

# SAFETY, ENVIRONMENTAL, AND REGULATORY INFORMATION

## MON-10496

### Wireless Monitoring Gateway

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

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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 compliance with Canadian requirements.



**Shock 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.



**Caution** The protection provided by the MON-10496 can be impaired if it is used in a manner not described in the user documentation.



**Attention** La protection apportée par le MON-10496 risque d'être endommagée s'il est utilisé d'une autre façon que celle décrite dans la documentation utilisateur.



**Caution** An external circuit breaker box must be installed according to applicable electrical codes by trained personnel to serve as the power disconnect when installing the MON-10496. The circuit breaker box must be easy to reach and marked as the power disconnect for the device.



**Attention** Un boîtier de disjoncteur externe doit être installé, conformément au code électrique applicable, par du personnel qualifié pour servir de dispositif de coupure de courant lors de l'installation du MON-10496. Le boîtier du disjoncteur doit être facilement accessible et marqué en tant que dispositif de coupure de courant pour l'appareil.



**Caution** Before opening the MON-10496 for service, you must turn off the external power to the device and use the external breaker box to completely remove mains power.



**Attention** Avant d'ouvrir le MON-10496 pour l'entretien, vous devez couper l'alimentation externe de l'appareil et utiliser le boîtier de disjoncteur externe pour supprimer complètement l'alimentation secteur.



**Caution** All wiring must be insulated for the highest voltage used.



**Attention** Tout le câblage doit être isolé pour la plus haute tension utilisée.



**Caution** Conduit or gland fittings must be installed by trained personnel according to applicable electrical standards and the torque specified by the manufacturer.



**Attention** Les raccords de conduits ou presse-étoupe doivent être installés par du personnel qualifié conformément aux normes électriques applicables et au couple spécifié par le fabricant.



**Caution** Ensure that hazardous voltage wiring is performed only by qualified personnel adhering to local electrical standards.



**Attention** Les raccords de conduits ou presse-étoupe doivent être installés par du personnel qualifié conformément aux normes électriques applicables et au couple spécifié par le fabricant.



# 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.

# Electromagnetic and Radio Equipment Compatibility Guidelines

This product was designed to support an efficient use of the radio spectrum to avoid harmful interference. 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 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** 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.

## Electromagnetic Compatibility Standards

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

- FCC 47 CFR Part 15B: Class A emissions
- ICES-003: Class A emissions



**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.

## Radio Equipment Compatibility Standards

This product meets the requirements of the following Radio Equipment standards:

- FCC 47 CFR Part 15C: Intentional Radiators
- RSS-247: DTSs, FHSs, and LE-LAN

This radio equipment is for use in accordance with the following parameters:

|                       |   |
|-----------------------|---|
| Antenna               | 2.4 GHz, 1.5 dBi, 50 Ω RP-SMA Antenna (part number 148977-01) |
| Software              | NI InsightCM™ 3.5 or later                                    |
| Frequency band(s)     | 2.400 GHz to 2.4835 GHz                                       |
| Radio frequency power | 20 dBm  |

## Environmental Guidelines



**Notice** This device is intended for use in both indoor and outdoor applications. If your application is outdoors (non-weather-protected according to IEC 60721-3-4), or if the device might be directly exposed to an outdoor climate (partially weather-protected according to IEC 60721-3-3, 3K4 or greater), you must use a desiccant pack from the desiccant kit (part number 787006-10) to meet the humidity specifications below. Refer to your device's manual on [ni.com/manuals](#) for more information on using the accessory kit.



**Notice** NI recommends using a properly rated and approved sealing component or sealing agent on the MON-10496 power supply and terminal block ground and AC line terminals when using the device in an environment with high humidity or rapid temperature transitions to prevent oxidation or corrosion on the ground terminals and insulation breakdown between terminals.



**Notice** Follow the mounting instructions according to the device manual on [ni.com/manuals](#).



**Notice** Use the glands provided by NI or other strain reliefs rated for Type 3 or greater enclosures to strain relief all cables near the input connectors. Take care not to directionally bias cable connectors within input connectors when applying strain relief.

# Environmental Characteristics

## Temperature and Humidity

| Temperature  |   |
|--|---|
| Operating  | -40 °C to 70 °C   |
| Storage  | -40 °C to 85 °C   |
| Humidity   |   |
| Operating (with desiccant kit, part number 787006-10)    | Up to 100% relative humidity, condensing or noncondensing, when glands are properly installed |
| Operating (without desiccant kit, part number 787006-10) | 10% RH to 90% RH, noncondensing   |
| Storage  | 5% RH to 95% RH, noncondensing  |
| Ingress protection                                       | IP54 or Type 3  |
| Pollution Degree   | 4   |
| Maximum altitude   | 2,000 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 60068-2-78 Damp heat, steady state
- IEC 60068-2-64 Random operating vibration
- IEC 60068-2-6 Sinusoidal operating vibration
- IEC 60068-2-27 Operating shock
- IEC 60068-2-14 Change of 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 *Commitment to the Environment* 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.

# Battery Replacement and Disposal

 **Note** The following information applies to the internal sbRIO-9607.

This device contains a long-life coin cell battery for the RTC. If you need to replace the battery or return the device to NI, use the Return Material Authorization (RMA) process or contact an authorized NI service representative. Go to [ni.com/r/10496battery](https://ni.com/r/10496battery) for more information about replacing the battery. If you return the device to NI, you shall also be responsible for using sufficient protective packaging in accordance with all applicable laws and transportation requirements. Visit [ni.com/contact](https://ni.com/contact) or call (866) 275-6964 for more information on the RMA process.

# Field Wiring Guidelines

Adhere to the following guidelines when wiring the MON-10496.

- Only use copper wire.
- Only use wiring that is properly rated for voltage and temperature as needed for your application.
- Disconnect the external power to the device and use the external circuit breaker box to completely remove mains power before opening the device for service.
- Ensure that the MON-10496 is not connected to facility power source before connecting the power input.
- Ensure that the protective earth wire has more slack than the power wires so that the grounding terminal always disconnects last and is connected to the green/yellow terminal.

# Field Wiring Specifications

## Power Wiring

|                                      |  |
|--------------------------------------|--|
| Minimum cable voltage rating         | 240 V AC   |
| Minimum insulator temperature rating | 90 °C  |
| PG16 gland (supplied by NI)          |  |
| Cable diameter range                 | 5 mm to 9 mm   |
| Backing nut torque                   | 5 N · m (44.2 in. · lb)  |
| Strain relief dome torque            | 3.33 N · m (29.5 in. · lb)                                     |
| Impact protection at -40 °C to 70 °C | IK08   |
| Joules rating at -40 °C to 70 °C     | 5  |
| Terminal connection type             | Spring cage  |
| Conductor wire size                  | 0.08 mm <sup>2</sup> to 2.5 mm <sup>2</sup> (28 AWG to 14 AWG) |
| Stripping length                     | 10 mm  |


## Ethernet Wiring


|                                    |                              |
|------------------------------------|------------------------------|
| M16 gland (supplied by NI)         |                              |
| Gray grommet cable diameter range  | 2 mm to 6 mm                 |
| Black grommet cable diameter range | 4 mm to 8 mm                 |
| Body threading torque              | 3.16 N · m (28 in. · lb)     |
| Backing nut torque                 | 2.5 N · m (22.1 in. · lb)    |
| Strain relief dome torque          | 2.5 N · m (22.1 in. · lb)    |
| Impact protection                  |                              |
| At -40 °C                          | IK07 <sup>1</sup>            |
| At 70 °C                           | IK08                         |
| Joules rating                      |                              |
| At -40 °C                          | 2                            |
| At 70 °C                           | 5                            |
| Terminal connection type           | 8P8C modular jack receptacle |

# Regulatory Information

## United States

### FCC Radiation Exposure Statement

 **Caution** The radiated output power of this product is below the FCC radio frequency exposure limits. Nevertheless, this product should be used in such a manner that the potential for human contact during normal operation is minimized. This product has been evaluated for and shown compliant with the FCC RF Exposure limits under mobile exposure conditions (antennas are greater than 20 cm from a person's body). This product has also been evaluated for and shown compliant with the FCC RF exposure limits under portable exposure conditions (antennas are within 20 cm of a person's body) when installed in certain specific configurations. Details of the authorized configurations can be found at <https://fjallfoss.fcc.gov/oetcf/eas/reports/GenericSearch.cfm> by entering the FCC ID number on the product.

 **Attention** La puissance de sortie rayonnée de ce produit est inférieure aux limites d'exposition aux fréquences radio de la FCC. Néanmoins, ce produit doit être utilisé de manière à minimiser la possibilité de contact humain pendant son fonctionnement normal. Après évaluation, ce produit s'avère conforme aux limites d'exposition RF de la FCC dans des conditions d'exposition aux appareils mobiles (antennes à plus de 20 cm du corps humain). Après évaluation, ce produit s'avère également conforme aux limites d'exposition RF de la FCC dans des conditions d'exposition aux appareils portables (antennes à moins de 20 cm du corps humain) lorsqu'il est installé dans certaines configurations spécifiques. Saisissez le numéro d'identification FCC du produit sur <https://fjallfoss.fcc.gov/oetcf/eas/reports/GenericSearch.cfm> pour obtenir des détails sur les configurations autorisées.

## Canada

### Radio Frequency (RF) Exposure Information

The radiated output power of this product is below the Innovation, Science and Economic Development Canada (ISED) radio frequency exposure limits. This product has been evaluated for and shown compliant with the IC Radio Frequency (RF) Exposure limits. The product should be used in such a manner such that the potential for human contact during normal operation is minimized.

<sup>1</sup> The M16 gland is rated for an impact energy level of IK07 (2J) when tested with a direct vertical impact per IEC 61010-1, 3rd edition, Table 15 and Clause 8.2. The gland should be guarded against impacts exceeding 2J and only accessed for occasional operations such as installation, adjustment, or maintenance.

This product has been certified for use in Canada. Status of the listing in the Innovation, Science and Economic Development Canada's REL (Radio Equipment List) can be found at the following web address: <https://sms-sgs.ic.gc.ca/equipmentSearch/searchRadioEquipments>

Additional Canadian information on RF exposure also can be found at the following web address: <http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf08792.html>

## Informations sur l'exposition à la fréquence radio (FR)

La puissance de sortie rayonnée de ce produit est inférieure aux limites d'exposition aux fréquences radio d'Innovation, Sciences et Développement économique Canada (ISDE). Après évaluation, ce produit s'avère conforme aux limites d'exposition aux fréquences radio (RF) d'ISDE. Ce produit doit être utilisé de manière à minimiser la possibilité de contact humain pendant son fonctionnement normal.

Ce produit a été certifié pour une utilisation au Canada. Le statut du référencement dans la Nomenclature du matériel radio (NMR) d'Innovation, Sciences et Développement économique Canada se trouve à l'adresse Web suivante : <https://sms-sgs.ic.gc.ca/equipmentSearch/searchRadioEquipments>

Pour des informations canadiennes supplémentaires sur l'exposition FR, rendez-vous sur : <http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf08792.html>

## Taiwan R.O.C.

台灣：國家通訊傳播委員會

低功率電波輻射性電機管理辦法

第十二條經型式認證合格之低功率射頻電機，非經許可，公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。

第十四條低功率射頻電機之使用不得影響飛航安全及干擾合法通信；經發現有干擾現象時，應立即停用，並改善至無干擾時方得繼續使用。

前項合法通信，指依電信規定作業之無線電信。低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。


## Power Requirements


| AC input                           |  |
|------------------------------------|--|
| Input rating                       | 100 V AC to 240 V AC<br>50/60 Hz<br>10 W |
| Operating voltage range            | 85 V AC to 264 V AC                      |
| Nominal input frequency            | 50/60 Hz                                 |
| Operating frequency range          | 47 Hz to 63 Hz                           |
| Main power disconnect <sup>2</sup> | None                                     |

## Physical Characteristics

| Dimensions (W × H × D) |   |
|------------------------|---|
| Without antenna        | 294 mm × 313 mm × 107 mm (11.57 in. × 12.32 in. × 4.21 in.) |
| With antenna           | 294 mm × 408 mm × 107 mm (11.57 in. × 16.06 in. × 4.21 in.) |
| Weight                 | 4.81 kg (10.60 lb)  |

## Maintenance

 **Caution** Before opening the MON-10496 for service, you must turn off the external power to the device and use the external breaker box to completely remove mains power.

 **Attention** Avant d'ouvrir le MON-10496 pour l'entretien, vous devez couper l'alimentation externe de l'appareil et utiliser le boîtier de disjoncteur externe pour supprimer complètement l'alimentation secteur.

## 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](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.

<sup>2</sup> You must install an external circuit breaker box to serve as the power disconnect from AC mains.

# 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](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 product, including specifications, pinouts, and instructions for connecting, installing, and configuring your system.

## NI Services

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

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.

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

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