

EMP40AR-1B170V-RW-UH

Product Feature

- Input voltage: 100-347Vac;50/60Hz
- Designed for back-lit panel light and UL Listed for US and Canada
- Constant output power, high output voltage,
- Complies with low energy consumption CEC Title 20
- Complies with NFPA101 and NFPA70
- Self-testing function
- Supports remote control emergency testing
- Protection for Battery: Over temperature/Over charge/Over discharge Protection
- UL924 and CSA C22.2 NO.141 certified for field installation
- 5-yearwarranty



Certified in CA TITLE 20
Appliance Efficiency Database -
Battery Charger



Models

Model Number	Input Voltage	Emergency Power	Output Voltage Range	Recharge Power	Recharge Time	Discharge Time
EMP40AR-1B170V-RW-UH	100-347Vac	40W	170Vdc	12W	24Hours	90minutes

Note:

- [1]. All specifications are measured at 25°C ambient temperature, input voltage 277Vac, and the typical value tested by full load
 [2]. AR means 0-10V dimming and remote control.
 [3].The unit of EMP40AR-1B170V-RW-UH for led lamp less than 320W ,When the fixture dim to the minimum, the power needs to be less than that of emergency led driver.

Technical Parameters

Model		EMP40AR-1B170V-RW-UH*			
Parameter		Min.	Typ.	Max.	Remark
Input	Rated Input AC Voltage	100Vac	-	347Vac	
	Input AC Voltage Range	90Vac	-	380Vac	Reference derating curve
	Frequency Range	47Hz	50/60Hz	63Hz	
	Input AC Current	-	-	0.20A	At 100Vac input and 100% load
	Input AC Power	-	-	12W	At 100Vac input and 100% load
	Leakage Current	-	-	0.70mA	UL 8750; 277Vac/ IEC 60598-1; 240Vac 50/60Hz,
	Inrush Current	-	-	70A	At 100Vac input and 100% load, 25°C Cold Start
	Stand by Power	-	-	1.0W	At 277Vac input
	Power Factor	-	0.5	-	At 120~347Vac input and 100%load
Output	Output Voltage Range	164V	170V	176V	
	Output Current Range	224mA	-	236mA	
	Efficiency of Recharging	-	70.0%	-	At 100% load
	Efficiency of discharge	-	80.0%	-	At 100% load
	Output Current Tolerance	-8%	-	+8%	At 100%load
	Turn-on Delay Time	-	-	1.0s	At 100~347Vac input and 100% load
0-10V Dimming	Dimming Voltage Range	0V	-	12V	
	Recommended Dimming Range for 0-10V	0V	-	10V	Dimming prohibits reverse connection

Parameter		Min.	Typ.	Max.	Remark
Other Characteristics	Operating Temperature For safety(Ta)	0°C	25°C	+50°C	
	Operating Temperature For warranty(Ta)	0°C	25°C	+50°C	Humidity: 10% RH to 95% RH
	Storage Temperature(Ta)	0°C	25°C	+50°C	
	Storage Humidity	5%RH	-	95%RH	
	Short Circuit Protection	-	-	-	Self-recovery, short circuit without damage
	Lifetime(Ta≤50°C)	≥50,000hours			At 100% load
	Warranty	5 years			Ta≤ 50°C
	Net Weight	3.96 lbs.(1.8kg)			
	Dimension	Ø5.47"(139mm)*H6.8"(173mm)			ØxH

Note: All the parameters above are tested at Ta 25°C and LED load, unless specified.

Safety and EMI/EMS Standards

Safety Certification	Standard	Status	Remark
UL/cUL	UL924/CSA C22.2 NO.141	√	
CE	EN 1838		
CCC	GB 17945-2024/GB T 42824-2023		

EMC Category	Standard	Status	Remark
FCC	FCC Part15 Sub part B:2017	√	
CE	EN 1838		
Surge	UL924		L-N 3Kv

Safety Test Items:

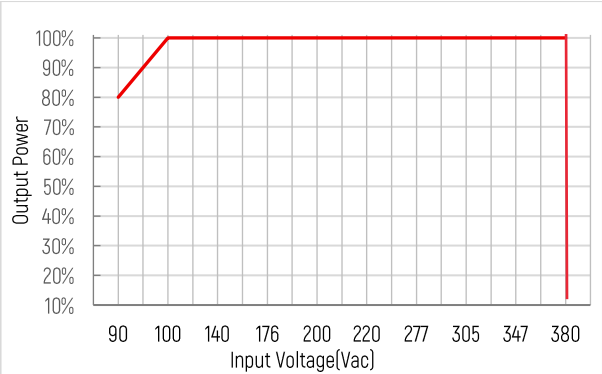
Safety Test Items	Technical Indicators		Remark
Insulation Requirements	UL Insulation Requirements	CE/ENEC Insulation Requirements	
Input-Case	2U+1000Vac	/	Basic insulation
Input-Dim	2U+1000Vac	/	Reinforced insulation
Dim-Case	500Vac	/	Basic insulation
Insulation Resistance	≥10MΩ		Input-Dim, Test voltage:500Vdc
Ground Resistance	≤0.1Ω		25A/1min

Note:
1.The LED driver itself complies with the EMC standard. However, the EMC of the LED driver should be re-checked when integrated into lighting systems due to unexpected interference of components.
2.Please don't perform Hi-pot test of Input-Output .

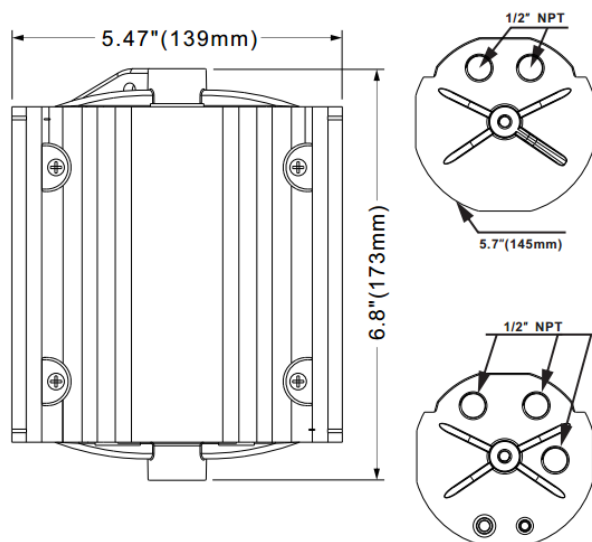
RoHS

Our products comply with RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.

Derating



Dimension: mm(Inch)



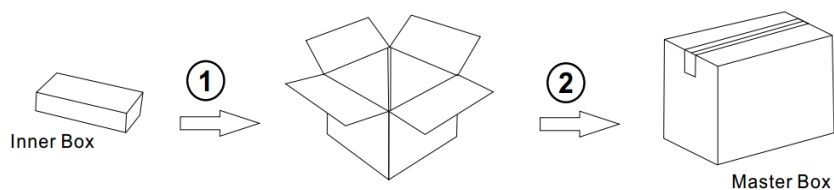
Ø5.47"(139mm)*H6.8"(173mm)

Accessories (indicator light & Test Switch)



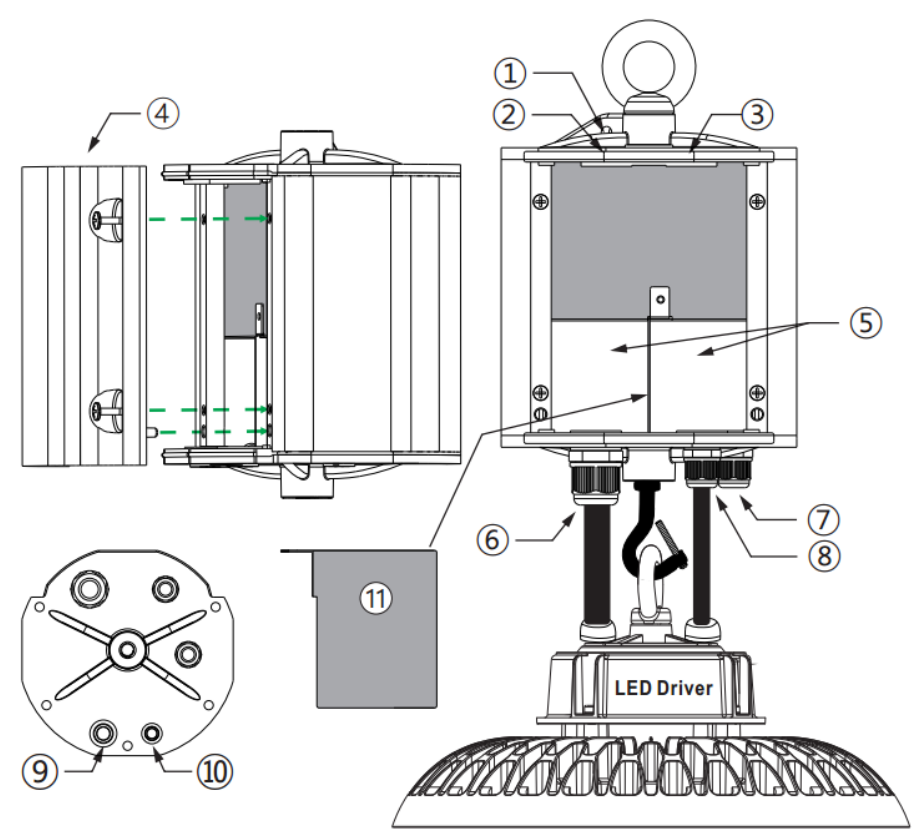
1.1 x Remote control and antenna 2. 1 x M10 hanging hook bolt and ring bolt 3. 1 x Safety rope and 2 x chain link connector 4. 2 x M10 and 2 x M18 5. 11 x Wire nuts

Package



Dimension: 14.96" x 14.96" x 9.84" (LxWxH) / 380mm x 380mm x 250mm (LxWxH)
G.W:10kg; N.W:7.2kg; 4PCS/Cartron

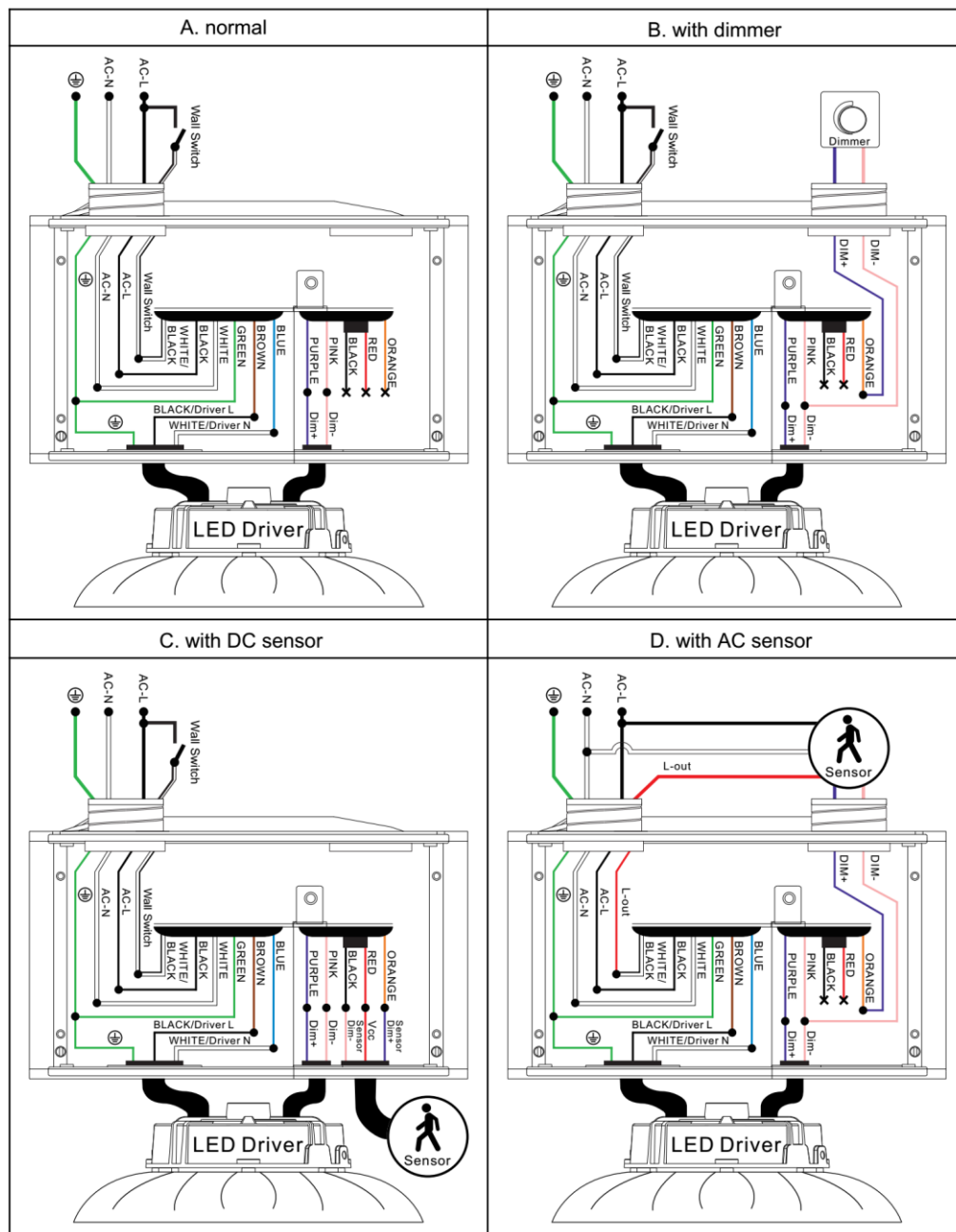
Installation instructions



No.	Item
1	Safety rope interface
2	AC input wire interface
3	Dimming wire interface
4	Integrated junction box cover
5	Junction box
6	LED Driver input wire
7	Sensor wire interface
8	LED Driver dimming wire
9	Charge Indicator &Test switch
10	Signal receive
11	Septum

Wiring Diagram

Note: The LED fixture must be integrated with a 0/1-10V driver when the LED fixture power is more than Emergency backup unit power.



Operation (Indicator status)

Mode	Test Switch Operation	Indicator Status	Comment & Solutions
AC MODE 1	NO Press	ON(no flashing)	Emergency led driver is charging
AC MODE 2	Press once	2s ON and 2s OFF (slow flashing)	Emergency led driver is conducting a 30s short-term emergency test, After 30 seconds, it will automatically restore to normal charging mode
AC MODE 3	Press twice within 2 seconds.	2s ON and 2s OFF (slow flashing)	Emergency led driver is conducting a long-term emergency test until battery is fully discharged
EMERGENCYMODE	NO Press	2s ON and 2s OFF (slow flashing)	Emergency led driver is conducting a long-term emergency test until battery is no power
ABNORMAL	When flashes (50ms) ON and (50ms) OFF fast , the emergency backup pack is abnormal. Contact the manufacturer.		
WARNING Risk of Electric Shock	Note: Please press once test switch to make certain the battery is turned off, before installation, maintenance, storage or shipping.		

Self-testing

The integrated self-diagnostic circuitry automatically conducts 30-second tests monthly and 90-minute tests annually to verify proper emergency capability, in accordance with the Life Safety Code. NFPA 101 outlines the following schedule: The system will automatically restore normal charging after a full discharge.

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 (30)seconds dis-charged.

Monthly- During AC mode, the system conducts a (30)seconds self-discharge test of the emergency led driver every 30 days.

Installation Manual

Important safeguards ,when using electrical equipment, basic safety precaution should always be followed, including the following, please read and follow all safety instruction

1. CAUTION-This emergency LED driver provide more than one power supply output sourer, to reduce the risk of electric shock, please shut off the AC branch circuit and disconnect the normal power supply and emergency power supply.
2. CAUTION- Servicing of this equipment should be performed by qualified personnel only.
3. CAUTION- Do not attempt to maintain the battery. This device uses a sealed, maintenance-free battery that cannot be replaced on site. If necessary, replace the entire device.
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- Connect the emergency driver battery pack to the unit before applying AC Power.
6. CAUTION- The emergency driver requires an un-switched AC power source of 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 170VDC in emergency mode for at least 90 minutes.
7. CAUTION- Battery pack should be charged for 24 hours every 6 months during storage.
8. CAUTION- Press test switch again to turn off emergency before shipping.
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 5°C minimum, 50°C maximum ambient temperatures. Suitable for use in damp locations and plenum spaces.
11. The emergency driver should be mounted in locations and at heights where it will not readily be subjected to tampering by unauthorized personnel.
12. Do not use this equipment for anything other than its intended use. Equipment only use for LED Lighting emergency backup.
13. Do not mount near gas or electric heaters. Do not let power supply cords touch hot surfaces.
14. Do not make or leave any other open holes in the wiring enclosure or electrical component enclosure during installation.
15. The emergency driver have battery inside, forbidden for insulation voltage(I/P-O/P) test.
16. This fixture is for use with grounded, UL Listed, damp location rated, indoor fixture. Not for use in heated air outlets or hazardous locations.
17. Maximum installation height: 51 feet.
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 EMP40AR-1B170V-RW-UH' is 40W x 150 LM/W = 6000 Lumens
- This product has been designed and tested to compatible with most of led drivers in the market. However, compatibility cannot be guaranteed with all current and future LED drivers or fixtures. So compatibility testing of the end-use system is suggested. Please contact the factory with any questions.



CAUTION-Before installation, make sure the AC power is turned off

STEP1: Installing the emergency led driver

- > Turn off the AC power before installing.
- > Test switch and indicator light shall be installed where can be seen depending on the application.
- > The voltage input to the dimmable wires (DIM+,DIM-) of emergency LED driver must less than 20Vdc.
- > Determine appropriate location for emergency driver on the fixture or using brackets to fix emergency driver on the fixture. The installation instruction of LED luminaire may provide guidance on mounting location.

STEP2: Wiring the emergency driver

- > Select the appropriate wiring diagram to connect the emergency driver to the driver's AC input. For other diagrams, consult the manufacturer.
- > Using wire nuts to cover unused wires and make sure all connections are in accordance with the NEC and any local regulations.

STEP3: Testing

- > After wiring is complete, check if the indicator light lights or not , which will indicate the battery's charging situation.
- > The battery in this unit may not be fully charged. A short-term discharge test may be conducted after the emergency driver has been charging for 1 hour. Charge for 24 hours before conducting a long-term discharge test.

Warranty Agreement

1. Warranty periods from the date of delivery : 5years.
- 2.Free repair or replacement services for quality problems are provided within warranty periods.

Warranty Exclusions below:

The following situations are not covered by the free warranty or replacement service:

1. Exceeding the warranty period.
2. Damage caused by human factors such as high voltage, over load, and improper operation.
3. The appearance of the product is severely damaged or deformed.
4. Normal wear and tear or aging during regular product use.
5. Damage caused by natural disasters or force majeure factors.
6. The quality inspection label of the product is damaged(QC PASS).
7. No contract or valid invoice proof signed with EUCHIPS has been provided.

※Remedies: Repair or replacement is the only remedy provided by EUCHIPS to the customer, and EUCHIPS shall not be liable for incidental damages arising from repair or replacement, unless within the scope of applicable law.

※Adjustment of Warranty Terms: EUCHIPS reserves the right to modify or adjust the warranty terms, which shall be published in writing.

Revision history

Change date	Version	Item	From	To
2025.08	V1.0	First release		