NI-9485 Getting Started

2025-03-21

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NI-9485 Pinout

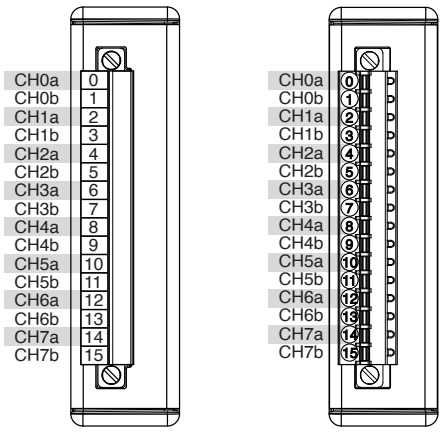
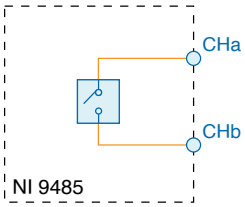


Table 1. Signal Descriptions

Signal	Description
CHa and CHb	Interchangeable signal connections

NI-9485 Block Diagram



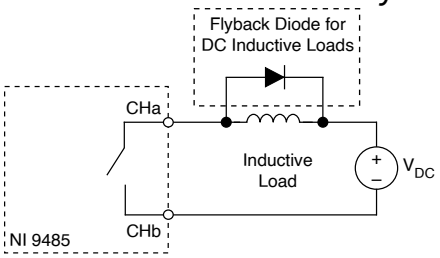
You can connect the NI-9485 to sinking-output or sourcing-output devices. A sinking-output device provides a path for current or voltage from the CHa or CHb terminal. A sourcing-output device drives current or applies voltage to the CHa or CHb terminal.

Protecting Inductive Loads

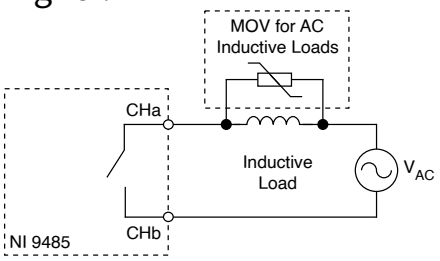
When you connect inductive loads to the NI-9485 SSR outputs, a large counter-electromotive force may occur at switching time as a result of the energy stored in the inductive load. These flyback voltages can damage the relay outputs and/or the external power supply.

Limit flyback voltages at the inductive load by installing one of the following:

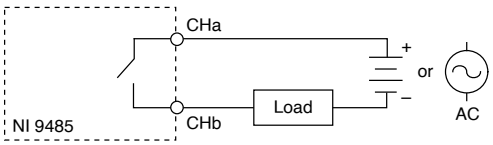
- For DC loads—Install a flyback diode within 45.72 cm of the load.



- For AC loads—Install a metal oxide varistor (MOV) rated for 30 V RMS or slightly higher.



Connecting Loads



When the channel is turned on, the terminal connected to the load drives current or applies voltage to the load. When the channel is off, the terminal does not drive current or apply voltage to the load.

Connection Guidelines

- You must use 2-wire ferrules to create a secure connection when connecting more than one wire to a single terminal on the NI-9485.
- Make sure that devices you connect to the NI-9485 are compatible with the module specifications.

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-9485:

- Use ferrules to terminate wires to the detachable connector.
- Use the NI-9939 connector backshell kit.

Conformal Coating

The NI-9485 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-9485 Safety, Environmental, and Regulatory Information***, the NI-9485 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