ELECTRIO
ELEKTRONIK

EMERGENCY LIGHTING
ELCEM61L/M/H

Features

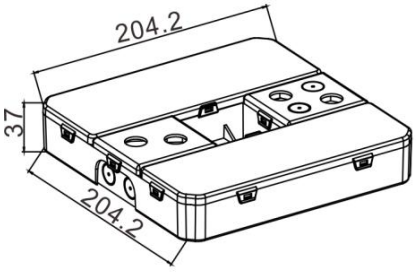
- Constant power output emergency power supply
- For LED module with a forward voltage of 10-90Vdc/20-90Vc/60-250Vdc/240-430Vdc
- The product can be installed internally or externally
- Integral LiFePO4 battery pack
- Compatible with all dimmable and non-dimmable constant current LED driver
- Automatic shutdown of output if LED load is out of range
- Constant power output, output current self-adjustable
- 5 years guarantee for electronic part

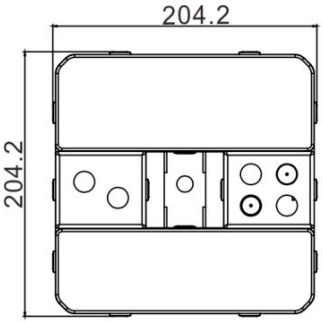
Functions

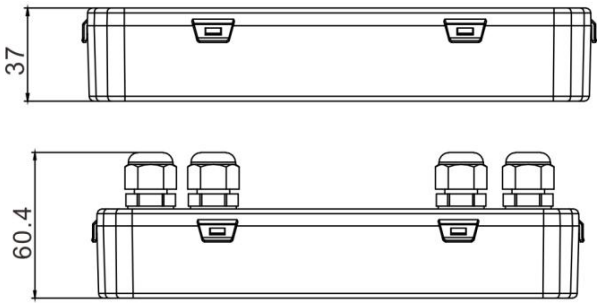
- Normal Function/Self Test
- Maintained/Non-maintained operation
- Electronic charge system
- Deep discharge protection
- Short-circuit-proof battery connection
- Open-circuit-proof
- Polarity reversal protection for battery

220-240V AC 50/60Hz | LED | LiFePO4 | CE | SELV | CB | EL-T | EL

Dimensions







Unit: mm

Carton size	QTY	Weight per pc.	Battery
435*225*400	10PCS	680g/959g	32700 1/2cells

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Technical Data

Rated supply voltage	220-240VAC
AC voltage range	144-187VAC
Mains frequency	50/60Hz
Power factor	≥0.55
Starting time	1s
Output overvoltage protection	110V/300V/480V
U-OUT(including open-/short-circuit and double load)	120V/340V/490V
Ambient temperature ta	5-45℃
Max. Casing temperature tc	75℃
IP rating	IP65
In-rush current	2A
In-rush current duration	3ms
Mains surge capability (between L – N)	1KV
Maximum withstand voltage	2KV+4U
Withstand time	60s

Item Code	Typical output emergency power	Mains input current, min	Mains input current, max	Input power in mains operation, min	Input power in mains operation, max
ELCEM61L	5W	5mA	30mA	0.45W	4.5W
ELCEM61M					
ELCEM61H					
ELCEM61L-ST	10W				
ELCEM61M-ST					
ELCEM61H-ST					

Item Code	LED module forward voltage range Min-Max	LED module forward current range Min-Max	LED module forward power range Min-Max
ELCEM61L-5W	10-90Vdc	24-350mA	2.4-3.5W
ELCEM61M-5W	60-250Vdc	9-65mA	
ELCEM61H-5W	240-430Vdc	5-17mA	
ELCEM61L-10W	20-90Vdc	75-430mA	7-8.5W
ELCEM61M-10W	60-250Vdc	22-150mA	
ELCEM61H-10W	240-430Vdc	13-36mA	

Note:

1.All specifications are typical at 25°C unless otherwise stated.
2.All specifications are typical on the 230VAC unless otherwise stated.
3.“ST” represents the self test.

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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(Europe)

-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.

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 mainspower 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.

Note:

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 s
elf-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.
5.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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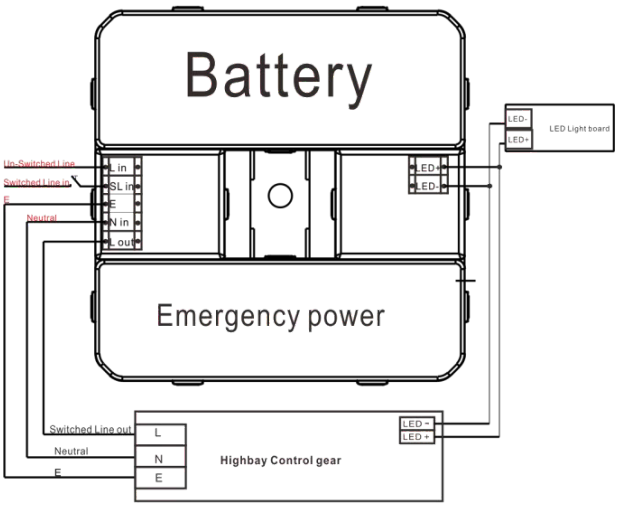
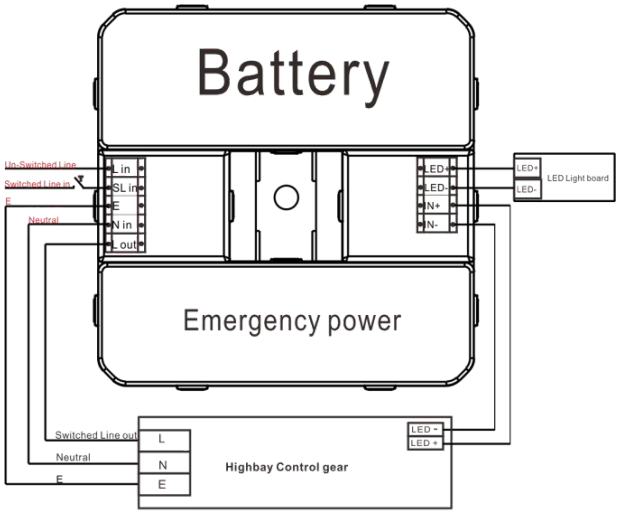
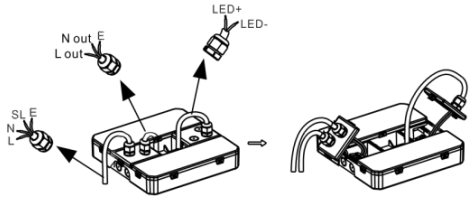
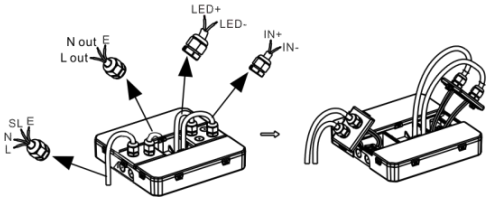
Wiring Diagram









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, ELCEM61 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 ELCEM61L series , the LED drive U-OUT the shall not exceed 120V, and fulfil double/reinforced insulation between supply an output circuits,and the maximum current shall not exceed 1.5A.

2.If used together with ELCEM61M series , the LED drive U-OUT the shall not exceed 340V, and the maximum current shall not exceed 1A.

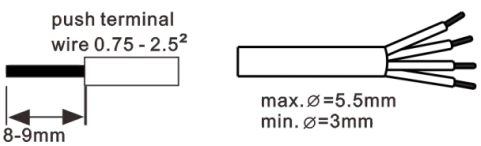
3.If used together with ELCEM61H series , the LED drive U-OUT the shall not exceed 490V, and the maximum current shall not exceed 0.5A.

4.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.



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Battery Data

Emergency power	Batteries	Charge Current	Battery discharge voltage Min-Max	Battery output power Min-Max	Battery discharge current Min-Max	Emergency Duration	Battery fully charged time
5W	32700/3.2V/6000mAh LiFePO4	400mA±10%	2.5-3.2-3.6V	4-5.5W	1400-2000mA	3h	24h
10W	32700/6.4V/6000mAh LiFePO4	230-300mA	5-6.4-7.3V	8-11W			

Note:

Automatically charge when the voltage of a single battery drops below 3.4V. When the voltage of a single battery exceeds 3.6V, the charger turns off (0mA).
If the battery temperature is above 55 (± 2 °C) or below 0 (+2 °C) , the battery will stop charging.
The emergency lighting LED driver will recharge the battery normally after running the test of 61347-2-7 CL22.3 (abnormal operating conditions).
When the voltage of a single battery is below min 2.0 V, the battery will not enter an emergency state.
The minimum charging environment temperature of the battery is 5°C , to ensure that the battery can be charged

Capacity	6.0Ah
International designation	IFpR 32/70
Battery voltage/cell	3.2V/6.4V
Cell type	32700
Case temperature range to ensure	
4 years design life	+5°Cto+55°C
5 years design life	+5°Cto+45°C
6 years design life	+5°Cto+35°C
Max. short term battery case temperature (shorter than 1 month over the battery lifetime)	70°C
Max. number discharge cycles	50 cycles total
Max. storage time	6 months

Notice: Storage condition

Batteries should be stored within the specified temperature range in low humidity conditions.
Optimal storage conditions are
- Temperature:-20° to +40°
- Humidity: 45%- 85%

Avoid atmosphere with corrosive gas
It is recommended to disconnect the battery before storage or delivery
Battery should be charged every three months in order to keep it's initial performance.

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Standard

This product meets the following standards:

- EN IEC61347-2-7
- EN IEC61347-1
- EN 61000-3-2
- EN 61000-3-3
- EN 61547
- EN 55015
- ROHS2.0

Service Life

Average life-time 50,000 hours under rated conditions with a failure rate of less than 10% for the emergency converter as rated power. Average failure rate of 0.2% per 1000 operating hours.

Important

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 isa Class II product, the default grounding mark is E. If groun ding 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/490 V; 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