

EMERGENCY LIGHTING

ELCEM80L/H

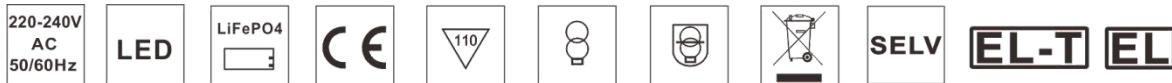


Features

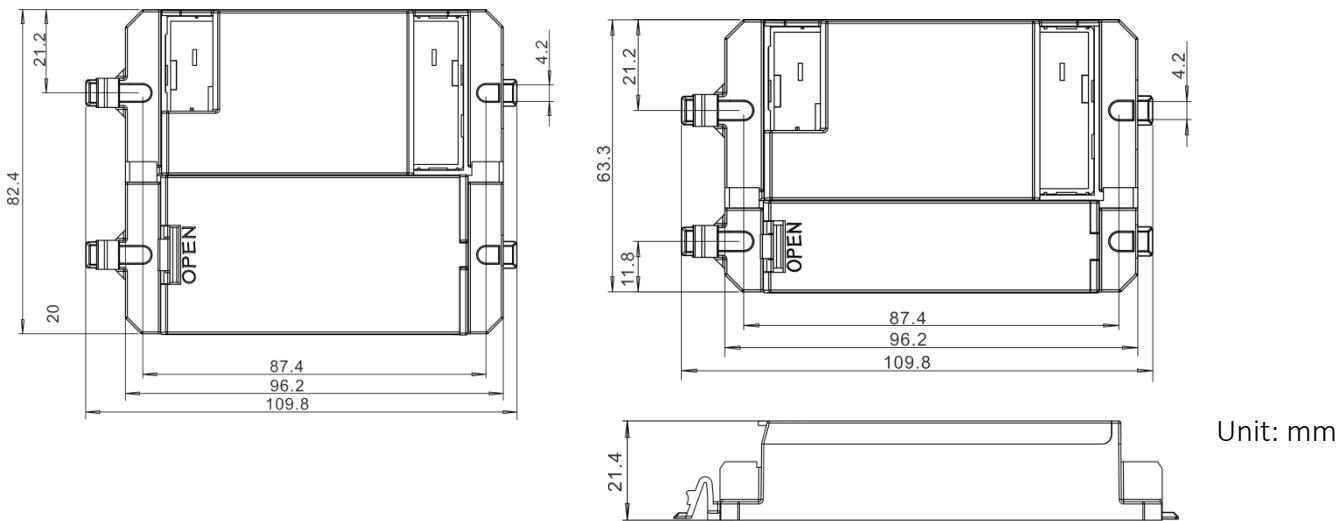
- For LED module with a forward voltage of 10-54/50-250Vdc
- Communication function with extended wireless module
- ELCEM80L is SELV output voltage
- Plug-in Lithium Iron Phosphate battery
- Constant power output, output current self-adjustable
- Automatic shutdown of output if LED load is out of range
- 5 years guarantee electronic

Functions

- Maintained/Non-maintained operation
- Standard and self-test function
- Products can switch the self testing,standard function through the dial switch
- Electronic charge system
- Deep discharge protection
- Short-circuit-proof battery connection
- Open-circuit-proof
- Polarity reversal protection for battery



Dimensions



Item Code	Carton size	QTY	Weight per pc.	Battery
80L/H-BS/ST-1.2W-1H 80L/H-BS/ST-1.5W-3H 80L/H-BS/ST-2.5W-1H 80L/H-BS/ST-3W-1H Single battery compartment series	382*250*170	32PCS	120g	18650 1 cell
80L/H-BS/ST-2.5W-3H Side-by-side battery compartment series	382*250*170	32PCS	160g	18650 2 cells
80L/H-BS/ST-2.5W-3H No battery compartment series	382*250*170	32PCS	170g	18650 2 cells

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Technical Data

Rated supply voltage	220-240VAC
AC voltage range	144-187VAC
Mains frequency	50/60Hz
Power factor	≥0.5
Starting time	1s
Output overvoltage protection	57/270V
U-OUT(including open-/short-circuit and double load) U-OUT	60/350V
Ambient temperature ta	5-55°C
Max. Casing temperature tc	75°C
IP rating	IP20
In-rush current	3A
In-rush current duration	3.5ms
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
ELCEM80L/H-BS/ST	1.2W	3mA	30mA	0.5W	3.5W
	1.5W				
	2.5W				
	3W				

Item Code	LED module forward current range Min-Max	LED module forward power range Min-Max	LED module forward voltage range Min-Typ-Max
ELCEM80L-BS/ST-1.2W	11-90mA	0.6-0.9W	10-54V
ELCEM80L-BS/ST-1.5W	16-110mA	0.8-1.1W	
ELCEM80L-BS/ST-2.5W	25-170mA	1.4-1.8W	
ELCEM80L-BS/ST-3W	36-200mA	1.6-2.2W	
ELCEM80H-BS/ST-1.2W	3-20mA	0.8-1W	50-250V
ELCEM80H-BS/ST-1.5W	4-26mA	1-1.2W	
ELCEM80H-BS/ST-2.5W	5-38mA	1.7-1.9W	
ELCEM80H-BS/ST-3W	8-50mA	2.2-2.4W	

Note:

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

2.All specifications are typical on the 230VAC unless otherwise stated.

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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 \geq 3V,duration test bettery \geq 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) $^{\circ}$ C or below 0(+2) $^{\circ}$ C

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:

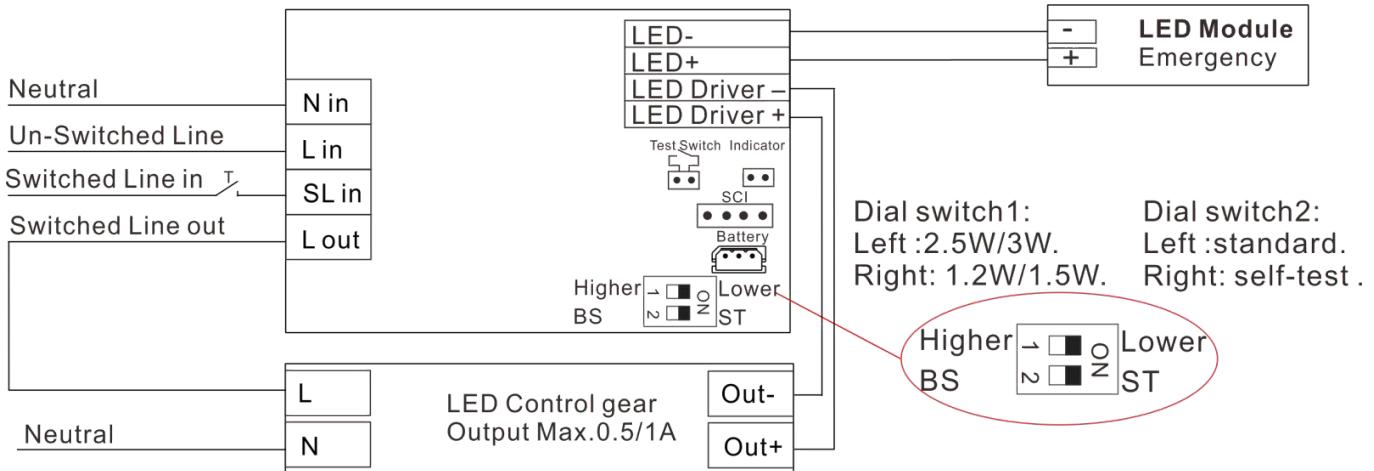
After an exchange of the battery and holding down the button (>10S) reset the timer, the indicator LED will switch to GREEN.

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Wiring Diagram

U-OUT of the LED drive is 60V(ELCEM300L)/350V(ELCEM300).



Notice:

The indicator light will turn off under the following conditions:

1. When the power is off, the light enters the emergency mode

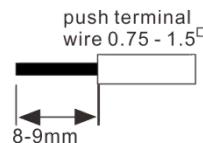
Requirements for LED Control gear:

1. If used together with ELCEM300L series, the LED driver U-OUT the shall not exceed 60V, and fulfill double/reinforced insulation between supply an output circuits, and the maximum current shall not exceed 1.5A.
2. If used together with ELCEM300 series, the LED driver U-OUT the shall not exceed 350V, and the maximum current shall not exceed 1A.
3. When the SLin is connected, the LED is in the maintenance state.

When the SLin is disconnected, the LED is in the no maintenance state.

Requirements for wiring wires:

1. Wire diameter range: E, Lin, Nin, SLin, L out, N out, DA, LED-, LED+, LED Driver-, LED Driver+ cables 0.75-1.5 square millimeters,
2. Crimping buckle can be fastened, wire diameter range: maximum 8mm, minimum 4mm.



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Battery Data

Emergency power	Batteries	Emergency Duration	Battery discharge current Min-Max	Battery output power Min-Max	Battery discharge voltage Min-Max	Charge Current	Battery fully charged time			
ELCEM80L-1.2W	18650/3.2V/1500mAhLiFePO4	3h	300-400mA	1.05-1.25W	10-54V	250-300mA	24h			
ELCEM80L-1.5W	18650/3.2V/2000mAhLiFePO4	3h	450-530mA	1.35-1.65W						
ELCEM80L-2.5W	18650/3.2V/1500mAhLiFePO4	1h	600-850mA	2.2-2.65W						
	18650/3.2V/3000mAhLiFePO4	3h								
ELCEM80L-3W	18650/3.2V/1500mAhLiFePO4	1h	800-1100mA	2.75-3.35W						
ELCEM80H-1.2W	18650/3.2V/1500mAhLiFePO4	3h	300-400mA	1.05-1.3W	50-250V	250-300mA	24h			
ELCEM80H-1.5W	18650/3.2V/2000mAhLiFePO4	3h	450-530mA	1.45-1.75W						
ELCEM80L-2.5W	18650/3.2V/1500mAhLiFePO4	1h	600-850mA	2.3-2.7W						
	18650/3.2V/3000mAhLiFePO4	3h								
ELCEM80H-3W	18650/3.2V/1500mAhLiFePO4	1h	800-1100mA	2.75-3.2W						

Note:

Automatically charge when the voltage of a single battery drops below 3.4V. When the voltage of a single battery exceeds 3.65V, the charger turns off (0mA).

If the battery temperature is above 60 (± 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	1.5/2.0/3.0Ah
International designation	IFpR 18/65
Battery voltage/cell	3.2V
Cell type	18650
Case temperature range to ensure	
4 years design life	+5°C to +55°C
5 years design life	+5°C to +45°C
6 years design life	+5°C to +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°C to +40°C

- 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 its initial performance.

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Standard

This product meets the following standards:

- EN IEC61347-2-7
- EN 61000-3-2
- EN 61547
- EN IEC61347-1
- EN IEC61347-2-13
- EN 61000-3-3
- EN 55015
- ROHS 2.0



Status indication bi-colour LED

Two-colour status display LED
Green:system OK,Red:fault
Plug connection
Opening size:6*6mm
Line length:12cm/23cm/50cm/1m/2m



Test switch

For connection to the emergency lighting unit
For checking the device function
Plug connection
Dielectric strength:500V AC for 60 seconds
Opening size:7.5*7.5mm
Line length:12cm/23cm/50cm/1m/2m



Test switch

For connection to the emergency lighting unit
For checking the device function
Plug connection
Dielectric strength:1KV AC for 60 seconds
Opening size:7.5*7.5mm
Line length:12cm/23cm/50cm/1m/2m



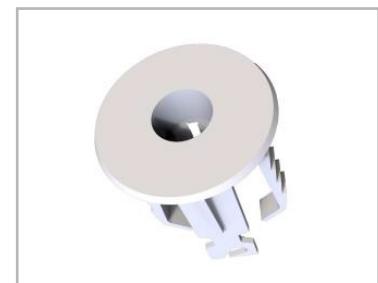
Test switch

For connection to the emergency lighting unit
For checking the device function
Plug connection
Dielectric strength:500V AC for 60 seconds
Opening size:12*12mm
Line length:12cm/23cm/50cm/1m/2m



Integrated waterproof button indicator light

For connection to the emergency lighting unit
For checking the device function
Plug connection
Dielectric strength:1000V AC for 60 seconds
Two-colour status display LED
Green:system OK,Red:fault
Opening size:12*12mm
Line length:12cm/23cm/50cm/1m/2m



White indicator base

For fixation status indication bi-colour LED
Opening size:19*19mm

Battery extension cable

Cable length:
60mm/150mm/200mm/350mm
3-pole plug connection

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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 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.

The company accept no responsibility for incorrect installation, incorrect operation or improper maintenance.

After installation of the fitting, the battery must be charged for 16 hours for duration test.

The controlgear is not intended for use in luminaires 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.

Double or reinforce insulation between supply and battery/ESS circuits and based on a working voltage of 250V; insulation between battery circuits/test circuits and LED circuits fulfills basic insulation and based on a working voltage of 110V/180V; insulation between supply and LED circuits fulfills double insulation with a voltage above ELV (110V/180V).

For built-in convertors: rely upon the luminaire enclosure for protection against electric shock .

Test switch and indicator can only be used internally.