

## Installation Instructions: Emergency Pack for Aerial Converter Self Test & Non Self Test Codes: 08741/2

### 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.



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

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.

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.

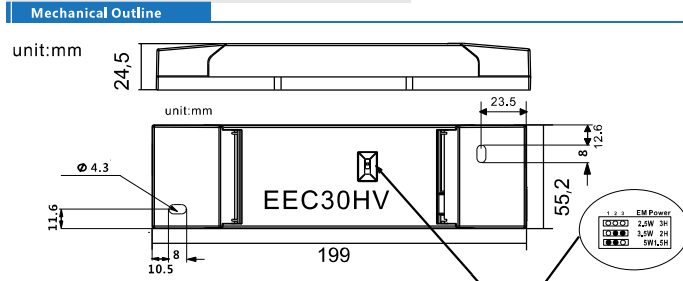
The emergency function test must be performed when a battery is fully charged after 16 hours.

The control gear is not intended for use in luminaires in high risk lighting areas.

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.

| Battery Discharge & Charge Specification |       |      |        |   |
|--|-------|------|--------|---|
| Parameter                                | Min.  | Typ. | Max.   | Note  |
| Battery discharge current                | 300mA | -    | 400mA  |   |
| Output voltage                           | 80Vdc | -    | 230Vdc | * Measured at 6.4V input from batteries and "EM 2.5W" |
| Output constant current                  | 8mA   | -    | 25mA   |   |
| Emergency power                          | 2W    | -    | 2.6W   |   |
| Parameter                                | Min.  | Typ. | Max.   | Note  |
| Battery discharge current                | 580mA | -    | 680mA  |   |
| Output voltage                           | 80Vdc | -    | 230Vdc | * Measured at 6.4V input from batteries and "EM 3.5W" |
| Output constant current                  | 7mA   | -    | 35mA   |   |
| Emergency power                          | 3.3W  | -    | 3.9W   |   |
| Parameter                                | Min.  | Typ. | Max.   | Note  |
| Battery discharge current                | 700mA | -    | 800mA  |   |
| Output voltage                           | 80Vdc | -    | 230Vdc | * Measured at 6.4V input from batteries and "EM 5W"   |
| Output constant current                  | 12mA  | -    | 50mA   |   |
| Emergency power                          | 4.6W  | -    | 5.2W   |   |



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### Feature

- Battery Output power 2.5W/3.5W/5W
- LED Output power 1.9W/2.7W/3.8W
- Insulation Class: II
- Ingress Protection: IP20
- Emergency Duration: 1.5-3hours
- Battery Recharge Time: 16h
- Normal Function / Self-Test
- Polycarbonate white RAL 9016
- Deep Discharge Protection DDP

### Description

The emergency converter EEC30HV 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 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 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 ta     | 0°-35°C    |
| Max. Casing temperature tc | 65°C       |

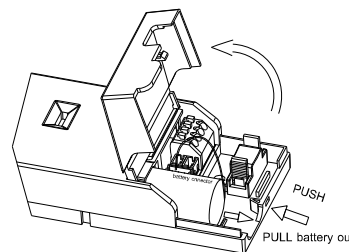
| Item Code          | Batteries                   | Emergency Power | Emergency Duration | Charge Current | Charge Time |
|--------------------|-----------------------------|-----------------|--------------------|----------------|-------------|
| EEC30HV-2.5W-3H    | 6.4V/1500mAhLiFePO4 battery | 2.5W            | 3h                 | 200mA ±10%     | 16h         |
| EEC30HV-3.5W-2H    | 6.4V/1500mAhLiFePO4 battery | 3.5W            | 2h                 | 200mA ±10%     | 16h         |
| EEC30HV-5W-1.5H    | 6.4V/1500mAhLiFePO4 battery | 5W              | 1.5h               | 200mA ±10%     | 16h         |
| EEC30HV-ST-2.5W-3H | 6.4V/1500mAhLiFePO4 battery | 2.5W            | 3h                 | 200mA ±10%     | 16h         |
| EEC30HV-ST-3.5W-2H | 6.4V/1500mAhLiFePO4 battery | 3.5W            | 2h                 | 200mA ±10%     | 16h         |
| EEC30HV-ST-5W-1.5H | 6.4V/1500mAhLiFePO4 battery | 5W              | 1.5h               | 200mA ±10%     | 16h         |

Remark: (1)EEC30H-ST with self-test function (2)EEC30H without self-test function



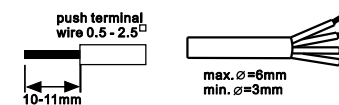
The surface cannot be covered when the product is installed and used.

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



Battery replacement steps:

1. Open the top cover first
2. Unplug and take out the battery
3. Push in and connect the new battery
4. Close up the cover

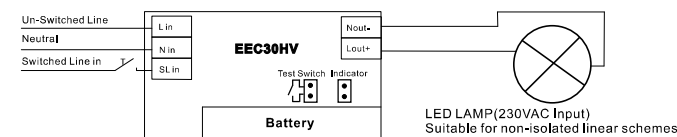


Remark:

- The battery should be changed when discharge duration is not achieved
- The battery is replaceable LiFe PO4 1500mAh 6-4V
- Built-in protection plate of battery pack with anti-reverse connection, short circuit, overcharge, overdischarge and other protection function.

### Wiring Diagram

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



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)

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### 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 capacity should be more than 5% = 30 minutes charging time)
- 2) Holding down the button(>10 s) 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 16/24 hours 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 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-connect the battery after the mains power is switched, 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.