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EPE-ED9

LED Emergency Driver

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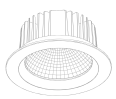
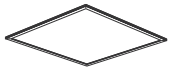
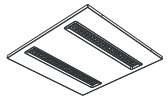


LED Downlight



LED Panel



Troffer

INTRODUCTION

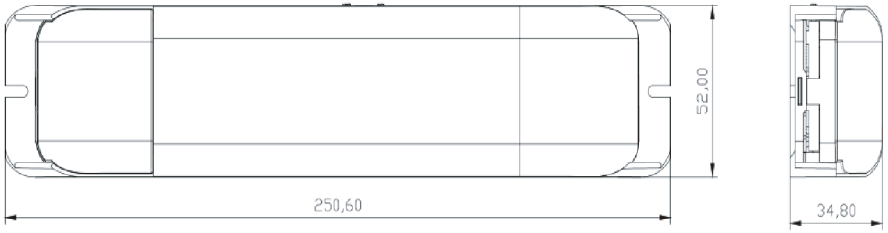
This emergency lighting module is designed to convert a wide range of LED luminaires with an emergency output power that varies from 2W. Constant power output is an ideal choice for converting most standard LED fixtures with an external driver, like panels and downlights. Built-out LiFePO4 battery solution, it is flexible, safe, stable, and long-lasting. Varies kinds of the terminal block included, providing all possible installation ways.

FEATURES

- Smart IC control, switch freely between charging and discharging mode
- Built-in LiFePO4-battery, flexible, safe, stable and long lasting.
- Suitable for luminaries with external driver 10-250VDC output.
- Self-testing and self-diagnostic function optional
- Constant power for 2W max output power.

Dimensions

Unit:mm



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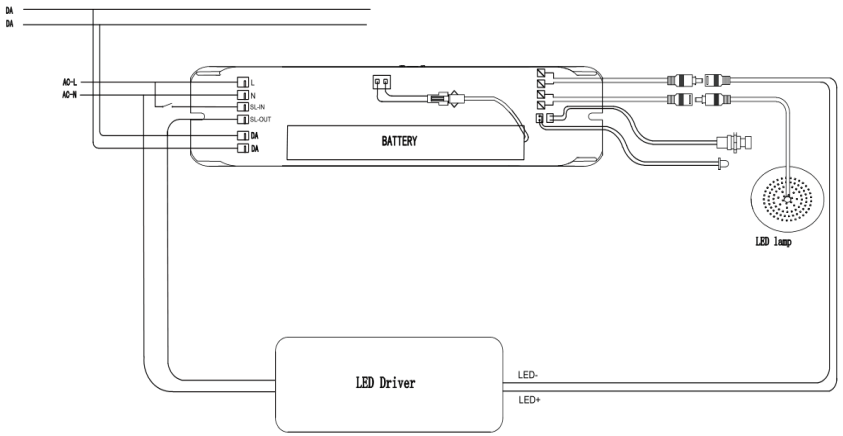
Model List

Model	EPE-ED9
Input Voltage	220-240V-50/60Hz
Input Current	35mA Max
Emergency Power	2W
Discharge Duration	1H/2H/3H
Output LED Voltage & Current	10-250V 200mA Max
Battery	LiFePO4 6.4V1500mAh
Test Mode	AT/MT/DA

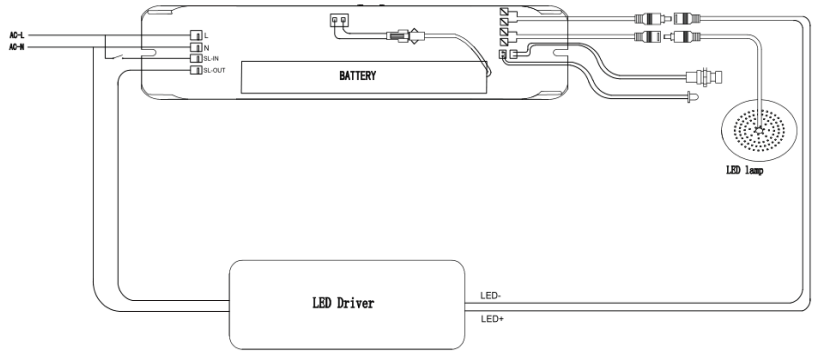
Product Information

Specifi cation	EPE-ED9
Input Voltage	220-240Vac
Input current	≤0.035A
Frequency	50/60Hz
Efficiency	≥70%
Emergency Power	2W
Output Voltage	10-250Vdc
Maximum TC Point	65°C
Ambient Temperature Range	0°C-45°C
Battery	LiFePO4 6.4V 1500mAh(1/2/3H)
Battery Duration	1H 2H 3H
IP Rating	IP20

Wire Diagram For ED9-DA Series



Wire Diagram For ED9-AT/MT Series



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Instructions for manual test option

1.Indicator Status

- Green On Normal Status.
- Green Off Emergency Status/circuit fault/battery disconnected.

2. Button Test

- Hold the test button for functional test.
- Release the test button for stopping functional test.

Instructions for automatic test option

1. Instruction for Automatic test function

Once the unit is powered up, a self-diagnostics test will be automatically initiated:

- Check battery, lamp, charge board and transfer fault all the time.
- Run 3mins duration test every month.
- Run 1H or 3H duration test every year.

Note: All test functions are preset and no need field adjustment.

2. Dual Colour LED Status Indicator Meaning

- Green indicator solid on: Ready/ Normal Operation
- Red indicator flashes: Require service

•	One flash, 4s pause	Battery disconnected
••	Two flashes, 4s pause	Low battery voltage
•••	Three flashes, 4s pause	Charge board fault
••••	Four flashes, 4s pause	AC/DC transfer fault
•••••	Five flashes, 4s pause	LED lamp fault

Note: When the fault is recovered, press the test button for 2s, the red flashing indicator will turn green. The fault is cleared, and the unit is back to normal.

3. Button Test

Press test button once	run a 30s duration test
Press test button twice within 2s	run a 3mins duration test
Press test button 3 times within 2s	run a 30mins duration test
Press test button 4 times within 2s	run a 1H or 3H duration test

DALI Control

A DALI command from a suitable control unit can be used to initiatefunction and duration tests at individually selected times. Status flags are set for report back and data logging of results.

When a DALI bus has not been connected or when a DALI bus is connected but the DALI default DELAY and INTERVAL times have not been re-set by sending appropriate DALI commands, then the EPE-ED9 will conduct self-tests in accordance with the default times set within the EEPROM . These default times are factory pre-set, in accordance with the DALI standard EN 62386-202,to conduct an automatic function test every 7 days and a duration test every 52 weeks. Since the DELAY time is factory pre-set to Zero, all units are tested at the same time. Test times can be changed with a command over the DALI bus.

The DELAY and INTERVAL time values must be re-set when the emergency system test times are to be scheduled by a DALI control and monitoring system.

Note that once the default values have been set to Zero, tests will only beconducted following a command from the control system. If the DALI bus is disconnected the EPE-ED9 does not revert to self-testing mode.

Addressing

The EPE-ED9 includes the new EZ easy addressing system which allow addressing and identification by using the bi-colour LED.Binary address codes given by the LED can be simply converted to the DALI addresses 0 to 63. For single handed addressing using this method it is necessary to send a broadcast ident command every 3 to 9 seconds. During this command the main fluorescent lamp will be switched off and the LED will flash the 6 bit binary address preceded by a 3 second start indication period.

Commissioning

After installation of the luminaire and initial connection of the mains supply and battery supply to the EPE-ED9 the unit will commence charging the batteries for 20 hours (initial charge).Afterwards the module will conduct a commissioning test for the full duration. The 20 hours recharge occurs also if a new battery is connected or the module exits the rest mode condition. The following connected or the module

exits the rest mode condition. The following automatic commissioning duration test is only performed when a battery is replaced and fully charged (after 20 hrs) and the interval time is not set to zero, otherwise the system is expected to perform the testing.

Functional Test

The time of day and frequency of the 5 seconds function test can be set by the DALI controller. The default setting is a 5 seconds test on a weekly basis.

Duration Test

The time of day and frequency of the duration test can be set by the DALI controller. The default setting is a duration test conducted every 52 weeks.

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Prolong Time

Prolong time can be set by the DALI controller. This is the delay time between return of the mains supply and the end of the emergency operation.The default prolong time is set as 0 minutes as specified within the DALI standard.

Indicator LED will stay off for the duration of the prolong time.

Rest Mode / Inhibit Mode

Emergency operation is automatically started when the mains supply is switched off. If the Rest Mode is activated, the discharging of the battery will be minimized by switching off the LED output. If the Inhibit Mode has been activated before the mains supply is switched off, Rest Mode will be auto matically switched on if the mains supply is switched off within 15 minutes.Rest Mode and Inhibit Mode can be initiated by the DALI controller. The REST command has to be sent after the mains supply has been discon nected and whilst the EPE-ED9 is in emergency operation. The INHIBIT command has to be sent while the EPE-ED9 is supplied by mains.

Test Switch

An optional test switch can be wired to each EPE-ED9 This can be used to initiate a 5 seconds function test by a short press < 1 second.

DALI Controller

Average life-time 50,000 hours under rated conditions with a failure rate of less than 10 Average failure rate of 0.2

Life-time

Average life-time 50,000 hours under rated conditions with a failure rate of less than 10 Average failure rate of 0.2

Status indication

System status is indicated by a bi-colour LED and by a DALI status flag.

LED indication	Status	Commentary
Permanent green	System OK	
Fast flashing green (0.1sec on-0.1 sec off)	Function test underway	
Slow flashing green (1sec on-1 sec off)	Duration test underway	
Red LED on	Load failure	Open circuit / Short circuit / LED failure 1
Slow flashing red (1sec on-1 sec off)	Battery failure	Battery failed the duration test or function / Battery is defect / Incorrect battery voltage
Fast flashing red (0.1sec on-0.1 sec off)	Charging failure	Incorrect charging current
Double pulsing green	Inhibit mode	Switching into inhibit mode via controller
Binary transmission of addressvia green/red LED	Address identification	During address identification mode
Green and red off	DC mode	Battery operation (emergency mode)

If the EPE-ED9 is operated in non-maintained mode and an LED fault is detected,the red indicator LED will be illuminated and the output will be stopped. The unswitched mains supply must be switched off before the LED is changed in order that the new LED can be detected. A function or duration test will not reset the fault indication.

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