

# SAFETY, ENVIRONMENTAL, AND REGULATORY INFORMATION

## MCC 128

### 8 Ch 16-Bit Voltage Measurement HAT Device



**Note** The guidelines in this document are specific to the MCC 128.

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 device.



**Caution** Take precautions to avoid injury. Consult the device documentation for cautionary statements when you see this icon printed on the device.

## Safety Guidelines

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



**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 Voltages

Connect only voltages that are within these limits.

CHx to AGND terminal .....±30 V maximum power on, ±20 V maximum power off



**Caution** Do *not* connect the MCC 128 to signals or use for measurements within Measurement Categories II, III, or IV.



**Caution** Ne connectez pas le MCC 118 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 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.

## Electrical

Input ranges .....±10 V, ±5 V, ±2 V, ±1 V

## Safety Compliance Standards

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

- EN 61010-1 (IEC61010-1)
- 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.

# Electromagnetic and Radio Equipment Compatibility Guidelines





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

This device is intended for use in commercial and 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 modifications to the device not expressly approved by Measurement Computing 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 Declaration of Conformity (DoC) on our website at [mccdaq.com/Calibration-Certificates](http://mccdaq.com/Calibration-Certificates).
-  **Notice** Changes or modifications to the device not expressly approved by MCC could void your authority to operate the device 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** A ferrite bead must be added to all shielded cables (installed over the signal, clock, and trigger lines) in order to meet the stated EMC specifications.


## 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

## Environmental Guidelines

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-  **Notice** This device is not intended for use in outdoor or hazardous locations.

## Environmental Characteristics

Temperature

Operating .....0 °C to 55 °C  
Storage .....-40 °C to 85 °C

Humidity .....0% to 90%, noncondensing

Pollution Degree .....2


Maximum Altitude .....2,000 m

Indoor use only.

## Environmental Management

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

## Waste Electrical and Electronic Equipment (WEEE)

-  **EU Customers** At the end of the device life cycle, all MCC devices must be disposed of according to local laws and regulations.

电子信息产品污染控制管理办法（中国 RoHS）



中国客户 Measurement Computing 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 Measurement Computing 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))

## Power Requirements

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The MCC 128 is powered by the Raspberry Pi.

Supply current, 3.3 V supply:

Typical .....85 mA  
Maximum .....135 mA

## Physical Characteristics

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Dimensions (L × W × H) .....65 × 56.5 × 12 mm (2.56 × 2.22 × 0.47 in.)  
Weight .....22.7 g (0.80 oz)

## Export Compliance

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This device 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 controls laws and sanctions regulations. This device may also be subject to additional license requirements of other countries' regulations.

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

## Product Certifications and Declarations

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Hereby, Measurement Computing declares that the MCC 128 is in compliance with the essential requirements and other relevant provisions of Directive 2014/30/EU. Refer to the product Declaration of Conformity (DoC) on our website at [mccdaq.com/Calibration-Certificates](http://mccdaq.com/Calibration-Certificates) for additional regulatory compliance information.

## Additional Resources

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Refer to [mccdaq.github.io/daqhats/index.html](http://mccdaq.github.io/daqhats/index.html) for more information about your device, including specifications, signal pinouts, and instructions for connecting, installing, and configuring your device.

## Worldwide Support and Services

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The MCC website is your complete resource for technical support. At [mccdaq.com/support](http://mccdaq.com/support), you have access from application development self-help resources to email and phone assistance from MCC Application Engineers.

Measurement Computing corporate headquarters is located at 10 Commerce Way, Norton, Massachusetts, 508-946-5100. Measurement Computing also has offices located in China and Germany. For support in the United States, submit a Tech Support Form at [mccdaq.com/support/support\\_form](http://mccdaq.com/support/support_form) or dial 1 508 946 5100. For international customers, visit the International Distributors section of [mccdaq.com/international](http://mccdaq.com/international) for your local distributor contact information.

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