stranded wire with a ferrule.
- Open the terminal by pressing the push button when using stranded wire without a ferrule.

High-Vibration Application Connections

If your application is subject to high vibration, NI recommends that you use the NI 9963 backshell kit to protect connections to the NI 9253 with spring terminal.

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.
- Ensure that you do not directionally bias the module when applying strain relief.

Overvoltage Protection

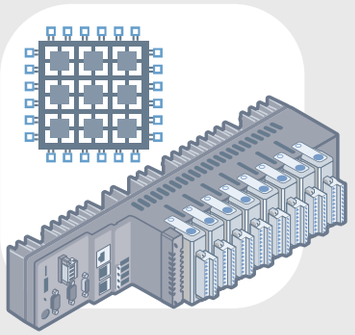
The NI 9253 provides overvoltage protection for each channel.



Note Refer to the device datasheet on *ni.com/manuals* for more information about overvoltage protection.

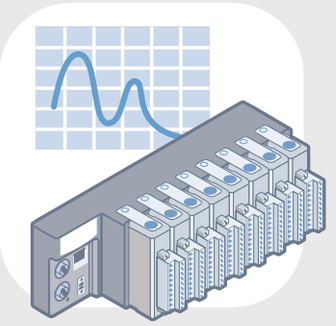
Where to Go Next

CompactRIO



- NI 9253 Datasheet
- NI-RIO Help
- LabVIEW FPGA Help

CompactDAQ



- NI 9253 Datasheet
- NI-DAQmx Help
- LabVIEW Help

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378060A-01 May 8, 2019

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