

EMBXXYY-ZZZ

Self- Diagnostic LED Emergency Driver

INSTALLATION MANUAL

!!! IMPORTANT SAFEGUARDS !!!

WHEN USING ELECTRICAL EQUIPMENT, BASIC SAFETY PRECAUTION SHOULD ALWAYS BE FOLLOWED, INCLUDING THE FOLLOWING

READ AND FOLLOW ALL SAFETY INSTRUCTION

1.

CAUTION– This **EMBXXYY** provides more than one power supply output source. To reduce the risk of electrical shock, disconnect both normal and emergency source by turning off the A.C. branch circuit and by disconnecting the battery on/off connector.
2.

CAUTION– Servicing of this equipment should be performed by qualified personnel only.
3.

CAUTION– Do not attempt to service the battery. A sealed, no-maitenance battery is used that is not field replaceable. Replace the entire unit when necessary.
4.

CAUTION– The use of accessory equipment not recommended by the manufacturer may cause an unsafe condition, void warranty, and result in non-compliance with UL specifications.
5.

CAUTION– Connnect the **EMBXXYY** battery pack to the unit before applying A. C. Power.
6.

CAUTION– The **EMBXXYY** requires an un-switched AC power source of **100-277VAC**, 50/60Hz or **100-347VAC**, 50/60Hz. **Verify the correspondent electrical rating at the LED fixture before servicing.** Both of the electrical rating will supply power under an output voltage of 25~230VDC in emergency mode for at least 90 minutes. (See individual units for output specifications.)
7.

CAUTION– Battery pack should be charge for 24 hours every 3 months during storage.
8.

CAUTION– Disconnect the battery pack before shipping and storing.
9.

Battery in this unit may not be fully charged. After electricity is connected to the unit for at least 24 hours, then normal operation of this unit should take effect.
10.

For use in 0℃ minimum, 50℃ maximum ambient temperatures. Suitable for use in damp locations and plenum spaces.
11.

Flexible mental conduit is optional, depend on installation environment.
12.

The **EMBXXYY** should be mounted in locations and at heights where it will not readily be subjected to tampering by unauthorized personnel.
13.

For led fixture power higher than or equal to rating of the **EMBXXYY** emergency battery pack.
14.

Do not use this equipment for anything other than its intended use. Equipment only use for LED Lighting emergency backup.
15.

Do not mount near gas or electric heaters. Do not let power supply cords touch hot surfaces.
16.

Do not make or leave any other open holes in the wiring enclosure or electrical component enclosure during installation.
17.

This fixture is for use with grounded, UL Listed, damp location rated, indoor fixture. Not for use in heated air outlets or hazardous locations.
18.

Do not use outdoor.

LUMEN OUTPUT DURING EMERGENCY OPERATION

The luminaire rated data and maximum mounting height can be found as follows:

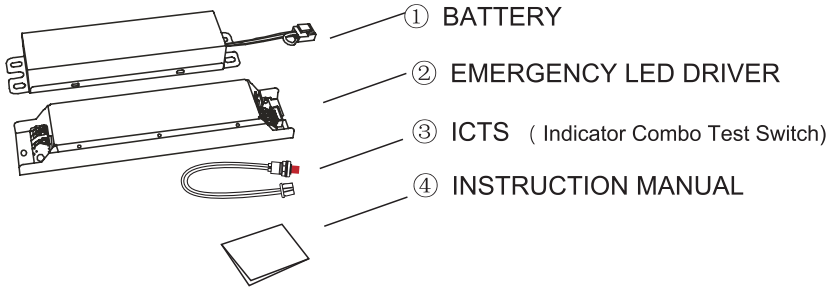
1.

Determine the fixture efficacy under normal AC operation, based on fixture manufacturer published data in lumens per watt (LM/W).
2.

Reference DLC QPL (www.designlights.org) and Energy Star QPL (www.energystar.gov) for rated data on fixture efficacy.
If fixture is not found on DLC or Energy Star Qualified Product List , contact fixture manufacturer.
3.

Multiply *fixture LM/W* by *rated output power of emergency pack* (Example “model EMB08YY-050” is $8\text{ W} \times \underline{100\text{ LM/W}} = 800\text{ Lumens}$)

PRODUCT COMPONENTS



EMB SERIES SPECIFICATION CHART

Models	Output Power	Output Voltage
EMB08YY-050, EMB08YY-080, EMB08YY-155, EMB08YY-230	8 Watts (Constant)	050 represent 20-50Vdc (Standard) 080 represent 51-80Vdc 155 represent 81-155Vdc 230 represent 155-230Vdc
EMB15YY-050, EMB15YY-080, EMB15YY-155, EMB15YY-230	15 Watts (Constant)	
EMB20YY-050, EMB20YY-080, EMB20YY-155, EMB20YY-230	20 Watts (Constant)	
EMB30YY-050, EMB30YY-080, EMB30YY-155, EMB30YY-230	30 Watts (Constant)	

CAUTION—See the **EMB Model Specification Chart** for output specifications of the unit being installed.

Power of the EMB selected must not exceed the power of A.C driver from led fixture.

The EMBXXYY-050 can be used with most led loads that operate at 25-50VDC.

The EMBXXYY-080 can be used with most led loads that operate at 51-80VDC.

The EMBXXYY-155 can be used with most led loads that operate at 81-155VDC.

The EMBXXYY-230 can be used with most led loads that operate at 156-230VDC.

SELF-DIAGNOSTIC (MAINTENANCE)

The integrated Self- Diagnostic circuitry will automatically conduct 1 monthly 120-second and annual 90-minute tests to verify proper emergency capability per Life Safety Code requirements. NFPA 101, Life Safety Code Outlines the following schedule:

- **Monthly-** During AC mode, the system conducts a (120) seconds self-discharge test of the emergency led driver every 30 days. And automatically restore to normal charging after (120) seconds dis-charged.
- **Annually-** During AC mode, the system conducts a (90)minutes self-discharge test of the emergency led driver every 365 days. And automatically restore to normal charging after fully dis-charged.
- **“Written Records of the Testing should be kept by the owner for inspection by the authority having jurisdiction.”** If the charging indicator is flashing rapidly or off, contact manufacturer.

SAVE THESE INSTRUCTIONS

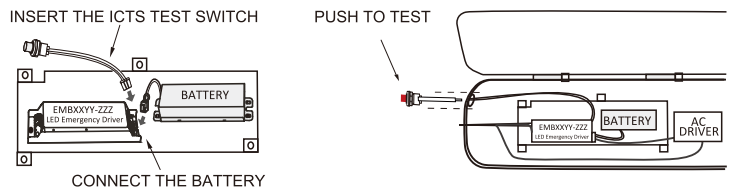


THIS PRODUCT CONTAINS A RECHARGEABLE LITHIUM-ION BATTERY. THE BATTERY MUST BE RECYCLED OR DISPOSED OF PROPERLY TO PREVENT FIRE.

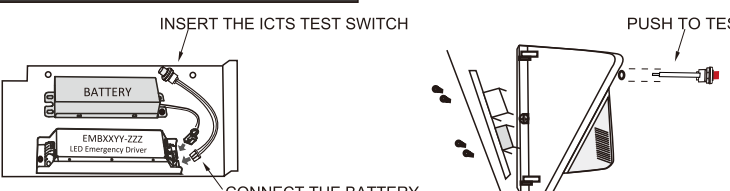
VERSATILE MOUNTING METHOD

> Suitable for LED lamp with internal driver. Mount the EMB series in the driver/ lamp compartment or enclosed wire-way, so the wire leads are not exposed, at least ½" from away from the driver. (see method 1&2)

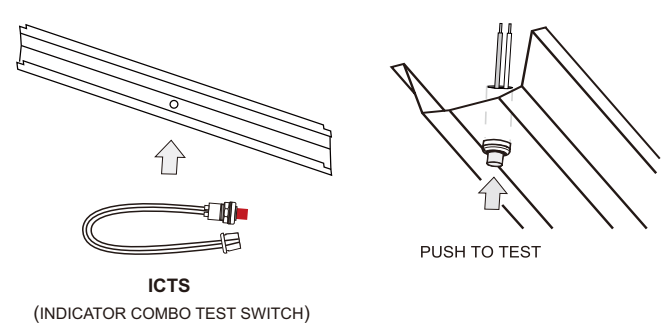
Vapor Tight Style Light Fixture



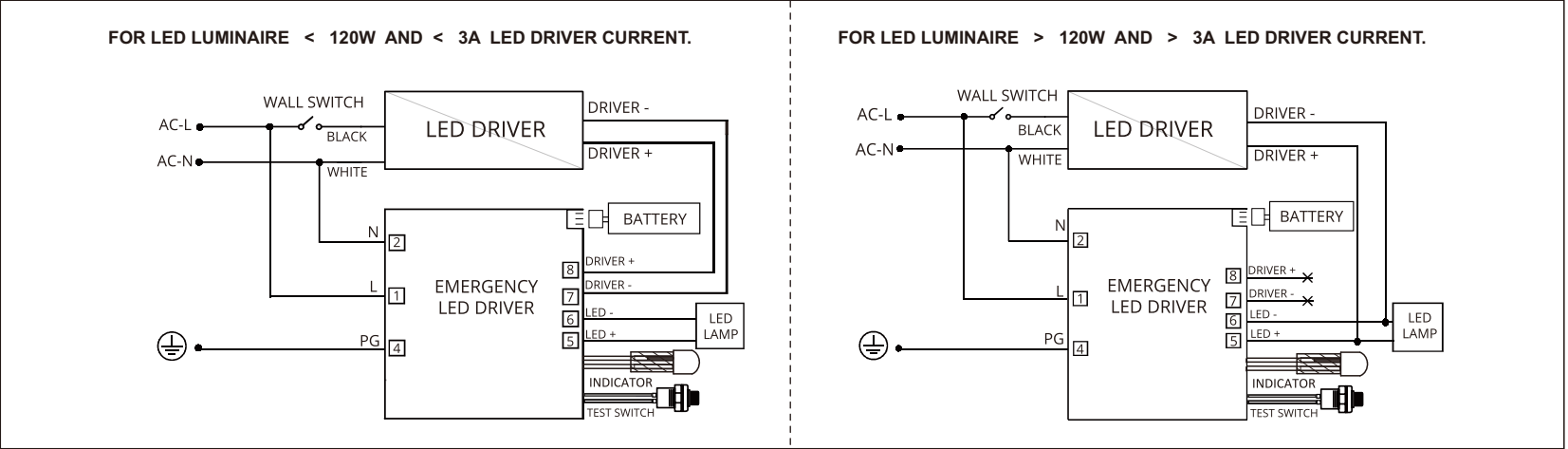
Wall Pack Style Light Fixture



Mounting Illustration



WIRING DIAGRAM



Caution: Before Installation, Make Certain The A.C. Power is Off !

STEP 1: Mounting

- > Pre-drill a hole into the fixture ballast cover/wire-way cover for the test switch (see illustration).
- > Indicator light and test switch should be mounted where can be seen by the maintenance personnel.
- > Select a suitable location for the EMB driver and EMB battery pack in the fixture and Install it to the existing mounting holes in the lighting fixture.

STEP 2: Disconnect AC power from fixture & disconnect battery

- > Select the appropriate wiring diagram found as reference. For other diagrams, consult the manufacturer.
- > Connect the A.C. power source leads to the input of the EMB series. Connect the output leads of the EMB Series to the LED load.
- > Make sure all connections are accordance with National Electrical Code or any other local regulations.

STEP 3: Wiring & insert the indicator combo test switch (ICTS)

- > The **EMB** and A.C. driver must be on the same branch circuit.
- > The **EMB** requires an unswitched AC power source of 100-347VAC, 50/60Hz; Therefore, the unit input must be wired ahead of the test switch, when used with switched fixtures. Insert test switch into the pre-drilled hole in the fixture's wire-way cover (see inllustration) .

STEP 4: Join the battery after wiring is completed & apply A.C. power

- > After the A.C. input wiring is complete, switch the A.C. power on. Then the charging indicator light should illuminate, which indicating the battery is charging.
- > **The battery in this unit may not be fully charged.** A short-term discharge test may be conducted after the **EMB** has been charging for 1 hour. Charge for 24 hours before conducting a long-term discharge test.

OPERATION (INDICATOR STATUS)			
Mode	Test Switch Operation	Indicator Status	Comment & Solutions
AC MODE (1)	NO Pressed	ON(no flashing)	Battery is charging
AC MODE (2)	Pressed once	2s ON and 2s OFF (slow flashing)	Battery is conducting a 30s short-term emergency test.
AC MODE (3)	Pressed twice (2s) in sequence	2s ON and 2s OFF (slow flashing)	Battery is conducting a long-term emergency test until battery is fully discharged
EMERGENCY MODE (1)	NO Pressed	2s ON and 2s OFF (slow flashing)	Battery is conducting a long-term emergency test until battery is fully discharged
EMERGENCY MODE (2)	Pressed once	OFF	Battery is turned off
PROBLEM	When indicator flashes (0.2s) ON and (0.2s) OFF fast or goes off, the emergency backup pack is abnormal. Contact the manufacturer.		
<div><div>WARNING</div><div>Risk of Electric Shock</div></div>		Note: Please pressed test switch (in once) of the EMB and make certain the battery is turned off, before installation, maintenance, storage or shipping.	