



DEEP ROOF LIGHTING INC.
55 Sea Cliff Avenue, Glen Cove, NY 11542
Tel: 516-676-9100, -9101, -9103, -9105, -9106
Fax: 516-676-9109
Web Site: www.deeprooflighting.com
Email: deeproof@aol.com cs.deeproof@gmail.com

Emergency Battery Back Pack for LED, UL


Deep Roof Lighting EM
back-up driver AC wiring

EMERGENCY LED DRIVER

LMDP-4808AC-15/20/25

 **100-347Vac**

15W/20W/25W

 **HIGH VOLTAGE OUTPUT**
175VDC

 **CONSTANT
POWER**
EMERGENCY OUTPUT

Self  **Test**

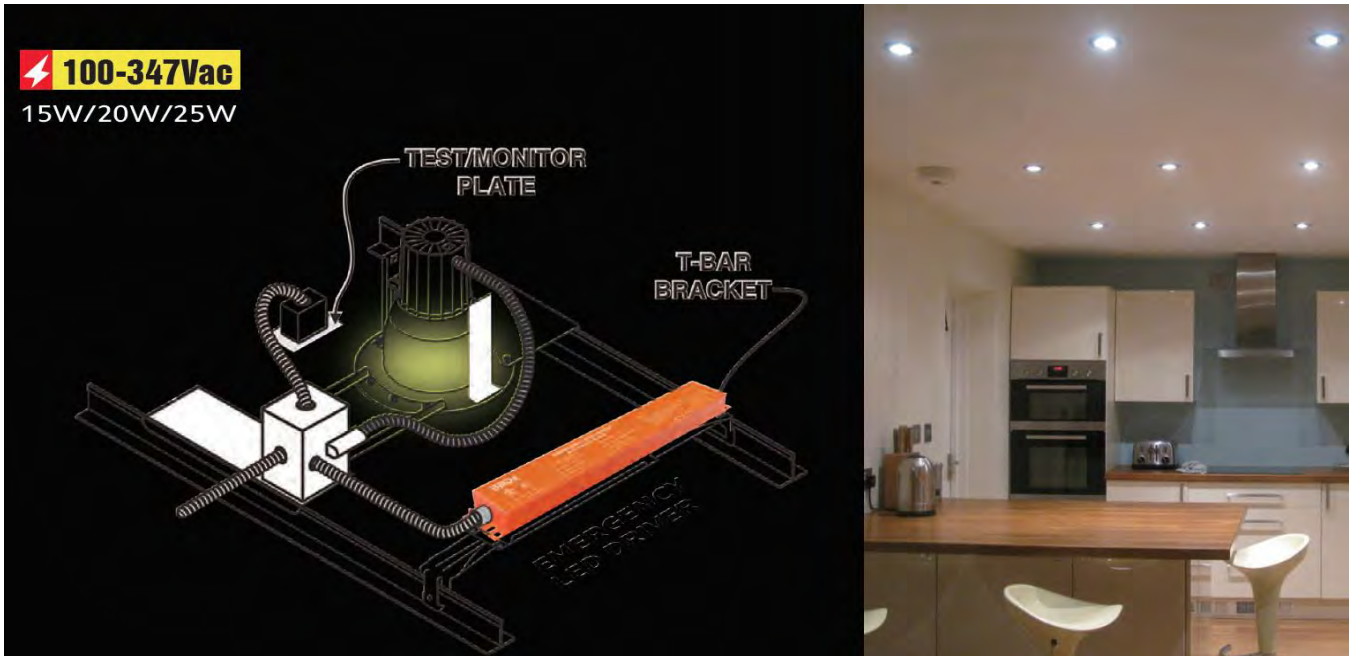
- Back up to 100W LED Fixtures with 0-10 VDC dimming interface.
- Back up non-dimm LED fixtures power rate not exceed 15, 20, 25 watts



- LMDP-4808AC-15/20/25-RC Remote control version

Features

- Easy wiring: directly connect to AC input of LED lamps
- Ideal for many kinds of indoor LED fixtures $\leq 100W$ with 0/1-10V dimming wires (Can work with up to 2.5W LED lamps without dimming function)
- UL Listed for US and Canada.
- Listed for factory or field installation-UL924&CSA C22.2 NO.141
- Constant Power output
- Input voltage: 100-347Vac, 50/60Hz
- Battery protections: over temperature protection, over charge protection Over discharge protection, shortcircuit protection.
- Self testing monthly/yearly
- Can work with sensors
- 5 years warranty
- RoHS compliant
- Meet CEC Title 20 standards (california energy commission)



Specifications

MODEL NO.	LMDP-4808AC-15	LMDP-4808AC-20	LMDP-4808AC-25
Input Voltage	100-347Vac, 50/60Hz	100-347Vac, 50/60Hz	100-347Vac, 50/60Hz
Input Current	<100mA	<100mA	<100mA
Input Power	8W max	8W max	8W max
Output Voltage	≤175V DC	≤175V DC	≤175V DC
Output Power	15W	20W	25W
Application	① 3.5-100W(0/1-10V Dimmable Fixture) ② <15W LED Lamps without dimming function	① 3.5-100W(0/1-10V Dimmable Fixture) ② <20W LED Lamps without dimming function	① 3.5-100W(0/1-10V Dimmable Fixture) ② <25W LED Lamps without dimming function
Ambient Temperature	0°C to+50°C(30°F to122°F)	0°C to+50°C(30°F to122°F)	0°C to+50°C(30°F to122°F)

Widely used in indoor lighting fixtures: backlit led panel, edge-lit led panel led troffer, , led downlight, linear strip light, tri-proof light, LED Tube, etc.



Self-Diagnostic

The integrated self-diagnostic circuitry will automatically conduct monthly 30-second and annual 90-minute tests to verify proper emergency capability per Life Safety Code requirements.

Press the test button to cut the power to the AC driver and switch the system to emergency mode. Release the test button to return to normal mode. Switch off the circuit breaker to simulate a full power outage.

NFPA 101, Life Safety Code outlines the following schedule:

Monthly - Insure that the test button light is illuminated. Conduct a 30 second discharge test by depressing the test button. The LED load should operate at reduced output.

Annually - Insure that the test button is illuminated. Conduct a full 90 minute discharge test. The unit should operate as intended for the duration of the test.

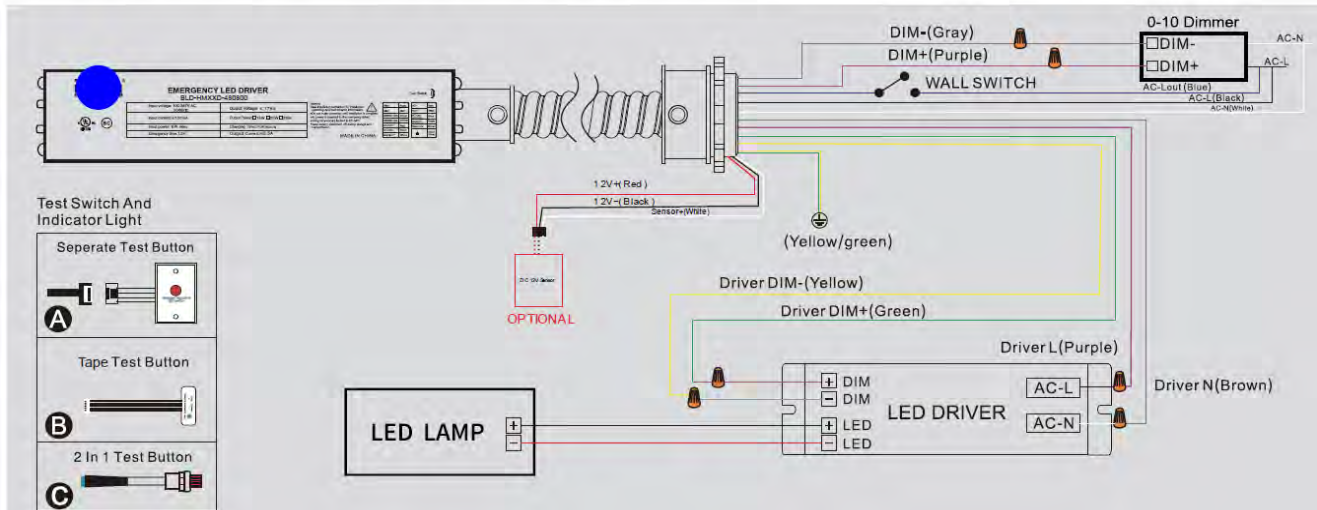
“Written records of the testing shall be kept by the owner for inspection by the authority having jurisdiction.”

Wiring Diagram

For LED Driver With Input Power Higher Than Emergency Output Power

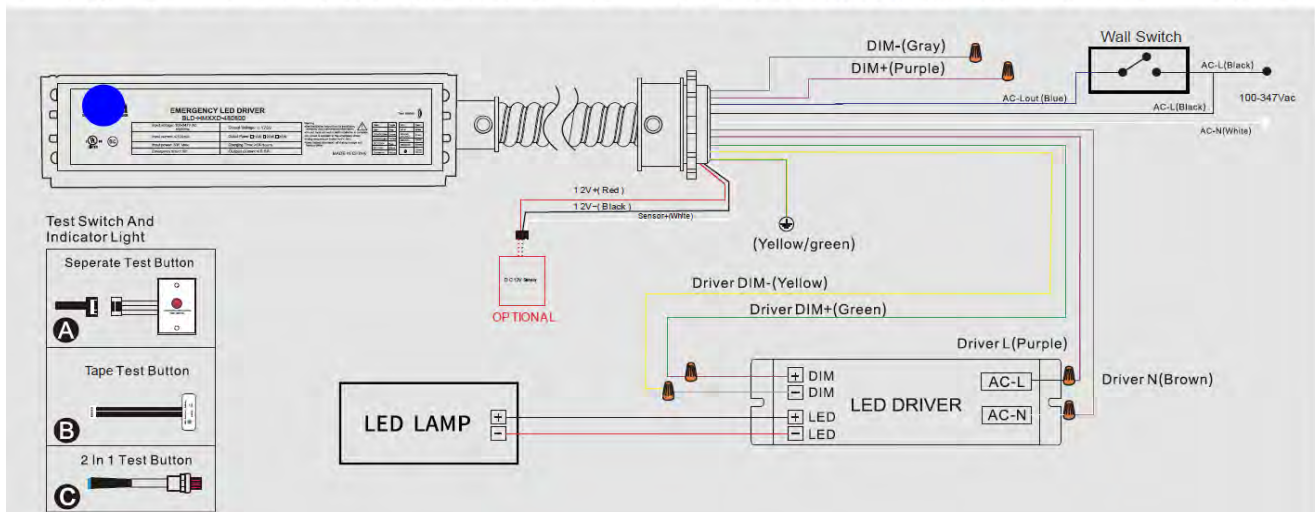
0/1-10V Dimmable LED Driver + Dimmer Switch

Emergency Driver Dim+(Yellow) , Driver Dim-(Green) Have to connect with LED driver DIM+ and DIM-



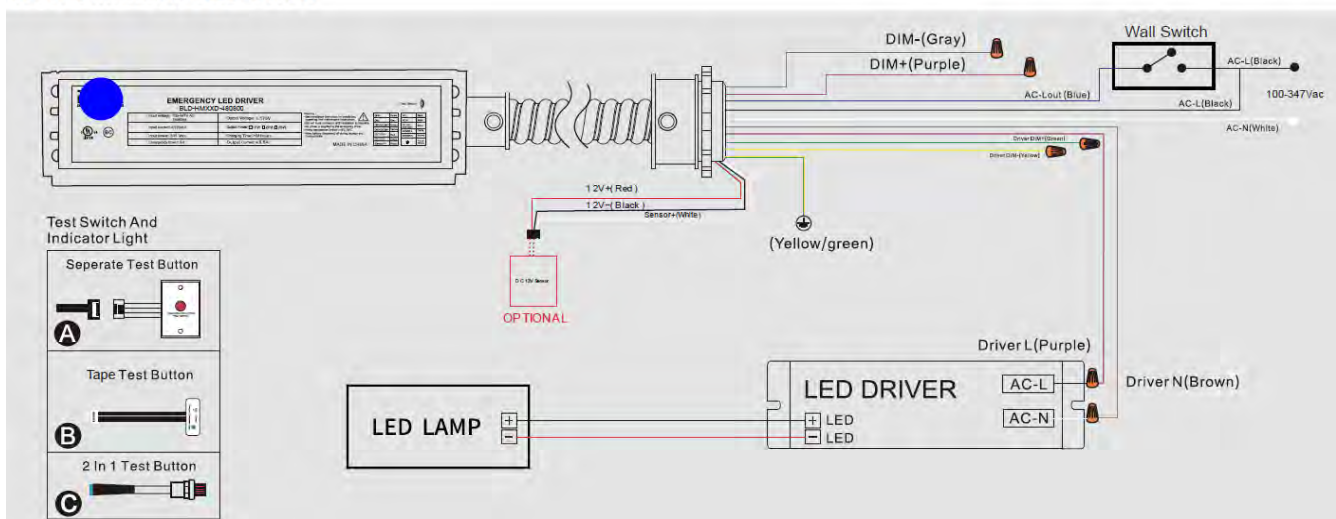
0/1-10V Dimmable LED Driver + Wall Switch

Emergency Driver Dim+(Yellow) , Driver Dim-(Green) Have to connect with LED driver DIM+ and DIM-



For LED Driver With Input Power Less Than Emergency Output Power

NON Dimmable LED Driver



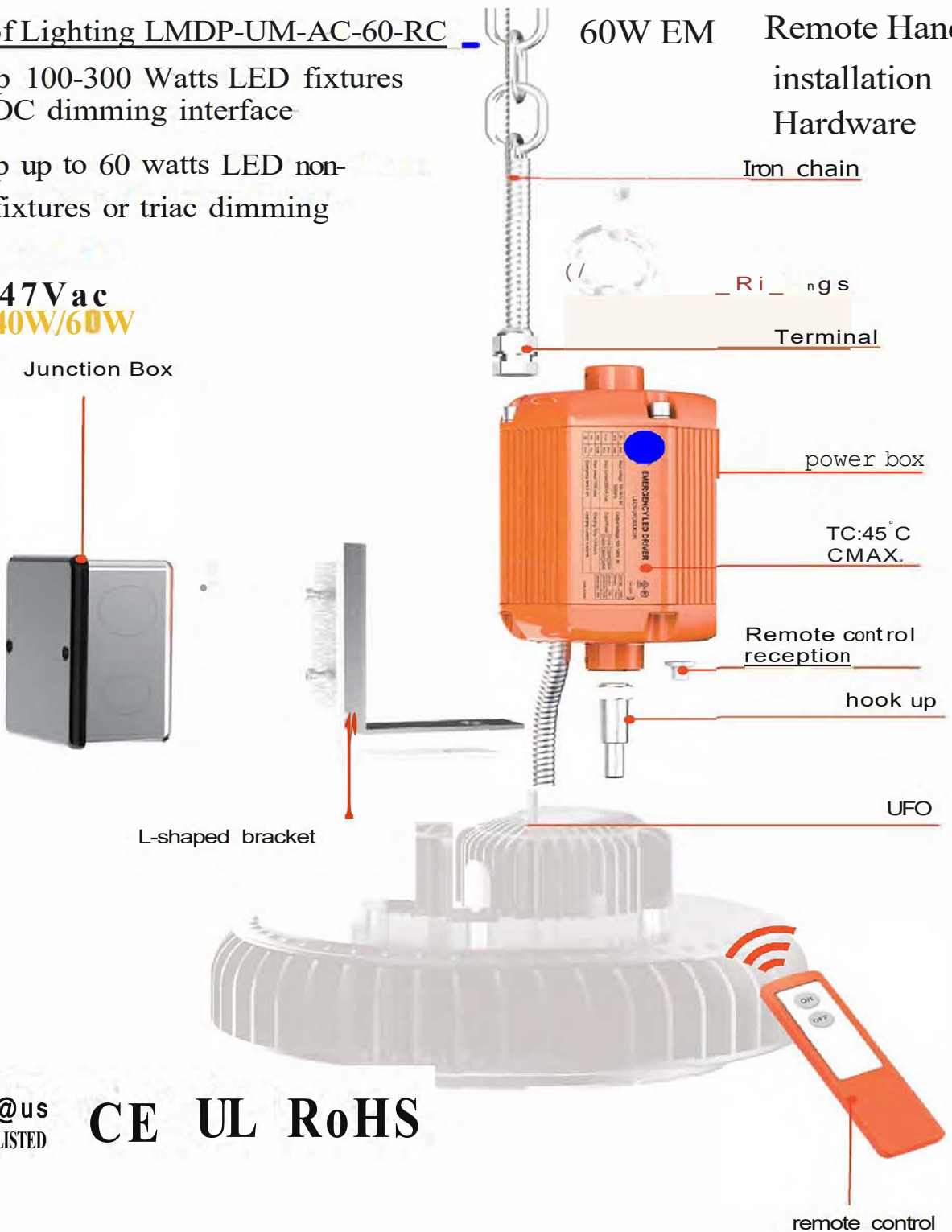
Deep Roof Lighting LMDP-UM-AC-60-RC

- Back up 100-300 Watts LED fixtures
0-10 VDC dimming interface
- Back up up to 60 watts LED non-dim111 fixtures or triac dimming fixtures

100-347V ac
30W/40W/60W

60W EM

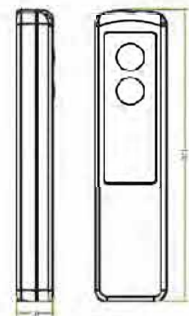
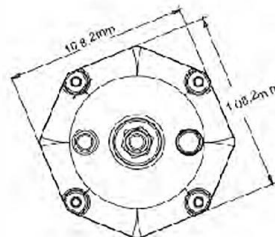
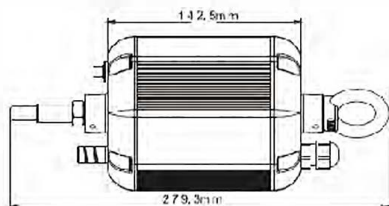
Remote Handset
installation
Hardware



c@us
LISTED

CE UL RoHS

Size



Features

- ◆ High output voltage DC175V, directly connect to LED driver AC input and dimming wires, simple wiring.
- ◆ Constant power output 30W/40W/60W
- ◆ Universal input range, AC100-347V
- ◆ Optimized design for UFO highbay fixture
- ◆ Protection, Over-Voltage, Short-Circuit, Over-Load, Open-Circuit.
- ◆ Self-diagnostic every month and year.
- ◆ Wireless remote control for emergency test
- ◆ UL listed for factory and field installation
- ◆ CEC (CA tile 20) and USA DoE Energy Efficiency.

Specifications

Input Voltage	100-347VAC, 50/60Hz	Test Switch/Charging Indicator Light	Remote Control
Output Voltage	≤175V DC	Battery	Li-ion battery
Input Current	200 mA	Charging time	≥ 24Hours
Input Power	15W	Output power	□30W□40W□60W
Emergency Time	90Minutes		
Warranty	5 Years	Weight	3.6kg
Ambient Temp	0°C to +50°C	Dimensions	297.3x142.5x108.2mm

Self-Diagnostic

The integrated self-diagnostic circuitry will automatically conduct monthly 30-min and annual 90-min ute tests to verify proper emergency capability per Life Safety Code requirements.

Press the test button to cut the power to the AC driver and switch the system to emergency mode. Release NFPA 101, Life Safety Code outlines the following schedule.

Monthly - Insure that the test button light is illuminated. Conduct a 30 second discharge test by depressing the test button. The LED load should operate at reduced output.

Annually - Insure that the test button is illuminated. Conduct a full 90 minute discharge test. The unit should operate as intended for the duration of the test.

Written records of the testing shall be kept by the owner for inspection by the authority having jurisdiction.



Operation Instructions

Instructions for Remote Control

ON

Testing:

Press the ON button to test emergency function. The light will switch to its emergency lighting and the indicator light will turn off. Press the OFF button, the light will recover to normal lighting.

OFF

When mains supply is off (emergency mode), press the OFF button can turn off emergency function.

Please note:

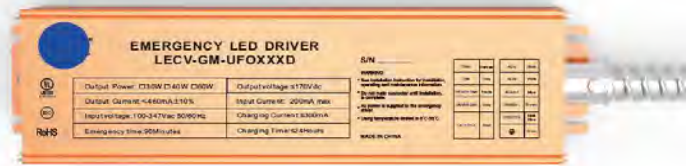
Remote must be pointed at the indicator light and be within a 45 degree angle to receive signal/command. Remote needs two AAA batteries to operate (not included).

Deep Roof Lighting LMDP-GM-AC-40 (No remote handset)

- Back up 100-300 watts LED fixtures
- 0 - 10 VDC dimming interface
- Back up up to 40 watts LED non-dimm fixtures or triac dimming fixtures

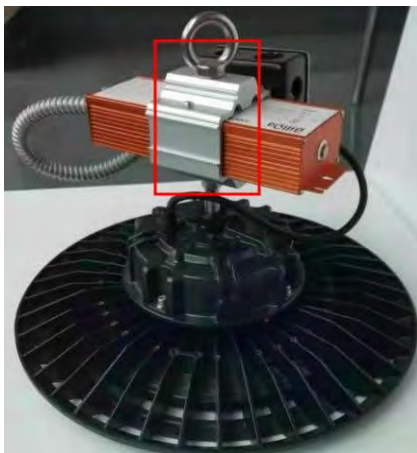
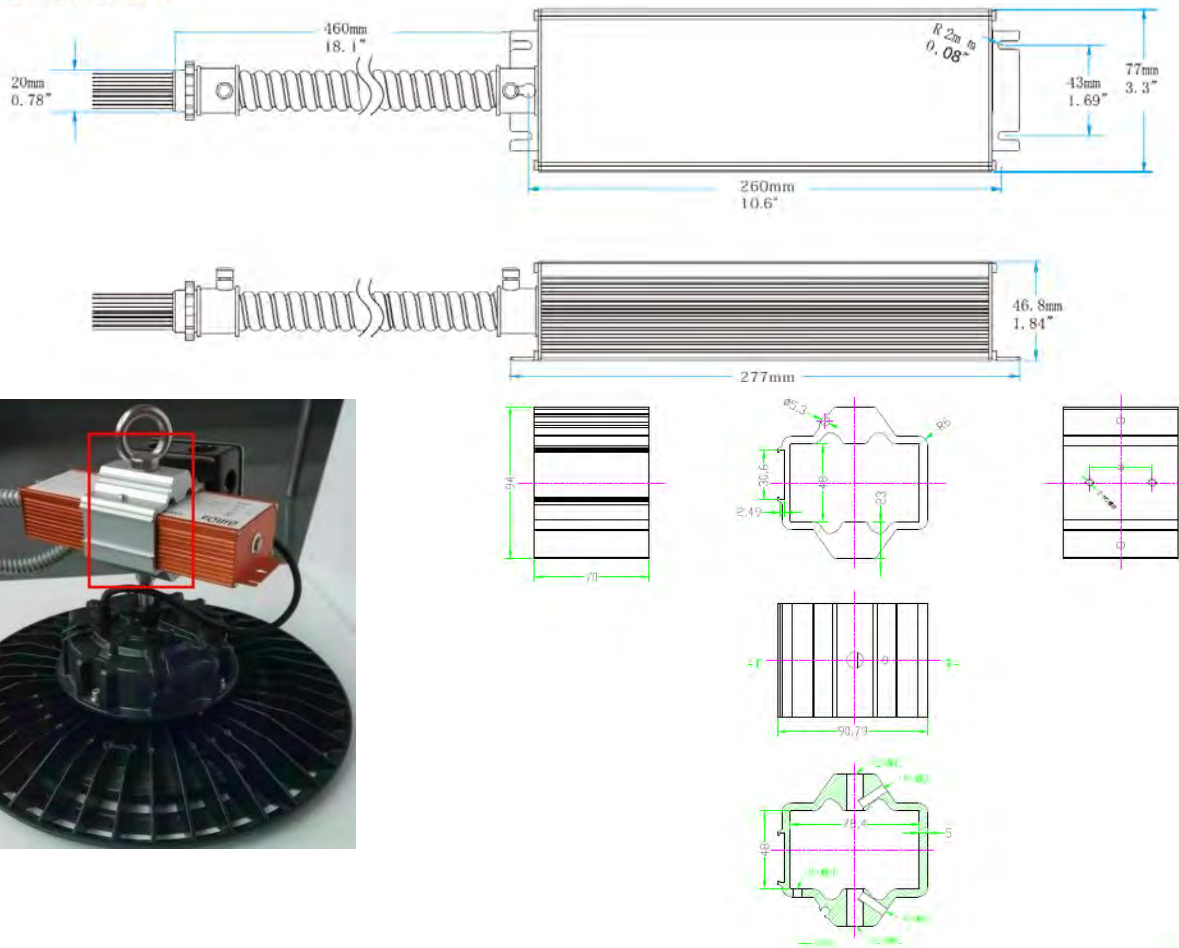
Features:

- Standard CSA C22.2 NO.141、UL924、IP65
- Selectable emergency power 30W 40W 60W
- Universal input (100-347VAC)
- Built-in Lithium Battery
- Battery protections: over charge protection, over discharge protection ,short circuit protection
- The batteries meet 500 cycles of standard charge and discharge
- Silicone potted
- Waterproof Rate : IP65



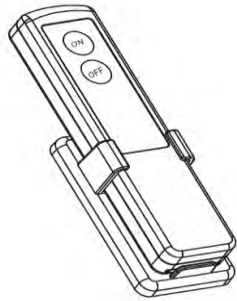
Output Voltage	≤170Vdc	Test Switch/ Charging Indicator Light	Low Voltage, Illuminated Test Switch
Universal Input Voltage	100-347VAC, 50/60Hz	Battery Charging Current	≤300mA
AC Input Current	200mA max	Recharge Time	≤24Hours
AC Input Power Rating	15W	Temperature Rating (Ambient)	Li-ion 0°C to 50°C (32F to 122F)
Emergency Time	90 Minutes	Output Current	≤460mA±10%
Full Warranty	5 Years		
Output Power	30W 40W 60W		

Dimensions:



Operating Manua

Instructions For Remote Control

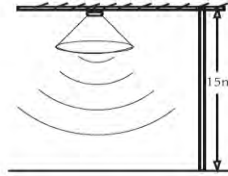


Remote Control

Testing:
 Press the ON button to test emergency function. The light will switch to its emergency lighting and the indicator light will turn off. Press the OFF button, the light will return to normal lighting.
 When mains supply is off (emergency mode), press the OFF button can turn off emergency function.

Please note:
 Remote must be pointed at the indicator light and be within a 45 degree angle to receive signal/command. Remote needs two AAA batteries to operate (not included).

10-15M Highbay altitude

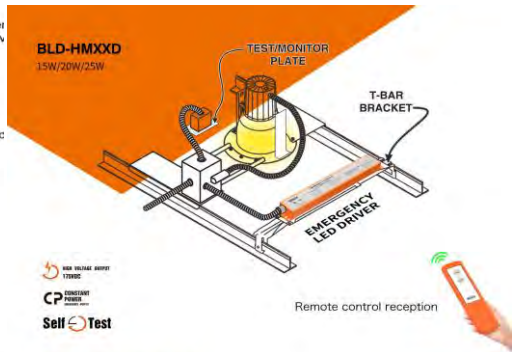
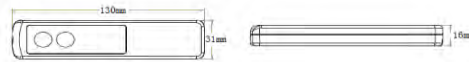


NOTE

When not in long-term use please remove the battery

Model: RN51M
 Rated voltage: 3VDC

SIZE



NEW RELEASE 2022
 CP
 Self Test

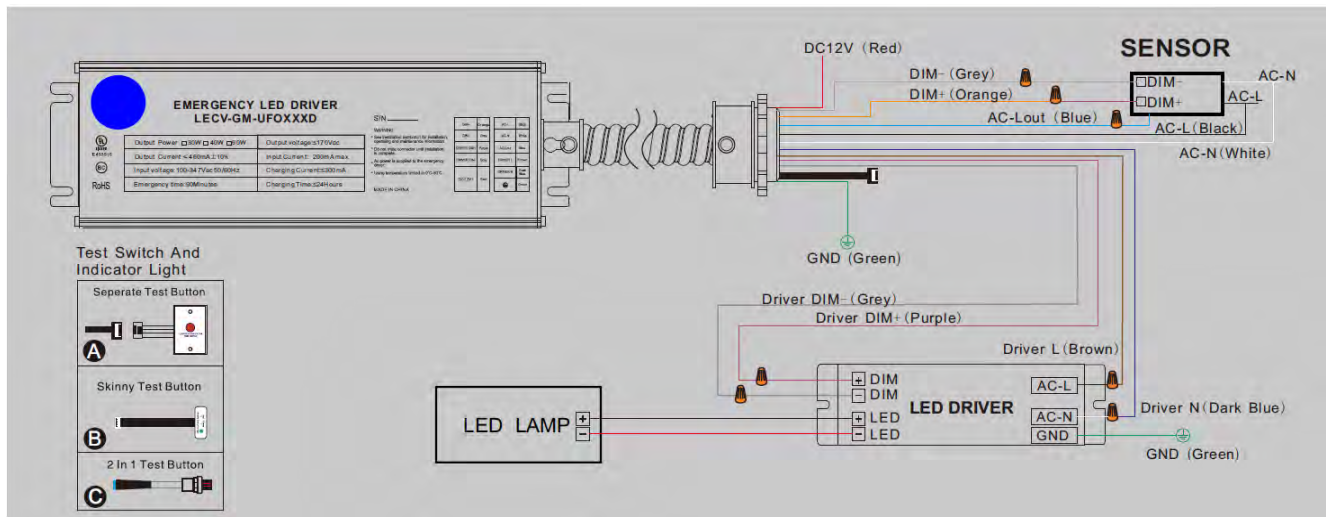
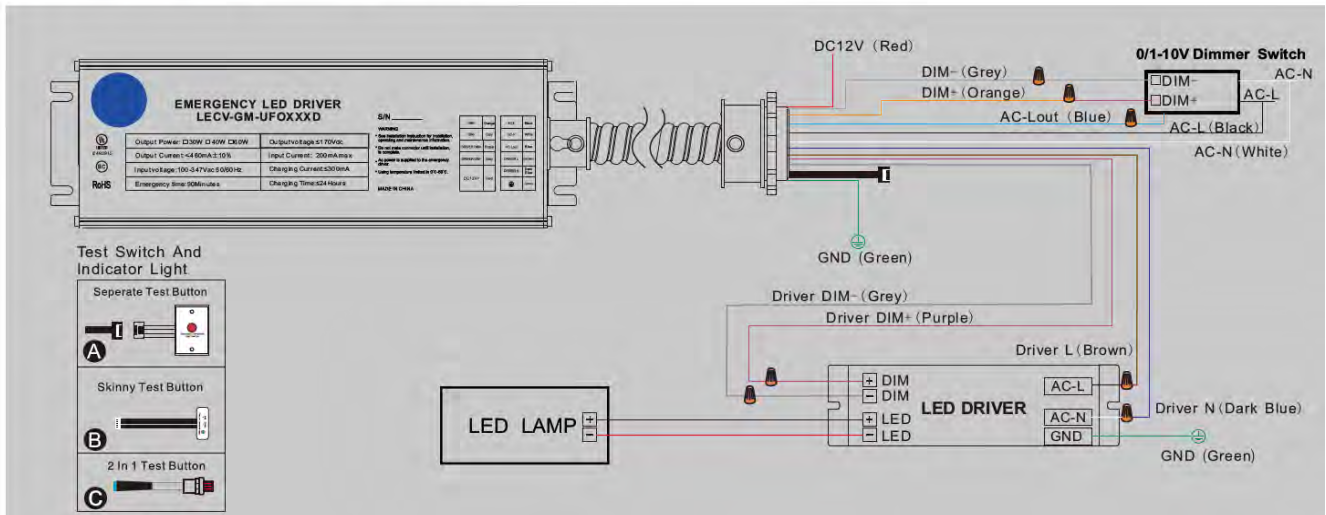
EMERGENCY LED DRIVER

Remote control reception



Wiring Diagram

Note: The Emergency LED Driver Work With 0/1-10V Dimmable LED Fixture (with Dimmer Switch)



Adaptive Em mode driver

• Running parallel with fixture's driver

LMDP-4700	***	5 watts Em mode output fixed	(Factory code 184700)
LMDP-4701	***	9 watts Em mode output fixed	(Factory code 184701)
LMDP-4702	***	15 watts Em mode output fixed	(Factory code 184702)
LMDP-4703	***	25 watts Em mode output fixed	(Factory code 184703)

LMDP-4702/4703-1
Terminal block
Separate battery pack
Factory install

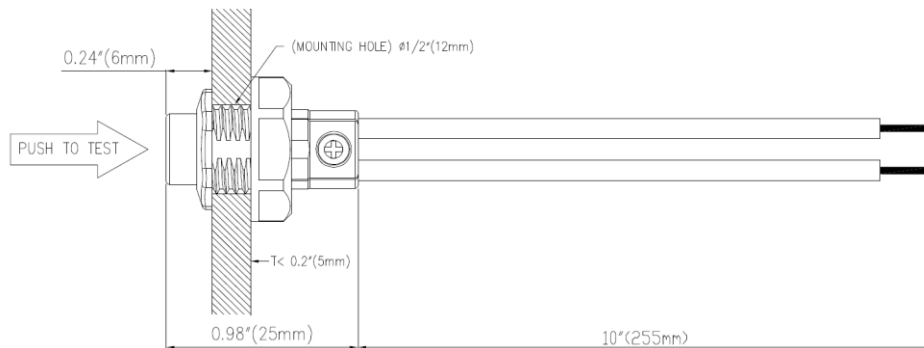
LMDP-4702/4703-2
External wire
Integrated battery pack
Field installation allowed

LMDP-4702/4703-3
Flexible conduit feed
Integrated battery pack
Field installation allowed

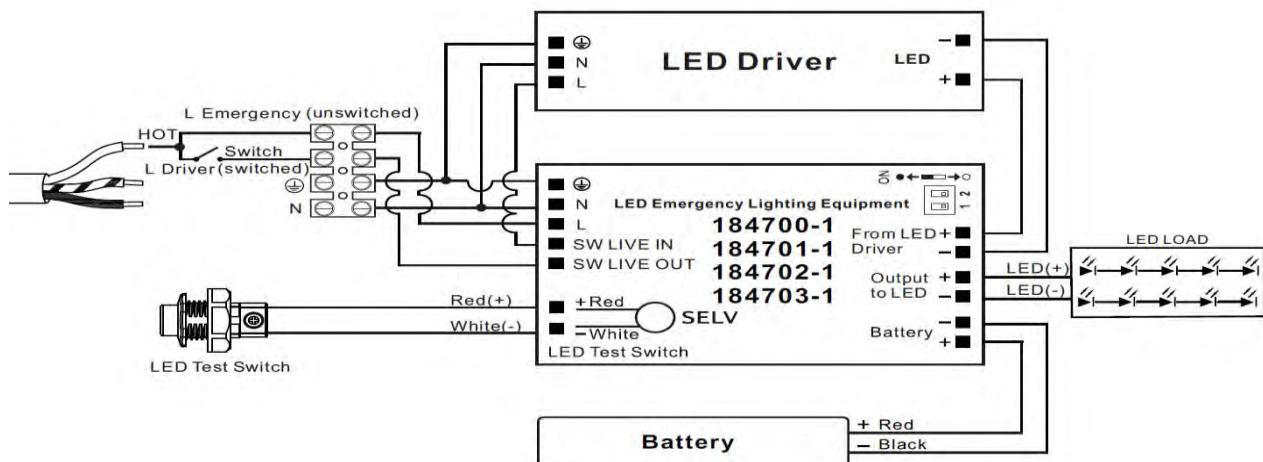


Constant emergency power output: Class 2, output voltage (10-60V), output current auto adjustable.
Auto test function reduces the maintenance cost.
Slim aluminium housing, Suitable for indoor, dry and damp applications
Class I, UL approved

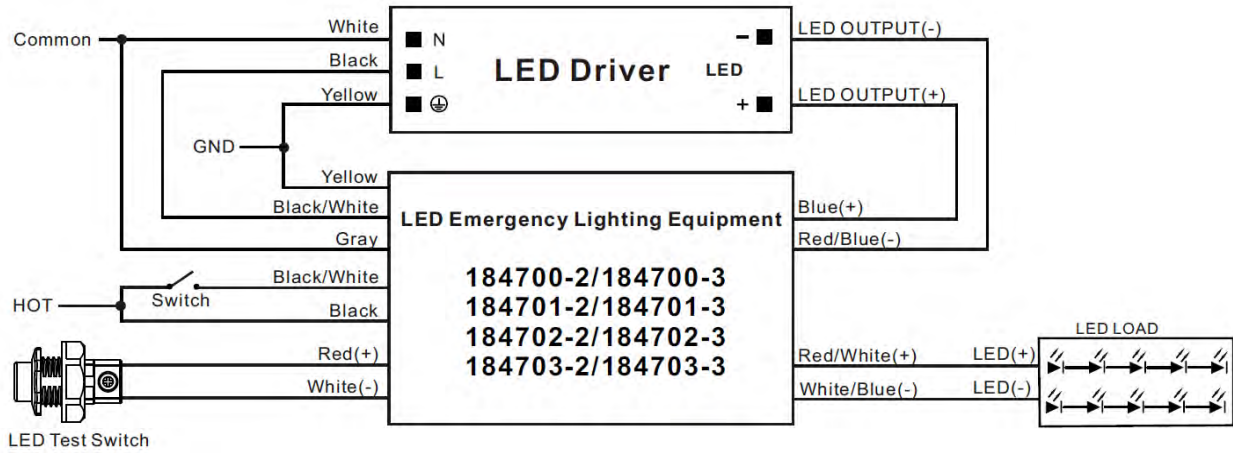
Test switch



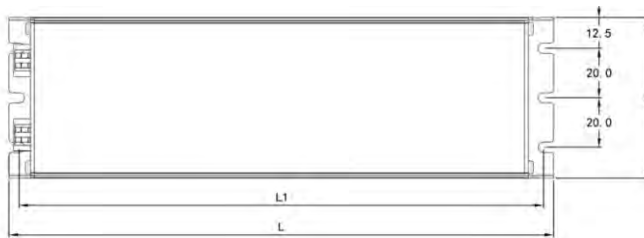
Wiring diagram of LMDP-4702-1 and LMDP-4703-1



Wiring diagram of LMDP-4702/4703-2 and LMDP-4702/4703-3



LMDP-(4700 to 4703)-2



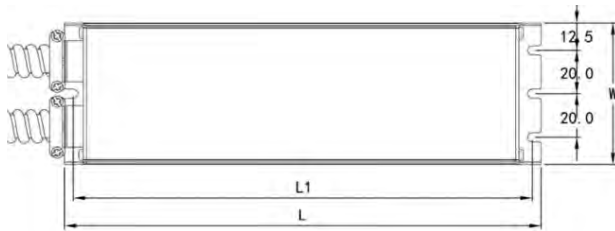
Item No.	L	L1	W	H
184700-2	260	252	65	22
184701-2	307	299	65	22
184702-2	372	364	65	22
184703-2	395	387	82	30

Dimension unit: mm

Dimension tolerance: ± 1 mm

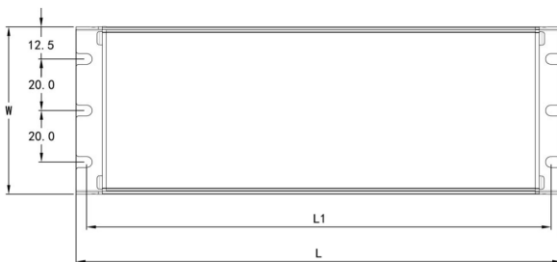


LMDP-(4700 to 4703)-3



Item No.	L	L1	W	H
184700-3	260	252	65	22
184701-3	307	299	65	22
184702-3	372	364	65	22
184703-3	395	387	82	30

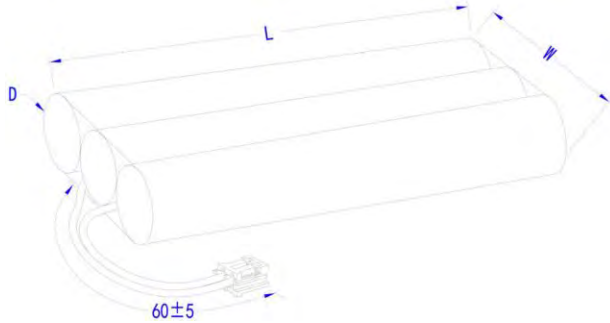
LMDP-(4700 to 4703)-1-DM Driver Module



Item No.	L	L1	W	H
184700-1	125	117	65	22
184701-1	125	117	65	22
184702-1	125	117	65	22
184703-1	125	117	82	30

LMDP-(4700 to 4703)-1-BP

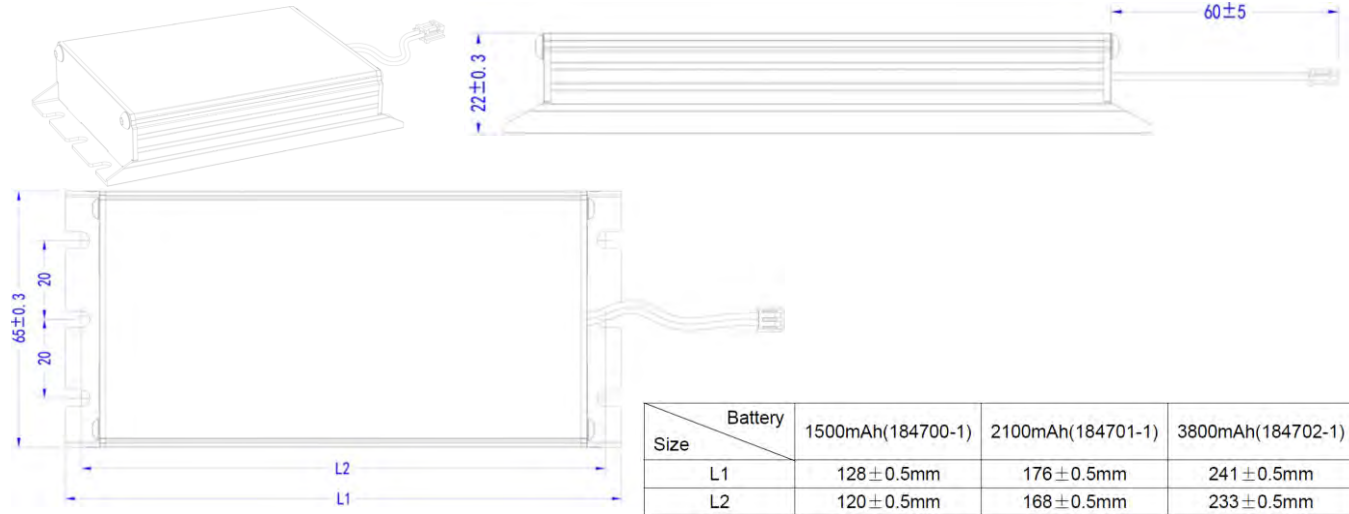
Battery Pack



Battery	1500mAh(184700-1)	2100mAh(184701-1)	3800mAh(184702-1)	4500mAh(184703-1)
Size				
L	100±2mm	150±1.5mm	213±3mm	196±3mm
W	57±2mm	51±1.5mm	56.4±1mm	76.5±1.5mm
D	ø14(+1,-0)mm	ø17±1mm	ø18.8±0.5mm	Max ø 26

LMDP-(4700 to 4703)-1-BMA

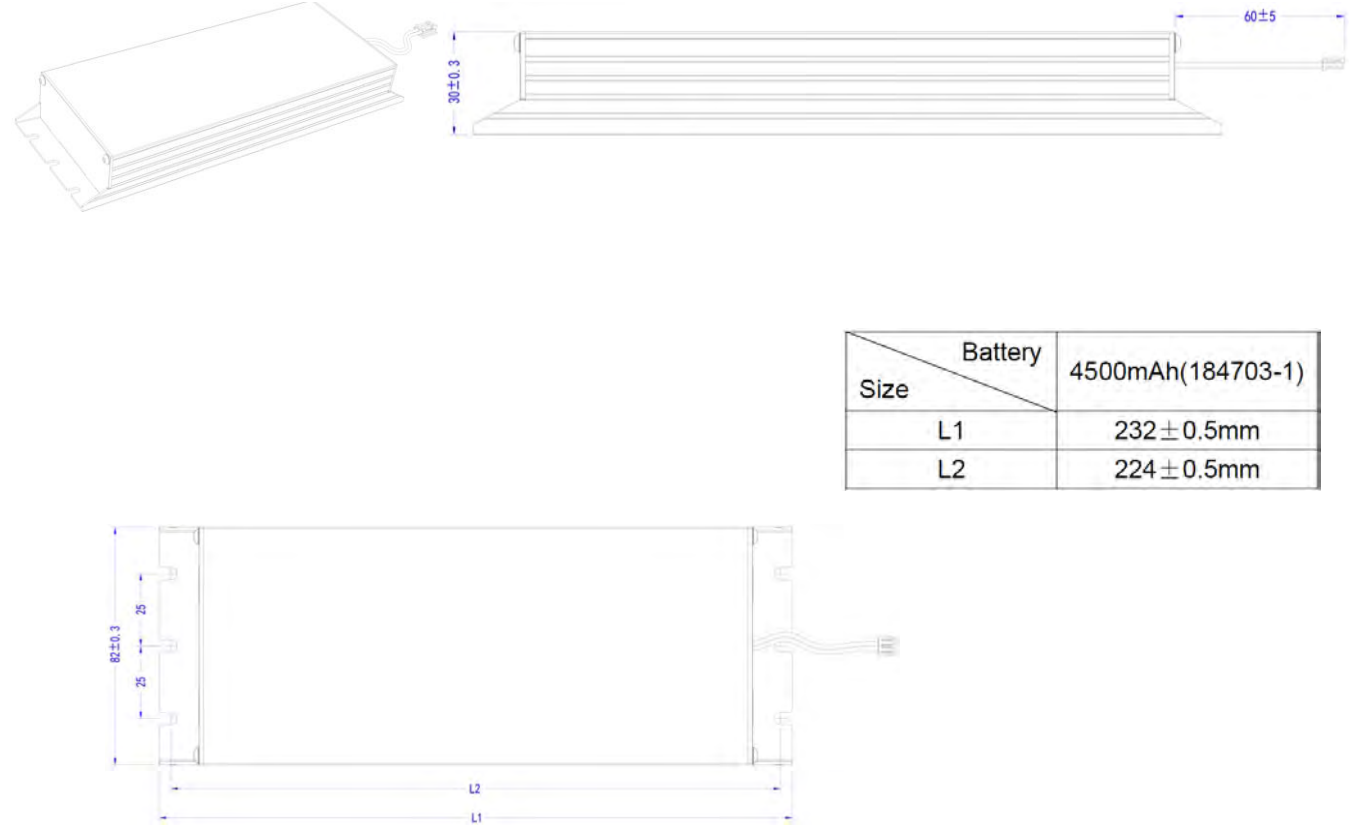
Battery Mounting Box A (Optional)



Battery	1500mAh(184700-1)	2100mAh(184701-1)	3800mAh(184702-1)
Size			
L1	128±0.5mm	176±0.5mm	241±0.5mm
L2	120±0.5mm	168±0.5mm	233±0.5mm

LMDP-(4700 to 4703)-1-BMB

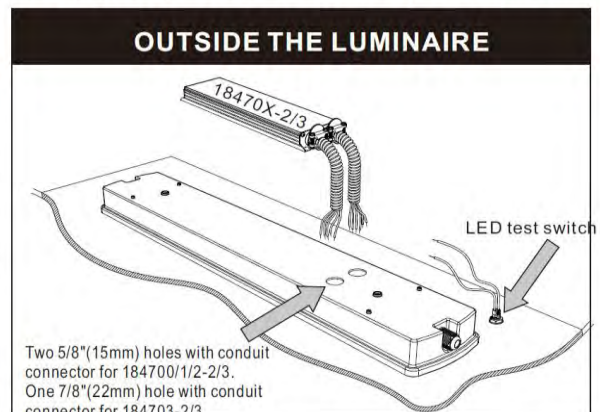
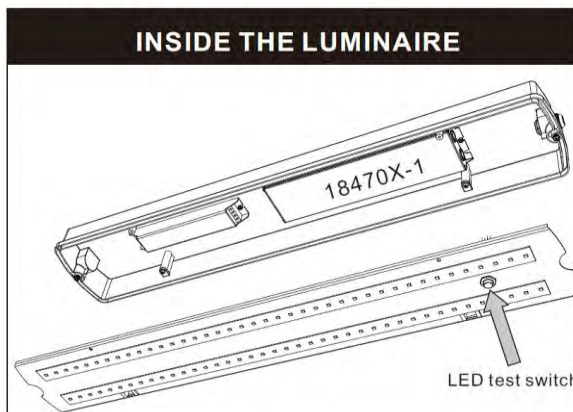
Battery Mounting Box B (Optional)



Battery	4500mAh(184703-1)
Size	
L1	232±0.5mm
L2	224±0.5mm

Type	184700	184701	184702	184703
Rated voltage	120-277VAC 50/60Hz			
Rated current	0.05A (Max)	0.06A (Max)	0.07A (Max)	0.1A (Max)
Rated power	3.5W (Max)	4.0W (Max)	5.0W (Max)	7.0W (Max)
Emergency output power between 0°C-50°C	5W	9W	15W	25W
Output voltage	10~60VDC	11~60VDC	15~60VDC	25~60VDC
Output current	1 A (Max)			
Operation frequency	320kHz \geq f \geq 50kHz			
Power Factor	\geq 0.55			
Battery	Ni-MH			
Charging time	24 Hours			
Discharge time	> 90 Minutes			
Charging current	0.08A	0.11A	0.19A	0.23A
Life time	5 years			
Charging cycles	> 500			
Operation temperature	0~50°C			
Efficiency	80%			
Abnormal protection	Over load, Inrush current limiting, over temperature, open circuit, short-circuit Protection with auto-reset			
Wire	1.5~2.5mm ²			
EMC& EMF standard	EN 55015, EN 61547, EN 61000-3-2, EN 61000-3-3; EN 62493			
Safety standard	EN 61347-1, EN 61347-2-13, EN 61347-2-7, UL924			

The 184700/1/2/3-1 should be mounted inside the luminaire by the luminaire manufacturer.
The 184700/1/2/3-2/3 can be mounted inside or outside (nearby or on top of) the luminaire.



Compact Normal and Em Driver

- Replace fixture's driver

LMDP-4500 (30 Watts)

LMDP-4501 (50 Watts)

LMD4500
LMD4501

Features



1. For normal operation and emergency operation of LEDs, no need extra LED driver
2. Constant current, multi-current selectable output
3. Normal mode LED soft start, emergency mode conversion within 0.3 seconds
4. 1-10V dimmable
5. Emergency mode can choose 25%, 50%, 75%, 100% output of normal mode
6. Auto Test
7. Slim aluminium housing
8. Class I
9. CE & UL approved
10. Conform to RoHS



	I	2	3	Current		I	2	3	Current
I	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	150mA	I	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	600mA
II	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	250mA	II	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	700mA
III	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	300mA	III	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	750mA
IV	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	350mA	IV	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	800mA
V	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	400mA	V	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	850mA
VI	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	450mA	VI	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	900mA
VII	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	500mA	VII	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	950mA
VIII	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	600mA	VIII	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	1000mA

LMD4500

LMD4501

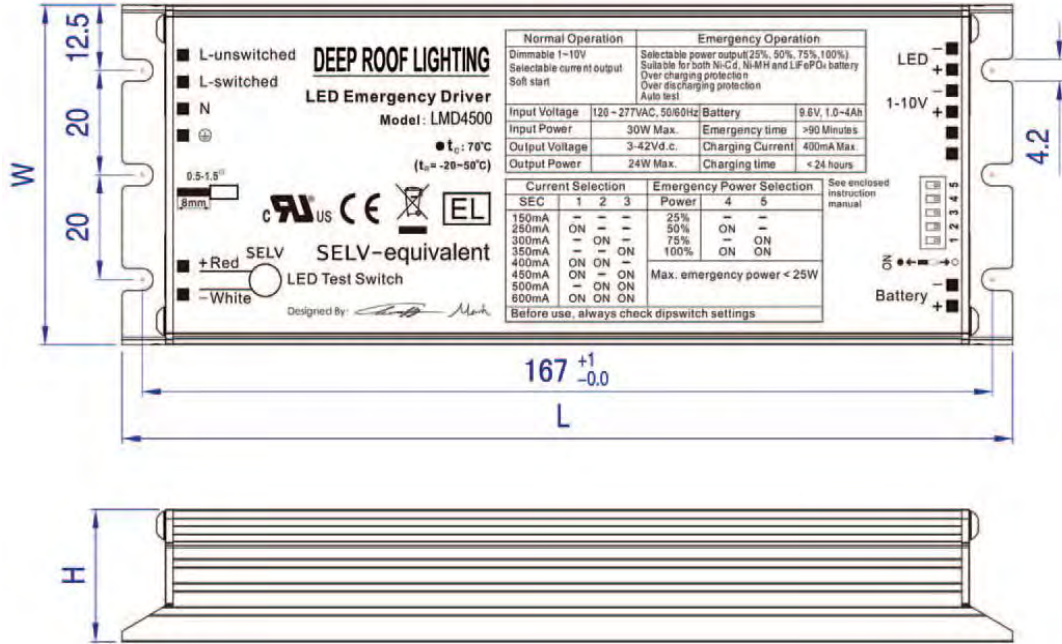
The current can be configured by choosing the correct combination of the DIP switches

Characteristics

Specification	LMD4500	LMD4501
Rated voltage	120-277VAC 50/60Hz	120-277VAC 50/60Hz
Rated current	0.3A (Max)	0.5A (Max)
Rated power	30W (Max)	50W (Max)
Emergency output power	≤25.2W (Max)	≤25.2W (Max)
Output voltage	3~42VDC	3~42VDC
Operation frequency	320kHz≥f≥50kHz	320kHz≥f≥50kHz
Power Factor	≥0.9	≥0.9
Battery	1.0-4Ah, 9.6V Ni-Cd/Ni-MH/LiFePO ₄	1.0-4Ah, 9.6V Ni-Cd/Ni-MH/LiFePO ₄
Charging time	24 Hours	24 Hours
Discharge time	>90 Minutes	>90 Minutes
Charging current	0.40A (Max)	0.40A (Max)
Life time	5 years	5 years
Charging cycles	>500	>500
Operation temperature	Ta: -20~50℃ Tc: 70℃	Ta: -20~50℃ Tc: 70℃
Output current	150mA, 250mA, 300mA, 350mA, 400mA, 450mA, 500mA, 600mA ±3%	600mA, 700mA, 750mA, 800mA, 850mA, 900mA, 950mA, 1000mA ±3%
Efficiency	80%	80%
Abnormal protection	Over load, Inrush current limiting, over temperature, open circuit, short-circuit Protection with auto-reset	Over load, Inrush current limiting, over temperature, open circuit, short-circuit Protection with auto-reset
Wire	1.5~2.5mm ²	1.5~2.5mm ²
EMC& EMF standard	EN 55015, EN 61547, EN61000-3-2, EN61000-3-3; EN62493	EN 55015, EN 61547, EN61000-3-2, EN61000-3-3; EN62493
Safety standard	EN 61347-1, EN 61347-2-13 ,EN61347-2-7, UL924, UL8750	EN 61347-1, EN 61347-2-13 ,EN61347-2-7, UL924, UL8750

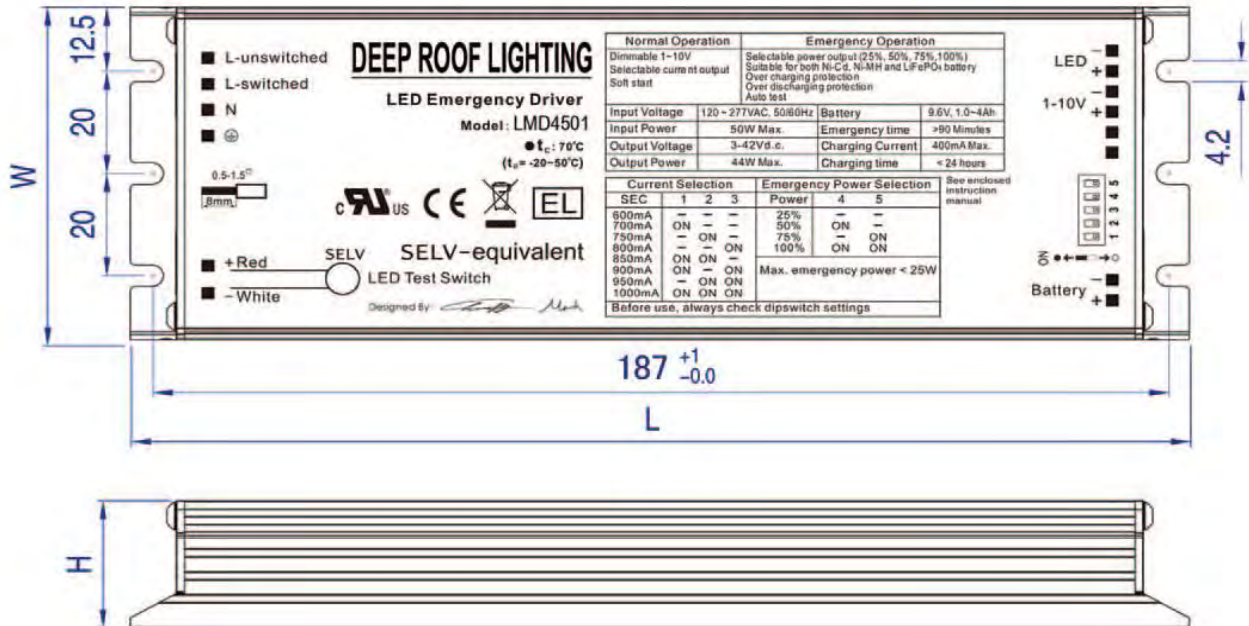
Dimension

LMD4500



Item No.	L	W	H
LMD4500	175	65	22

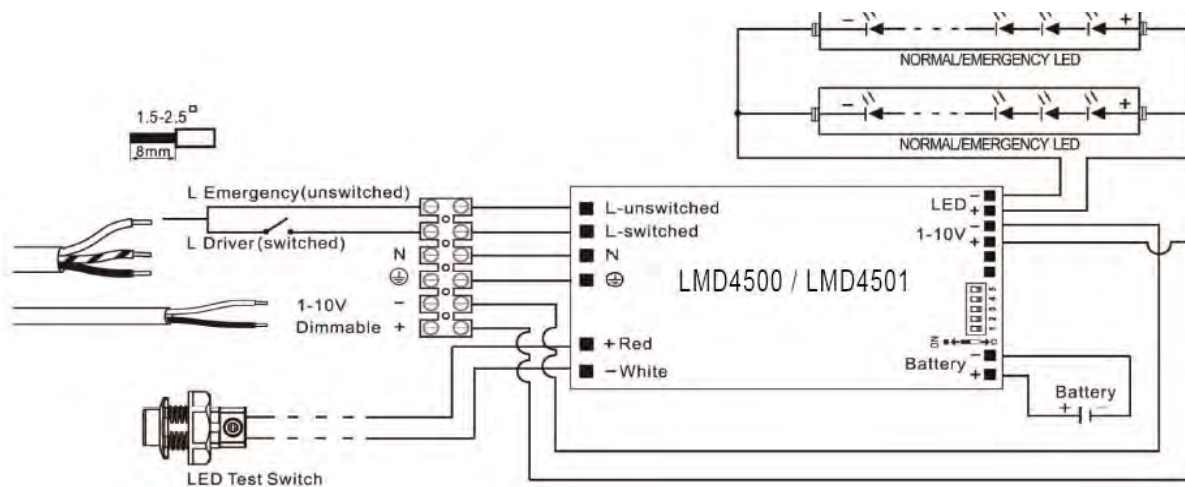
LMD4501



Item No.	L	W	H
LMD4501	195	65	22

Notes:

1. Dimension unit: mm
2. Dimension tolerance: ±0.2mm



Battery Selection

Emergency time >90 Minutes

Output voltage 42VDC

Battery for LMD4500				
Current(mA)	Emergency power rate			
	25%	50%	75%	100%
	9.6V battery(Ah)	9.6V battery(Ah)	9.6V battery(Ah)	9.6V battery(Ah)
150	1.00 (Ni-Cd AA)	1.00 (Ni-Cd AA)	1.00 (Ni-Cd AA)	1.00 (Ni-Cd AA)
250	1.00 (Ni-Cd AA)	1.00 (Ni-Cd AA)	1.50 (Ni-Cd SC)	2.00 (Ni-Cd SC)
300	1.00 (Ni-Cd AA)	1.00 (Ni-Cd AA)	1.50 (Ni-Cd SC)	2.00 (Ni-Cd SC)
350	1.00 (Ni-Cd AA)	1.50 (Ni-Cd SC)	2.00 (Ni-Cd SC)	3.00 (LiFePO ₄)
400	1.00 (Ni-Cd AA)	1.50 (Ni-Cd SC)	2.00 (Ni-Cd SC)	3.00 (LiFePO ₄)
450	1.00 (Ni-Cd AA)	1.50 (Ni-Cd SC)	3.00 (LiFePO ₄)	3.00 (LiFePO ₄)
500	1.00 (Ni-Cd AA)	2.00 (Ni-Cd SC)	3.00 (LiFePO ₄)	4.00 (Ni-Cd D)
600	1.00 (Ni-Cd AA)	2.00 (Ni-Cd SC)	3.00 (LiFePO ₄)	4.00 (Ni-Cd D)

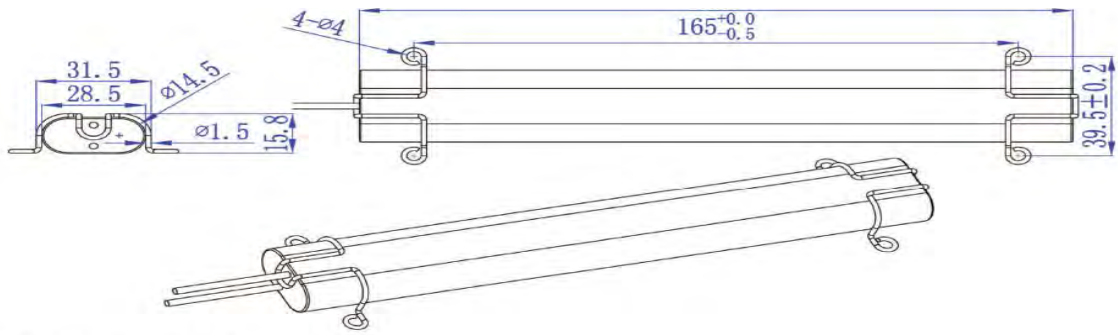
Battery for LMD4501				
Current(mA)	Emergency power rate			
	25%	50%	75%	100%
	9.6V battery(Ah)	9.6V battery(Ah)	9.6V battery(Ah)	9.6V battery(Ah)
600	1.00 (Ni-Cd AA)	2.00 (Ni-Cd SC)	3.00 (LiFePO ₄)	4.00 (Ni-Cd D)
700	1.50 (Ni-Cd SC)	3.00 (LiFePO ₄)	4.00 (Ni-Cd D)	4.00 (Ni-Cd D)
750	1.50 (Ni-Cd SC)	3.00 (LiFePO ₄)	4.00 (Ni-Cd D)	4.00 (Ni-Cd D)
800	1.50 (Ni-Cd SC)	3.00 (LiFePO ₄)	4.00 (Ni-Cd D)	4.00 (Ni-Cd D)
850	1.50 (Ni-Cd SC)	3.00 (LiFePO ₄)	4.00 (Ni-Cd D)	4.00 (Ni-Cd D)
900	1.50 (Ni-Cd SC)	3.00 (LiFePO ₄)	4.00 (Ni-Cd D)	4.00 (Ni-Cd D)
950	2.00 (Ni-Cd SC)	4.00 (Ni-Cd D)	4.00 (Ni-Cd D)	4.00 (Ni-Cd D)
1000	2.00 (Ni-Cd SC)	4.00 (Ni-Cd D)	4.00 (Ni-Cd D)	4.00 (Ni-Cd D)

Emergency current output = 600mA

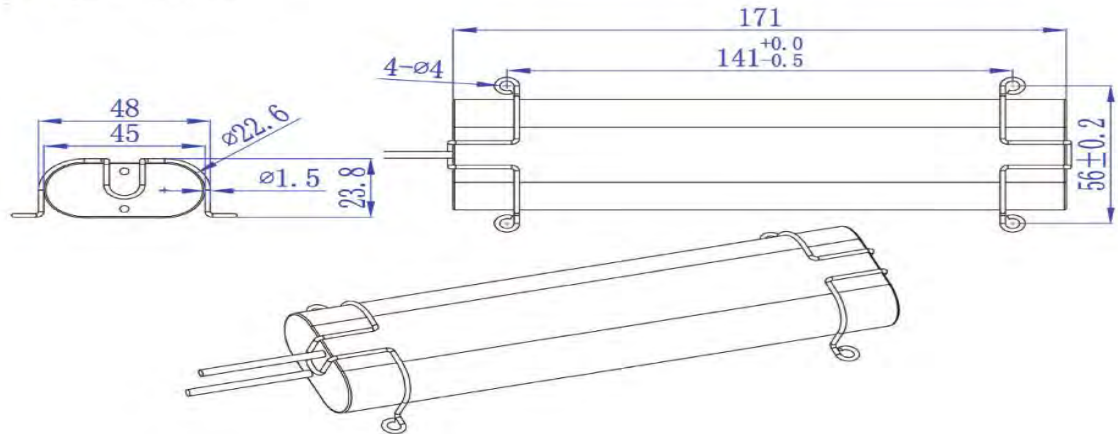
Note: Max. Emergency output power ≤25.2W

Battery Dimension

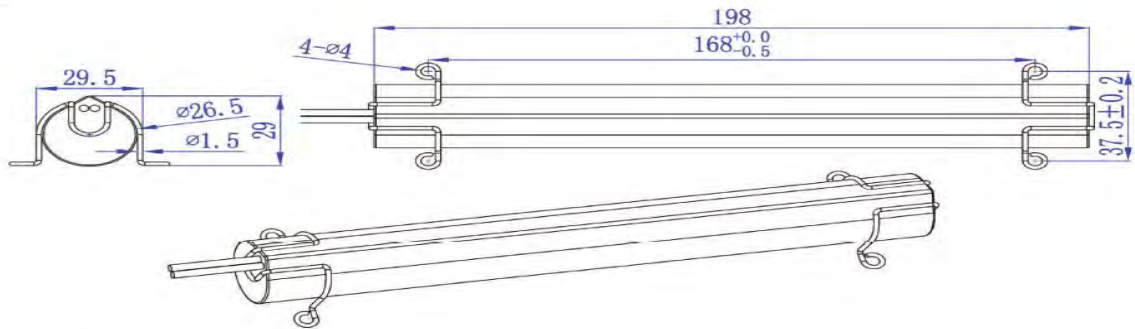
Battery Ni-Cd AA 9.6V



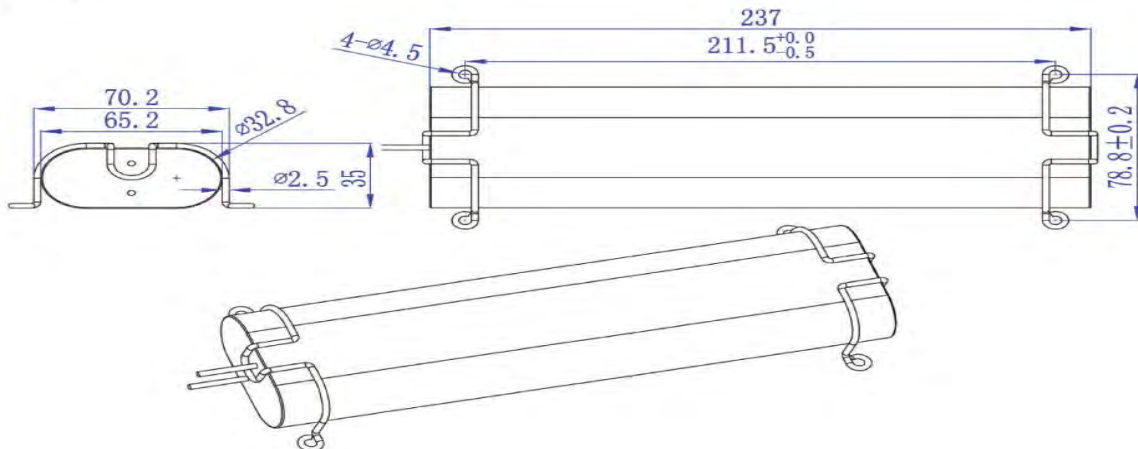
Battery Ni-Cd SC 9.6V



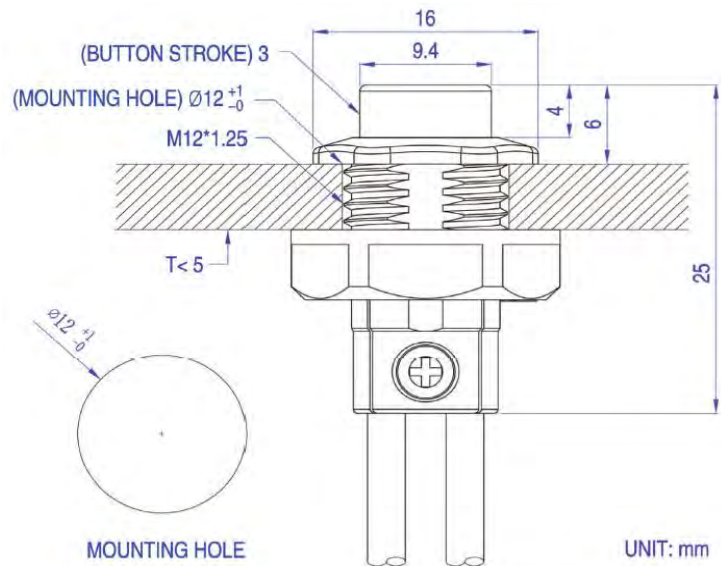
Battery LiFePO4 9.6V



Battery Ni-Cd D



LED Test Switch Dimension



Auto Test

1. Instant Auto Test

When the system is connected well and powered on, the module will Auto Test if the load and battery pack are connected well and if the battery is being charged normally. If there is any abnormal situation, the LED Signal Lamp (LSL) is flickering. When the abnormality is removed, the LSL indicates normally.

2. Preprogrammed scheduled Auto Test

- Carry out first monthly Auto Test after Initial power on for 24 hours to 7 days, afterwards, carry out a monthly Auto Test every 30 days.

- Carry out an annual Auto Test every 52 weeks after first powered on.

- Auto Test timing

To reduce the conflict that Auto Test is executed when the lighting is in use, the preprogrammed scheduled Auto Test will be executed 2 hours later than the normal operation is disconnected (switched off). For applications where lightings remain illuminated, the module will postpone the scheduled test accordingly, but should not later than the preprogrammed scheduled latest test time.

- Monthly Auto Test

Monthly Auto Test should be executed every 30 days and to test:

If the switchover of normal and emergency mode is normal;

If the emergency function and battery's charging and discharging condition is normal;

Auto Test time is about 30 seconds.

- Annual Auto Test

Annual Auto Test should be executed after 24 hours full charging and to test:

If the battery's voltage is equal or higher than the limit after 24 hours full charging;

If the emergency operation time is over 90 minutes;

If the battery voltage after 90 minutes emergency operation is still equal or high than 87.5% of the battery voltage before testing.

- During the Auto Test, in case a power failure happens and the power cannot be on till the Auto Test completes, then the Auto Test will be executed again 24 hours later after the power is on.

- If the emergency mode makes the battery discharged completely under the power off condition, then the preprogrammed scheduled Auto Test will resume the first time when the power is connected.

3. Manual Test

- Press LED test switch (LTS) one time, then go into emergency mode.

- Press LTS 2 times continuously within 5 seconds, then go into monthly test. After finish, the next monthly test will count from this date.

- Press LTS 3 times continuously within 5 seconds, then go into annual test, after finish, the next annual test will count from this date.

- During the manual test, press LTS 3 times, then the manual test can be terminated.

(The preprogrammed scheduled Auto Test time will not change)

4. LED Signal Lamp (LSL) indication

- LSL on: Normal

- LSL off: Power failure

- LSL gradual change: In testing

- LSL flickering: Abnormal