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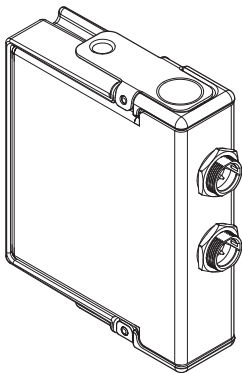
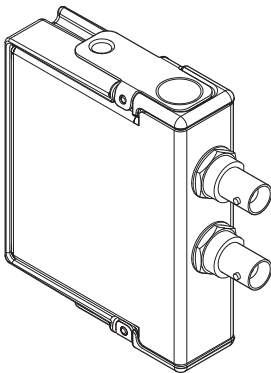
 **CLICK HERE**

***NI-9260***

## GETTING STARTED GUIDE

# NI 9260

2 AO, 3 Vrms, 24 Bit, 51.2 kS/s/ch Simultaneous



This document explains how to connect to the NI 9260. In this document, the NI 9260 with BNC and the NI 9260 with mini XLR are referred to inclusively as the NI 9260.



**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 9260. 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.

## Safety Guidelines

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Operate the NI 9260 only as described in this document.



**Caution** Do not operate the NI 9260 in a manner not specified in this document. Product misuse can result in a hazard. You can compromise the safety protection built into the product if the product is damaged in any

way. If the product is damaged, return it to NI for repair.

## Safety Voltages

Channel-to-earth ground	$\pm 30$ V maximum
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### Isolation Voltages

Channel-to-channel	None
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Channel-to-earth ground	None
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## Safety Guidelines for Hazardous Voltages

If hazardous voltages are connected to the device, take the following precautions. A hazardous voltage is a voltage greater than 42.4 Vpk voltage or 60 VDC to earth ground.



**Caution** Ensure that hazardous voltage wiring is performed only by qualified personnel adhering to local electrical standards.



**Caution** Do not mix hazardous voltage circuits and human-accessible circuits on the same module.



**Caution** Ensure that devices and circuits connected to the module are properly insulated from human contact.



**Caution** When module terminals are hazardous voltage LIVE ( $>42.4$  Vpk/60 VDC), you must ensure that devices and circuits connected to the module are properly insulated from human contact.

## Safety Guidelines for Hazardous Locations

The NI 9260 is suitable for use in Class I, Division 2, Groups A, B, C, D, T4 hazardous locations; Class I, Zone 2, AEx nA IIC T4 and Ex nA IIC T4 hazardous locations; and nonhazardous locations only. Follow these guidelines if you are installing the NI 9260 in a potentially explosive environment. Not following these guidelines may result in serious injury or death.



**Caution** Do not disconnect I/O-side wires or connectors unless power has been switched off or the area is known to be nonhazardous.



**Caution** Do not remove modules unless power has been switched off or the area is known to be nonhazardous.



**Caution** Substitution of components may impair suitability for Class I, Division 2.



**Caution** For Division 2 and Zone 2 applications, install the system in an enclosure rated to at least IP54 as defined by IEC/EN 60079-15.

## Special Conditions for Hazardous Locations Use in Europe and Internationally

The NI 9260 has been evaluated as Ex nA IIC T4 Gc equipment under DEMKO Certificate No. 12 ATEX 1202658X and is IECEx UL 14.0089X certified. Each NI 9260 is marked Ⓢ II 3G and is suitable for use in Zone 2 hazardous locations, in ambient temperatures of  $-40\text{ }^{\circ}\text{C} \leq T_a \leq 70\text{ }^{\circ}\text{C}$ . If you are using the NI 9260 in Gas Group IIC hazardous locations, you must use the device in an NI chassis that has been evaluated as Ex nC IIC T4, Ex IIC T4, Ex nA IIC T4, or Ex nL IIC T4 equipment.



**Caution** You must make sure that transient disturbances do not exceed 140% of the rated voltage.



**Caution** The system shall only be used in an area of not more than Pollution Degree 2, as defined in IEC 60664-1.



**Caution** The system shall be mounted in an ATEX/IECEx-certified enclosure with a minimum

ingress protection rating of at least IP54 as defined in IEC/EN 60079-15.



**Caution** The enclosure must have a door or cover accessible only by the use of a tool.

## Electromagnetic Compatibility Guidelines

This product was tested and complies with the regulatory requirements and limits for electromagnetic compatibility (EMC) stated in the product specifications. These requirements and limits provide reasonable protection against harmful interference when the product is operated in the intended operational electromagnetic environment.

This product is intended for use in industrial locations. However, harmful interference may occur in some installations, when the product is connected to a peripheral device or test object, or if the product is used in residential or commercial areas. To minimize interference with radio and television reception and prevent unacceptable performance degradation, install and use this product in strict accordance with the instructions in the product documentation.

Furthermore, any changes or modifications to the product not expressly approved by National Instruments could void your authority to operate it under your local regulatory rules.

## Special Conditions for Marine Applications

Some products are Lloyd's Register (LR) Type Approved for marine (shipboard) applications. To verify Lloyd's Register certification for a product, visit [ni.com/certification](https://ni.com/certification) and search for the LR certificate, or look for the Lloyd's Register mark on the product.



**Caution** In order to meet the EMC requirements for marine applications, install the product in a shielded enclosure with shielded and/or filtered power and input/output ports. In addition, take precautions when designing, selecting, and installing measurement probes and cables to ensure that the desired EMC performance is attained.



## Preparing the Environment

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Ensure that the environment in which you are using the NI 9260 meets the following specifications.

Operating temperature (IEC 60068-2-1, IEC 60068-2-2)	-40 °C to 70 °C
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Operating humidity (IEC 60068-2-78)	10% RH to 90% RH, noncondensing
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Pollution Degree	2
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Maximum altitude	5,000 m
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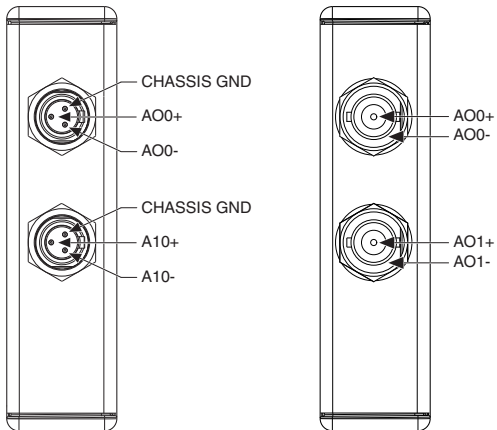
Indoor use only.



**Note** Refer to the device datasheet on [ni.com/manuals](https://ni.com/manuals) for complete specifications.

# NI 9260 Pinout

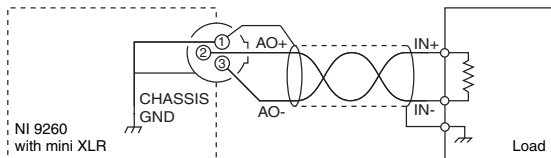
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**Table 1.** Signal Descriptions

Signal	Description
AO+	Positive analog output signal connection
AO-	Negative analog output signal connection
Chassis GND	Chassis ground connection

## NI 9260 with mini XLR Analog Output Connection





**Note** You can only use the NI 9260 with mini XLR with differential instruments.



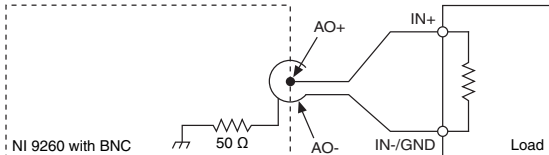
**Caution** Do not connect AO- to chassis ground on the NI 9260 with mini XLR. Connecting this pin to chassis ground will short circuit the output.



**Caution** Do not connect the NI 9260 with mini XLR to a ground referenced single-ended instrument. Refer to the *Circuitry* section in the device datasheet on [ni.com/manuals](http://ni.com/manuals) for further information.

## NI 9260 with BNC Analog Output Connections

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## NI 9260 Connection Guidelines

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- Make sure that devices you connect to the NI 9260 are compatible with the module specifications.
- To minimize ground noise, make sure you connect the chassis ground to earth ground.

### Overvoltage Protection

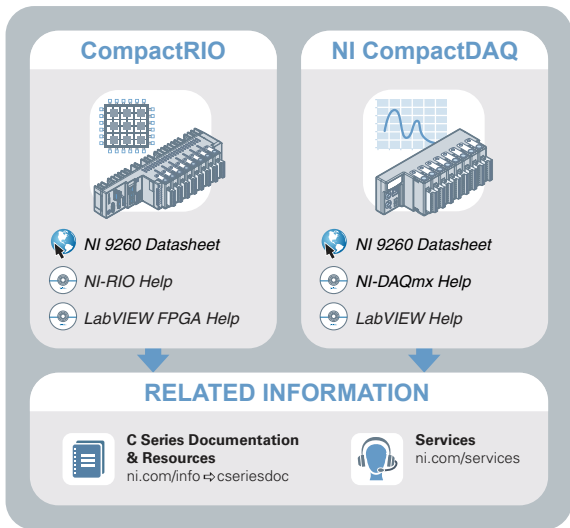
The NI 9260 provides overvoltage protection for each channel.




**Note** Refer to the device datasheet on [ni.com/manuals](https://ni.com/manuals) for more information about overvoltage protection.

# Where to Go Next

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 Located at [ni.com/manuals](http://ni.com/manuals)

 Installs with the software

## Worldwide Support and Services

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The NI website is your complete resource for technical support. At [ni.com/support](https://ni.com/support), you have access to everything from troubleshooting and application development self-help resources to email and phone assistance from NI Application Engineers.

Visit [ni.com/services](https://ni.com/services) for NI Factory Installation Services, repairs, extended warranty, and other services.

Visit [ni.com/register](https://ni.com/register) to register your NI product. Product registration facilitates technical support and ensures that you receive important information updates from NI.

A Declaration of Conformity (DoC) is our claim of compliance with the Council of the European Communities using the manufacturer's declaration of conformity. This system affords the user protection for electromagnetic compatibility (EMC) and product safety. You can obtain the DoC for your product by visiting [ni.com/certification](https://ni.com/certification). If your product supports calibration, you can obtain the calibration certificate for your product at [ni.com/calibration](https://ni.com/calibration).

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