



When using electrical equipment and this lighting device basic safety precautions should be followed at all times including but not limited to the following:

PLEASE READ CAREFULLY AND FOLLOW ALL INSTRUCTIONS FOR YOUR OWN SAFETY

WARNING: Risk of Electric Shock. Disconnect power at fuse or circuit breaker before installing or servicing

WARNING: AC power must be off before proceeding with assembly or installation of emergency driver.

IMPORTANT: For use with non-dimming LED fixtures up to 40W. For use with LED fixtures that utilize 0-10V dimming that are above 40W, but this inverter will be limited to 40W (including driver).

IMPORTANT: An un-switched AC power source of 100Vac to 277Vac is required. This device is designed for use in fixtures listed for dry, damp and wet locations.

CAUTION: Make sure all electrical connections conform to the National Electrical Code and all applicable local regulations.

CAUTION: Do not let power supply cords touch hot surfaces.

CAUTION: Do not mount near gas or electric heaters.

CAUTION: Use within grounded, UL Listed, damp location rated fixtures and case should be grounding.

CAUTION: The equipment is intended for ordinary locations and for permanent installation into one or more Listed emergency luminaires.

CAUTION: Battery is rechargeable LiFePO4 type and must be recycled or disposed of properly.

Do not use this emergency driver with accessory equipment other than recommended by manufacturer; failure to follow these instructions may cause an unsafe condition. Servicing should only be performed by qualified service personnel. Do not use this emergency driver for other than intended use. Not suitable for high-risk task area lighting. Equipment should be mounted in locations and at heights where it will not readily be subjected to tampering by unauthorized personnel.

IMPORTANT: The output EM power will not exceed the max power rating of the battery.

IMPORTANT: Indicator (LED light) illuminated indicates battery in charge mode when AC power is applied. It is recommended and required by applicable code to test emergency ballast to ensure proper function of the system; push the test switch every thirty (30) days to ensure the emergency driver is functioning by illuminating the light source. Conduct a ninety (90) minutes discharge test one (1) time per year; LED light source should be illuminated for a minimum of ninety (90) minutes.

TESTING SYSTEM: The emergency battery requires a charge minimum of one (1) hour before testing the circuit. A full charge requires twenty four (24 Hours).

SAVE THESE INSTRUCTIONS

Make sure that the luminaire used meets the voltage and current requirements in the Product Information List and the illumination requirements in NFPA101.

Ensure there will be sufficient light output in the end application. Estimate the egress lighting illumination levels by doing the following:

1. Find the efficacy of the LED load. This can be provided by the luminaire manufacture. This number will be given in lumens per watt (lm/w). It is the installer's responsibility to validate the luminaire manufacturer's efficacy data. This can be accomplished by direct measurement, by review of independent 3rd party test data (UL, ETL, etc.), accessing a public database of 3rd party data (such as Design Lights Consortium, www.designlights.org), or other comparable means.
2. Lumens can be calculated by multiplying the output power of the backup nano inverter by the efficacy of the LED load. In many cases the actual lumen output in emergency mode will be greater than this calculation gives, however it will provide a good estimate for beginning the lighting design of the system.
3. Using the results of this calculation and industry standard lighting design tools, calculate the anticipated illumination levels in the path of egress.

$$\text{Lumens In Emergency Mode} = \text{Lumens per Watt of Fixture} * \text{Output Power of Chosen Product}$$
$$\text{_____ (Lumens)} = \text{_____ (lm/W)} * 40(\text{W})$$

The following fixtures have been verified for use: NICOR HBC3 series

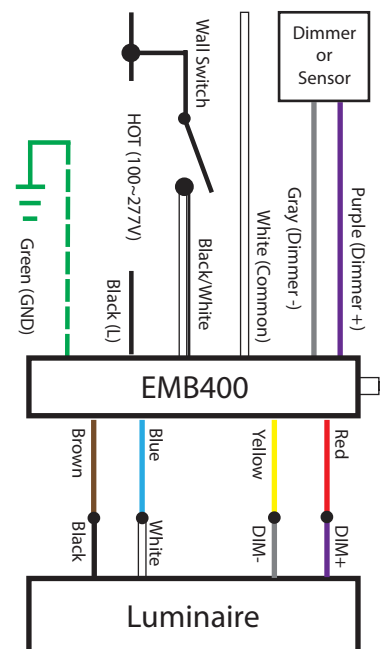
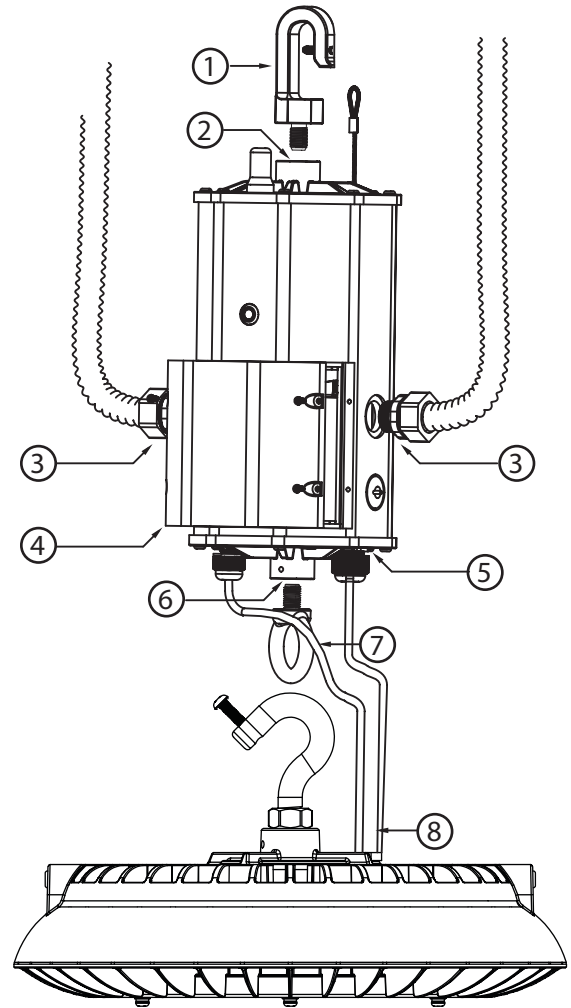
NOTE: This product has been designed to reliably interface with a wide selection of LED Drivers. However, compatibility cannot be guaranteed with all current and future LED systems. Compatibility testing of the end-use system is suggested. Please contact the factory with any questions.

PRODUCT INFORMATION LIST

Input Voltage :	100-277VAC 50/60Hz
Input Current :	0.2A Max
Input Power :	12W
Maximum Load Power :	300W
Standby Power Draw :	<0.8W
Output Power :	40W

Installation

- 1 • Carefully unpack EMB400 from packaging. Inspect product for defects due to shipping.
 - Turn off power to appropriate circuit at the breaker box.
- 2 **Installation of Battery Pack**
 - Select a suitable location on the ceiling for mounting.
 - Install the hook (1) to the top of the EMB400 (2) and lock with set screw.
 - Install the ring (7) to the bottom of the EMB400 (6) and lock with set screw.
 - Open the cover of junction box (4). Cover has safety cable.
 - Hook the EMB400 to a suitable hanging device secured to structure.
 - Hang the fixture (8) to the ring of the EMB400. Lock down safety screw.
 - Install the BX cables on AC wires and dimming wires (3) per the wiring diagram.
- 3 **Wiring of Battery Pack**
 - Use the wiring diagram as reference.
 - Connect the AC power source leads (Switched and Unswitched) to the input of the EMB400.
 - Connect the output leads of the EMB400 to the Fixture
 - Wire the fixture in accordance with manufacturer's installation instructions.
 - Make sure all connections are in accordance with the National Electrical Code and any local regulations.
 - In a readily visible location, attach the label "CAUTION: This unit has more than one power connection point. To reduce the risk of electric shock, disconnect both the branch circuit breakers/fuses and disable EM output before servicing. Disable output by holding the test switch down for 3 seconds while the EMB400 is operating in emergency mode."
- 4 **Complete Installation**
 - After installation is complete, apply AC power .
 - The Charging Indicator Light should illuminate indicating the battery is charging.
 - A short-term discharge test may be conducted after the backup nano inverter has been charging for 1 hour.
 - Charge for 24 hours before conducting a long-term discharge test.



NOTE:
Dimming leads from EMB400 to LED Driver must be attached to the DIM+ and DIM- wires of the luminaire regardless of the use of any other sensors or control systems.

TEST SWITCH OPERATIONS

Manual Diagnostic Mode:

Under the normal charging mode, after the battery is charged for 12 hours or fully charged, long press the test button for 3 seconds and hold it to enter the manual test mode. Release the button to exit the manual diagnostic mode.

Enable / Disable Self-Diagnostic Test System:

With AC power supplied to the unit:

To disable the Self-Diagnostic Test mode, press the button twice in two seconds, then press the button longer than 2 seconds but less than 5 seconds, then press the button twice in succession. The indicator light will flash 5 times (1 sec. interval)

To enable the Self-Diagnostic Test System, repeat the operation, the indicator light will flash 3 times (1 sec. interval).

Enter Sleep Mode:

Under EM mode, press the test button for 3 seconds, EMB400 will enter Sleep Mode (used for storage and transportation). Awaken the unit by connecting to AC power.

REMOTE CONTROL OPERATION:

Under the normal charging mode, press the "ON" button of the remote control to enter the manual diagnostic test mode, and press the "OFF" button of the remote control to exit the manual diagnostic mode

TEST SWITCH INDICATOR STATUS

LED Indicator Status	EMB400 Status/Mode
ON solid green	• System OK / AC OK
OFF	• System fault • Battery voltage too low • LED fixture may have failed
Flashing Green 1s on/1s off (continual)	• Battery not detected, • Check battery connections
Flashing Green 0.1s on/5s off (continual)	• Working in emergency mode
Slow Flashing Green 5s on/5s off (continual)	• Self diagnostic test: discharge time is <90min • LED fixture is open circuit • System overload
Flashing Green 5s on/5s off (5 times)	• Self diagnostic test disabled
Flashing Green 1s on/1s off (3 times)	• Self diagnostic test enabled

NICOR LIMITED WARRANTY - EMERGENCY BATTERY PACKS

Subject to the exclusions contained below, NICOR Inc. (NICOR) warrants that all NICOR LED branded Solid State Lighting products made by NICOR to be free from defects in materials and workmanship, under normal consumer usage for a period of 5 years from date of purchase. This limited warranty is a consumer's exclusive remedy, and applies only to new products purchased and used by consumers in the United States or Canada, which are accompanied by this written warranty.

This limited warranty extends only to the first consumer purchaser, and is not transferable. A consumer wishing to invoke the terms of this warranty must first obtain a RGA number within 30 days of discovery of the defect, and return the product to NICOR for inspection. Once verified to be covered by this limited warranty, NICOR will, at its discretion, repair, replace or refund the purchase price of any product that does not conform to this limited warranty.

This limited warranty covers only defects in material and workmanship associated with normal installation and intended use of the product.

THIS LIMITED WARRANTY DOES NOT COVER THE FOLLOWING:

• Defects or damages resulting from improper operation, storage, misuse or abuse, accident or neglect;

• Defects or damages resulting from improper service, testing, adjustment, installation, maintenance, alteration, connection to out-of-specification electrical service, corrosive or damp environments, or connection to incompatible equipment or devices (e.g., connecting non-dimmable lighting products to dimmers);

• Damage which occurs in transit; and

• Labor or other charges or expenses associated with the removal, repair, or re-installation of defective or replacement products.

ANY IMPLIED WARRANTIES, INCLUDING WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE SHALL BE LIMITED TO THE DURATION OF THIS LIMITED WARRANTY, OTHERWISE THE REPAIR, REPLACEMENT OR REFUND AS PROVIDED UNDER THIS EXPRESS LIMITED WARRANTY IS THE EXCLUSIVE REMEDY OF THE CONSUMER, AND IS PROVIDED IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED. IN NO EVENT SHALL NICOR BE LIABLE, WHETHER IN CONTRACT OR IN TORT (INCLUDING NEGLIGENCE) FOR DAMAGES IN EXCESS OF THE PURCHASE PRICE OF THE PRODUCT, OR FOR ANY INDIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES OF ANY KIND, OR LOSS OF REVENUE OR PROFITS, LOSS OF BUSINESS OR OTHER FINANCIAL LOSS ARISING OUT OF OR IN CONNECTION WITH THE ABILITY OR INABILITY TO USE THE PRODUCT TO THE FULL EXTENT THESE DAMAGES MAY BE DISCLAIMED BY LAW.

Copyright 2016, NICOR, Inc.
 Revised November, 2016

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, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE: 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.