

# SAFETY, ENVIRONMENTAL, AND REGULATORY INFORMATION

## PXIe-1095DC

### 18-Slot 3U PXI Express Chassis

Read this document before you install, configure, operate, or maintain this product. Users are required to familiarize themselves with installation and wiring instructions in addition to requirements of all applicable codes, laws, and standards. Visit [ni.com/manuals](http://ni.com/manuals) for more information about your product, including specifications, pinouts, and instructions for connecting, installing, and configuring your system.

## Icons

Refer to the following descriptions if one of these icons is marked on your product or used in this guide.



**Notice** Take precautions to avoid data loss, loss of signal integrity, degradation of performance, or damage to the product.



**Caution** Take precautions to avoid injury. Consult the product documentation for cautionary statements when you see this icon printed on the product. Cautionary statements are localized into French for compliance with Canadian requirements.



**Caution: Possibility of Electric Shock** Take precautions to avoid electrical shock.



**Protective Conductor Terminal (PE)** Indicates a terminal that connects to accessible dead metal parts of the product. Connect the PE terminal(s) to an earth ground system (protective conductor) for safety.

## General Guidelines



**Note** Refer to the instrument-level documentation for information about the instruments installed in this product, including proper use, I/O connections and pinouts. All I/O must be connected per the ratings of the individual components included in the product.



**Note** The *Data Record System AD User Manual* contains guidelines and instructions for preparing the vehicle and setting up the product for the first time.



**Note** Only remove panels when qualified personnel perform maintenance and repair procedures.



**Note** Disconnect the product from its power source before performing maintenance and repair procedures.



**Note** Ensure that maintenance is performed only by qualified personnel. Verify that all equipment is in a safe state after maintenance, prior to returning the product to operation.



**Note** The safety of the product and any equipment integrated into the product is the responsibility of the integrator. Refer to the instrument-level documentation for cautions and safe use of integrated equipment.

## Safety Guidelines



**Caution** Observe all instructions and cautions in the user documentation. Using the product in a manner not specified can damage the product and compromise the built-in safety protection.



**Attention** Suivez toutes les instructions et respectez toutes les mises en garde de la documentation d'utilisation. L'utilisation du produit de toute autre façon que celle spécifiée risque de l'endommager et de compromettre la protection de sécurité intégrée.



**Warning** Risk of Electric Shock: For vehicular or mobile applications where there is no available external protective earthing system, all PXI(e) modules and any external connections to the chassis are restricted to 30 VAC, 42.4 V<sub>pk</sub>, or 60 VDC maximum.



**Mise en garde** Risque de choc électrique: pour les applications mobiles ou en véhicule, lorsqu'aucun système de mise à la terre externe n'est disponible, tous les modules PXI(e) et toutes les connexions externes au châssis sont limités à 30 V CA, 42,4 V pic ou 60 V CC maximum.



# Safety Compliance Standards

This product is designed to meet the requirements of the following electrical equipment safety standards for measurement, control, and laboratory use:

- IEC 61010-1, EN 61010-1
- UL 61010-1, CSA C22.2 No. 61010-1



**Note** For safety certifications, refer to the product label or the [Product Certifications and Declarations](#) section.

## EMC Guidelines

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

This product is intended for use in commercial and light-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 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 NI could void your authority to operate it under your local regulatory rules.

## EMC Notices



**Notice** For EMC declarations and certifications, and additional information, refer to the [Product Certifications and Declarations](#) section.



**Notice** Changes or modifications to the product not expressly approved by NI could void your authority to operate the product under your local regulatory rules.



**Notice** The performance of this product can be disrupted if subjected to Electrostatic Discharge (ESD) during operation. To prevent damage, industry-standard ESD prevention measures must be employed during installation, maintenance, and operation.



**Notice** Operate this product only with shielded cables and accessories.



**Notice** The length of all I/O cables must be no longer than 3 m (10 ft).



**Notice** Do not connect the power input to a DC mains supply or to any supply requiring a connecting cable longer than 30 m (100 ft). A DC mains supply is a local DC electricity supply network in the infrastructure of a site or building.

## EMC Standards

This product meets the requirements of the following EMC standards for electrical equipment for measurement, control, and laboratory use:

- EN 61326-1 (IEC 61326-1): Class A emissions; Basic immunity
- EN 55011 (CISPR 11): Group 1, Class A emissions
- AS/NZS CISPR 11: Group 1, Class A emissions



**Note** Group 1 equipment is any industrial, scientific, or medical equipment that does not intentionally generate radio frequency energy for the treatment of material or inspection/analysis purposes.



**Note** In Europe, Australia, and New Zealand (per CISPR 11) Class A equipment is intended for use in non-residential locations.

## Environmental Guidelines

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**Notice** Failure to follow the mounting instructions in the product documentation can cause temperature derating.



**Notice** This product is intended for use in indoor applications or mobile applications where only non-conductive pollution occurs or occasional temporary conductivity caused by condensation is expected.



**Notice** All cabling should be strain-relieved near input connectors. Take care not to directionally bias cable connectors within input connectors when applying strain relief. Refer to the [Data Record System AD User Manual](#) for information on how to strain relieve cabling.



**Notice** Cover all empty slots using filler panels.

# Environmental Characteristics

## Temperature

Operating	0 °C to 55 °C for ≤ 58 W module operation 0 °C to 40 °C for > 58 W module operation
Storage	-40 °C to 71 °C

## Humidity

Operating	10% to 90%, noncondensing
Storage	5% to 95%, noncondensing

Pollution Degree	2
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Maximum altitude	2,000 m
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# Ventilation Clearance and Cooling

## Cooling

Module	Forced air circulation (positive pressurization) through three 210 CFM fans
Secondary cooling	Forced air circulation (positive pressurization) through one 70 CFM fan
Power supply(s)	Forced air circulation through two integrated fans


## Minimum chassis cooling clearances

Top and sides	44.45 mm (1.75 in.)
Back	101.60 mm (4.00 in.)

# Environmental Standards


This product meets the requirements of the following environmental standards for electrical equipment.


- IEC 60068-2-1 Cold
- IEC 60068-2-2 Dry heat
- IEC 60068-2-78 Damp heat (steady state)


 **Note** To verify marine approval certification for a product, refer to the product label or visit [ni.com/certification](https://ni.com/certification) and search for the certificate.

# Power Requirements

## Power Guidelines

 **Caution** Multiple power sources. To completely remove power, disconnect all power cables from the product or disconnect the 9-30 VDC supply source(s) for the product at the main disconnect(s).

 **Attention** Plusieurs sources d'alimentation. Pour couper complètement l'alimentation, débrancher tous les câbles d'alimentation du produit ou déconnecter les sources d'alimentation 9-30 V CC pour le produit au niveau des disjoncteurs principaux.

 **Notice** This product is for use only with the Data Record System AD 500W DC Power Supply (NI part number 861354-01).

## Power Specifications

Input voltage rating (per power supply) <sup>1</sup>	9 V at 68 A 30 V at 19 A
Operating voltage range	9 VDC to 30 VDC
Maximum power consumption	
Single power supply	
PXI backplane power	12 V at 15 A 5 V <sub>aux</sub> at 4.2 A 5 V at 21.5 A 3.3 V at 60 A -12 V at 1.3 A
Total available output power	200 W

<sup>1</sup> Do not exceed the current rating of the branch circuit providing power to the chassis.


Dual power supply	
PXI backplane power	12 V at 55 A 5 V <sub>aux</sub> at 4.2 A 5 V at 21.5 A 3.3 V at 60 A -12 V at 1.3 A
Total available output power	680 W
Maximum power consumption per PXI slot	58 W at 55 °C, 82 W at 40 °C
Main power disconnect	The installation must contain a suitable switch or circuit breaker for power disconnect. It must be suitably located and easily reached, and marked as the disconnect device for the equipment.
Required power cord(s)	2.5 mm <sup>2</sup> to 16 mm <sup>2</sup> (14 AWG to 6 AWG) conductors Select the proper conductor size based on power source and cable routing. Ensure conductor insulation and cable construction are sufficient for the application and adhere to applicable electrical codes. Ensure none of the conductor is exposed.

## Physical Characteristics

### Dimensions and Weight

Dimensions	
Width	445.5 mm (17.54 in.)
Depth	463.6 mm (18.25 in.)
Height	177.1 mm (6.97 in.)
Weight (empty chassis with two power supplies installed)	16.4 kg (36.2 lbs)

### DC Power Supply Field Wiring Specifications


 **Notice** Use only copper wire. For use in class 1 circuits only.


 **Note** Refer to the *Data Record System AD User Manual* for the power supply connection requirements.

Gauge	2.5 mm <sup>2</sup> to 16 mm <sup>2</sup> (14 AWG to 6 AWG) conductor
Wire strip length	12 mm
Temperature rating	60 °C minimum
Wires per terminal	1
Torque for screw terminals	1.7 to 1.8 N · m (15 to 15.9 lb · in.)
Single ferrule	
Barrel length	12 mm (0.47 in.)
Maximum cross section of conductor plus ferrule	16 mm <sup>2</sup> (6 AWG)
Recommended crimping tool	Crimpfox 16 S crimping tool
Connector securement	
Securement type	Screw locking
Torque for screw flanges	0.3 N · m (2.7 lb · in.)

## Protective Earthing

When using the product with hazardous voltage PXIe modules or I/O (>30 VAC, 42.4 V<sub>pk</sub>, 60 VDC), connect the product to the protective earth terminal before connecting to DC power.

 **Notice** The facility installation shall provide a means for connection to protective earth, and qualified personnel shall install a protective earthing conductor from the protective earthing terminal on the product to the protective earth wire in the facility.

 **Notice** Use only copper wire to connect the protective earthing terminal of your product to the protective earth wire in the facility.

### Protective Earth Terminal Wiring

Grounding wire gauge	2.1 mm <sup>2</sup> (14 AWG)
Ring lug	# 8
Protective earth terminal torque	1.13 N · m (10 lb · in.)

## Export Compliance

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This product is subject to control under the U.S. Export Administration Regulations (15 CFR Part 730 et. seq.) administered by the U.S. Department of Commerce's Bureau of Industry and Security (BIS) ([www.bis.doc.gov](http://www.bis.doc.gov)) and other applicable U.S. export control laws and sanctions regulations. This product may also be subject to additional license requirements of other countries' regulations.

Additionally, this product may also require export licensing before being returned to NI. The issuance of a Return Material Authorization (RMA) by NI does not constitute export authorization. The user must comply with all applicable export laws prior to exporting or re-exporting this product. See [ni.com/legal/export-compliance](http://ni.com/legal/export-compliance) for more information and to request relevant import classification codes (e.g. HTS), export classification codes (e.g. ECCN), and other import/export data.


## Environmental Management

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NI is committed to designing and manufacturing products in an environmentally responsible manner. NI recognizes that eliminating certain hazardous substances from our products is beneficial to the environment and to NI customers.

For additional environmental information, refer to the *Commitment to the Environment* web page at [ni.com/environment](http://ni.com/environment). This page contains the environmental regulations and directives with which NI complies, as well as other environmental information not included in this document.

## Waste Electrical and Electronic Equipment (WEEE)

 **EU Customers** At the end of the product life cycle, all NI products must be disposed of according to local laws and regulations. For more information about how to recycle NI products in your region, visit [ni.com/environment/weee](http://ni.com/environment/weee).

## 电子信息产品污染控制管理办法（中国 RoHS）



NI 符合中国电子信息产品中限制使用某些有害物质指令 (RoHS)。关于 NI 中国 RoHS 合规性信息，请登录 [ni.com/environment/rohs\\_china](http://ni.com/environment/rohs_china)。(For information about China RoHS compliance, go to [ni.com/environment/rohs\\_china](http://ni.com/environment/rohs_china).)

## Product Certifications and Declarations

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Refer to the product Declaration of Conformity (DoC) for additional regulatory compliance information. To obtain product certifications and the DoC for NI products, visit [ni.com/product-certifications](http://ni.com/product-certifications), search by model number, and click the appropriate link.

## NI Services

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Visit [ni.com/support](http://ni.com/support) to find support resources including documentation, downloads, and troubleshooting and application development self-help such as tutorials and examples.

Visit [ni.com/services](http://ni.com/services) to learn about NI service offerings such as calibration options, repair, and replacement.

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

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