Date	Revision
18.7.25	2

Installation Instructions: Emergency Highbay Pack 09164

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

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 controll..

- BELL will not accept responsibility for any claims arising from a poor installation.
- Always switch off mains supply before installing.
- All tests should be carried out in accordance to EN 50172:2004

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.

Description

The emergency converter 09164 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 5W LED load with constant power with a rated output voltage of 60-250V. 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 frequecy	50/60Hz
Ambient temperature ta	5-45 ℃
Max. Casing temperature tc	75℃

Battery discharge and LED output specifications

Item Code	Output voltage Min-Max	Output current Min-Max	Output power Min-Max	Battery discharge voltage Min-Typ-Max	Battery output power Min-Max	Battery discharge current Min-Max
09164	60-250Vdc	9-65mA	2.4-3.5W	2.5-3.2-3.6V	4-5.5W	1400-2000mA

Item Code	Batteries	Emergency Power	Charge Current	Emergency Duration	Charge Time
09164	32700/3.2V/6000mAhLiFePO4	5W	400mA±10%	3h	24h

Note:
1.All specifications are typical at 25°C unless otherwise stated.
2. “ST” represents the self test.
3.In an emergency state, press the test button for at least 1 second to turn off the emergency LED light (simplifying the operation of opening the battery cover and disconnecting the battery)

Important information for the installation

- The unit use dangerous mains voltage, it should be installed by qualified electricians only according toEuropean 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 every three months in order to keep it's initial performance.
- The emergency function test must be performed when a battery is fully charged for 24 hours.
- When customers match the emergency driver with Class II lighting fixtures, the grounding mark is E. When matching it with Class I lighting fixtures, the grounding mark is ⏚. As our emergency driver is a Class II product, the default grounding mark is E. If grounding is required for actual use, it can be customized according to actual needs.
- The controlgear is not intended for use in luminaries for high-risk task area lighting.
- The recharging device will recharge the battery ESSS normally after removal the short circuit link and reconnecting the ESSS.
- The electric source for safety service is not a user serviceable item and shall only be replaced by the manufacturer service agent or a similar qualified person.
- Double or reinforce insulation between supply and battery/ESS circuits and based on a working voltage of 250V,Meanwhile,insulation between battery circuits/test circuits and LED circuits fulfills basic insulation and based on a working voltage of 340V/490V;Furthermore, insulation between supply and LED circuits fulfills double insulation with a voltage above ELV(340V/490V).Additional,Insulation between battery circuits/indicator circuits/MT(ATS)circuits and normal supply fulfills reinforced insulation .If a LED driver is used with these control gears,The LED driver shall be in compliance with IEC/EN 61347-2-13 and shall provide double or reinforce insulation between input circuits and output circuits.
- For built-in convertors: rely upon the luminaire enclosure for protection against electric shock.
- Test switch and indicator can only be used internally.
- The controlgear relies upon the luminaire enclosure for protection against accidental contact with live parts.
- The circuit is protected after a battery short circuit, after the battery is restored, the charging circuit can charge normally.

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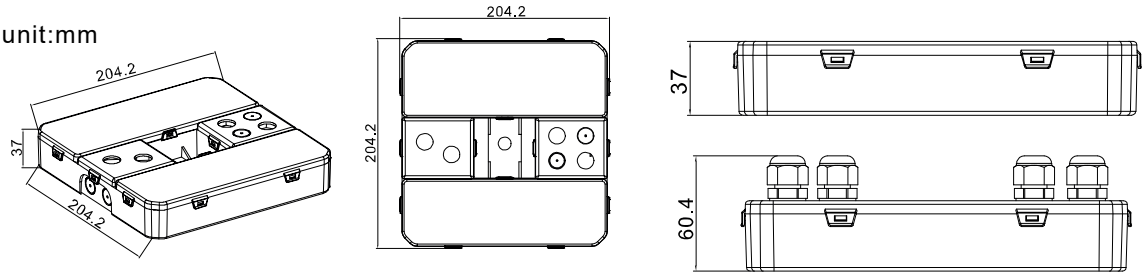
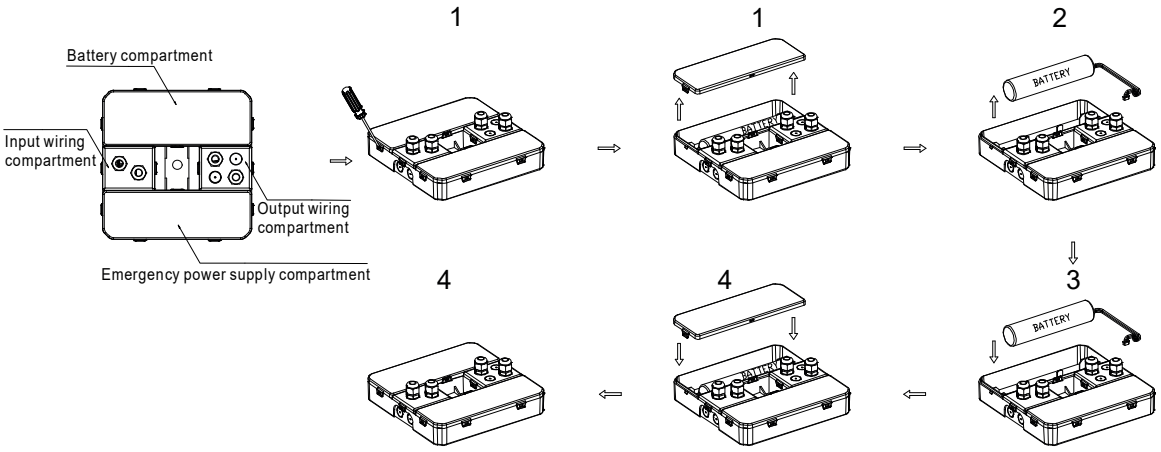
Mechanical Outline

unit:mm

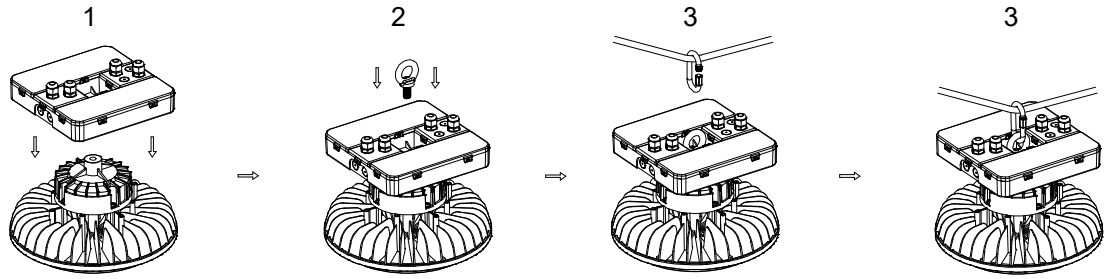


Battery replacement



Step 1:Use tools to pry open the cover of the battery compartment.
Step 2:Disconnect the battery connector of the old battery from the reserved connector, and take out the old battery.
Step 3:Connect the battery connector of the new battery to the reserved connector, and install the new battery.
Step 4:Close the open cover to complete the battery replacement.

Mounting Options



Step 1: Place the product on the HIGHBAY power supply, align the hole in the center of the product with the hole above the HIGHBAY.
Step 2:Pass the eye nut through the product from top to bottom, screw it into the thread on the top of the HIGHABY power supply, and fix the product on the top of the HIGHBAY power supply.
Step 3:After the above fixing is completed, hang the eye nut on the installation position reserved on the wall in advance to complete the fixing of the product.

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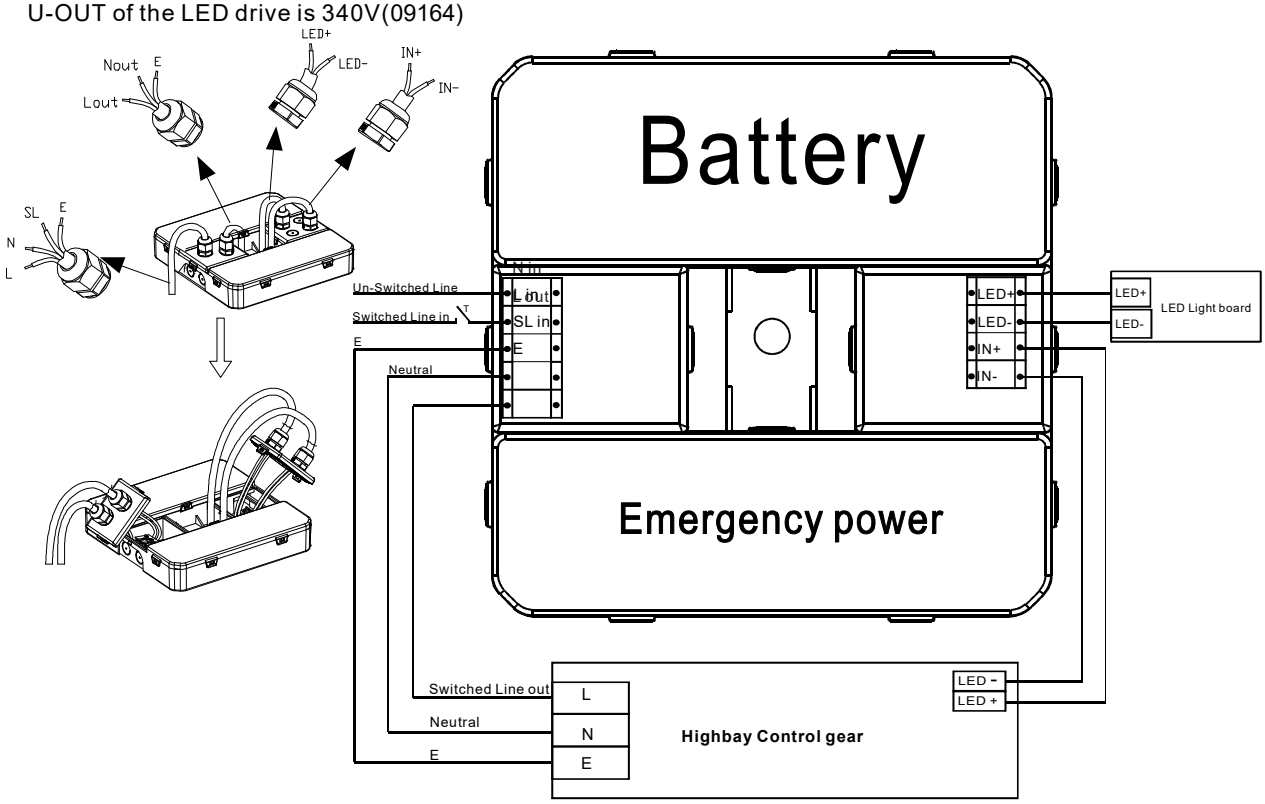
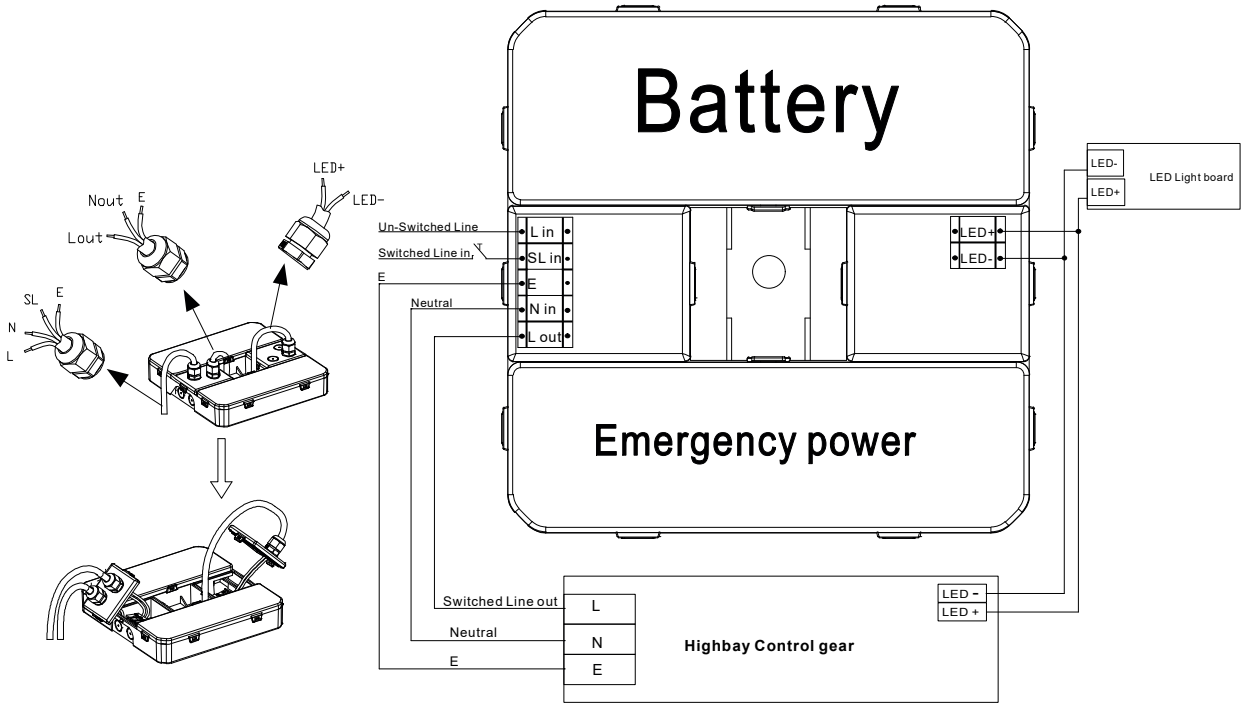
Wiring Diagram

U-OUT of the LED drive is 340V(09164)





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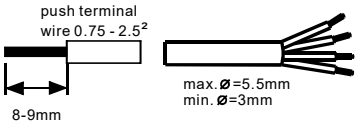
Warning:
1.The maximum allowable voltage of the LED driver output terminal must be higher than 340V(09164)
(when the LED load is not connected or fails, EEC61 will generate a peak voltage of about 1S before protecting)
Notice:
The indicator light will turn off under the following conditions:
1. When the power is off, the light enters into the emergency mode
2. Normal Function: When the power is on, the battery is disconnected
3. After the power is connected, disconnect the power and reconnect the battery
(Note: in this case, please reset the AC power supply)
Requirements for LED Control gear:
1.If used together with 09164 series , the LED drive U-OUT the shall not exceed 340V, and the maximum current shall not exceed 1A.
2.When the SLin is connected, the LED is in the maintenance state.
When the SLin is disconnected, the LED is in the non-maintenance state.
Requirements for wiring wires:
1.Wire diameter range: 0.75-2.5 square millimeters;
Crimping buckle can be fastened, wire diameter range: maximum 5.5mm, minimum 3mm.

The Emergency Standard has been updated (EN60598-2-22 / EN61347-2-7) regarding the Battery's temperature protection, the battery can only be used between 0-55°C, if the temperature is out of this range charging will cease, it will resume charging when the temperature is within 0-55°C.



Testing/Commissioning(self test)

Functionality of the test button

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-reset)

Function test

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

Duration test(EU-3hrs)

-First test: After 24 hours of AC mains power input, the emergency lighting unit will enter into a 3-hour duration test.
-Half year duration test: Conduct 3-hour duration test every 180-182 days to check the battery capacity.
Notice.
-A function test&duration test shall only be started when the battery supply is fully charge if a mains supply failure occurs while a function test&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,function test bettery≥3V,duration test bettery ≥3.55V
-The indicator will be slow flashing Green for 5 days if the duration test is carried out successfully.

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

LED Indication	Status	Description
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 (1s on 1s off)	Duration test underway	Duration test underway
Permanent Red	Lamp failure	Open Circuit or Short circuit or LED failure
Fast flashing Red (0.25s on 0.25s off)	Battery capacity failure	Battery failed duration test
Slow flashing Red (1s on 1s 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
Slow flashing Red (1s on 3s off)	Battery temperature error	When power on and battery temperature is above 55(±2)℃ or below 0(+2) ℃

NOTICE
Fault status:
If an error is detected, the indicator LED will switch to RED. If the error has been corrected please re-connecting the battery after the mains power off, the indicator LED immediately will switch 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 will switch to GREEN.
If the battery temperature is above 55(±2)℃ or below 0(+2)℃ , the battery will stop charging.

NOTICE:Other matters:
1.After the first power-on, continuous charging for 24 hours to enter the first inspection, if additional operations are carried out during the continuous charging process, the time of entering the first inspection will be deviated.
2.After entering the emergency state, simply press the test button once (≥1S) to exit the emergency state.
3.When the standard model is powered on and the battery temperature is above 55(±2)°C or below 0(+2)°C, the indicator status is green off.

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