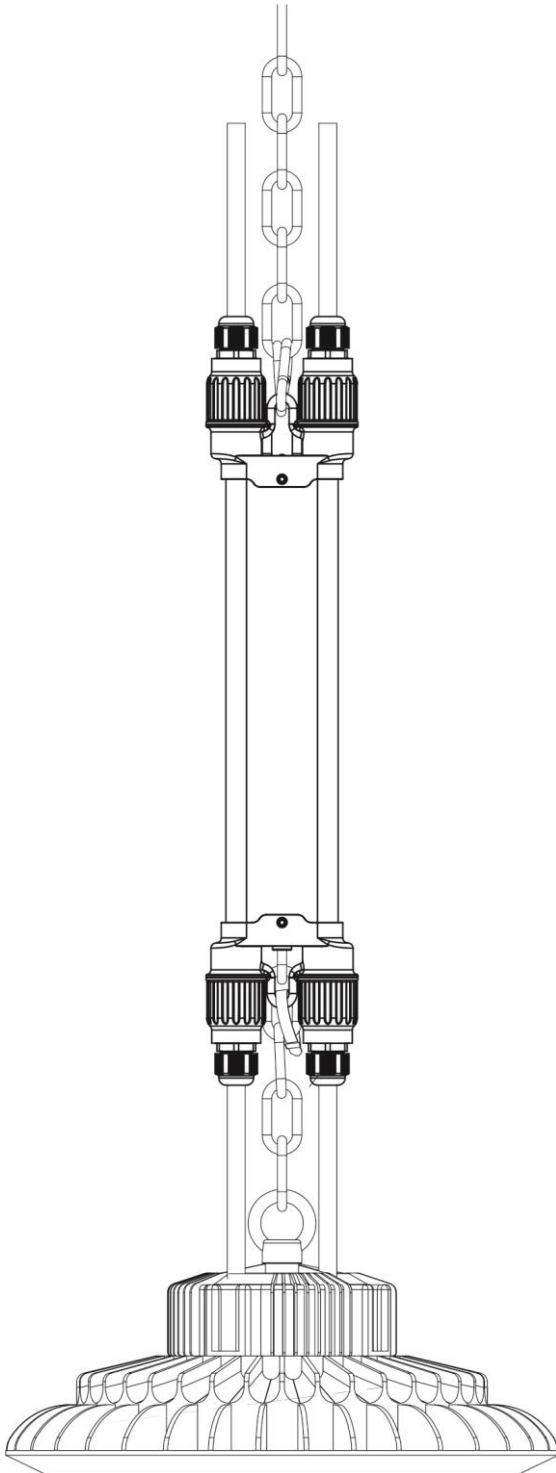


## LED EMERGENCY DRIVER

LEM-Pxx-170-A-U-V  
LEM-Pxx-400-A-U-HHV



### FEATURES



1. Fast wiring and installation without opening the housing of the luminaire or the emergency driver
2. Auto dimming (0-10V) of connected load up to 10 times of emergency power
3. High voltage DC output
4. Constant emergency power output
5. Emergency output is convertible between 90 and 180 minutes
6. Auto Test
7. Extremely slim aluminum housing and light in weight, built-in battery
8. IP67 rating, suitable for outdoor and wet applications

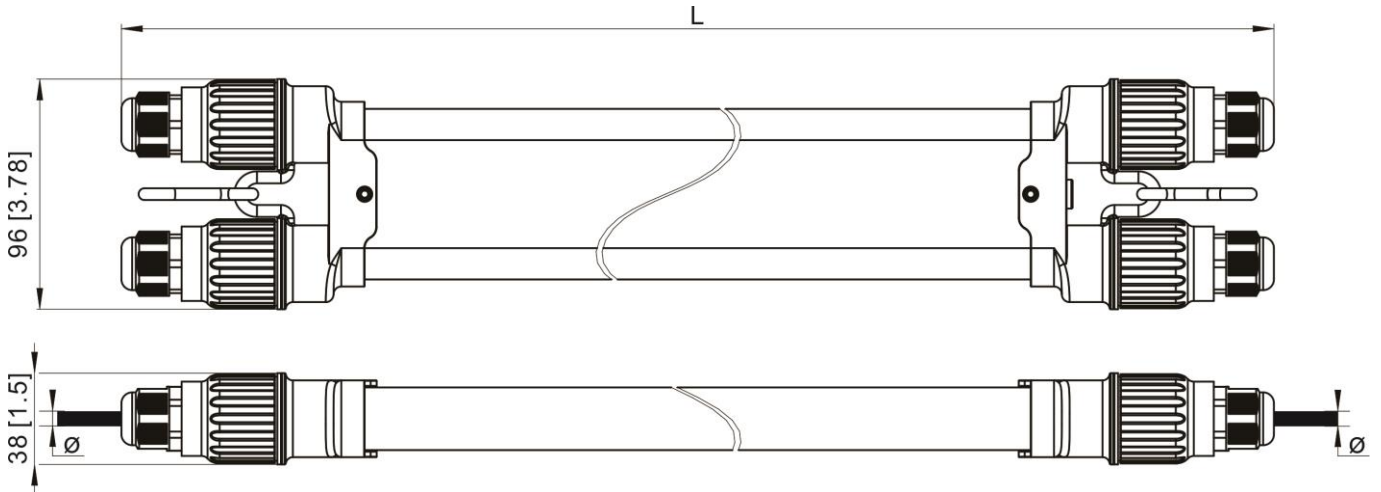
## CHARACTERISTICS

Type	LEM-P20-170-A-U-V	LEM-P40-170-A-U-V	LEM-P60-170-A-U-V
Lamp type	LED High-bay or UFO luminaire		
Rated voltage	120-277VAC 50/60Hz		
Output voltage	170VDC		
Rated current	0.09A	0.1A	0.14A
Rated power	8.3W	10W	13.5W
Power Factor	>0.8@120V		
Max. Output power	20W	40W	60W
Max. power of 0-10V dimming load	200W	400W	600W
	The luminaire's minimum dimming power should be less than or equal to the Max. Output power of LED emergency driver.		
Battery	Li-ion		
Charging time	24 Hours		
Discharge	90 Minutes at full output power (or 180 minutes at half of output power)		
Charging current	750mA		
Life time of module	5 Years		
Charging cycles	>1000		
Operation temperature	0-50°C(32°F-122°F)		
Efficiency	85%		
Abnormal protection	Over load, over current, inrush, over temperature, charging and discharging, open circuit , short circuit protection with auto reset		
Wire	18-14AWG/0.75-2.5mm <sup>2</sup>		
EMC/FCC/IC standard	EN 55015, EN 61547, EN 61000-3-2, EN 61000-3-3, FCC part 15, ICES-005		
Safety standard	EN 61347-1, EN 61347-2-7, UL924, CSA C.22.2 No. 141		
Meas. mm [inch]	L463 [18.23] x W96 [3.78] x 38 [1.5]mm	L533 [20.98] x W96 [3.78] x 38 [1.5]mm	L603 [23.74] x W96 [3.78] x 38 [1.5]mm

## CHARACTERISTICS

Type	LEM-P20-400-A-U-HHV	LEM-P40-400-A-U-HHV	LEM-P60-400-A-U-HHV
Lamp type	LED High-bay or UFO luminaire		
Rated voltage	277-480VAC 50/60Hz		
Output voltage	400VDC		
Rated current	0.04A	0.05A	0.06A
Rated power	6.6W	9W	11.5W
Power Factor	>0.6@277V		
Max. Output power	20W	40W	60W
Max. power of 0-10V dimming load	200W	400W	600W
	The luminaire's minimum dimming power should be less than or equal to the Max. Output power of LED emergency driver.		
Battery	Li-ion		
Charging time	24 Hours		
Discharge	90 Minutes at full output power (or 180 minutes at half of output power)		
Charging current	750mA		
Life time of module	5 Years		
Charging cycles	>1000		
Operation temperature	0-50°C(32°F-122°F)		
Efficiency	85%		
Abnormal protection	Over load, over current, inrush, over temperature, charging and discharging, open circuit , short circuit protection with auto reset		
Wire	18-14AWG/0.75-2.5mm <sup>2</sup>		
EMC/FCC/IC standard	EN 55015, EN 61547, EN 61000-3-2, EN 61000-3-3, FCC part 15, ICES-005		
Safety standard	EN 61347-1, EN 61347-2-7, UL924, CSA C.22.2 No. 141		
Meas. mm [inch]	L493 [19.41] x W96 [3.78] x 38 [1.5]mm	L563 [22.17] x W96 [3.78] x 38 [1.5]mm	L633 [24.92] x W96 [3.78] x 38 [1.5]mm

**LEM-Pxx-170-A-U-V**  
**LEM-Pxx-400-A-U-HHV**



Item No.	L mm [inch]	W mm [inch]	H mm [inch]	Φ mm [inch]
LEM-P20-170-A-U-V	463 [18.23]	96 [3.78]	38 [1.5]	4-core cable: 6-12.5 [0.24-0.49] 3 or 2-Core cable : 5-9 [0.20-0.35]
LEM-P40-170-A-U-V	533 [20.98]	96 [3.78]	38 [1.5]	
LEM-P60-170-A-U-V	603 [23.74]	96 [3.78]	38 [1.5]	
LEM-P20-400-A-U-HHV	493 [19.41]	96 [3.78]	38 [1.5]	
LEM-P40-400-A-U-HHV	563 [22.17]	96 [3.78]	38 [1.5]	
LEM-P60-400-A-U-HHV	633 [24.92]	96 [3.78]	38 [1.5]	

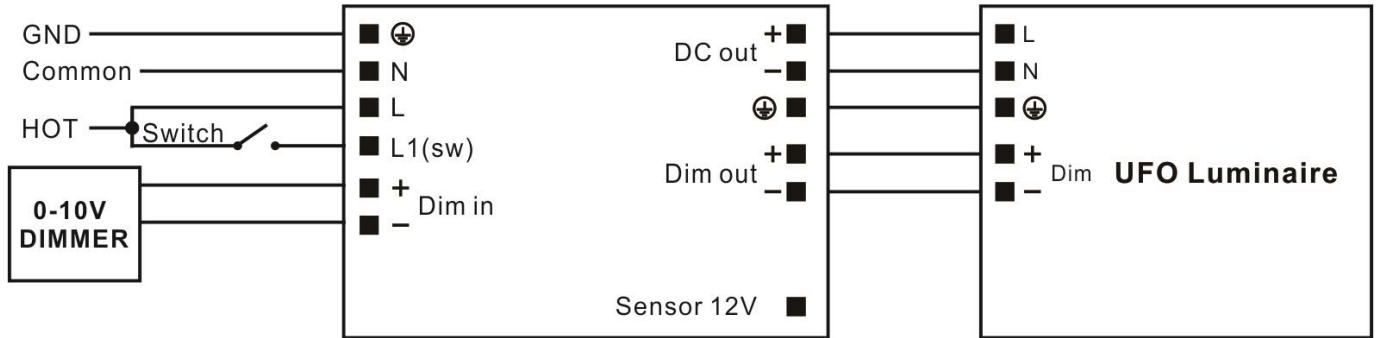
Dimension unit: mm [inch]

Tolerance: ±1 [0.04]

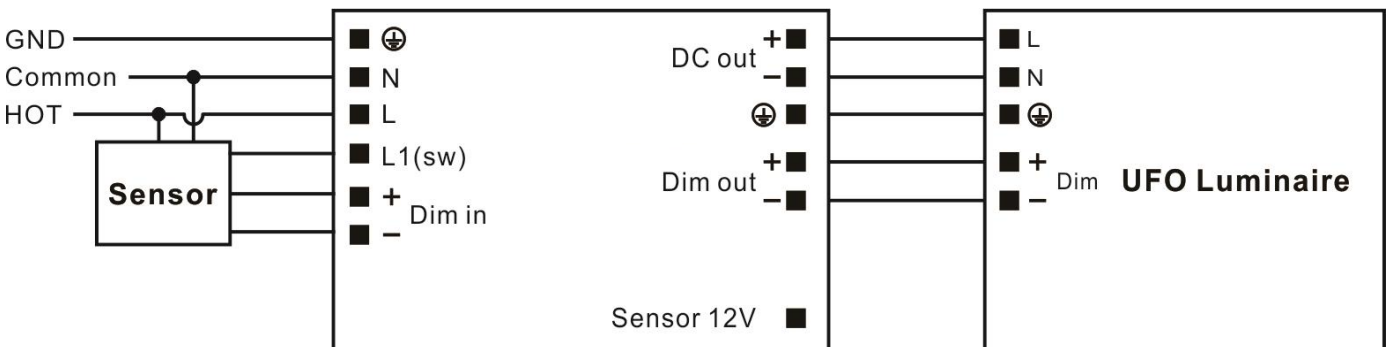
**WIRING DIAGRAM**

The UFO luminaire must have a 0-10V dimmable driver when its power is bigger than the max. Output power of the UFO emergency Driver.

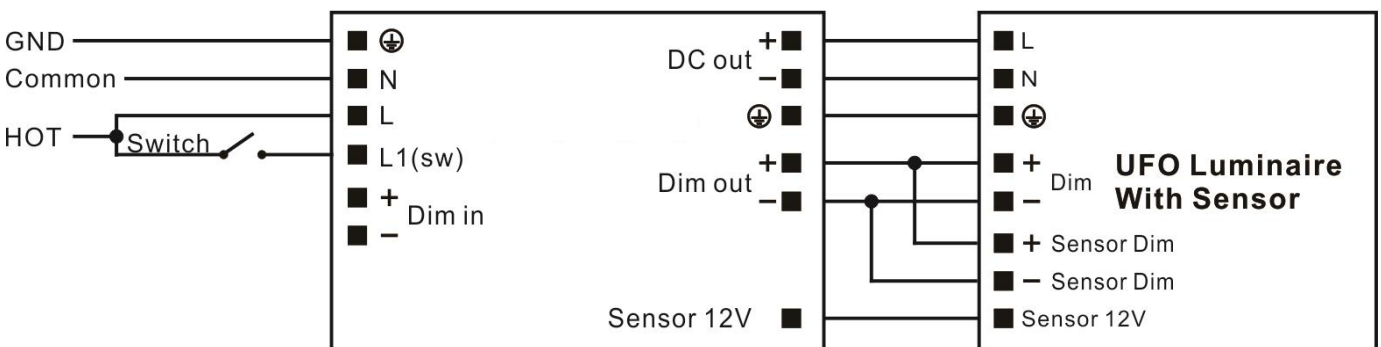
**For 0-10V Dimmable UFO**



**For 0-10V Dimmable UFO with AC Sensor**



**For 0-10V Dimmable UFO with DC Sensor**

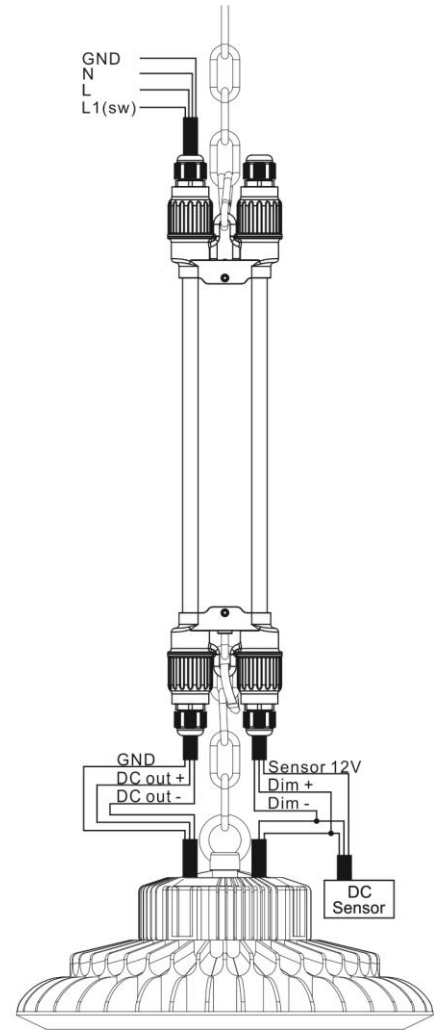
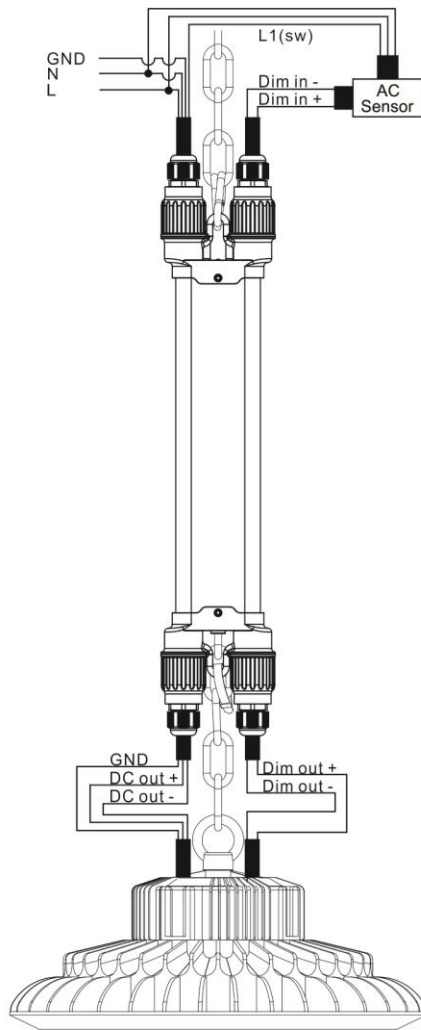
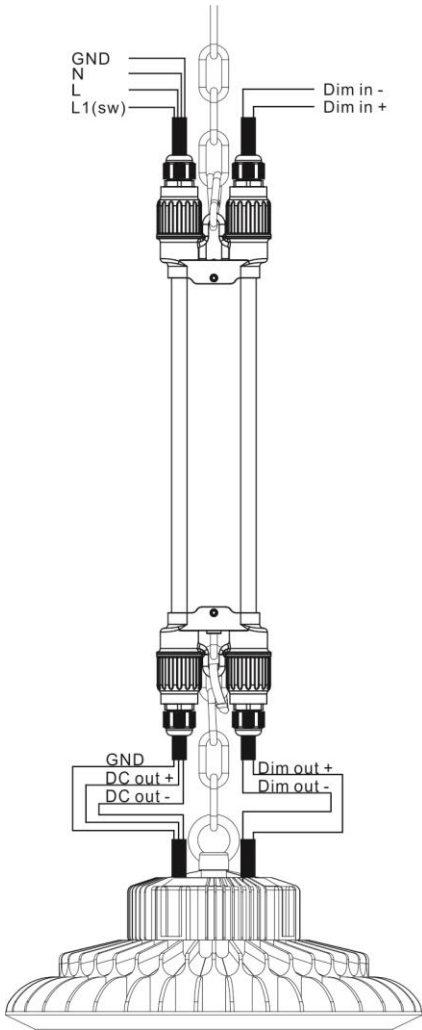


### WIRING DIAGRAM

For 0-10V Dimmable UFO

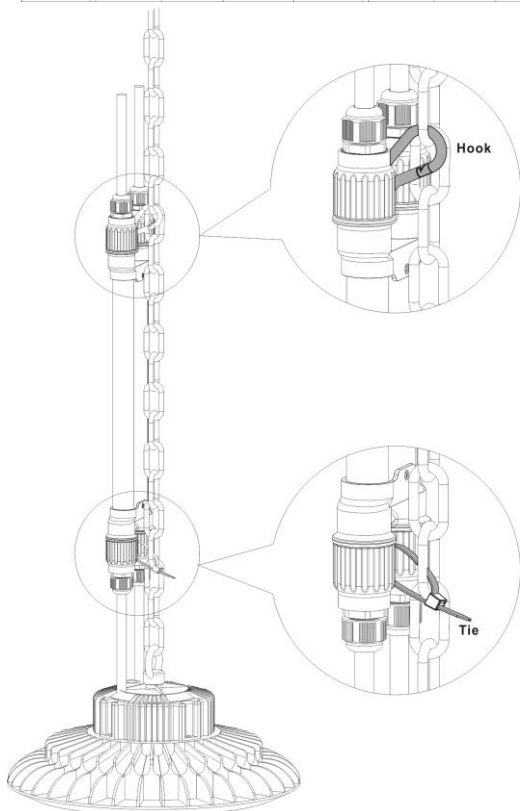
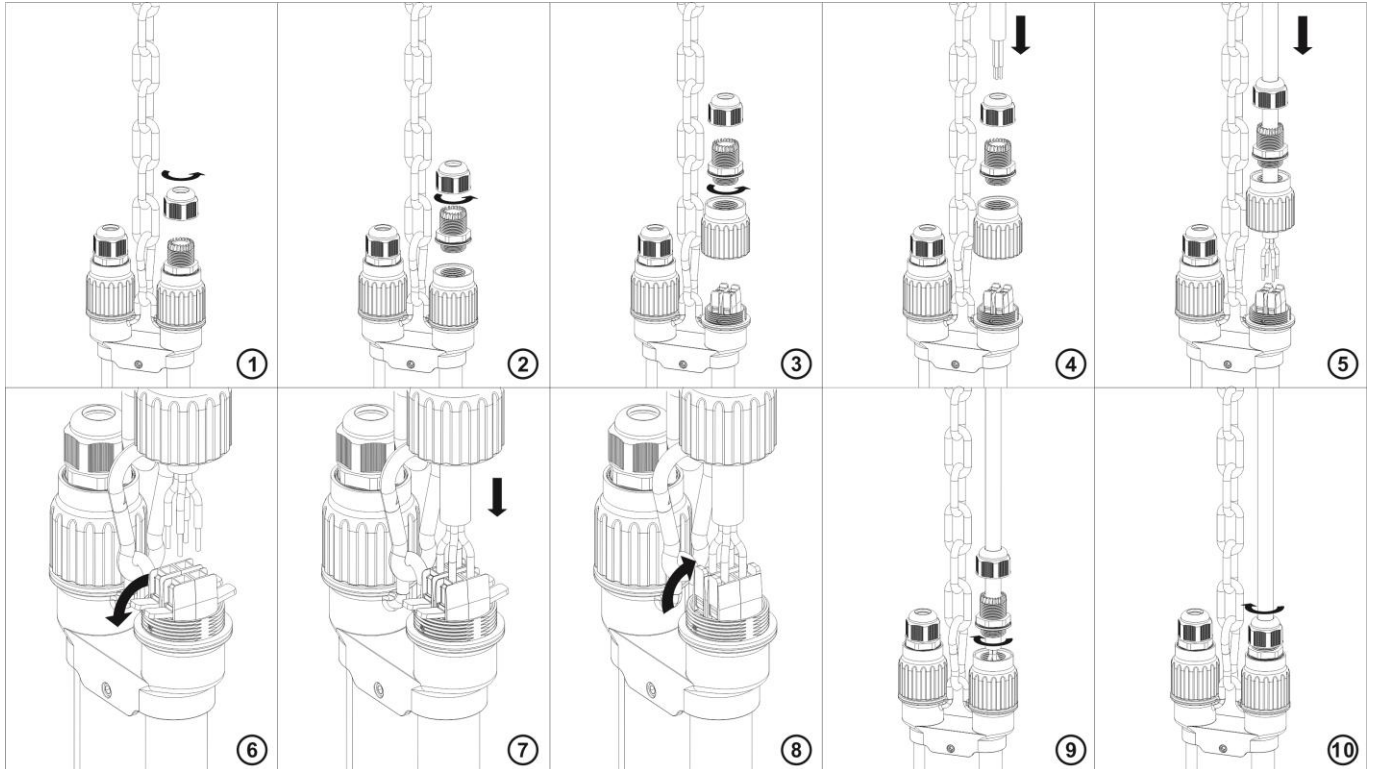
For 0-10V Dimmable UFO with AC Sensor

For 0-10V Dimmable UFO with DC Sensor



### WIRING & INSTALLATION

Use UL approved power cable with the outer diameter from 6mm to 12.5mm (for 4-core), 5mm to 9mm (for 3 or 2-core). Use wire of 14-18AWG for electric connection. After connection, the conductors shall not be exposed.



## OPERATION/TESTING/MAINTENANCE

### OPERATION

When AC power is applied, the LED test switch is illuminated, indicating that the batteries are being charged. When AC power fails, the Emergency Driver (UFO) automatically switches to emergency power, operating the lighting load at rated emergency power. During power failure, the LED test switch will be off. When the AC power is restored, the Emergency Driver (UFO) switches the system back to normal mode of operation and resumes battery charging. The minimum emergency operation time is 90 minutes. The charging time for a full discharge is 24 hours. A short-term discharge test may be conducted after the Emergency Driver (UFO) has been charging for 1 hour. Charge for 24 hours before conducting a long term discharge test.

### EMERGENCY OUTPUT CONVERSION

The default emergency time is min. 90 minutes. In the normal mode, LTS slowly blinks - ON for 1 second and OFF for 1 second, while the battery is being charged; After the battery is fully charged, the LTS stays ON. By Pressing LTS 4 times within 3 seconds in the normal mode can halve the emergency power and extend the emergency time to 180 minutes. In this option, the LTS in the normal mode is slowly blinking: 5 seconds ON, 0.5 seconds OFF. When the battery is fully charged, the LTS is ON for 5 seconds and breathing for 2.5 seconds.

### TESTING AND MAINTENANCE

The following Periodic testing is recommended to ensure the system is working correctly.

1. Visually inspect the LED test switch (LTS) monthly. It should be illuminated when AC power is applied.
2. Conduct a 60-second discharge test by switching off the emergency breaker every month. The LTS will be off.
3. Conduct a 90-minute discharge test once per year. The LTS will be off during test.

### AUTO TEST

The Emergency Driver (UFO) has an Auto Test feature which saves cost by reducing the need for manual testing.

#### 1. Initial Auto Test

When the system is connected properly and powered on, the Emergency Driver (UFO) will perform an initial Auto Test. If any abnormal conditions exist, the LTS will blink quickly. Once the abnormal condition is corrected, the LTS will function correctly.

#### 2. Preprogrammed Scheduled Auto Test

a) The unit will conduct the first Monthly Auto Test after 24 hours and up to 7 days after initial power on. Then monthly tests will be performed every 30 days.

b) Annual Auto test will occur every 52 weeks after initial power on.

##### - Monthly Auto Test

The Monthly Auto Test shall be executed every 30 days, and will test;

Normal to emergency transfer function, emergency, charging and discharging conditions are normal.

Monthly test time is approximately 30 seconds.

##### - Annual Auto Test

Annual Auto Test will occur every 52 weeks after the initial 24 hours full charge, and will test;

Proper initial battery voltage, 90-minute emergency operation and acceptable battery voltage at the end of the full 90-minute test.

If the Auto Test is interrupted by a power failure, a full 90-minute Auto Test will occur again 24 hours after the power is restored. If the power failure causes the battery to fully discharge, the product will restart the Initial Auto Test and Preprogrammed Scheduled Auto Test.

### MANUAL TEST

1. Press the LTS 2 times continuously within 3 seconds to force a 60-second monthly test. After the test is complete, the next (30-day) monthly test will count from this date.

2. Press the LTS 3 times continuously within 3 seconds to force a 90-minute annual test. After the test is completed, the next (52-week) annual test will count from this date.

3. During any manual test, press and hold the LTS for greater than 3 seconds to terminate a manual test. The Preprogrammed Scheduled Auto Test time will not change.

### LED TEST SWITCH CONDITIONS

LTS Slow Blinking: Normal Charging

LTS On: Battery Fully Charged - Normal Condition

LTS Off: Power Failure

LTS Gradual Change: In Testing Mode

LTS Quickly Blinking: Abnormal Condition - Corrective Action Required



## SAFETY INSTRUCTIONS

1. To prevent electric shock, switch off the mains power supply until installation is complete and AC input power is supplied to this product.
2. This product requires an un-switched AC power supply of 120-277V, 50/60Hz.
3. Make sure all connections are in accordance with the National or Canadian Electrical code and any local regulations.
4. To reduce the risk of electrical shock, disconnect both normal power, emergency power supplies and unit connector of this product before servicing.
5. For emergency operation of LED, incandescent, fluorescent fixtures and screw-base lamps.
6. Use this product in 0°C minimum, 50°C maximum ambient temperatures (Ta). It can provide minimum 90 minutes illumination under the emergency mode.
7. This product is suitable for use in dry or damp locations. Do not use outdoors. Do not mount it near gas, heaters, air outlets or other hazardous locations.
8. Do not attempt to service the batteries. A sealed, non-maintenance battery is used that is not field replaceable. Contact the manufacturer for information or service.
9. As this product contains batteries, please be sure to store it in an indoor environment of -20°C ~30°C. It must be fully charged and discharged every 6 months from the date of purchase until it is officially put into use, then recharged 30-50% and stored for another 6 months, and so on. If the battery is not used for more than 6 months, it may cause excessive self-discharge of the battery, and the resulting reduction of battery capacity is irreversible. For products with separate battery and emergency module, please disconnect the connection between battery and module for storage. Due to its chemical properties, it is a normal situation for the battery capacity to decline naturally during use. Users should take this into account when choosing products.
10. The use of accessory equipment not recommended by the manufacturer may cause an unsafe condition and void warranty.
11. Do not use this product for other than intended use.
12. Installation and service should be performed by qualified service personnel.
13. This product should be mounted in locations and at heights where it will not readily be subjected to tampering by unauthorized personnel.
14. Ensure product compatibility before final installation. Make sure the polarity is correct when connecting the batteries. Wiring should be strictly in accordance with the wiring diagram, wiring errors will damage the product. A case of safety accident or product failure caused by users' illegal operation does not belong to the scope of customer complaint acceptance, compensation or product quality assurance.