



# LITETRONICS EB20 Emergency Battery Backup Unit Installation Guide

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# LITETRONICS®

**LITETRONICS EB20 Emergency Battery Backup Unit**



## Product Information:

The LED Emergency Battery Backup (EB20) is designed to provide 90 minutes of power to fixtures in the event of a power outage. It operates in three modes: stand-by mode when the normal power supply is present, emergency mode when a power outage occurs, and recharging mode when power is restored. The EB20 must be accompanied by one of two indicator modules to provide visible indicator lights for monitoring its operation. It is compatible with Litetronics LED fixtures using greater than 80W and 0-10V dimming.

## What Comes in the Box

- 1 EB20 unit
- 1 Installation instructions
- 1 PG 13.5 Cable gland
- 1 Plug cable
- 1 Wire nut

## Tools Needed

- Wire Stripper
- Wire Cutter
- Phillips Screwdriver
- Step Ladder

## Safety Warning and Instructions

When using electrical equipment, always observe basic safety precautions. Read and follow all safety instructions.

## List of Compatible Fixtures:

- LED HIGH BAY PL HBC115XX HBC115XXT HBC175XXT HBC220XXT

- LED NSF HIGH BAY HBF100XX HBF150XX
- HBF100WXXDLP HBF150W7XXDLP
- LED HIGH BAY SL HBS100B2XXDLP
- LED HAZARDOUS LOCATION HBE150B150DLP
- LED HIGH CEILING PANEL HOPT2
- LED LINEAR HIGH BAY C-SERIES LHBC105 LHBC155
- LED LINEAR HIGH BAY LHB88UR2XXDLP LHB112UR2XXDLP LHB148US2XXDLP LHB88 LHB112 LHB148
- LED VAPOR TIGHT C-SERIES VTCS8

## **UL924 Statement of Compliance and Compatibility**

When used with a sensor-equipped fixture from the Approved List of Litetronics fixtures, the sensor will be bypassed and disabled by the EB20. The EB20 is UL924 compliant.

## **Product Usage Instructions:**

1. Ensure that the power supply is disconnected before installation.
2. Use the provided tools (wire stripper, wire cutter, Phillips screwdriver, step ladder) to install the EB20 unit and accompanying indicator module according to the installation instructions.
3. Connect the EB20 unit to the compatible Litetronics LED fixture using the provided PG 13.5 Cable gland, plug cable, and wire nut.
4. Once installed, the EB20 unit will enter stand-by mode and start charging when the normal power supply is present.
5. In case of a power outage, the EB20 unit will automatically switch to emergency mode and deliver 20W power for a minimum of 90 minutes.
6. During emergency mode, the indicator module will display a solid red light.
7. When power is restored, the EB20 unit will switch back to stand-by mode, begin recharging, and the indicator module will display a solid green light when fully charged.
8. Periodically check the EB20 unit to ensure it is working properly. The indicator module will display different light patterns to indicate charging, discharging, low battery, and error conditions. Refer to the Indicator Module Light Reference Guide for troubleshooting.

**Note:** Any servicing or maintenance should be performed by qualified personnel.

## **OVERVIEW**

Litetronics Emergency Battery Backup unit (EB20) delivers 90-minutes of power to fixtures in the event of a power outage. When the normal power supply is present, the unit will fully charge and remain in stand-by mode. When a power outage occurs, the unit will switch to emergency mode and deliver 20W power for a minimum of 90-minutes. When power is restored, the unit will switch back to stand-by mode and begin recharging. The EB20 is the main component to the backup system, but must be accompanied by one of two indicator modules, which provide a set of visible indicator lights that signify the status of operation for the EB20. Each option offers a different approach to mounting/installation based on the application.

- EBCM (Emergency Backup Ceiling-mounted Indicator Module) – This option connects to the EB20 and can be mounted in a grid panel adjacent to the fixture.

- EBAM (Emergency Backup Adhesive-mounted Indicator Module) – This option applies to any non-grid ceiling application. It includes an adhesive strip that will affix to the surface of a fixture or nearby structural element.

## SAFETY WARNING AND INSTRUCTIONS

When using electrical equipment, basic safety precautions should always be observed. Read and follow all safety instructions.

- Risk of fire or electric shock. Luminaire wiring and electrical parts may be damaged when drilling for installation of LED Emergency Backup. Check for enclosed wiring and components.
- Risk of fire or electric shock. This LED Emergency Backup installation requires knowledge of luminaire and electrical systems. If not qualified, do not attempt to install. Contact a qualified electrician.
- Before installation, make certain the AC power to the fixture is off.
- The electrical rating of this product is 100-277 Vac. Installer must confirm that there is 100-277 Vac to the fixture before installation.
- To prevent electrical shock, only mate unit connector after installation is complete and before the AC power to the fixture is back on.
- Do not use outdoors.
- This LED Emergency Backup unit requires an un-switched AC power source of 100-277 Vac, 50/60Hz.
- Do not let power supply cords touch hot surfaces.
- Do not mount near gas or electric heaters.
- Equipment should be mounted in locations and at heights where it is not subjected to tampering by unauthorized personnel. The use of accessory equipment is not recommended by the manufacturer and may cause an unsafe condition.
- Do not use this equipment for other than its intended use.
- Use with grounded, UL/ETL listed, dry or damp location rated fixtures.

## COMPATIBILITY

The EB20 is compatible with Litetronics LED fixtures using greater than 80W. All fixtures must also include 0-10V dimming. Below is a complete list of Litetronics compatible fixtures.

LED HIGH BAY PL	LED HIGH BAY SL	LED LINEAR HIGH BAY
HBC115XX	HBS100B2XXDLP	LHB88UR2XXDLP
HBC115XXT	<b>LED HAZARDOUS LOCATION</b>	LHB112UR2XXDLP
HBC175XXT	HBE150B150DLP	LHB148US2XXDLP
HBC220XXT	<b>LED HIGH CEILING PANEL</b>	LHB88
<b>LED NSF HIGH BAY</b>	HOPT2	LHB112
HBFB100XX	<b>LED LINEAR HIGH BAY C-SERIES</b>	LHB148
HBFB150XX	LHBC105	<b>LED VAPOR TIGHT C-SERIES</b>
HBFB100WXXDLP	LHBC155	VTCS8
HBFB150W7XXDLP		

## **UL924 STATEMENT OF COMPLIANCE AND COMPATIBILITY**

### **PLEASE NOTE**

When used with a sensor-equipped fixture from the Approved List of Litetronics fixtures below, the sensor will be bypassed and disabled by the EB20 when wired correctly per the installation instructions and cause the fixture to remain illuminated during periods of vacancy when the compatible fixture is powered by the EB20 power source. As such, EB20 is UL924 compliant.

### **Approved Fixtures WITHOUT SENSOR**

LHB88 – 148, HBC115, HBC175\*\*T, HBC220\*\*T, HBE150, HBF100-150, HBS100, HOPT2, LHBC105-155, VTCS8

### **Approved Fixtures WITH SENSOR**

HBS100, LHB88-148

### **Unapproved Fixtures WITH SENSOR**

HBC115, HBC115\*\*T, HBC175, HBC175\*\*T, HBC220\*\*T

### **Unapproved Fixtures**

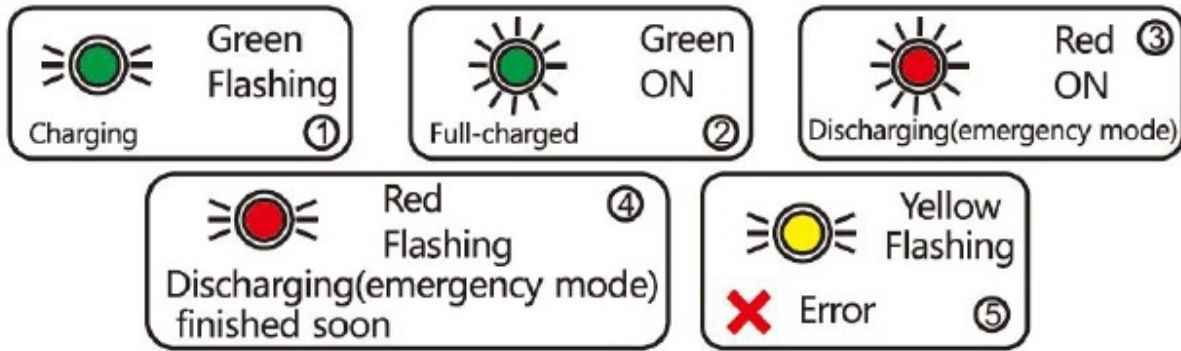
HBC175, HBS150, LHB148HV

## **EB20 OPERATING INSTRUCTIONS**

- Make sure that installation of the EB20 includes one of the two indicator modules.
- Once installed and powered on, the battery will begin to charge. The green, flashing indicator light will remain on until fully charged, which takes approximately 24 hours.
- Once fully charged, the green indicator light will illuminate and remain on as long as the battery remains full.
- If yellow light is flashing, a problem has been detected. Contact Litetronics for troubleshooting.
- In the event of a power failure, the fixture delivers 90 minutes of emergency light, during which the red light will remain on, then flash on/off when battery is low.

## **INDICATOR MODULE LIGHT REFERENCE GUIDE**

1. Green/flashing = Charging
2. Green/solid on = Fully charged
3. Red/solid on = Discharging/emergency mode
4. Red/flashing = Discharging with limited battery life remaining
5. Yellow/flashing on = Error. Contact Litetronics for troubleshooting



## TESTING

- The fixture includes an automatic monthly self-testing function, which operates at 30-day intervals for 5 minutes and 360-day intervals for 90 minutes. During testing, the red indicator light will remain on.
- Additional testing and demo mode is available via remote control, part # TR01 (sold separately).

## MAINTENANCE

Although no routine maintenance is required to keep the emergency battery backup functional, it should be checked periodically to ensure that it is working. The following schedule is recommended:

- Visually inspect the charge indicator light monthly. It should be illuminated.
- Test the emergency operation of the fixture at 30-day intervals for a minimum of 30 seconds.
- Conduct a 90-minute discharge test once a year. LED fixture should operate at up to 20W for at least 90 minutes.

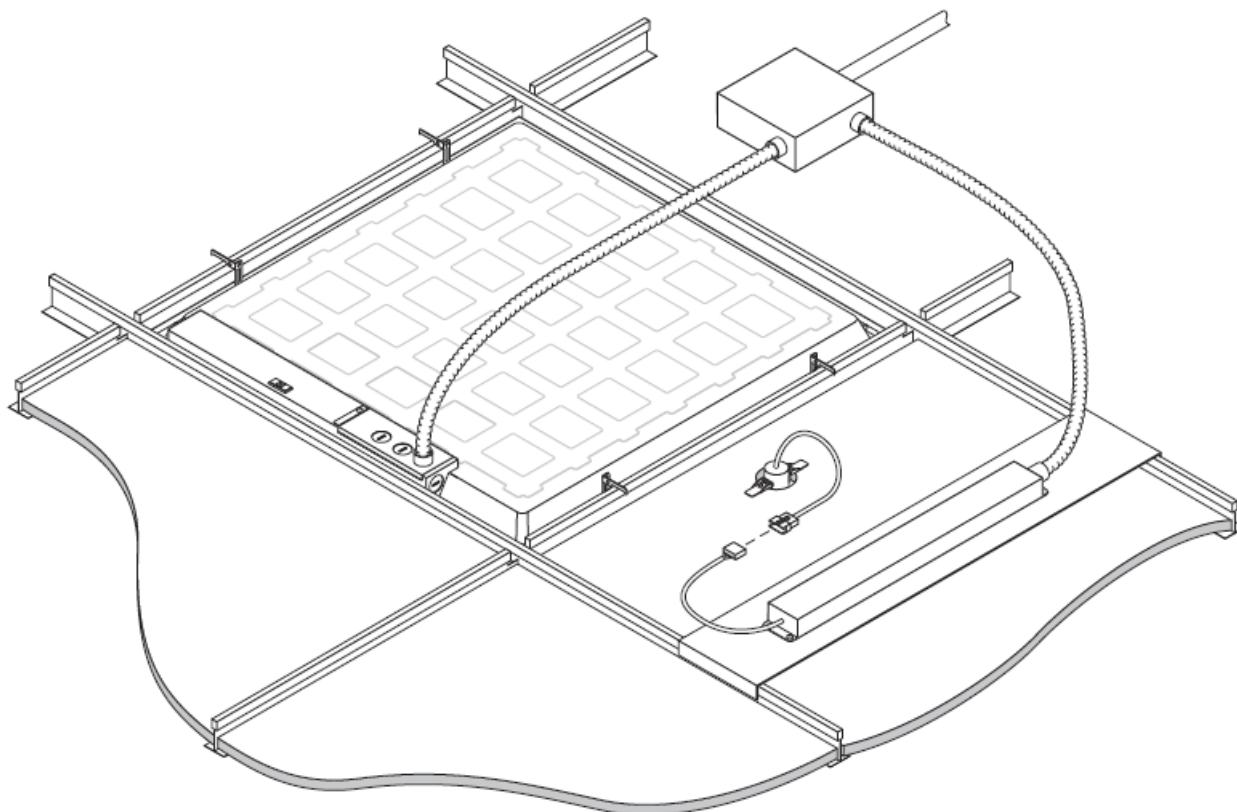
## SERVICE

Should be performed as indicated above by qualified personnel.

## INSTALLATION – CEILING MOUNTED

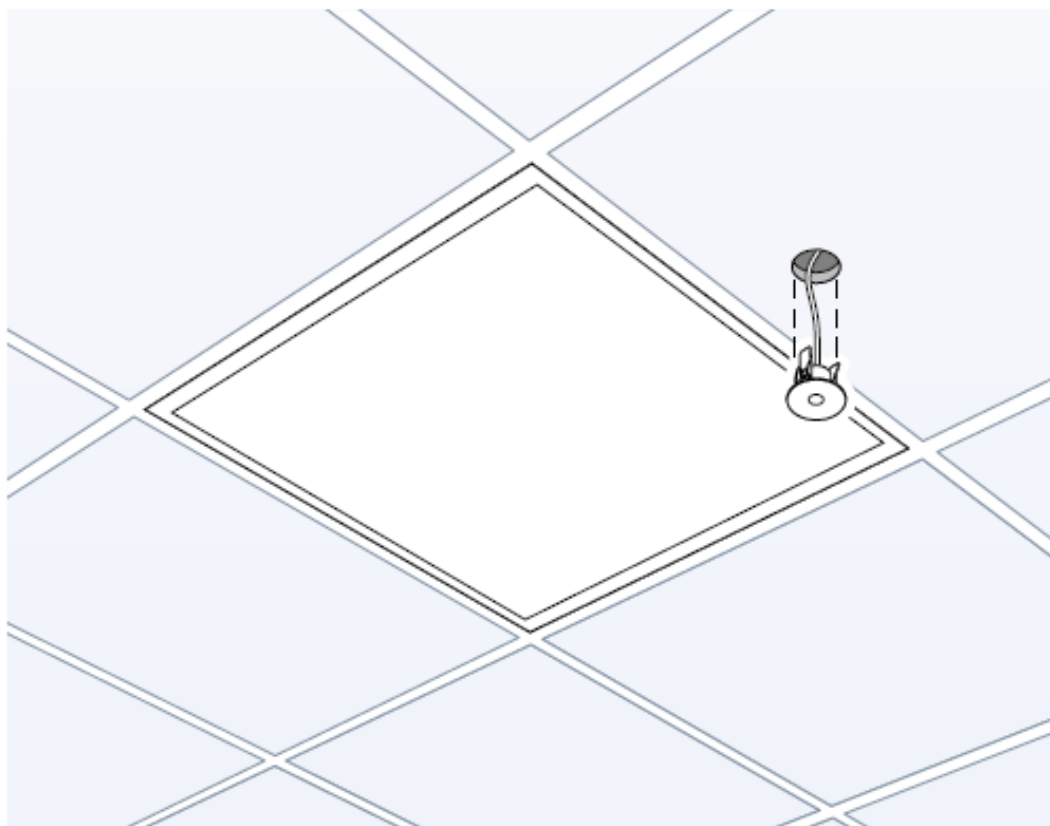
### BEFORE BEGINNING INSTALLATION, TURN OFF POWER AT THE CIRCUIT BREAKER.

1. Choose a location for the Emergency Battery Backup unit and indicator module. We recommend placing the unit close to the luminaire input power wires while also making sure the indicator module will reach it's desired location. See figure A for reference.
2. Once the EBB unit is secured in place, make wiring connections based on the wiring diagrams found on pages 6-7.
3. Mark the desired location for the indicator module on the adjacent ceiling panel. Drill a hole for the indicator to pass through that as is 1.75" in diameter.
4. Compress the spring clamps and pass the indicator module, wiring first, up through the panel until it sits flush with the bottom side. Release the spring clamps and they will hold the module in place. See figure B.
5. Connect the indicator module and unit via the quick connector.
6. Restore power to the fixture. When power is received, the green flashing light should appear, indicating that the unit is charging. An initial full charge could take up to 24 hours.



**Figure A**

Note: Grid tray not Litetronics product but for illustration only.



**Figure B**

## **INSTALLATION – ADHESIVE MOUNTED**

**BEFORE BEGINNING INSTALLATION, TURN OFF POWER AT THE CIRCUIT BREAKER.**

1. Choose a location for the Emergency Battery Backup unit and indicator module. We recommend placing the unit close to the luminaire input power wires while also making sure the indicator module will reach it's desired location. See figure C for reference.
2. Once the EBB unit is secured in place, make wiring connections based on the wiring diagrams found on pages 6-7.
3. Find the desired location for the indicator module on the side of the fixture or a nearby structural element, making sure that the indicator lights will be visible from below. Peel off the outside strip from the tape and apply the module to the desired location. Hold for 30 seconds.
4. Connect the indicator module and unit via the quick connector.
5. Restore power to the fixture. When power is received, the green flashing light should appear, indicating that the unit is charging. An initial full charge could take up to 24 hours.

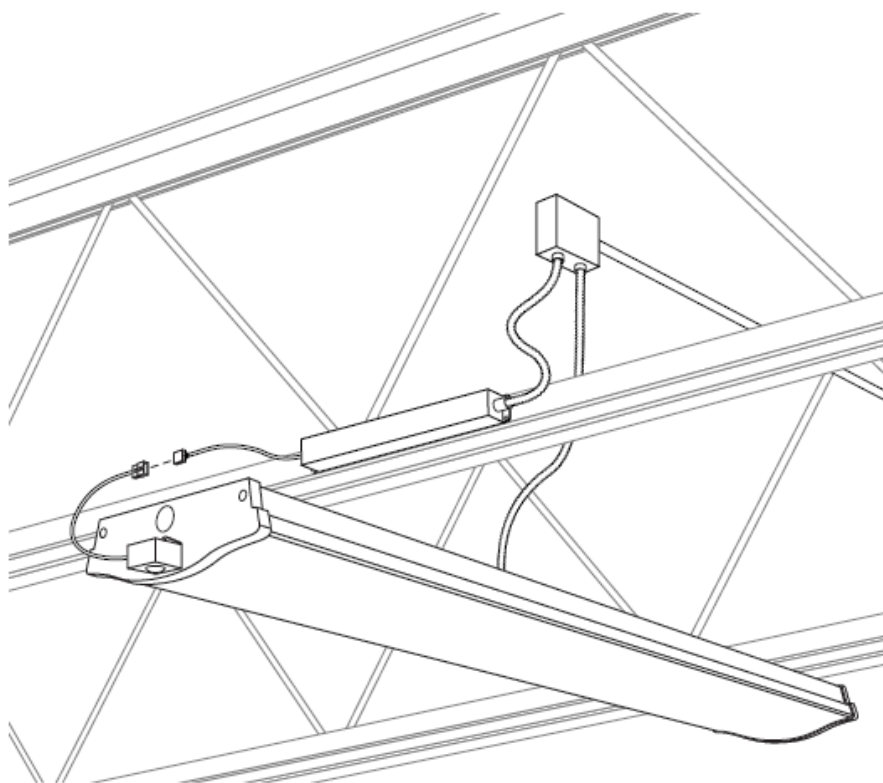


Figure C

## **INSTALLATION – ADHESIVE MOUNTED**

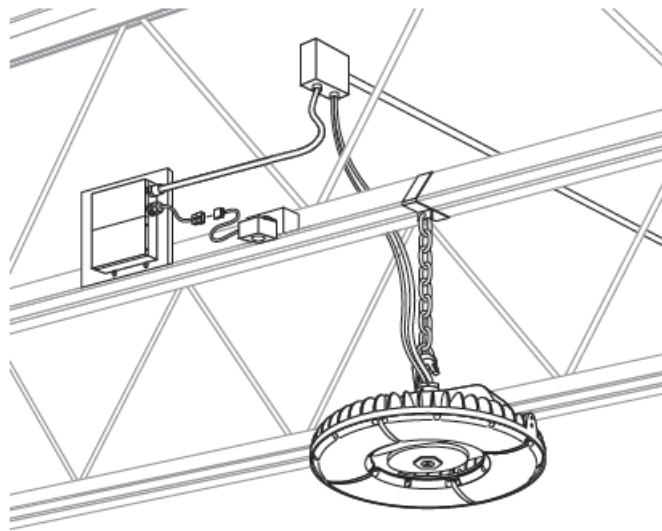
### **BEFORE BEGINNING INSTALLATION, TURN OFF POWER AT THE CIRCUIT BREAKER.**

1. Choose a location for the Emergency Battery Backup unit and indicator module. We recommend placing the unit input power wires while also making sure the indicator module will reach it's desired location. See figure A for reference.
2. Once the EBB unit is secured in place, make wiring connections based on the wiring diagrams below. Choose any knockout best suited for installation.
3. Use the PG13.5 cable gland to fix the cable of the indicator module in the knockout.
4. Find the desired location for the indicator module on the side of the fixture or a nearby structural element, making sure that the indicator lights will be visible from below. Peel off the outside strip from the tape and apply



the module to the desired location. Hold for 30 seconds.

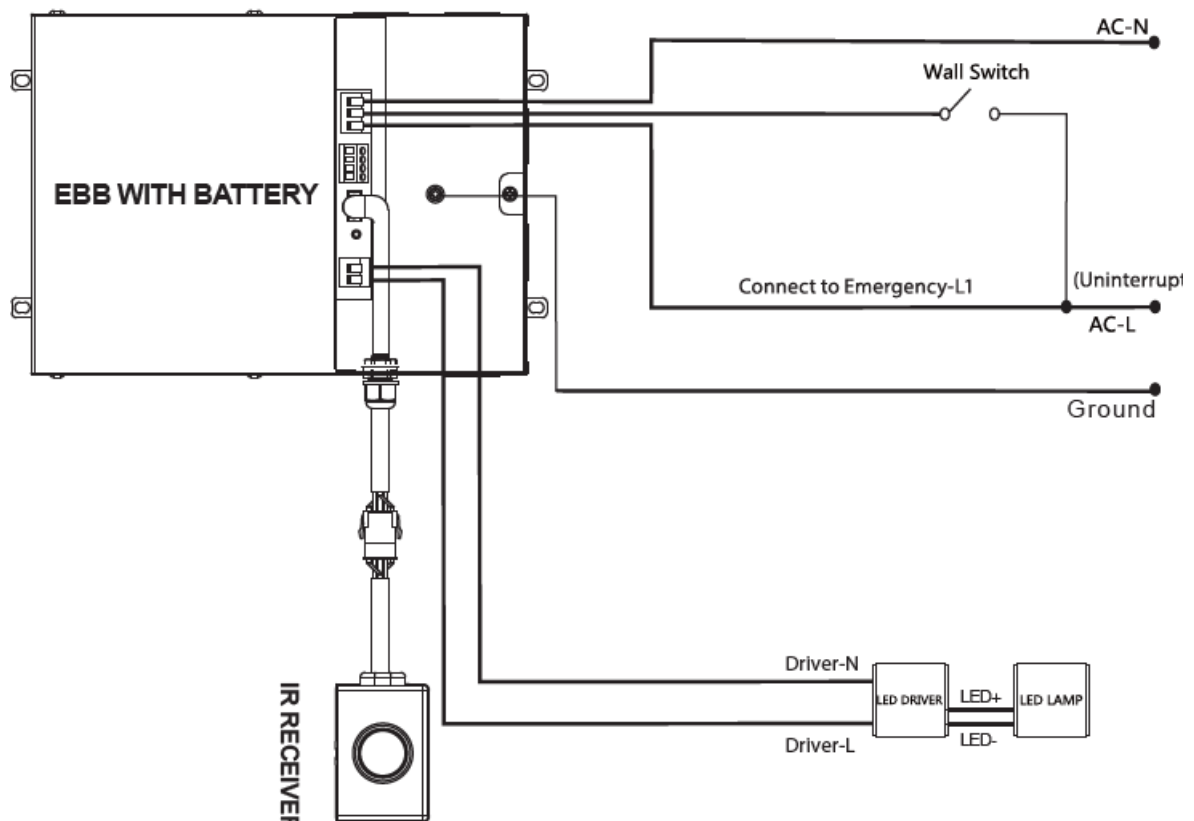
5. Connect the indicator module and unit via the quick connector.
6. Restore power to the fixture. When power is received, the green flashing light should appear, indicating that the unit is charging. An initial full charge could take up to 24 hours.



**FIGURE A**

## WIRING DIAGRAMS

### A WHEN THE LED DRIVER POWER IS LESS THAN 20W



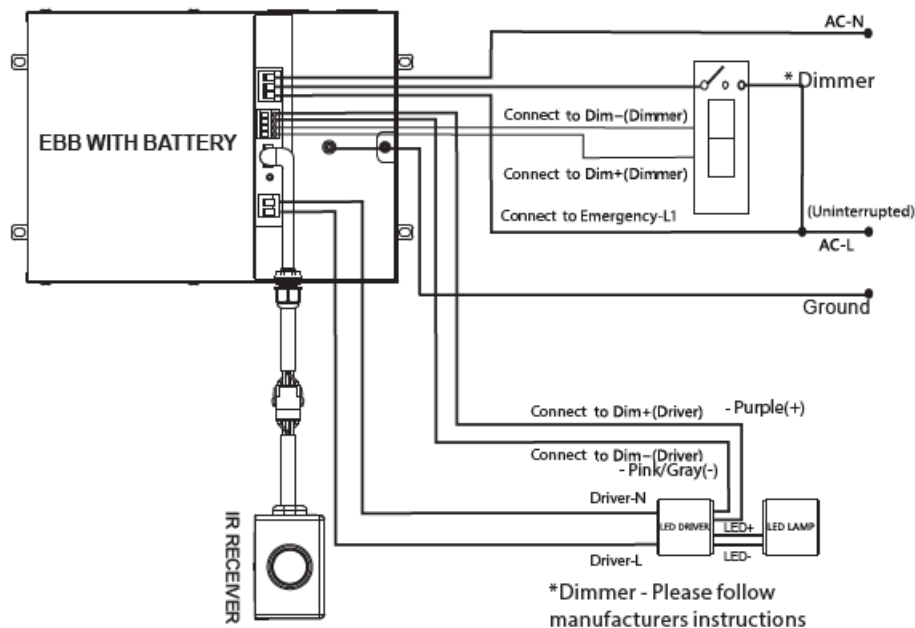
### B WHEN THE LED DRIVER POWER IS GREATER THAN WAND USED WITH A DIMMER

#### IMPORTANT

The purple and gray dimming wires must be connected to Luminaire or driver dimming wires

### CAUTION

For Diag C, D, Gray & Purple Dimming leads from EB20 Must Be Connected to Driver Dim +/- leads / terminal Blocks. If connection is not made, the LED Array will flicker and shut down after 10 seconds in 99% of the cases while in emergency mode. In some cases, the EB20 will fail as it will overheat. Dimming circuit helps to limit higher driver load to 20W



**WHEN LED DRIVER POWER IS GREATER THAN 20W USED WITHOUT SWITCH AND WITHOUT DIMMER**

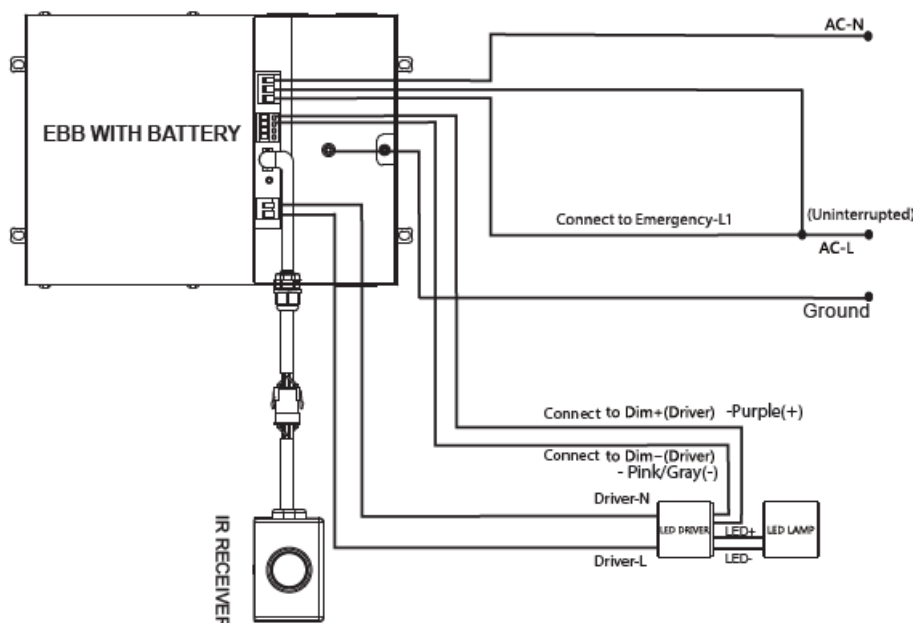
### IMPORTANT

The purple and gray dimming wires must be connected to Luminaire or driver dimming wires

### CAUTION

For Diagrams B, C, D, Gray & Purple Dimming leads from EB20 Must Be Connected to Driver Dim +/- leads / terminal Blocks.

If connection is not made, the LED Array will flicker and shut down after 10 seconds in 99% of the cases while in emergency mode. In some cases, the EB20 will fail as it will overheat. Dimming circuit helps to limit higher driver load to 20W.



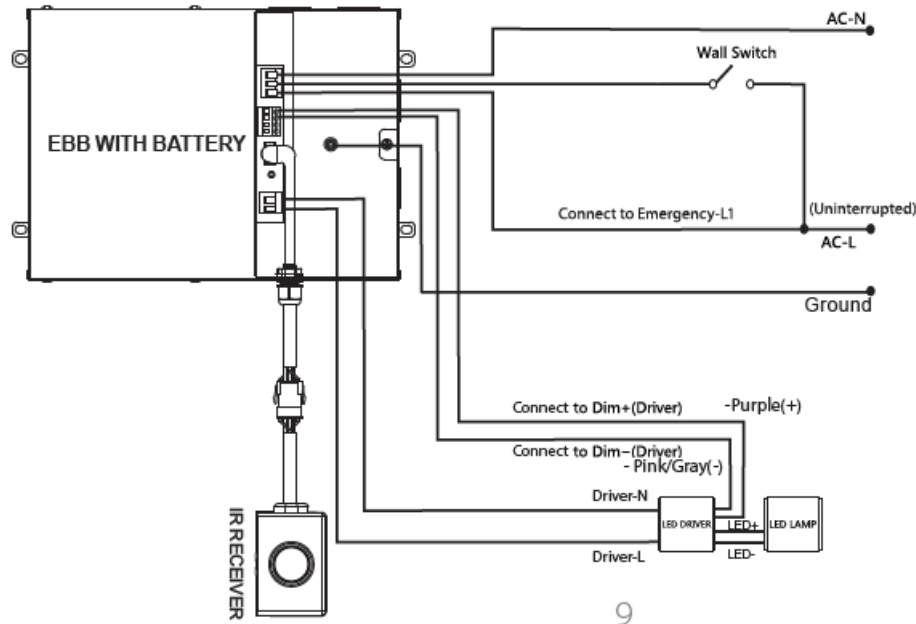
**B WHEN THE LED DRIVER POWER IS GREATER THAN 20W AND USED WITH A DIMMER**

### IMPORTANT

The purple and gray dimming wires must be connected to Luminaire or driver dimming wires

### CAUTION

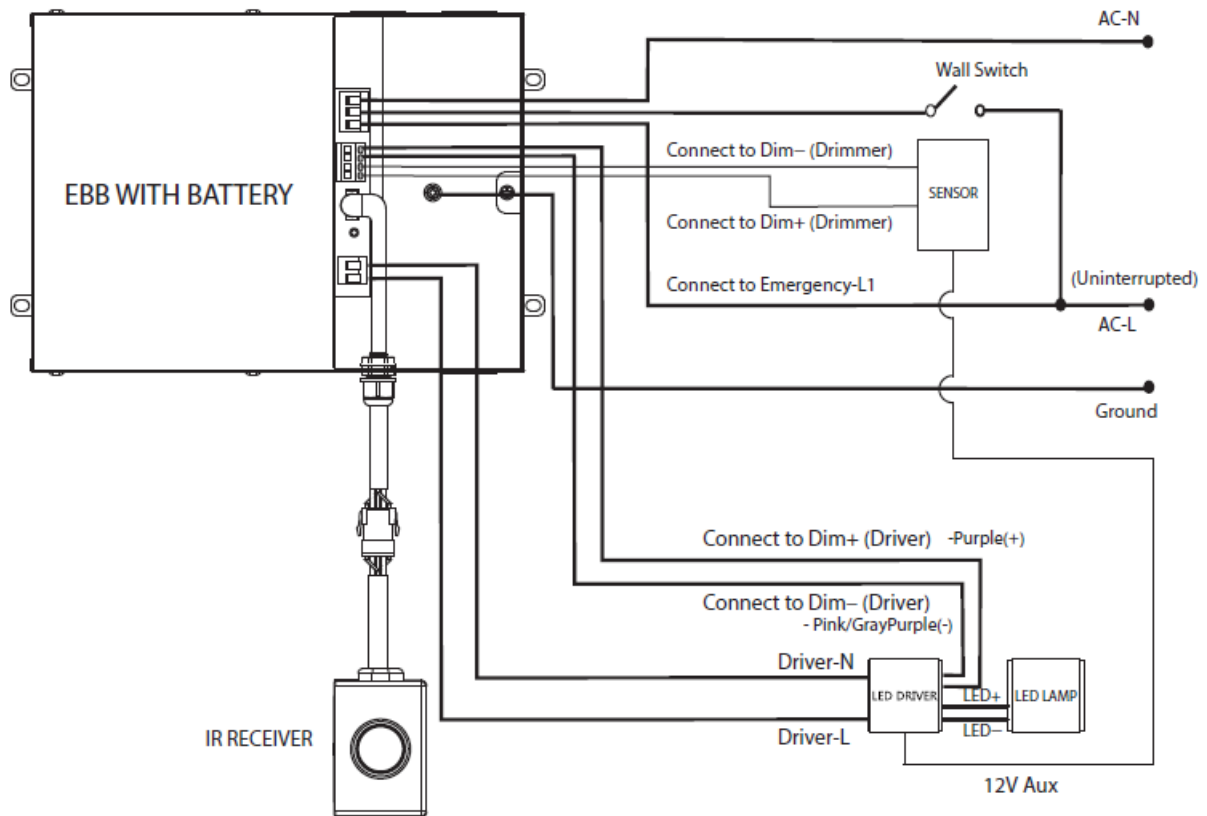
For DiagC, D, Gray & Purple Dimming leads from EB20 Must Be Connected to Driver Dim +/- leads / terminal Blocks. If connection is not made, the LED Array will flicker and shut down after 10 seconds in 99% of the cases while in emergency mode. In some cases, the EB20 will fail as it will overheat. Dimming circuit helps to limit higher driver load to 20W.



### BEFORE BEGINNING INSTALLATION, TURN OFF POWER AT THE CIRCUIT BREAKER.

1. Remove driver cover from linear high bay luminaire
2. Remove following wires from quick connector:
  - Sensor's Purple and Gray dimming wire
  - Driver's Purple and Gray dimming wire
3. Connect sensor's purple dimming wire to emergency yellow connector Dim+
4. Connect driver's purple dimming wire to emergency purple connector Dim+
5. Connect sensor's gray dimming wire to emergency gray connector Dim-
6. Connect driver's gray dimming wire to emergency gray connector Dim-
7. Connect Aux Power lead from Driver to Sensor (if equipped).
8. Connect input of driver black and white to emergency output connector brown and blue
9. Connect emergency input wires white, red and black as per following wiring diagrams

Install driver cover after wiring connection



## IMPORTANT

The purple and gray dimming wires must be connected to Luminaire or driver dimming wires

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[www.Litetronics.com](http://www.Litetronics.com)

[CustomerService@Litetronics.com](mailto:CustomerService@Litetronics.com) or 1-800-860-3392



The information and product specifications contained in these instructions are based upon data believed to be accurate at the time of printing. This information is subject to change without notice and without incurring liability. If you have questions regarding specific product details, please contact us at 800-860-3392 or via email at [customerservice@litetronics.com](mailto:customerservice@litetronics.com).

To check for an updated version of these instructions, please visit [www.litetronics.com](http://www.litetronics.com).

## Documents / Resources

	<p><b>LITETRONICS EB20 Emergency Battery Backup Unit</b> [pdf] Installation Guide EB20, EB20 Emergency Battery Backup Unit, Emergency Battery Backup Unit, Battery Backup Unit, Backup Unit</p>
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## References

-  [Commercial Lighting Company | LED Lighting Solutions](#)

Manuals+.