

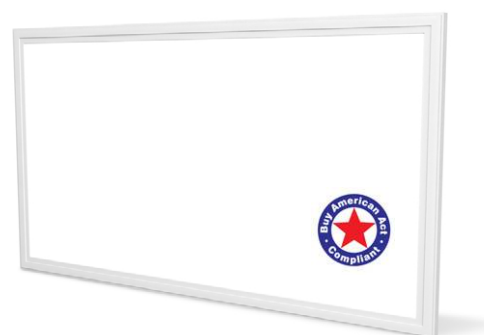
DATA SHEET: LED PANEL

General illumination typically used to replace 2x2 and 2x4 fluorescent troffers. The Patriot Panel is designed to lay-in drop ceilings in offices, schools, showrooms, airports, retail locations, and healthcare facilities. Ultra modern design with an industry leading 110 lumens per watt, the PATRIOT LED PANEL is the ideal fluorescent lay-in replacement.

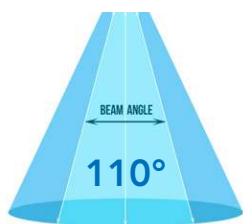
Our PATRIOT LED PANELS are backed with our industry-leading 100,000-hour rated lamp life and 10-year warranty. See Ordering Model table below for our BAA compliant products. Contact us for pricing or more information.

PRODUCT BENEFITS

- Proudly assembled in USA. Buy American Act (BAA) & TAA (Trade Agreement Act) Compliant.
- Edge-lit LED array with translucent diffuser provides uniform illumination.
- Ultra-slim Aluminum Frame – <0.5inch.
- Custom color temps available.
- UL, cUL, TUV, DLC 4.2 listed.
- LM-79, and IES available upon request.
- 100,000 hour L70 lifespan.
- Lumen efficacy is greater than 130+ lumen/watt.
- External UL Listed Class-2 Constant Current Driver.
- Universal Voltage: 100-277V. *100-382V available.
- Multiple mounting options.
- Suitable for damp locations.
- 0-10V dimming.
- SMD 2835 LED chips.
- Premium Meanwell Driver available upon request.
- Limited Warranty: 5 year (10 year optional).

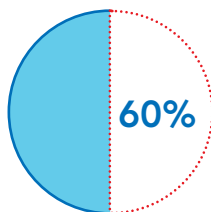


BEAM ANGLE



Patriot LED Light Distribution

CAN DECREASE ENERGY USAGE BY



vs. Similar Fluorescent Lamps

WARRANTY



Our Industry-Leading 10-Year Limited Warranty Guarantees Unsurpassed Quality

APPLICATIONS

- Office
- Healthcare
- Commercial
- Industrial
- Airport
- Conference Room
- Education
- Government
- Showroom
- Hotel

ORDERING MODEL

PATRIOT TUBE	LENGTH	DIMMABLE	WATTAGE	INPUT TYPE	CCT
PP	1x1	D	18W	PP	3000K
	1x2		20W		3500K
	1x4		30W		4000K
	2x2		40W		5000K
	2x4		50W		7000K
	2x4		60W		75W
Product Code: example					
PP -1x4-40W CDS					



DATA SHEET: LED PANEL

PRODUCT SPECIFICATION

Product No.	BAA/TAA Option*	Rated Lamp Wattage	Input Voltage	Color Temp (K)	Rated Lumens	Rated Efficacy	CRI	Beam Angle	Rated Life (Hours)	Operating Temp. (°F)	Power Factor
1ft X 1ft PATRIOT LED PANEL											
PP-1X1-18W CDS	Yes	18	100-277/100-382VAC	3000K/3500K/4000K 5000K/7000K	2,160	>130	>80	110°	100,000	-30°C to 45°C	> 0.9
PP-1X1-20W CDS	Yes	20	100-277/100-382VAC	3000K/3500K/4000K 5000K/7000K	2,400	>130	>80	110°	100,000	-30°C to 45°C	> 0.9
1ft X 2ft PATRIOT LED PANEL											
PP-1X2-20W CDS	Yes	20	100-277/100-382VAC	3000K/3500K/4000K 5000K/7000K	2,400	>130	>80	110°	100,000	-30°C to 45°C	> 0.9
PP-1X2-25W CDS	Yes	25	100-277/100-382VAC	3000K/3500K/4000K 5000K/7000K	3,000	>130	>80	110°	100,000	-30°C to 45°C	> 0.9
PP-1X2-30W CDS	Yes	30	100-277/100-382VAC	3000K/3500K/4000K 5000K/7000K	3,600	>130	>80	110°	100,000	-30°C to 45°C	> 0.9
1ft X 4ft PATRIOT LED PANEL											
PP-1X4-30W CDS	Yes	30	100-277/100-382VAC	3000K/3500K/4000K 5000K/7000K	3,600	>130	>80	110°	100,000	-30°C to 45°C	> 0.9
PP-1X4-40W CDS	Yes	40	100-277/100-382VAC	3000K/3500K/4000K 5000K/7000K	4,800	>130	>80	110°	100,000	-30°C to 45°C	> 0.9
PP-1X4-60W CDS	Yes	60	100-277/100-382VAC	3000K/3500K/4000K 5000K/7000K	7,200	>130	>80	110°	100,000	-30°C to 45°C	> 0.9
2ft X 2ft PATRIOT LED PANEL											
PP-2X2-20W CDS	Yes	20	100-277/100-382VAC	3000K/3500K/4000K 5000K/7000K	2,400	>130	>80	110°	100,000	-30°C to 45°C	> 0.9
PP-2X2-30W CDS	Yes	30	100-277/100-382VAC	3000K/3500K/4000K 5000K/7000K	3,600	>130	>80	110°	100,000	-30°C to 45°C	> 0.9
PP-2X2-40W CDS	Yes	40	100-277/100-382VAC	3000K/3500K/4000K 5000K/7000K	4,800	>130	>80	110°	100,000	-30°C to 45°C	> 0.9
PP-2X2-60W CDS	Yes	60	100-277/100-382VAC	3000K-7000K	7,200	>130	>80	110°	100,000	-30°C to 45°C	> 0.9
2ft X 4ft PATRIOT LED PANEL											
PP-2X4-40W CDS	Yes	40	100-277/100-382VAC	3000K/3500K/4000K 5000K/7000K	4,800	>130	>80	110°	100,000	-30°C to 45°C	> 0.9
PP-2X4-50W CDS	Yes	50	100-277/100-382VAC	3000K/3500K/4000K 5000K/7000K	6,500	>130	>80	110°	100,000	-30°C to 45°C	> 0.9
PP-2X4-75W CDS	Yes	75	100-277/100-382VAC	3000K/3500K/4000K 5000K/7000K	9,750	>130	>80	110°	100,000	-30°C to 45°C	> 0.9

PHYSICAL DATA

Product No.	Material Usage	Lens	Packing/carton	Certification
PATRIOT LED PANEL				
PP-1X2-20W CDS	RoHS Compliant; no mercury	Clear, Frosted	2	DLC V4.2, UL, cUL and Lighting Facts
PP-1X4-40W CDS	RoHS Compliant; no mercury	Clear, Frosted	2	DLC V4.2, UL, cUL and Lighting Facts
PP-2X2-30W CDS	RoHS Compliant; no mercury	Clear, Frosted	2	DLC V4.2, UL, cUL and Lighting Facts
PP-2X4-75W CDS	RoHS Compliant; no mercury	Clear, Frosted	2	DLC V4.2, UL, cUL and Lighting Facts

DATA SHEET: LED PANEL

INSTALLATION INSTRUCTION

To Dear client:

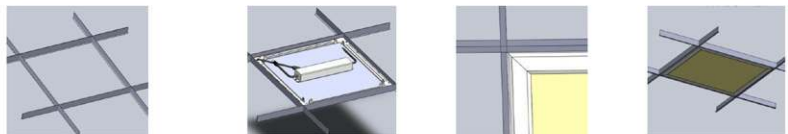
Thank you very much to purchase our lighting products, in order to ensure that you fully understand to use this product safely and properly, please be sure to read the instructions carefully. Meanwhile, please keep this manual carefully for future reference.

Cautions:

1. The panel light must connect to the constant current led driver with the same power of the light, its input voltage is AC100-240V(AC200-240),50/60HZ.
2. When replace the led driver, please take note to the power that marked on the label, larger than a specific power of the driver cannot be used.
3. For installation or maintenance, please cut off power supply, before turn it on, must confirm the light source and electrical installation is right connected.
4. It is forbidden to install this panel lights on the ceiling that is easy damaged or easy deformation.
5. No matter what circumstances, the panel lights can't be covered by thermal insulation material, or similar materials.
6. When an exception occurs, please quickly cut off the power and contact the distributor.
7. The product is only suitable for indoor use, under using or just cut off the power,please don't touch the light.
8. Any maintenance should be performed by trained professionals only.

Installation instruction:

a: Recessed



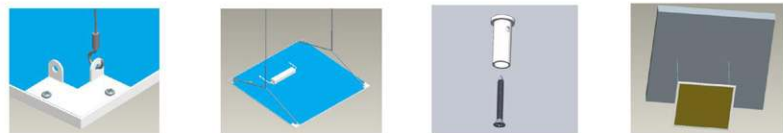
- 1- Lay the fixture into the framework;
- 2- Connect the power output and the lamp cap;
- 3- Connect to the mains to finish the installation.

b: Jump ring



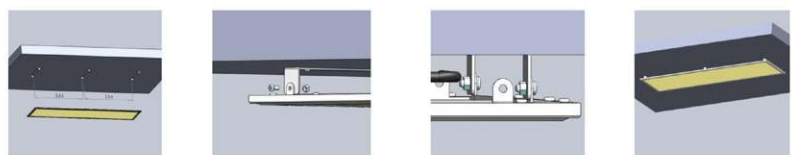
- 1- Fix the 4 circlips with screws and nuts to the panel light;
- 2- Connect the power output and the lamp cap, access to the mains;
- 3- Cock the circlips to the ceiling to complete the installation.

c: Suspended



- 1- Thread the steel wire rope into the indices of the panel light, nested the half part of the mounting on the steel wire rope (you can adjust the depth by pressing the lower tubule);
- 2- Fixed the upper part of the sucker under the ceiling with several screws;
- 3- Thread the upper part of the sucker with the steel wire rope, thread the steel wire rope out from flank,(you can adjust the suspending height by stretching the steel wire rope outside the hole),and then access the alternating current((AC100-240V)), joint up the DC male port of the power with the DC female port of the light.

d : Mounted



- 1- Drive expansion plug to ceiling(as pic1)
- 2- Connect the power output and the lamp cap, use the screws to fix it(as pic 2 and pic 3) to complete the installation.

LED EMERGENCY DRIVER (184500, 184501)

PRODUCT BENEFITS

- For normal operation and emergency operation of LEDs, no need extra LED driver.
- Constant current, multi-current selectable output.
- Normal mode LED soft start, emergency mode conversion within 0.3 seconds.
- 1-10V dimmable; DALI dimmable.
- Emergency mode can choose 25%, 50%, 75%, 100% output of normal mode.
- Auto Test.
- Slim aluminium housing.
- Suitable for indoor, dry and damp applications.
- Class I.
- CE & UL approved.
- Conform to RoHS.



	1	2	3	Current		1	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

184500

184501

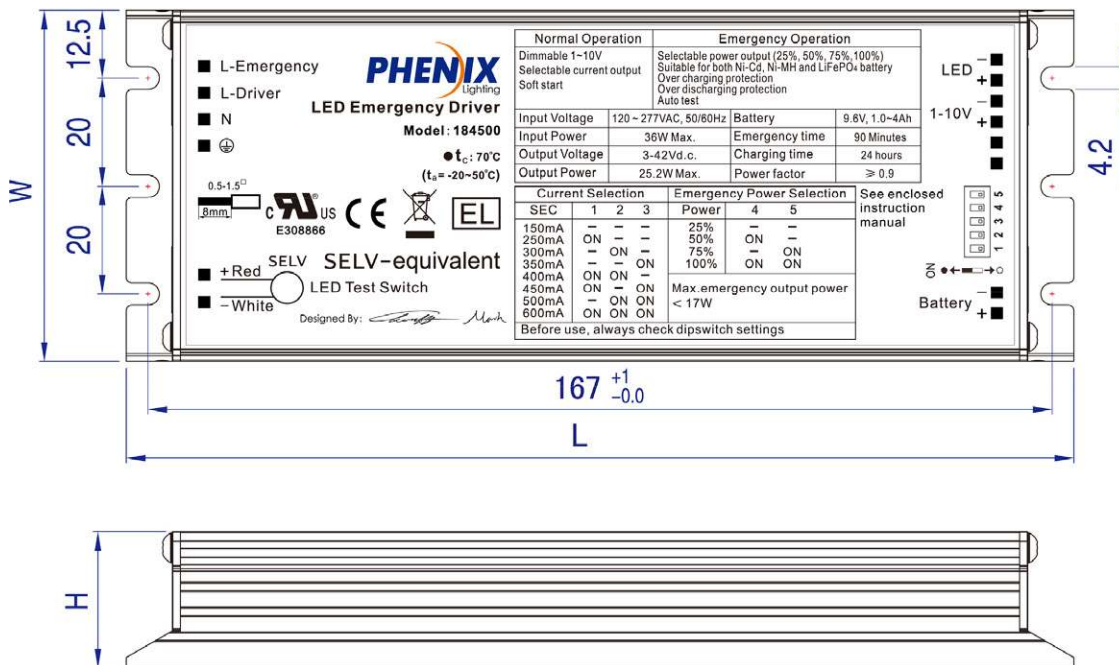
The current can be configured by choosing the correct combination of the DIP switches.





CHARACTERISTICS		
Specification	184500	184501
Rated voltage	120-277VAC 50/60Hz	120-277VAC 50/60Hz
Rated current	0.3A (Max)	0.5A (Max)
Rated power	36W (Max)	59W (Max)
Emergency output power	<17W	<17W
Output voltage	3-42VDC	3-42VDC
Operation frequency	320kHz $\geq f \geq$ 50kHz	320kHz $\geq f \geq$ 50kHz
Power Factor	≥ 0.9	≥ 0.9
Battery	1.0-4Ah, 9.6V Ni-Cd/Ni-MH/LiFePO4	1.0-4Ah, 9.6V Ni-Cd/Ni-MH/LiFePO4
Charging time	24 Hours	24 Hours
Discharge time	>90 Minutes	>90 Minutes
Charging current	0.18A (Max)	0.18A (Max)
Life time	5 years	5 years
Charging cycles	>500	>500
Operation temperature	Ta: -20~50°C Tc: 70°C	Ta: -20~50°C Tc: 70°C
Output current	150mA, 250mA, 300mA, 350mA, 400mA, 450mA, 500mA, 600mA $\pm 3%$	600mA, 700mA, 750mA, 800mA, 850mA, 900mA, 950mA, 1000mA $\pm 3%$
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, EN 61000-3-2, EN 61000-3-3; EN 62493	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	EN 61347-1, EN 61347-2-13, EN 61347-2-7, UL924

DIMENSION 184500

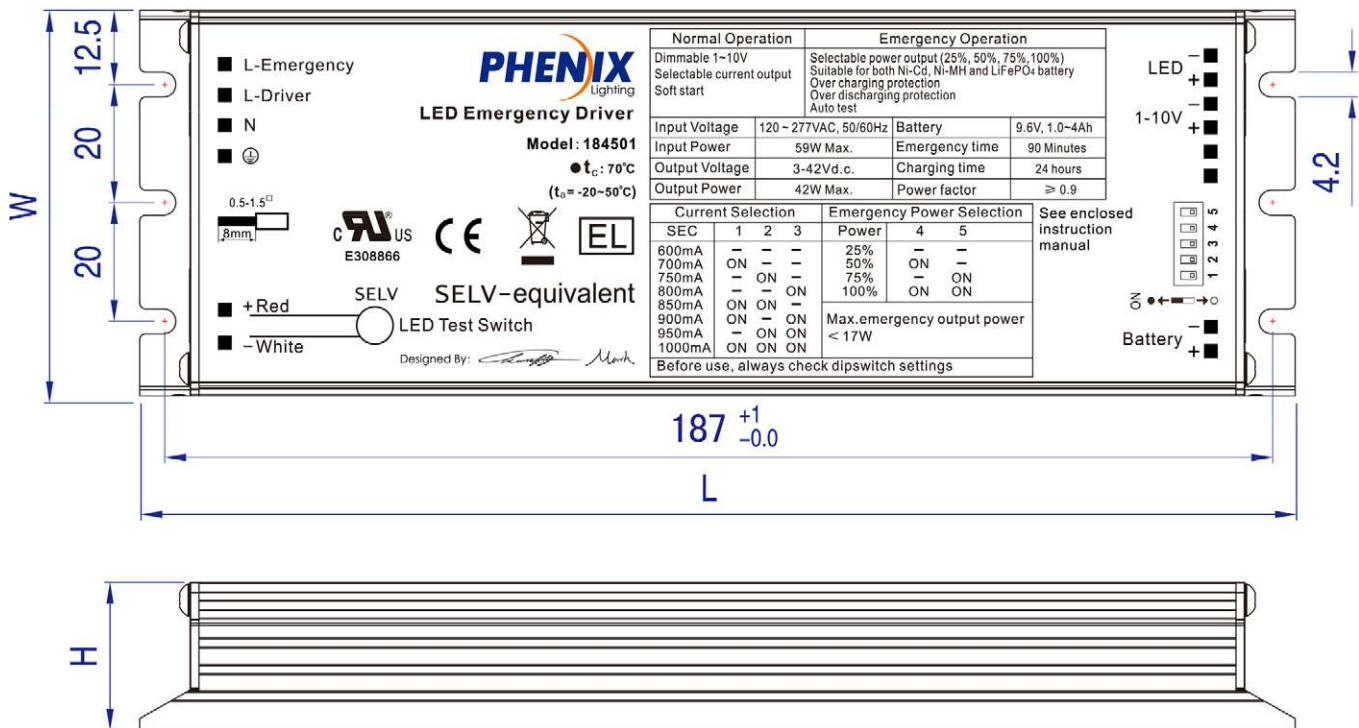


ITEM NO.	L	W	H
184500	175	65	22

Notes:

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

184501



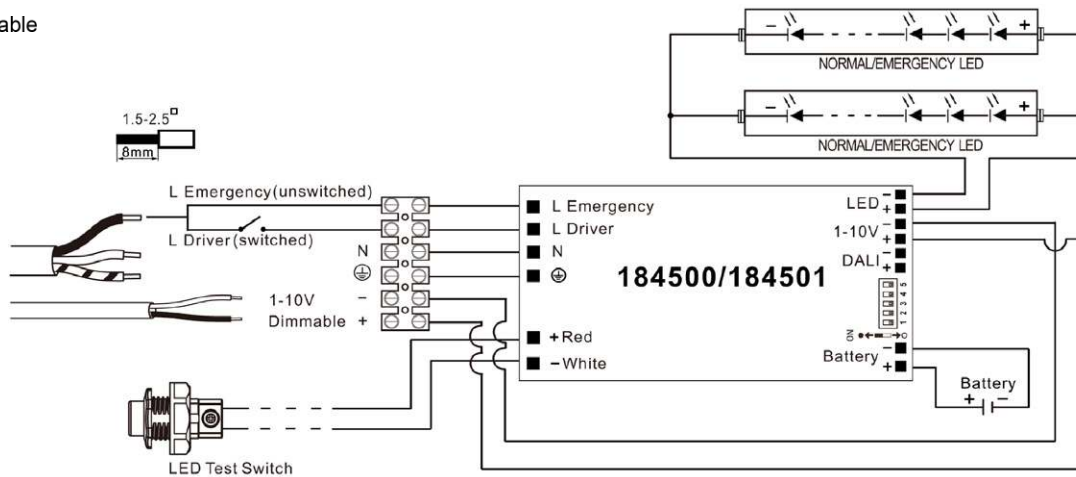
ITEM NO.	L	W	H
184501	195	65	22

Notes:

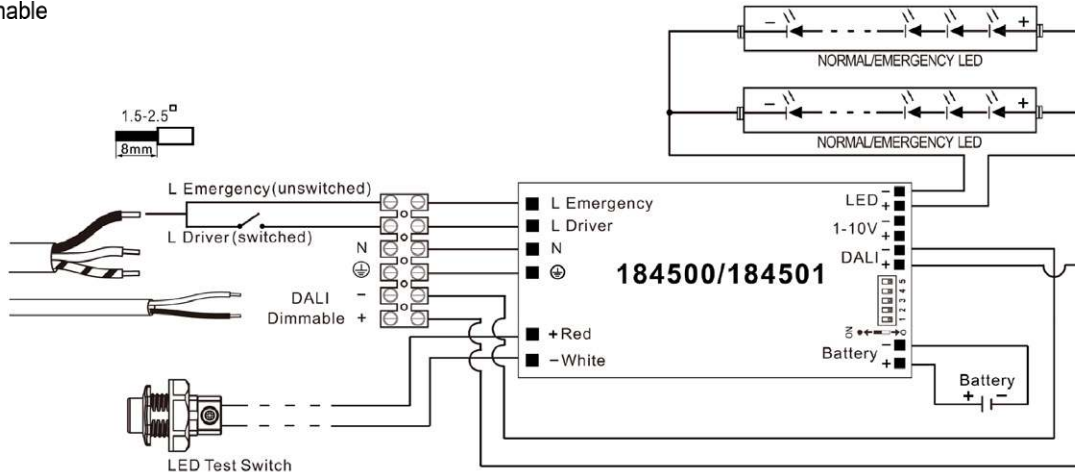
1. Dimension unit: mm
2. Dimension tolerance: ±0.2mm

CONNECTION DIAGRAM

For 1-10V Dimmable



For DALI Dimmable



BATTERY SELECTION

Emergency time >90 Minutes
Output voltage 42VDC

BATTERY FOR 184500				
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	1.00	1.00	1.50
250	1.00	1.50	2.00	3.00
300	1.00	1.50	2.00	3.00
350	1.00	2.00	3.00	3.00
400	1.00	2.00	3.00	4.00
450	1.00	2.00	3.00	4.00
500	1.00(<5W)	3.00	4.00	4.00
600	1.00(<5W)	3.00	4.00	4.00

UL approved batteries: 1.00Ah Ni-Cd AA, 1.50Ah Ni-Cd SC, 2.00Ah Ni-Cd SC, 4.00Ah Ni-Cd D



BATTERY FOR 184501

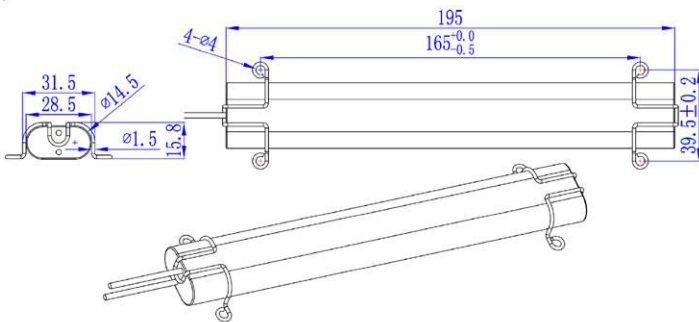
CURRENT (mA)	Emergency Power Rate			
	25%	50%	75%	100%
	9.6V battery(Ah)	9.6V battery(Ah)	9.6V battery(Ah)	9.6V battery(Ah)
600	1.50	3.00	4.00	4.00
700	2.00	3.00	4.00	4.00
750	2.00	4.00	4.00	4.00
800	2.00	4.00	4.00	4.00
850	2.00	4.00	4.00	4.00
900	2.00	4.00	4.00	4.00
950	2.00(<10W)	4.00	4.00	4.00
1000	2.00(<10W)	4.00	4.00	4.00

UL approved batteries: 1.00Ah Ni-Cd AA, 2.00Ah Ni-Cd SC, 4.00Ah Ni-Cd D

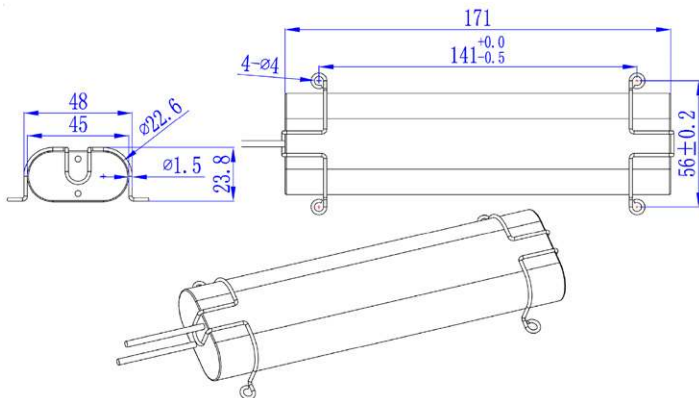
Note: Max. emergency output power <17W

BATTERY DIMENSION

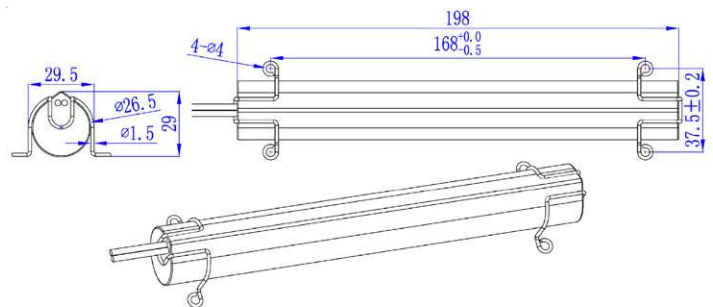
Battery Ni-Cd AA 9.6V 1Ah



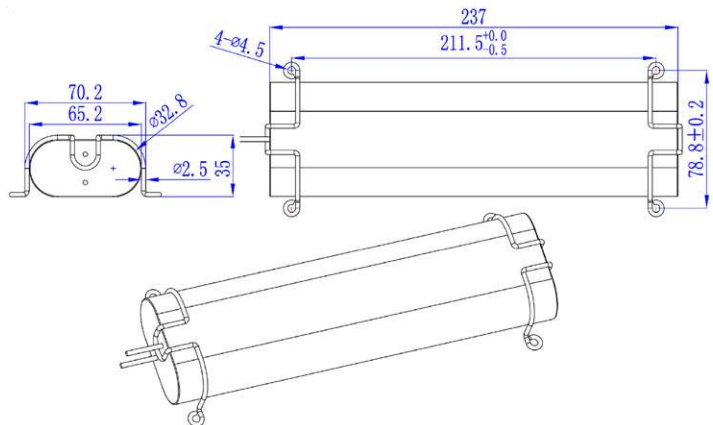
Battery Ni-Cd SC 9.6V 1.5/2Ah



Battery LiFePO4 9.6V 3Ah



Battery Ni-Cd D 9.6V 4Ah



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