

## LED EMERGENCY CONVERTER EEC15L

### Description

The emergency converter EEC15L is universal design for use with most LED lamps that works with constant power drivers. It is an emergency battery pack that uses electronic circuitry to convert energy stored in a battery into the DC voltage and current necessary to drive the LED load.

The unit can be installed as maintained or non-maintained unit and it allows the same LED fixture to be used for both normal and emergency operation.

When in emergency mode, the unit will operate a 2.5W/3.5W/5W/battery output with constant power with a rated output voltage of 10V-90V. The emergency power can be adjusted by dial switch. The unit has a discharge protection circuit, over load, short circuit and battery low voltage protection.

Each unit includes the battery pack, LED charge indicator, a test switch and the emergency power module, everything combined in a single box.

### General Specification

|                               |            |
|-------------------------------|------------|
| Rated supply voltage          | 220-240VAC |
| Mains frequency               | 50/60Hz    |
| Ambient temperature $t_a$     | 0 °C~55 °C |
| Max. Casing temperature $t_c$ | 65°C       |

### Battery Discharge & Charge Specification

| Parameter | Min. | Typ. | Max. | Note |
|-----------|------|------|------|------|
|-----------|------|------|------|------|

|                           |       |   |       |                                                  |
|---------------------------|-------|---|-------|--------------------------------------------------|
| Battery discharge current | 300mA | - | 400mA | * When #1 dial switch been selected to "EM 2.5W" |
| Output voltage            | 10Vdc | - | 90Vdc |                                                  |
| Output current            | 13mA  | - | 185mA | * Measured at 6.4V input from batteries          |
| Emergency power           | 2W    | - | 2.6W  |                                                  |

| Parameter | Min. | Typ. | Max. | Note |
|-----------|------|------|------|------|
|-----------|------|------|------|------|

|                           |       |   |       |                                                  |
|---------------------------|-------|---|-------|--------------------------------------------------|
| Battery discharge current | 500mA | - | 680mA | * When #2 dial switch been selected to "EM 3.5W" |
| Output voltage            | 10Vdc | - | 90Vdc |                                                  |
| Output current            | 30mA  | - | 250mA | * Measured at 6.4V input from batteries          |
| Emergency power           | 3.3W  | - | 3.9W  |                                                  |

| Parameter | Min. | Typ. | Max. | Note |
|-----------|------|------|------|------|
|-----------|------|------|------|------|

|                           |       |   |       |                                                |
|---------------------------|-------|---|-------|------------------------------------------------|
| Battery discharge current | 700mA | - | 800mA | * When #3 dial switch been selected to "EM 5W" |
| Output voltage            | 10Vdc | - | 90Vdc |                                                |
| Output current            | 34mA  | - | 380mA | * Measured at 6.4V input from batteries        |
| Emergency power           | 4.6W  | - | 5.2W  |                                                |

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| Item Code      | Batteries                   | Emergency Power | Emergency Duration | Charge Current | Charge Time |
|----------------|-----------------------------|-----------------|--------------------|----------------|-------------|
| EEC15L-2.5W    | 6.4V/1500mAhLiFePO4 battery | 2.5W            | 3h                 | 200mA±10%      | 16h         |
| EEC15L-2.5W    | 6.4V/3000mAhLiFePO4 battery | 2.5W            | 6h                 | 200mA±10%      | 16h         |
| EEC15L-3.5W    | 6.4V/1500mAhLiFePO4 battery | 3.5W            | 2h                 | 200mA±10%      | 16h         |
| EEC15L-3.5W    | 6.4V/3000mAhLiFePO4 battery | 3.5W            | 4h                 | 200mA±10%      | 16h         |
| EEC15L-5W      | 6.4V/1500mAhLiFePO4 battery | 5W              | 1.5h               | 200mA±10%      | 16h         |
| EEC15L-5W      | 6.4V/3000mAhLiFePO4 battery | 5W              | 3h                 | 200mA±10%      | 16h         |
| EEC15L-ST-2.5W | 6.4V/1500mAhLiFePO4 battery | 2.5W            | 3h                 | 200mA±10%      | 16h         |
| EEC15L-ST-2.5W | 6.4V/3000mAhLiFePO4 battery | 2.5W            | 6h                 | 200mA±10%      | 16h         |
| EEC15L-ST-3.5W | 6.4V/1500mAhLiFePO4 battery | 3.5W            | 2h                 | 200mA±10%      | 16h         |
| EEC15L-ST-3.5W | 6.4V/3000mAhLiFePO4 battery | 3.5W            | 4h                 | 200mA±10%      | 16h         |
| EEC15L-ST-5W   | 6.4V/1500mAhLiFePO4 battery | 5W              | 1.5h               | 200mA±10%      | 16h         |
| EEC15L-ST-5W   | 6.4V/3000mAhLiFePO4 battery | 5W              | 3h                 | 200mA±10%      | 16h         |

Note: All specifications are typical at 25°C unless otherwise stated.

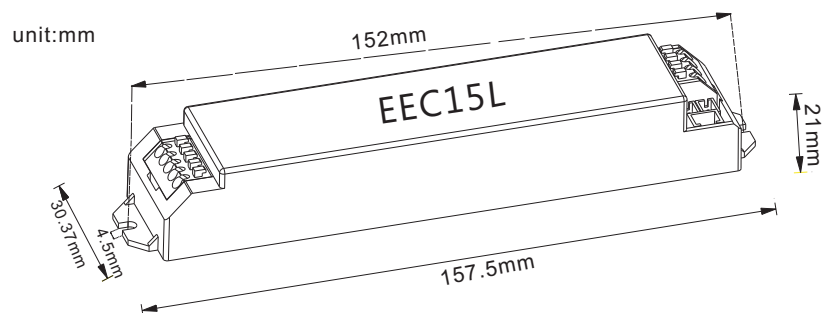
### Important information for the installation

- The unit use dangerous mains voltage, it should be installed by qualified electricians only according to European safety standard or relevant nation regulations.
- The emergency converter can only be used with the LED lamps and only suitable for use in indoors. Protect the electronics converter against excessive heat.
- Connect the LED lamps to the emergency converter with correct polarity according to the schematic drawing.
- The maximum length of the output cable to the LED lamps should not exceed 3m according to the EMC standard.
- Connect the unit to AC power only after the wiring been completed between emergency converter and LED lamps.
- About such situations, no ability can be taken over for possible damage: the emergency converter is used for purposes other than originally intended; connected in the wrong way.
- Battery should be charged once in three mouths in order to keeping it in initial performance.
- The emergency function test must be performed when a battery is fully charged for 16 hours.
- The controlgear relies upon the luminaire enclosure for protection against accidental contact with live parts.
- The controlgear is not intended for use in luminaries for high-risk task area lighting.
- The type of insulation used between the supply and the battery circuit is double insulation.
- The circuit is protected after a battery short circuit, after the battery is restored, the charging circuit can charge normally.



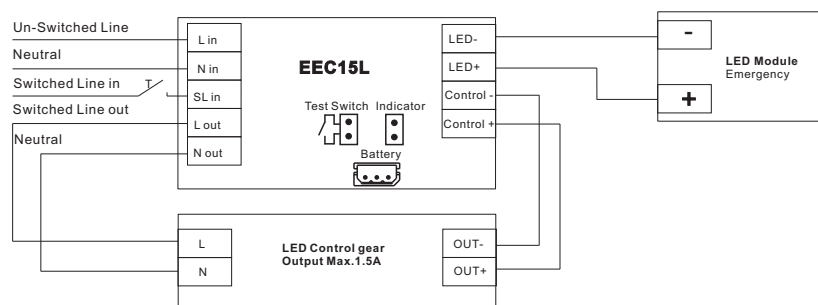
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### Mechanical Outline



### Wiring Diagram

The maximum no-load voltage of the drive is 90V



With the following cases, the indicator will be off

1. Mains power off, the light goes into emergency mode
2. Battery is disconnect when mains power on
3. Battery be connected again after disconnected when mains power on (Attention: In that case, please re-set the AC mains power)
4. The applicable Led driver should be isolated ,and max. voltage can not over 100V, max. current can not over 1.5A.
5. When the SLin is connected, the LED light is under maintenance, When SLin is disconnected, the LED lights are in a state of no maintenance.



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### Testing/Commissioning(self test)

#### Functionality of the test switch

- 1) A short press (>1s) on the button start a function test lasting 5 seconds (The battery's capacity should be more than 5%=charging 30mins)
- 2) Holding down the button(>10s) resets the timer(System-resets)

#### Functional test

The 5 second long, each 7 days' function test serves to check the functionality of the emergency unit, the batteries and LED module.

#### Notice.

-If a mains supply failure occurs whilst a functional test is in progress, the test shall be postponed and the system shall enter emergency operation. Following restoration of the mains supply, a postponed functional test shall re-commence automatically as soon as conditions permit.

#### Duration test

- Initial duration test: The test will be carried out exactly 16/24hours later after the initial installation.
- Half year duration test: The test will be carried out on each 180-182days.

#### Notice.

- A duration test shall only be started when the battery supply is fully charge if a mains supply failure occurs whilst a duration test is in progress, the test shall be postponed and the system shall enter emergency operation. Following restoration of the mains supply, a postponed duration test shall re-commence automatically when the battery supply is fully re-charge

-The indicator will be slow flashing Green within 5 days if the duration test be carried out success fully.

#### Indicator LED

System status is locally by a bi-color indicator LED.

| LED Indication                             | Status                   | Commentary                                                 |
|--------------------------------------------|--------------------------|------------------------------------------------------------|
| Permanent green                            | Standby, System OK       | Mains Operation, battery is charged                        |
| Fast flashing green (0.25s on-0.25s off)   | Function test underway   | Function test underway                                     |
| Slow flashing green (1 s on - 1 s off)     | Duration test underway   | Duration test underway                                     |
| Permanent Red                              | Lamp failure             | Open Circuit or Short Circuit or LED failure               |
| Fast flashing red (0.25 s on - 0.25 s off) | Battery capacity failure | Battery failed duration test                               |
| Slow flashing red (1 s on - 1 s off)       | Battery fault            | Incorrect battery voltage or Short Circuit or Open Circuit |
| Green and red off                          | Battery Operation        | Emergency mode: Mains disconnected or Mains failure        |

#### NOTICE

Fault status:

If an error is detected, the indicator LED switches to RED. If the error has been corrected please re-connecting the battery after the mains power off, the indicator LED immediately switches back to GREEN when mains power on.

#### NOTICE

Battery failed duration test:

After an exchange of the battery and holding down the button (>10S) reset the timer, the indicator LED switches to GREEN.