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cDAQ-9179

NI cDAQ™-9179

14-Slot USB 3.0 CompactDAQ Chassis

This document includes compliance precautions and connection information for the NI cDAQ-9179.



Note The guidelines in this document are specific to the NI cDAQ-9179. The other components in the system might not meet the same ratings. Refer to the documentation for each component in the system to determine the safety and EMC guidelines for the entire system.

Safety Guidelines



Caution Do not operate the NI cDAQ-9179 in a manner not specified in this user manual. 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 National Instruments for repair.



Note Because some C Series modules may have more stringent certification standards than the NI cDAQ-9179, the combined system may be limited by individual component restrictions. Refer to the *NI cDAQ-9179 Specifications* for more details.



Caution The NI cDAQ-9179 is not certified for use in hazardous locations.



Hot Surface This icon denotes that the component may be hot. Touching this component may result in bodily injury.

Safety Guidelines for Hazardous Voltages

If hazardous voltages are connected to the module, take the following precautions. A hazardous voltage is a voltage greater than 42.4 V_{pk} 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 Make sure that chassis and circuits connected to the module are properly insulated from human contact.



Caution The NI cDAQ-9179 provides no isolation, but some modules offer isolation. Follow the safety guidelines for each module when using hazardous voltage.

Safety Voltages

Connect only voltages that are below these limits.

V terminal to C terminal	30 V max, Measurement Category I
Chassis ground to C terminal	30 V max, Measurement Category I

Measurement Category I is for measurements performed on circuits not directly connected to the electrical distribution system referred to as *MAINS* voltage. MAINS is a hazardous live electrical supply system that powers equipment. This category is for measurements of voltages from specially protected secondary circuits. Such voltage measurements include signal levels, special equipment, limited-energy parts of equipment, circuits powered by regulated low-voltage sources, and electronics.



Caution Do not connect the cDAQ-9179 to signals or use for measurements within Measurement Categories II, III, or IV.



Note Measurement Categories CAT I and CAT O are equivalent. These test and measurement circuits are not intended for direct connection to the MAINS building installations of Measurement Categories CAT II, CAT III, or CAT IV.

Power Requirements



Caution The protection provided by the NI cDAQ-9179 can be impaired if it is used in a manner not described in the user documentation.



Note Some C Series modules have additional power requirements. For more information about C Series module power requirements, refer to the C Series module(s) documentation.



Note Sleep mode for C Series modules is not supported in the NI cDAQ-9179.

Voltage input range	9 to 30 V (measured at the NI cDAQ-9179 power connector)
Maximum required input power ¹	25 W

¹ Includes maximum 1 W module load per slot across rated temperature and product variations.

Preparing the Environment

Ensure that the environment you are using the NI cDAQ-9179 in meets the following specifications.

Operating temperature	-20 °C to 55 °C (IEC-60068-2-1 and IEC-60068-2-2)
Pollution Degree (IEC 60664)	2
Maximum altitude	5,000 m

Indoor use only.



Note Refer to the *NI cDAQ-9179 Specifications* for complete specifications.

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.



Caution To ensure the specified EMC performance, operate this product only with shielded cables and accessories. Note that the input DC power cables may be unshielded.

Where to Go Next

The following documents contain information that you may find helpful as you use this document:

- *NI cDAQ-9179 User Manual*
- *NI cDAQ-9179 Specifications*

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