Date	Revision
22.09.2022	1

Installation Instructions: Emergency Pack for LED Tubes Self Test & Non Self Test

Codes: 08743/4

Read these instructions before installation and retain for future reference This equipment should be installed by a competent electrician

The emergency converter is a universal design for use with most LED lamps that work 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 either maintained or non-maintained 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 80V-230V. 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.

Item Code	Batteries	Emergency Power	Emergency Duration	Charge Current	Charge Time
EEC15HV-2.5W	6.4V/1500mAhLiFePO4 battery	2.5W	3h	200mA±10%	16h
EEC15HV-2.5W	6.4V/3000mAhLiFePO4 battery	2.5W	6h	200mA±10%	16h
EEC15HV-3.5W	6.4V/1500mAhLiFePO4 battery	3.5W	2h	200mA±10%	16h
EEC15HV-3.5W	6.4V/3000mAhLiFePO4 battery	3.5W	4h	200mA±10%	16h
EEC15HV-5W	6.4V/1500mAhLiFePO4 battery	5W	1.5h	200mA±10%	16h
EEC15HV-5W	6.4V/3000mAhLiFePO4 battery	5W	3h	200mA±10%	16h
EEC15HV-ST-2.5W	6.4V/1500mAhLiFePO4 battery	2.5W	3h	200mA±10%	16h
EEC15HV-ST-2.5W	6.4V/3000mAhLiFePO4 battery	2.5W	6h	200mA±10%	16h
EEC15HV-ST-3.5W	6.4V/1500mAhLiFePO4 battery	3.5W	2h	200mA±10%	16h
EEC15HV-ST-3.5W	6.4V/3000mAhLiFePO4 battery	3.5W	4h	200mA±10%	16h
EEC15HV-ST-5W	6.4V/1500mAhLiFePO4 battery	5W	1.5h	200mA±10%	16h
EEC15HV-ST-5W	6.4V/3000mAhLiFePO4 battery	5W	3h	200mA±10%	16h

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

General Specification

Rated supply voltage	220-240VAC
Mains frequecy	50/60Hz
Ambient temperature ta	0°- 35° C
Max. Casing temperature tc	65℃

Battery Discharge & Charge Specification

Parameter	Min.	Typ.	Max.	Note
Battery discharge current	300mA	-	400mA	* When #1dial switch been selected to "EM 2.5W" * Measured at 6.4V input from batteries
Output voltage	80Vdc	-	230Vdc	
Output current	8mA	-	25mA	
Emergency power	2W	-	2.6W	

Parameter	Min.	Typ.	Max.	Note
Battery discharge current	580mA	-	680mA	* When #2 dial switch been selected to "EM 3.5W" * Measured at 6.4V input from batteries
Output voltage	80Vdc	-	230Vdc	
Output current	7mA	-	35mA	
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" * Measured at 6.4V input from batteries
Output voltage	80Vdc	-	230Vdc	
Output current	12mA	-	50mA	
Emergency power	4.6W	-	5.2W	

Important information for the installation

The emergency converter can only be used with the LED lamps and only suitable for use in indoors. Protect the electronic 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.

No accountability can be taken over possible damage caused by the emergency converter used for purposes other than originally intended; or being connected in the wrong way.

The emergency function test must be performed when a battery is fully charged after 16 hours.

The control gear relies upon the luminaire enclosure for protection against accidental contact with live parts.

The control gear 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.

Important Information

We recommend that luminaires are installed by a qualified electrician ensuring the installation complies with current IEE wiring regulations BS7671:2018 & local building control.

- BELL will not accept responsibility for any claims arising from a poor installation.
- The light source of this luminaire is not replaceable: when the light source reaches end of life, the whole luminaire must be replaced.
- Operating Temperature 0°C to +35°C.

Warning Before installation ensure power is disconnected.

This product may contain substances that can be hazardous to the environment if not disposed of properly. Electrical and electronic equipment should never be disposed of with general household waste but must be separated for its correct treatment and recovery.

Where possible recycle your packaging.

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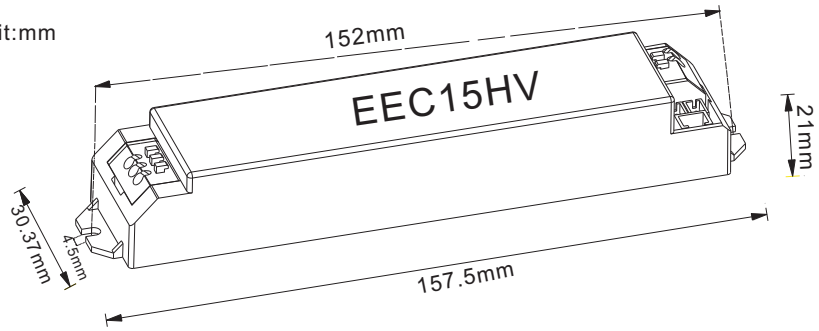
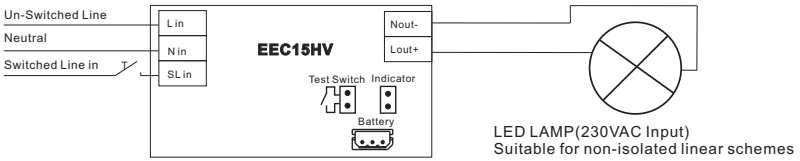
Mechanical Outline

unit:mm



Wiring Diagram

When charging,the maximum load power shall not exceed 24W



LED LAMP(230VAC Input)
Suitable for non-isolated linear schemes

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 connected again after disconnection when mains power on (Attention: In that case, please re-set the AC mains power).

Testing/Commissioning(self test)

Functionality of the test switch

1) A short press (>1s) on the button starts 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 reset).

Functional test

The 5 second long function tests, every 7 days to check the functionality of the emergency unit, the batteries and LED module.

-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 180-182 days.

Notice.

- A duration test shall only be started when the battery supply is fully charged 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-charged**

-The indicator will be slow flashing Green within 5 days if the duration test has been carried out successfully.

Indicator LED

System status is indicated by a bi-colour 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-connect the battery after the mains power is switched off, the indicator LED immediately switches back to GREEN when mains power is 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.

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