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**USB-6346**

## SAFETY, ENVIRONMENTAL, AND REGULATORY INFORMATION

### USB-6346

500 kS/s/ch, 8 Simultaneous AI, 24 DIO, 2 AO Multifunction I/O Device

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

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**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.



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

## Safety

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**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.

## Maximum Working Voltage

*Maximum working voltage* refers to the signal voltage plus the common-mode voltage.

Channel to earth

11 V, Measurement Category I

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**Caution** Do not connect the USB-6346 to signals or use for measurements within Measurement Categories II, III, or IV.



**Attention** Ne connectez pas le USB-6346 à des signaux et ne l'utilisez pas pour effectuer des mesures dans les catégories de mesure II, III ou IV.

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.



**Note** Measurement Categories CAT I and CAT 0 are equivalent. These test and measurement circuits are for other circuits not intended for direct connection to the *MAINS* building installations of Measurement Categories CAT II, CAT III, or CAT IV.

## 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

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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 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** 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.


## 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
- 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

 **Notice** 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.

 **Notice** 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

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

## Environmental Characteristics

Temperature	
Operating	0 °C to 45 °C
Storage	-40 °C to 70 °C
Humidity	
Operating	10% to 90% RH, noncondensing
Storage	5% to 95% RH, noncondensing
Pollution Degree	2
Maximum altitude	2,000 m (800 mbar) (at 25 °C ambient temperature)

## 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 *Minimize Our Environmental Impact* web page at [ni.com/environment](https://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](https://ni.com/environment/weee).


## 电子信息产品污染控制管理办法（中国 RoHS）

 **中国客户** National Instruments 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 National Instruments 中国 RoHS 合规性信息，请登录 [ni.com/environment/rohs\\_china](https://ni.com/environment/rohs_china)。(For information about China RoHS compliance, go to [ni.com/environment/rohs\\_china](https://ni.com/environment/rohs_china).)


## 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


 **Caution** The protection provided by the USB-6346 can be impaired if it is used in a manner not described in the user documentation.

 **Attention** La protection apportée par le USB-6346 risque d'être endommagée s'il est utilisé d'une autre façon que celle décrite dans la documentation utilisateur.

Power supply requirements 11 V DC to 30 V DC, 30 W, 2 positions 3.5 mm pitch pluggable screw terminal with screw locks similar to Phoenix Contact MC 1,5/2-STF-3,5 BK

Power input mating connector Phoenix Contact MC 1,5/2-GF-3,5 BK or equivalent

 **Caution** The USB-6346 must be powered with an AC adapter offered by NI or a National Electric Code (NEC) Class 2 DC source that meets the power requirements for the device and has appropriate safety certification marks for country of use.

 **Attention** Le USB-6346 doit être alimenté par un adaptateur secteur proposé par NI ou une source de courant continu de classe 2, selon la norme NEC (National Electric Code), qui répond aux exigences d'alimentation de l'appareil et possède les marques de certification de sécurité appropriées pour le pays d'utilisation.

## Physical Characteristics

### Screw terminal

Enclosure dimensions (includes connectors)	26.4 cm × 17.3 cm × 3.6 cm (10.39 in. × 6.81 in. × 1.42 in.)
Weight	1.45 kg (3 lb 3 oz)
I/O connectors	64 screw terminals

### BNC

Enclosure dimensions (includes connectors)	20.3 cm × 18.5 cm × 6.8 cm (7.99 in. × 7.28 in. × 2.68 in.)
Weight	1.80 kg (4 lb 0 oz)
I/O connectors	20 BNC terminals 30 screw terminals

Screw terminal wire gauge 0.2 mm<sup>2</sup> to 1.3 mm<sup>2</sup> (24 AWG to 16 AWG)

## Maintenance

Clean the hardware with a soft, nonmetallic brush. Make sure that the hardware is completely dry and free from contaminants before returning it to service.

## Calibration

Recommended warm-up time	15 minutes
Calibration interval	1 year

## CE Compliance

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

- 2014/30/EU; Electromagnetic Compatibility Directive (EMC)
- 2011/65/EU; Restriction of Hazardous Substances (RoHS)

## 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](https://ni.com/product-certifications), search by model number, and click the appropriate link.

## Additional Resources

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Visit [ni.com/manuals](https://ni.com/manuals) for more information about your model, including specifications, pinouts, and instructions for connecting, installing, and configuring your system.

## 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 information about the services NI offers.

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.

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