LED EMERGENCY CONVERTER GA5-STEM

Description

The emergency converter GA5-STEM 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 10-90V. 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 frequecy	50/60Hz
Ambient temperature ta	5-45 ℃
Max. Casing temperature tc	75℃

Battery discharge and LED output specifications

Item Code	Battery discharge voltage Min-Typ-Max	Battery discharge current Min-Max	Battery output power Min-Max	Output voltage Min-Max	Output current Min-Max	Output power Min-Max
GA5-STEM	2.5-3.2-3.6V	1400-1750mA	4-5W	10-90Vdc	25-320mA	2.5-3.5W

Item Code	Batteries	Emergency Power	Emergency Duration	Charge Current	Charge Time
GA5-STEM	3.2V/6000mAhLiFePO4 battery	5W	3h	400mA±10%	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)

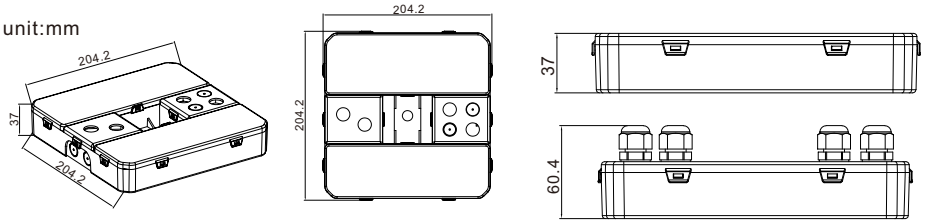
Important information for the installation

- The unit use dangerous mains voltage, it should be installed by qualified electricians only according 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 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.

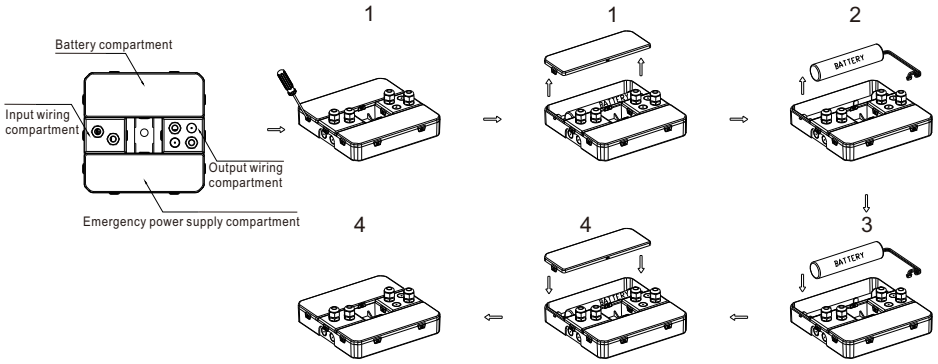
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Mechanical Outline

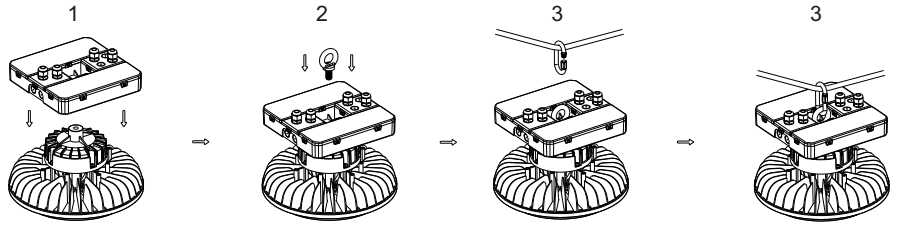
unit:mm



Mounting Options



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.



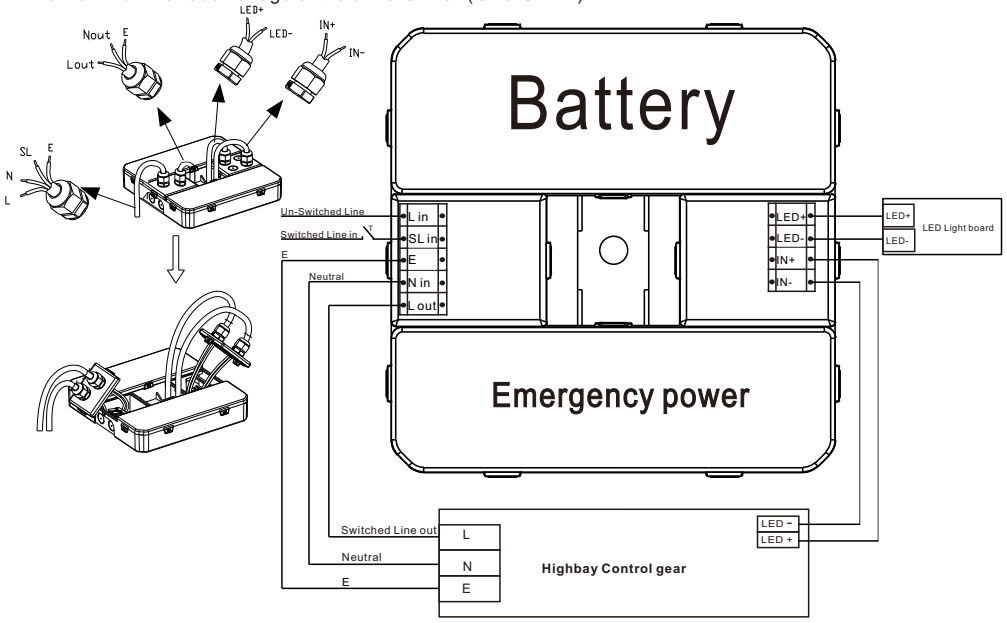
Step 1: Place the product on the HIGHBAY power supply, align the hole in the center of the product with the hole above the HIGHBAY.
Step 2:Pass the eye nut through the product from top to bottom, screw it into the thread on the top of the HIGHABY power supply, and fix the product on the top of the HIGHBAY 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.

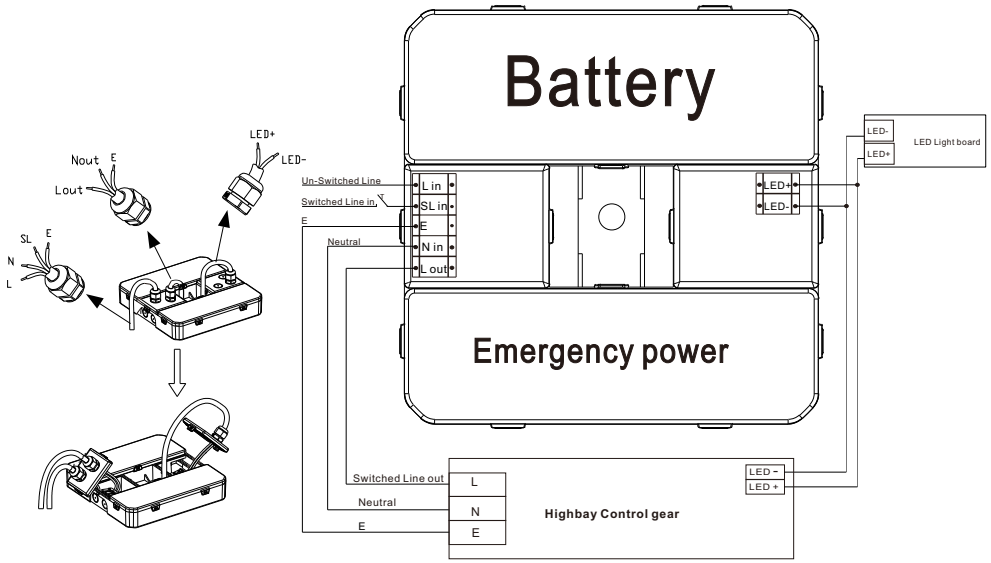
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Wiring Diagram

The maximum no-load voltage of the drive is 120V(GA5-STEM)





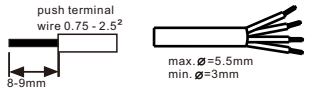
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Warning:
1.The maximum allowable voltage of the LED driver output terminal must be higher than 120V/340V/490V (when the LED load is not connected or fails, EEC61 will generate a peak voltage of about 1S before protecting)

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.LED driver the maximum output current shall not exceed 1.5A/1A/0.5A.
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.



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.

Notice.

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

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 duration test will only be started when the battery supply is fully charged. If a mains supply failure occurs while a duration test is in progress, the test will be postponed and the system will enter emergency operation. Following restoration of the mains supply, the postponed duration test will re-commence automatically when the battery supply is fully re-charged.
-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)	Temperture error	Battery temperture 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 indicator light will display an error and the battery will stop charging.

NOTICE:Other matters:
1.This product has self-test function and standard function. Press the test button for function test, and the green light flashes quickly (5s).
2.Long press the test button (5S) to switch the system mode: red light flashing (4Hz) is the standard function, and green light flashing (4Hz) is the self-test function.
3.Long press the test button (10s) to initialize the program. After the program is initialized, it is in the self-test mode. The new machine needs to be initialized before switching the program.
4.After entering the emergency state, simply press the test button once (≥1S) to exit the emergency state.

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