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cRIO-9803

SAFETY, ENVIRONMENTAL, AND REGULATORY INFORMATION

cRIO-9803

SSD Expansion Module for CompactRIO

Read this document and the documents listed in the additional resources section about installation, configuration, and operation of this equipment 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.

Icons



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



Caution—Take precautions to avoid injury. Consult the model documentation for cautionary statements when you see this icon printed on the model. Cautionary statements are localized into French for C-UL certification.



ESD Sensitive—Take precautions to avoid damaging the model with electrostatic discharge.

Safety




Caution Observe all instructions and cautions in the user documentation. Using the model in a manner not specified can damage the model and compromise the built-in safety protection. Return damaged models to NI for repair.



Attention Suivez toutes les instructions et respectez toutes les mises en garde de la documentation utilisateur. L'utilisation d'un modèle de toute autre façon que celle spécifiée risque de l'endommager et de compromettre la protection de sécurité intégrée. Renvoyez les modèles endommagés à NI pour réparation.

Safety Guidelines for Hazardous Locations

Follow these guidelines if you are installing the device in a potentially explosive environment. The device has been evaluated as compliant with the ATEX directive and is IECEx certified. Each device is marked  II 3G and is suitable for use in Zone 2 hazardous locations, in ambient temperatures of $-40^{\circ}\text{C} \leq T_a \leq 70^{\circ}\text{C}$. The device is suitable for use in non-hazardous locations and the following hazardous locations.

U.S. (UL)	Class I, Division 2, Groups A, B, C, D, T4; Class I, Zone 2, AEx nA IIC T4 Gc
Canada (C-UL)	Class I, Division 2, Groups A, B, C, D, T4; Ex nA IIC T4 Gc
Europe (ATEX) and International (IECEx)	Ex nA IIC T4 Gc; DEMKO 12 ATEX 1202658X; IECEx UL 14.0089X

Safety Compliance and Hazardous Locations Standards

This device 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
- EN 60079-0:2012, EN 60079-15:2010
- IEC 60079-0: Ed 6, IEC 60079-15; Ed 4
- UL 60079-0; Ed 6, UL 60079-15; Ed 4
- CSA C22.2 No. 60079-0, CSA C22.2 No. 60079-15



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





EMC 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.

EMC Notices

-  **Notice** Operate this product only with shielded cables and accessories. Do not use unshielded cables or accessories unless they are installed in a shielded enclosure with properly designed and shielded input/output ports and connected to the product using a shielded cable. If unshielded cables or accessories are not properly installed and shielded, the EMC specifications for the product are no longer guaranteed.
-  **Notice** Product installation requires either special considerations or user-installed, add-on devices. See the product installation instructions for further information.
-  **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** This product may become more sensitive to electromagnetic disturbances in the operational environment when test leads are attached or when connected to a test object.

Special Conditions for Marine Applications


Some products are approved for marine (shipboard) applications. To verify marine approval certification for a product, visit ni.com/certification and search for the certificate.


-  **Notice** 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.


Electromagnetic Compatibility

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; Industrial immunity
- EN 55011 (CISPR 11): Group 1, Class A emissions
- EN 55022 (CISPR 22): Class A emissions
- EN 55024 (CISPR 24): Immunity
- AS/NZS CISPR 11: Group 1, Class A emissions
- AS/NZS CISPR 22: Class A emissions
- FCC 47 CFR Part 15B: Class A emissions
- ICES-001: Class A emissions





 **Note** Group 1 equipment (per CISPR 11) 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 the United States (per FCC 47 CFR), Class A equipment is intended for use in commercial, light-industrial, and heavy-industrial locations. In Europe, Canada, Australia and New Zealand (per CISPR 11) Class A equipment is intended for use only in heavy-industrial locations.

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

Environmental Guidelines

Follow these guidelines to meet the environmental specifications defined in this document.

-  **Notice** This model is intended for use in indoor applications only.
-  **Notice** Mount the system directly on a flat, rigid surface, as described in the user manual.
-  **Notice** Use retention accessories for the USB type-C port.
-  **Notice** All cabling should be strain-relieved near input connectors. Take care to not directionally bias cable connectors within input connectors when applying strain relief.

Environmental Characteristics

Temperature and Humidity

Temperature¹

Operating	-40 °C to 70 °C
Storage	-40 °C to 85 °C

¹ Drive utilization at extreme temperatures may limit storage duration over time. NI recommends the use of SLC based drives for operating and storage environments above 40 °C. Visit ni.com/info and enter the Info Code `sdcemp` for more information about the impact of temperature on drive endurance.

Humidity	
Operating	10% RH to 90% RH, noncondensing
Storage	5% RH to 95% RH, noncondensing
Ingress protection	IP40
Pollution Degree	2
Maximum altitude	5,000 m

Shock and Vibration

Operating vibration	
Random	5 g _{rms} , 10 Hz to 500 Hz
Sinusoidal	5 g, 10 Hz to 500 Hz
Operating shock	30 g, 11 ms half sine; 50 g, 3 ms half sine; 18 shocks at 6 orientations

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 60068-2-30 Damp heat cyclic (12 + 12h cycle)
- IEC 60068-2-64 Random operating vibration
- IEC 60068-2-6 Sinusoidal operating vibration
- IEC 60068-2-27 Operating shock



Note To verify marine approval certification for a product, refer to the product label or visit ni.com/certification and search for the certificate.

Power Requirements

Maximum power consumption	4.5 W (900 mA @ 5 V)
Power source	USB bus-powered

Physical Characteristics

Weight (unloaded)	370 g (13 oz)
Dimensions	30.0 mm × 88.1 mm × 106.9 mm (1.18 in. × 3.47 in. × 4.21 in.)

Maintenance

If you need to clean the cRIO-9803, wipe it with a dry towel.

CE Compliance

This product meets the essential requirements of applicable European Directives, as follows:

- 2014/35/EU; Low-Voltage Directive (safety)
- 2014/30/EU; Electromagnetic Compatibility Directive (EMC)
- 2011/65/EU; Restriction of Hazardous Substances (RoHS)
- 2014/34/EU; Potentially Explosive Atmospheres (ATEX)

Export Compliance

This model 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) and other applicable U.S. export control laws and sanctions regulations. This model may also be subject to additional license requirements of other countries' regulations.

Additionally, this model 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 model. See 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.

Product Certifications and Declarations

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/certification, search by model number or product line, and click the appropriate link in the Certification column.

Additional Resources

Visit ni.com/manuals for more information about your device, including specifications, pinouts, and instructions for connecting, installing, and configuring your system.

Worldwide Support and Services

The NI website is your complete resource for technical support. At 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 for information about the services NI offers.

Visit 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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