

**PLEASE FIND A QUALIFIED ELECTRICIAN FOR INSTALLATION.**  
**Please read the instructions before you install and use the luminaire.**



- 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.
- CAUTION:** Make sure all electrical connections conform to the National Electrical Code and all applicable local regulations.
- CAUTION:** Do not mount near gas or electric heaters.
- CAUTION:** Equipment should be mounted in location and at heights where it will not be subjected to tampering by unauthorized personnel.
- CAUTION:** The use of accessory equipment not recommended by the manufacturer may cause an unsafe condition.
- CAUTION:** Do not use this equipment for other than its intended use.
- CAUTION:** Use within grounded, UL Listed, wet 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.
- IMPORTANT:** Please charge the battery consistently for >24 hours before the first use to ensure complete charging of the battery.
- IMPORTANT:** The products are produced with built-in batteries, which could be stocked for one year at most without being used. If clients keep them for more than one year, the batteries may be damaged. This is not covered in the warranty.
- IMPORTANT:** Rated for installations from 32°F-122°F (0°C - 50°)

**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](http://www.designlights.org)), or other comparable means.
2. Lumens can be calculated by multiplying the output power of the backup battery pack 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.

$$\text{Lumens In Emergency Mode} = \text{Lumens per Watt of Fixture} * \text{Output Power of Chosen Product}$$

$$\text{_____ (Lumens)} = \text{_____ (lm/W)} * 40(W)$$

The following fixture configurations are suitable for use with the EMB400:

- Fixtures with wattage from 40W to 300W with 0-10V dimming capability
- Fixtures with wattages from 10W to 40W with or without 0-10V dimming capability

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
Output Voltage:	130-190VDC
Output Power :	40W
Battery Pack:	LiFePO4, 12.8V, 6.4Ah
Duration (min):	90 minutes
Max Mounting Height:	50 feet (15.3m)

## What's In The Box

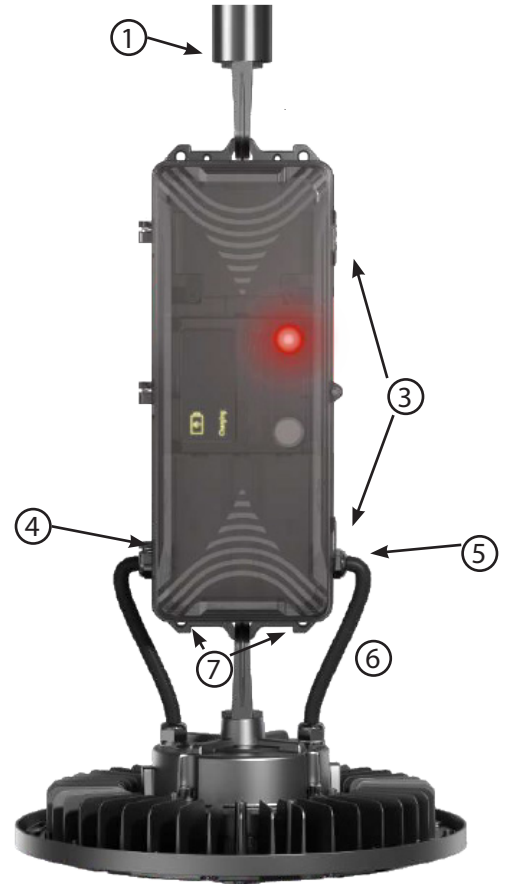
Thirteen (13) Wire Connectors	One (1) Safety Cable, carabiner and screw	Five (5) Cable Grips 2 dimming, 3 mains	One (1) Twist-Lock Carabiner

## Installation

- Carefully unpack EMB400 from packaging. Inspect product for defects due to shipping.
  - Turn off power to appropriate circuit at the breaker box.

### 2 Hook Mount Installation

- Select a suitable location on the ceiling for mounting.
- Install a hook (supplied) to the mounting location identified. (1)
- Hang the EMB400 from that hook with the junction box side of the unit down.
- Hang the desired fixture from the loop on the bottom of the EMB400 (2)
- Open the cover of EMB400 by removing the locking screw and opening the two snap tabs. (3)
- Remove the desired knock-outs in the junction box by unscrewing. (4)
- Install appropriate water-tight (IP65) rated cord grips into the KOs (supplied) (5)

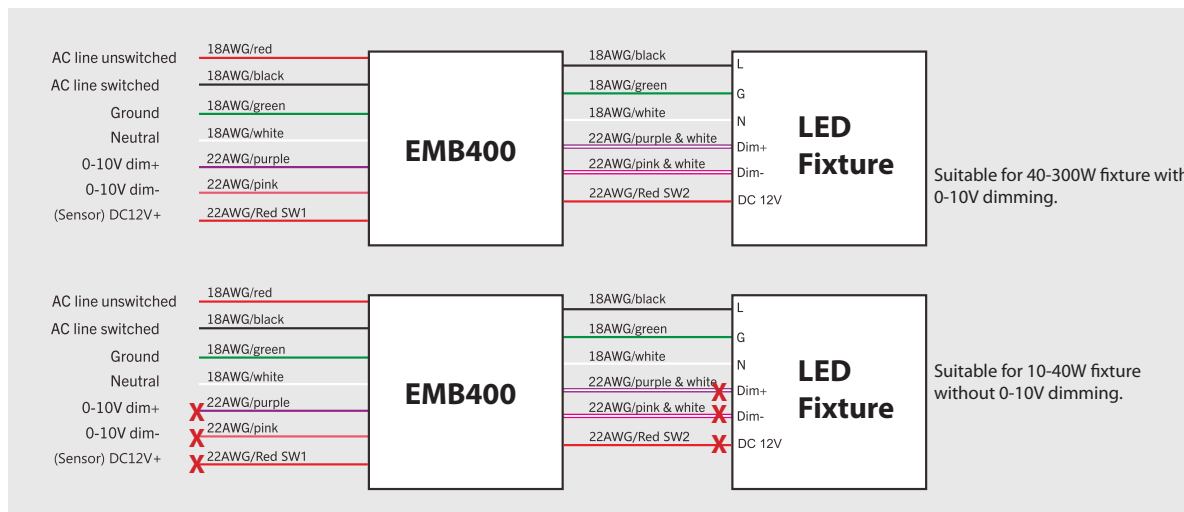


### Surface Mount Installation

- Select a suitable location on the building surface for mounting.
- Secure the unit to structure using suitable hardware (supplied) in the 4 mounting holes on the unit flanges (7)
- Open the cover of EMB400 by removing the locking screw and opening the two snap tabs. (3)
- Remove the desired knock-outs in the junction box by unscrewing. (4)
- Install appropriate water-tight (IP65) rated cord grips into the KOs (supplied) (5)

### 3 Wiring of Battery Pack

- Feed the wires of the fixture into the junction box and tighten cord grips. (6)
- 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 and to the building dimming/control circuitry (if present). Close the cover.
- Use the wiring diagram below as reference.



### 4 Complete Installation

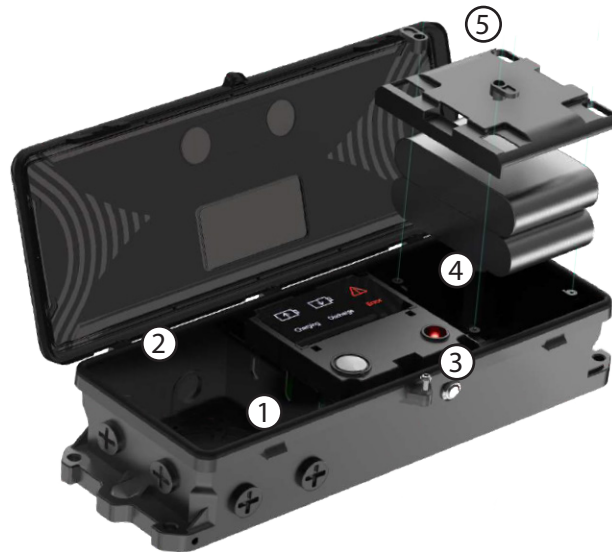
- Close cover making sure latches are fully seated and snapped close.
- Insert security screw in center cover hole.
- After installation is complete, apply AC power .
- The EMB400 will enter self-check mode.
  - If battery voltage is <30% of maximum the unit will not self check and the indicator light will flash red every 2 seconds.
  - If main power is off, EMB will go into discharge mode and stop the self-check.
- If self check fails, unit will enter failure mode. The indicator will flash red every 0.5 seconds. Reasons for failure include:
  - Battery pack is not connected or is broken
  - Load is not connected
  - A short circuit is present
  - Dimming wires are not connected properly
- If EMB passes self check it will enter charging mode. The indicator will be constant red.

### Uninstallation

- The EMB does not have a manual battery disconnect. To disable the battery press and hold the test button for 5 seconds with main power not applied.

### 5 Battery Replacement

- Open the cover of EMB400 by removing the locking screw and opening the two snap tabs. (1)
- Disconnect the unit from main power (switched and unswitched). (2)
- Disable the battery by pressing and holding the test button for 5 seconds. (3)
- Turn the four tabs on the battery cover to align with the slots on the cover. (4)
- Lift the cover from the unit. (5)
- Lift the battery from the unit and disconnect the power cable by squeezing the locking tab and pulling apart.
- Install the replacement battery in the reverse order.
- NOTE: Must use NICOR LiFePO4 battery pack (YHBAL4-6.6) for replacement.





## TEST SWITCH OPERATIONS

### Manual Diagnostic Mode:

Emergency mode will be enabled if the test switch is pressed when main power is on. Press and hold the test switch for 5 seconds to exit emergency test mode.

Emergency mode can also be enabled with used of the "TEST" button on the remote control. Press to enter test mode.

### Self Test Mode:

The EMB contains a circuit that automatically performs a 30 second discharge test monthly and a full 90 minute discharge test every 6 months.

During routine testing, the emergency driver will switch to emergency mode and monitor the operation of the LED load, battery voltage, LED load connections and duration under emergency mode.

If the emergency system functions properly the unit will return to normal operation. Should the unit detect any problems, the indicator light will flash per failure conditions (see table below) until the condition has been corrected and the unit passes the

LED Indicator Status	Status	Comment
Red Stable	Charging mode Fully charged	AC mode, unit is operating correctly
Flashing 2 times, Light off 2s, loop	Battery Error	Battery disconnected or failed 90min duration test due to insufficient capacity
Flashing 3 times, Light off 2s, loop	Charging Error	Ensure input wiring is correct and verify input voltage & frequency are correct and stable
Flashing 3 times, Light off 2s, loop	Temperature Error	Over temperature condition
Continuous flashing	LED load abnormal	Matching test failure, self-check output abnormality
Fast flashing (0.1s) for 30 seconds	Function Test	Carry out automatically every 30 calendar days
Fast flashing (0.1s) for 90 minutes	Duration Test	Carry out automatically every 180 calendar days

Each NICOR product in the following list will be free from defect in materials and workmanship for a period of five (5) years from the date of manufacture as indicated by the date code printed on the product label.

EMB45, EMB80, EMB250, EMB400, EMID10, EMID200

This limited warranty is provided to you, the purchaser of the product identified on Seller's invoice, as your exclusive remedy and applies only to NICOR products that have been purchased from an authorized NICOR Distributor; the product was new and in an unopened NICOR package at the time of installation; and the NICOR product was installed by a licensed electrician or under the supervision of a licensed electrician and used by consumers in the United States or Canada when accompanied with this warranty. This warranty extends only to the first consumer purchaser and is not transferable.

This warranty is further conditioned upon proper storage, installation, use and maintenance. This warranty is not applicable to any Product which is not installed and operated in accordance with the National Electric Code (NEC), the Standards for Safety of Underwriters' Laboratory, Inc. (UL), the Standards for the American National Standards Institute (ANSI), or, in Canada, the Canadian Standards Association (CSA), and in accordance with NICOR installation instructions.

A consumer wishing to invoke the terms of this limited 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 sole discretion, repair, replace, or refund the purchase price of any product that does not conform to this limited warranty. If NICOR, at its sole discretion, determines that the product should be repaired or replaced, this warranty is limited to the reasonable, customary, and necessary costs and expenses associated with the repair/replacement. This warranty requires that all repair/replacement estimates and costs, including but not limited to equipment rental (if any), and any other cost or expense to be incurred in the repair/replacement of the product, be approved in advance and in writing by NICOR. FAILURE TO OBTAIN NICOR'S ADVANCE WRITTEN APPROVAL OF ALL REPAIR/REPLACEMENT COSTS AND EXPENSES IN WRITING SHALL VOID THIS LIMITED WARRANTY

THIS LIMITED WARRANTY DOES NOT COVER THE FOLLOWING: • Defects or damages resulting from improper installation, 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; • Damage which occurs in transit; • Power surges or overheating due to external conditions • Acts of nature including but not limited to lightning strikes

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.

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.