

SAFETY, ENVIRONMENTAL, AND REGULATORY INFORMATION


SLSC-12252


8-Channel, 30 A Fault Insertion Module


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 for more information about your product, including specifications, pinouts, and instructions for connecting, installing, and configuring your system.

Icons


You will see safety symbols throughout this document and on your SLSC-12252.


 **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.

 **Shock Warning** Take precautions to avoid electrical shock.

Safety

 **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. Return damaged products to NI for repair.

 **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. Renvoyez les produits endommagés à NI pour réparation.

Safety Voltages


Connect only voltages that are below these limits.


Channel-to-channel isolation

Continuous working voltage ¹	100 V peak
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Channel-to-earth isolation

Continuous working voltage	100 V peak
Transient overvoltage ²	920 V peak

 **Caution** If you are using the SLSC-12252 with voltages greater than 60 V_{dc}, the SLSC chassis must be made touch safe by panel mounting it in a closed rack to prevent user access to the rear of the device.

 **Attention** Si vous utilisez le SLSC-12252 avec des tensions supérieures à 60 V_{dc}, le châssis SLSC doit être sécurisé contre les contacts. Pour cela, il est nécessaire de le monter sur panneau dans un rack fermé pour empêcher l'utilisateur d'accéder à l'arrière de l'appareil.

These test and measurement circuits are rated for measurements performed on circuits not directly connected to the electrical distribution system referred to as MAINS.

MAINS is a hazardous live electrical supply system to which equipment is designed to be connected to for the purpose of powering equipment. This product is rated 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.

¹ Working voltage rating is the highest RMS value of the AC or DC voltage across the insulation that can continuously occur when the equipment is supplied at rated voltage.











² The short duration overvoltage of a few milliseconds or less, oscillatory or non-oscillatory, usually highly damped.

Current Ratings

Maximum continuous current

Each channel	30 A _{rms}
Sum of all channels	60 A _{rms}
Each BusA, BusB	60 A _{rms}
Maximum channel pulsed current (<1 ms, 25 °C)	200 A _{peak}


Safety Guidelines for Hazardous Voltages

-  **Caution** Ensure that hazardous voltage wiring is performed only by qualified personnel adhering to local electrical standards.
-  **Attention** S'assurer que le câblage à tension dangereuse est effectué par du personnel qualifié respectant les normes électriques locales.
-  **Caution** Do not mix hazardous voltage circuits and human-accessible circuits on the same module.
-  **Attention** Ne pas combiner des circuits de tension dangereuse et des circuits accessibles aux personnes sur le même module.
-  **Caution** When device terminals are hazardous voltage LIVE, you must ensure that devices and circuits connected to the device are properly insulated from human contact.
-  **Attention** Lorsqu'une haute tension dangereuse est appliquée aux bornes de l'appareil, s'assurer que les appareils et les circuits auxquels il est connecté sont correctement isolés de tout contact humain.
-  **Caution** All wiring must be insulated for the highest voltage used.
-  **Attention** Tout le câblage doit être isolé pour la plus haute tension utilisée.
-  **Warning** Do not connect the SLSC-12252 to signals or use for measurements within Measurement Categories II, III, or IV, or for measurements on MAINS circuits or on circuits derived from Overvoltage Category II, III, or IV which may have transient overvoltages above what the product can withstand. The product must not be connected to circuits that have a maximum voltage above the continuous working voltage, relative to earth or to other channels, or this could damage and defeat the insulation. The product can only withstand transients up to the transient overvoltage rating without breakdown or damage to the insulation. An analysis of the working voltages, loop impedances, temporary overvoltages, and transient overvoltages in the system must be conducted prior to making measurements.
-  **Mise en garde** Ne connectez pas le SLSC-12252 à des signaux dans les catégories de mesure II, III ou IV et ne l'utilisez pas pour des mesures dans ces catégories, ou des mesures sur secteur ou sur des circuits dérivés de surtensions de catégorie II, III ou IV pouvant présenter des surtensions transitoires supérieures à ce que le produit peut supporter. Le produit ne doit pas être raccordé à des circuits ayant une tension maximale supérieure à la tension de fonctionnement continu, par rapport à la terre ou à d'autres voies, sous risque d'endommager et de compromettre l'isolation. Le produit risque de tomber en panne et son isolation risque d'être endommagée si les tensions transitoires dépassent la surtension transitoire nominale. Une analyse des tensions de fonctionnement, des impédances de boucle, des surtensions temporaires et des surtensions transitoires dans le système doit être effectuée avant de procéder à des mesures.

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 UL and other safety certifications, refer to the product 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) 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


Refer to the following notices for cables, accessories, and prevention measures necessary to ensure the specified EMC performance.


-  **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** The SLSC chassis must also be connected to earth ground.

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

Power Requirements

Power consumption from backplane	21 W
Thermal dissipation	< 50 W

Physical Characteristics

SLSC slots	1
Dimensions	175 mm × 31 mm × 336 mm (6.89 in. × 1.19 in. × 13.21 in.)
Weight	1,010 g (35.6 oz)
Front I/O connectors	
DUT	1x male 8-pin Positronic Scorpion
LOAD	1x female 8-pin Positronic Scorpion
Rear I/O connectors to the RTI-12306	1x 40-pin Hard Metric type B8, 2x Radsok Socket 3 mm ST

Calibration

Recommended warm-up time	1 hour
Calibration interval	2 years

Environmental Characteristics

Temperature and Humidity	
Operating temperature	0 °C to 40 °C ³
Storage temperature range	-40 °C to 85 °C
Operating relative humidity range	10% to 90%, noncondensing
Storage relative humidity range	5% to 95%, noncondensing
Pollution Degree	2
Maximum altitude	2,000 m (800 mbar) (at 25 °C ambient)

³ The chassis internal ambient temperature may reach 85 °C with all slots at the maximum allowed power dissipation. In the SLSC-12001 chassis this corresponds to an external ambient of 40° C.

Shock and Vibration

Operating shock	30 g peak, half-sine, 11 ms pulse
Operating vibration, random	5 Hz to 500 Hz, 0.3 g _{rms}
Non-operating vibration, random	5 Hz to 500 Hz, 2.4 g _{rms}

Environmental Guidelines



Notice This model is intended for use in indoor applications only.



Notice To meet the shock and vibration specifications in this document, you must panel mount the system.

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)
- IEC 60068-2-64 Random operating vibration
- IEC 60068-2-27 Operating shock



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

Environmental Management

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. 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.

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。(For information about China RoHS compliance, go to ni.com/environment/rohs_china.)

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)

Export Compliance

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) 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 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/product-certifications, search by model number, and click the appropriate link.

Additional Resources

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

NI Services

Visit 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 to learn about NI service offerings such as calibration options, repair, and replacement.

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

NI corporate headquarters is located at 11500 N Mopac Expwy, Austin, TX, 78759-3504, USA.

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