


! IMPORTANT SAFEGUARDS !

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

1. To prevent high voltage from being present on yellow & orange output leads prior to installation, converter connector must be open. Do not join converter connector until installation is complete and AC power is supplied to the emergency driver.
2. This product is for use with an LED lighting load and supplies up to 7W / 12W / 25W constant power with output voltage between 10 VDC and 60 VDC in emergency mode for a minimum of 90 minutes. (See electrical data table)
3. Make sure all connections are in accordance with the National Electrical Code or Canadian Electrical Code and any local regulations.
4. To reduce the risk of electric shock, disconnect both normal and emergency power supplies and converter connector of the emergency driver before servicing.
5. This emergency driver is for factory installation and field installation.
6. This product is suitable for use in damp locations where the ambient temperature is 5°C minimum, +50°C maximum. Product is not suitable for heated air outlets and wet or hazardous locations.
7. An unswitched AC power source is required (120 through 277 VAC, 50/60 Hz)
8. Do not install near gas or electric heaters, Do not use outdoors.
9. Use with grounded, UL Listed, damp location rated fixtures and case should be grounding.
10. The Driver is intended for ordinary locations and for permanent installation into one or more Listed emergency luminaires.
11. Do not attempt to service the battery. It is sealed unit and the battery is not replaceable. Contact the manufacturer for information on service.
12. The use of accessory equipment not recommended by the manufacturer may cause an unsafe condition
13. Do not use this product for other than intended use.
14. Servicing should be performed by qualified service personnel.
15. Only apply to LED Driver with the output current less than 3.0A / 5.0A. (See electrical data table)
16. Equipment should be mounted in locations and at heights where it will not be subjected to tampering by unauthorized personnel.

Contains LiFePO4 Rechargeable Battery. Must be recycled or disposed of properly.



NOTICE:

The LCP/EMP/LEDRV Series LED Emergency Driver Power Packs are rated for operation with an internal pack ambient between 5°C to 50°C. To meet this rating, warranty condition and ensure optimum component life, it is recommended that the pack be mounted remotely from the light fixture or high ambient temperatures. Where it is necessary to mount directly to the light fixture, the installer should verify that the stabilized light fixture surface temperature rise does not contribute radiant heat directly to the pack surface; resulting in the pack internal ambient temperature exceeding the max. 50°C rating. Locate or space the pack as necessary.

SAVE THESE INSTRUCTIONS

	INPUT			OUTPUT			Battery	Emergency Operation	Max. mounting height
	Input Voltage	Input Power	LED Driver output current	Output Voltage Range	Output Current	Output Power			
LCPSD7 EMP7-SD	120-277VAC 50/60Hz	4W max.	3A max.	10~60VDC	0.7A(@10Vdc) ~ 0.12A(@60Vdc)	7W	LiFePO4 battery 6.4V 3200mAH	90 Minutes	20 Feet (6.1m)
LCPSD12 EMP12-SD	120-277VAC 50/60Hz	6W max.	3A max.	10~60VDC	1.2A(@10Vdc) ~ 0.2A(@60Vdc)	12W	LiFePO4 battery 9.6V 3200mAH	90 Minutes	27 Feet (8.23m)
LCPSD25 EMP25-SD	120-277VAC 50/60Hz	7W max.	5A max.	20~60VDC	1.25A(@20Vdc) ~ 0.42A(@60Vdc)	25W	LiFePO4 battery 19.2V 3200mAH	90 Minutes	37 Feet (11.28m)

INSTALLATION

Verify LED Luminaire Compatibility

This product is suitable for field installation with suitable LED loads including LED luminaires, DC voltage driven LED replacements for fluorescent lamps and others. There are 4 checks to determine if your luminaire is eligible for field installation.

1. Ensure the LED load's rated power is greater than or equal to the power output of this emergency LED driver. This is to ensure that this emergency product will not produce more power than the LED load can handle, thus ensuring that the LED load will not be damaged when the system is in the emergency mode.
2. Verify that the forward voltage of the luminaire's LED array is within the limits of this emergency LED driver. The forward voltage of the LED array is commonly designated as Vf and should be found on the luminaire markings, in the luminaire specifications, or imprinted directly on the LED arrays. If multiple LED arrays are to be driven, verify that the total forward voltage is within the limits of this product. Using a voltage meter, it may be possible to directly measure the voltage across the LED arrays when operating from the AC driver.
3. Ensure the output current of the LED driver does not exceed 3A / 5Amps. This is the current into the blue wire. (See electrical data table)
4. Ensure there will be sufficient light output in the end application. Estimate the egress lighting illumination levels by doing the following:
 - a. Find the efficacy of the LED load. This can be given by the luminaire manufacture or DLC test report. This number will be given in lumens per watt (lm/w).
 - b. Lumens can be calculated by multiplying the output power of the emergency LED driver 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.
 - c. Using the results of this calculation and industry standard lighting design tools, calculate the anticipated illumination levels in the path of egress.

$$\frac{\text{Lumens In Emergency Mode}}{\text{(Lumens)}} = \frac{\text{Lumens per Watt of Fixture}}{\text{(lm/W)}} * \frac{\text{Output Power Emergency LED driver}}{\text{(W)}}$$

NOTE: This product has been designed to reliably interface with a wide selection of LED loads. 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.

NOTE: After installation, it will be necessary to measure the egress lighting illumination levels to ensure it complies with national, state, and local code requirements.

Installation



WARNING: TO PREVENT HIGH VOLTAGE FROM BEING PRESENT ON ORANGE OUTPUT LEADS PRIOR TO INSTALLATION, CONVERTER CONNECTOR MUST BE OPEN. DO NOT JOIN CONVERTER CONNECTOR UNTIL INSTALLATION IS COMPLETE AND AC POWER IS SUPPLIED TO THE EMERGENCY DRIVER.

NOTE: Make sure the necessary branch circuit wiring is available. An unswitched source of power is required. The emergency driver must be fed from the same branch circuit as the AC driver.

Installation of this emergency LED driver will vary based on the luminaire type, however, generally follow these steps:

STEP 1 INSTALLING THE EMERGENCY DRIVER

- > Disconnect AC power from the LED luminaire.
- > Mount the emergency LED driver by the mounting tabs using the supplied screws. The luminaire's installation instructions may provide guidance on the recommended mounting location.
- > The emergency driver with cable conduit is suitable for remote mounting from the luminaire; the emergency driver without cable conduit is not suitable for remote mounting. If used in conjunction with an AC driver, this distance is up to half the distance the AC driver manufacturer recommends remote mounting the AC driver from the LED Load. If used without an AC driver, consult factory for remote mounting distances.

INSTALLATION

- > Mounting Height: This product meets or exceeds the NFPA minimum light requirements with all loads, down to the smallest rated lamp load, at heights up to 7.17ft (2.2m). Many factors influence emergency illumination levels, such as the lamp load selected, luminaire design, and environmental factors therefore end use verification is necessary. For field installations, when the attached luminaire is mounted at heights greater than 7.17ft (2.2m), the level of illumination must be measured in the end application to ensure the requirements of NFPA 101 and local codes are satisfied.

NOTE: Associated Target Luminaire : Jewoo CULPL66X-BC , Max. mounting height 20ft / 27ft / 37ft , Others luminaire suitable for used shall be selected according to the instruction suggestion. (See electrical data table)

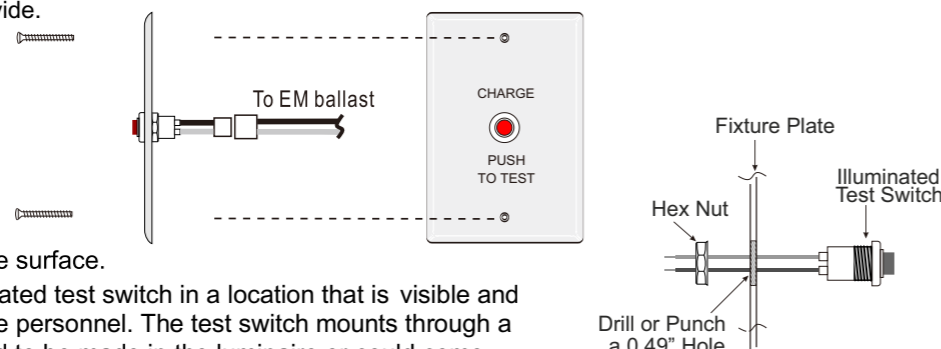
STEP 2 INSTALLING TEST SWITCH

Install and wire the test switch per wiring diagrams provided on these instructions.

If wired correctly, the test switch indicator light should be ON when AC power is supplied to the fixture, indicating that the emergency inverter battery is charging.

- A. Test switch install on switch box, switch box install on wall or ceiling surface.

NOTE: Switch box no provide.



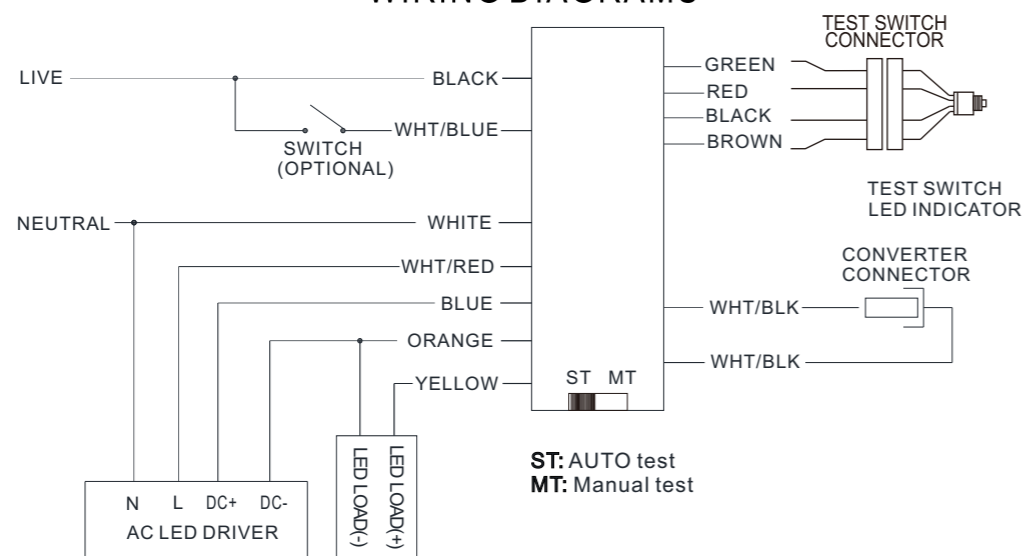
- B. Install test switch on fixture surface.

Mount the supplied illuminated test switch in a location that is visible and accessible by maintenance personnel. The test switch mounts through a 0.49" hole which may need to be made in the luminaire or could come pre-punched by the luminaire supplier.

STEP 3 WIRING THE EMERGENCY BALLAST

- > According wiring diagram to connect the emergency driver to the AC driver and LED load. Make sure all connections are in accordance with the National Electrical Code and any local regulations.
- > After installation is complete, supply AC power to the emergency driver and join the converter connector.
- > At this point, power should be connected to both the AC driver and the emergency driver, and the Charging Indicator Light should illuminate indicating the battery is charging.
- > A short-term discharge test may be conducted after the emergency driver has been charged for one hour. Charge for 24 hours before conducting a long-term discharge test. Refer to OPERATION.
- > 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 Or Fuses And Emergency Power Supplies Before Servicing."

WIRING DIAGRAMS



TYPICAL SCHEMATICS ONLY. MAY BE USED WITH OTHER DRIVERS. CONSULT THE FACTORY FOR OTHER WIRING DIAGRAMS.

Maintenance

Manual Operation

When AC power is applied, the charging indicator light is illuminated, indicating the batteries are being charged. When power fails, the emergency driver automatically switches to emergency power, operating the emergency LED load at reduced illumination. When AC power is restored, the emergency driver returns to the charging mode. This emergency driver will operate an LED lighting load supplies up to 7W / 12W / 25W constant power with output voltage between 10 VDC and 60 VDC in emergency mode for minimum of 90 minutes. (See electrical data table)

Auto Test Option

1. When AC power is supplied to fixture, the unit will automatically initiate a Auto test and self-diagnostic test as follows:

- (1) Verifies battery disconnection, charger board failure at every 5 seconds.
- (2) 1 minute Auto testing every month.
- (3) 30 minutes Auto testing on every 6 months after installation.
- (4) 90 minutes Auto testing on every 12 months after installation.

2. Dual color LED lamp indicator shows the following status:

- (1) Green color On / Ready
blinking: Testing
- (2) Red color (Service Alert)
- (3) Service Alert LED Code (Red color LED lamp indicator)

●	One blink, 4 second pause	Battery is not connected
●●	Two blinks, 4 second pause	Battery voltage too low
●●●	Three blinks, 4 second pause	Charger board circuit failure
●●●●	Four blinks, 4 second pause	Transfer system failure
●●●●●	Five blinks, 4 second pause	LED load not connected or failure

NOTICE

After solving the fault of emergency equipment, please press test button for 2 seconds without releasing to reset. LED indicator will show green.

3. AUTO test also have manual test function, press test button as follows:

Press test button once	30 seconds discharge test
Press test button twice within 2 seconds	3 minutes discharge test
Press test button 3 times within 2 seconds	30 minutes discharge test
Press test button 4 times within 2 seconds	90 minutes discharge test

Maintenance

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

1. Visually inspect the charging indicator light monthly. It should be illuminated.
2. Test the emergency operation of the fixture at 30-day intervals for a minimum of 30 seconds. The LED lighting load should operate at reduced illumination.
3. Conduct a 90-minute discharge test once a year. The emergency LED load should operate at reduced illumination for a minimum of 90 minutes.