

COMPREHENSIVE SERVICES

We offer competitive repair and calibration services, as well as easily accessible documentation and free downloadable resources.

SELL YOUR SURPLUS

We buy new, used, decommissioned, and surplus parts from every NI series. We work out the best solution to suit your individual needs.

 Sell For Cash  Get Credit  Receive a Trade-In Deal

OBSOLETE NI HARDWARE IN STOCK & READY TO SHIP

We stock **New**, **New Surplus**, **Refurbished**, and **Reconditioned** NI Hardware.



Bridging the gap between the manufacturer and your legacy test system.

 1-800-915-6216

 www.apexwaves.com

 sales@apexwaves.com

All trademarks, brands, and brand names are the property of their respective owners.

Request a Quote

 **CLICK HERE**

sbRIO-9607

SAFETY, ENVIRONMENTAL, AND REGULATORY INFORMATION

MON-10496

Wireless Monitoring Gateway

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

Electromagnetic and Radio Equipment Compatibility Guidelines


This device was designed to support an efficient use of the radio spectrum to avoid harmful interference. 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 are designed to 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 or when the device is connected to a peripheral device or a test object. To minimize interference with radio and television reception and prevent unacceptable performance degradation, install and use this device in strict accordance with the instructions in the device documentation.

Furthermore, any changes or modifications to the device 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. 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. If you need to replace it, use the Return Material Authorization (RMA) process or contact an authorized National Instruments service representative.

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 ² to 2.5 mm ² (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 ¹
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 device is below the FCC radio frequency exposure limits. Nevertheless, this device should be used in such a manner that the potential for human contact during normal operation is minimized. This device 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 device 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 device.
- 

Attention La puissance de sortie rayonnée de cet appareil est inférieure aux limites d'exposition aux fréquences radio de la FCC. Néanmoins, cet appareil doit être utilisé de manière à minimiser la possibilité de contact humain pendant son fonctionnement normal. Cet appareil a été évalué et il a été démontré qu'il est conforme aux limites d'exposition RF de la FCC dans des conditions d'exposition mobiles (les antennes se trouvent à plus de 20 cm du corps humain). Cet appareil a également été évalué et, de nouveau, il a été démontré qu'il est conforme aux limites d'exposition RF de la FCC dans des conditions d'exposition portable (les antennes se trouvent à moins de 20 cm du corps humain) lorsqu'il est installé dans certaines configurations spécifiques. Entrez le numéro d'identification FCC de l'appareil sur <https://fjallfoss.fcc.gov/oetcf/eas/reports/GenericSearch.cfm> pour obtenir des détails sur les configurations autorisées.


Interference Statement

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the manufacturer's instruction manual, may cause interference with radio and television reception. This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the FCC Rules.

¹ 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 device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- 1. This device may not cause harmful interference.
- 2. This device must accept any interference received, including interference that may cause undesired operation.

 **Note** The FCC regulations provide that changes or modifications not expressly approved by NI could void your authority to operate this equipment.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Canada

Industry Canada (IC) Notices

Class A digital circuitry of this device complies with Canadian ICES-003.

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Under Industry Canada regulations, the radio transmitter(s) in this device may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

Radio Frequency (RF) Exposure Information

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

This device has been certified for use in Canada. Status of the listing in the Industry Canada's REL (Radio Equipment List) can be found at the following web address: <http://www.ic.gc.ca/app/sitt/reltel/srch/mwRdSrch.do?lang=eng>

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>

Avis d'Industry Canada (IC)

La circuiterie numérique de Classe A de cet appareil est conforme à la norme canadienne ICES-003.

Cet appareil est conforme aux normes d'exemption de licence RSS d'Industry Canada. Son fonctionnement est soumis aux deux conditions suivantes : (1) cet appareil ne doit pas causer d'interférence et (2) cet appareil doit accepter toute interférence, notamment les interférences qui peuvent affecter son fonctionnement.

Conformément aux réglementations d'Industry Canada, les émetteurs radio de cet appareil ne peuvent fonctionner qu'à l'aide d'une antenne dont le type et le gain maximal (ou minimal) pour ces émetteurs - transmetteurs sont approuvés par Industry Canada. Pour réduire le risque d'interférence éventuelle pour les autres utilisateurs, le type et le gain de l'antenne doivent être choisis de manière à ce que la puissance isotrope rayonnée équivalente (p.i.r.e.) minimale nécessaire à une bonne communication soit fournie.

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

La puissance rayonnée de sortie de cet appareil est inférieure aux limites d'exposition à la fréquence radio d'Industry Canada (IC). Cet appareil a été évalué et jugé conforme aux limites d'exposition à la fréquence radio (FR) d'IC. Cet appareil devrait être utilisé de manière à ce que le risque de contact humain au cours d'un fonctionnement normal soit réduit.

Cet appareil est homologué pour l'utilisation au Canada. Pour consulter l'entrée correspondant à l'appareil dans la liste d'équipement radio (REL - Radio Equipment List) d'Industry Canada, rendez-vous sur : <http://www.ic.gc.ca/app/sitt/reltel/srch/mwRdSrch.do?lang=eng>

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>

Power Requirements



AC input	
Input rating	100 V AC to 240 V AC 50/60 Hz 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 ²	None

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

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

Additional Resources

Visit 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

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.

NI corporate headquarters is located at 11500 North Mopac Expressway, Austin, Texas, 78759-3504. NI also has offices located around the world. For support in the United States, create your service request at ni.com/support or dial 1 866 ASK MYNI (275 6964). For support outside the United States, visit the *Worldwide Offices* section of ni.com/niglobal to access the branch office websites, which provide up-to-date contact information.

Information is subject to change without notice. Refer to the *NI Trademarks and Logo Guidelines* at ni.com/trademarks for information on NI trademarks. Other product and company names mentioned herein are trademarks or trade names of their respective companies. For patents covering NI products/technology, refer to the appropriate location: **Help>Patents** in your software, the `patents.txt` file on your media, or the *National Instruments Patent Notice* at ni.com/patents. You can find information about end-user license agreements (EULAs) and third-party legal notices in the readme file for your NI product. Refer to the *Export Compliance Information* at ni.com/legal/export-compliance for the NI global trade compliance policy and how to obtain relevant HTS codes, ECCNs, and other import/export data. NI MAKES NO EXPRESS OR IMPLIED WARRANTIES AS TO THE ACCURACY OF THE INFORMATION CONTAINED HEREIN AND SHALL NOT BE LIABLE FOR ANY ERRORS. U.S. Government Customers: The data contained in this manual was developed at private expense and is subject to the applicable limited rights and restricted data rights as set forth in FAR 52.227-14, DFAR 252.227-7014, and DFAR 252.227-7015.