

CLASS 2 OUTPUT

LED EMERGENCY DRIVER

18470X-X



FEATURES



18470X-1



18470X-2



18470X-3

1. Emergency operation of LED luminaires, for both factory and field installation
2. Perfectly compatible with most AC LED drivers
3. Constant emergency power output: Class 2 output voltage (10-60V), output current auto adjustable
4. Various emergency power options:

18470X	Emergency power
184700	5W
184701	9W
184702	15W
184703	25W

5. Various connection options:

Type	Connection way	UL approval
18470X-1	Terminal block, External Battery	UL Recognized
18470X-2	External wire, Built-in Battery	UL Listed
18470X-3	External wires with metal conduits, Built-in Battery	UL Listed

6. Auto Test
7. Slim aluminum housing
8. Suitable for indoor, dry and damp applications

CHARACTERISTICS

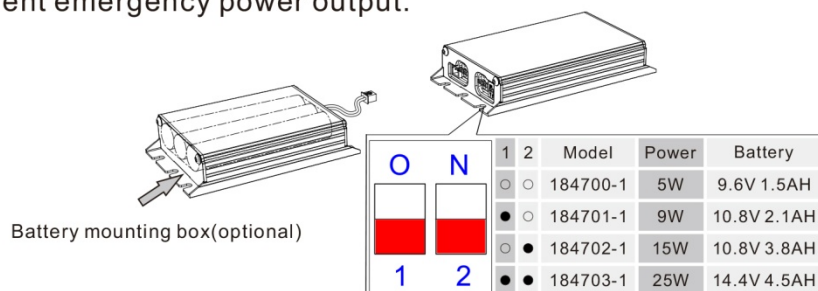
Type	184700-X	184701-X	184702-X	184703-X
Rated voltage	120-277VAC 50/60Hz			
Rated current	0.04A	0.05A	0.07A	0.1A
Rated power	2W	3W	4.5W	5.5W
Emergency output power	5W	9W	15W	25W
Output voltage	10-60VDC	11-60VDC	15-60VDC	25-60VDC
Output current	1 A (Max.)			
AC driver output current	5 A (Max.)			
Operation frequency	320kHz \geq f \geq 50kHz			
Power factor	0.5			
Battery	Ni-MH/Li-ion			
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 (32°F-122°F)			
Efficiency	80%			
Abnormal protection	Over load, Inrush current limiting, over temperature, open circuit, short-circuit protection with auto-reset			
Wire	0.75-1.5mm ²			
EMC/FCC/IC standard	EN55015, EN61547, EN61000-3-2, EN61000-3-3, FCC part 15, ICES-005			
Safety standard	EN61347-1, EN61347-2-7, UL924, CSA C.22.2 No. 141			
Meas. Module 18470X-1 mm [inch]	L125 [4.92] x W65 [2.56] x H22 [0.87] Mounting Center: 117 [4.61]			
Meas. Battery pack 18470X-1 mm [inch]	9.6V 1.5Ah: L126 [4.96] x W59 [2.32] x H17 [0.67] Mounting center: 115 [4.53] 10.8V 2.1Ah: L176 [6.93] x W51 [2.01] x H19.5 [0.77] Mounting center: 165 [6.50] 10.8V 3.8Ah: L241 [9.49] x W56 [2.20] x H21 [0.83] Mounting center: 230 [9.06] 14.4V 4.5Ah: L227 [8.94] x W78 [3.07] x H28.4 [1.12] Mounting center: 216 [8.50]			
Meas. 18470X-2mm [inch]	184700-2: L260 [10.24] x W65 [2.56] x H22 [0.87] Mounting center: 252 [9.92] 184701-2: L307 [12.09] x W65 [2.56] x H22 [0.87] Mounting center: 299 [11.77] 184702-2: L372 [14.65] x W65 [2.56] x H22 [0.87] Mounting center: 364 [14.33] 184703-2: L358 [14.09] x W82 [3.23] x H30 [1.18] Mounting center: 351 [13.82]			
Meas. 18470X-3mm [inch]	184700-3: L260 [10.24] x W65 [2.56] x H22 [0.87] Mounting center: 252 [9.92] 184701-3: L307 [12.09] x W65 [2.56] x H22 [0.87] Mounting center: 299 [11.77] 184702-3: L372 [14.65] x W65 [2.56] x H22 [0.87] Mounting center: 364 [14.33] 184703-3: L358 [14.09] x W82 [3.23] x H30 [1.18] Mounting center: 351 [13.82]			

WIRING CONFIGURATION

The 18470X-X series have different wiring configurations as below.

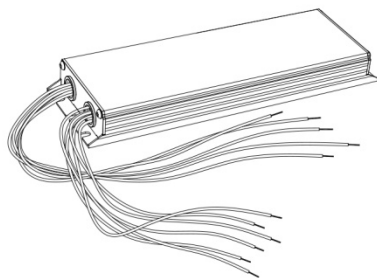
184700/1/2/3-1

Terminal block with external battery pack, choosing the different combination of the DIP switches and the corresponding battery pack to have different 18470X-X model with different emergency power output.



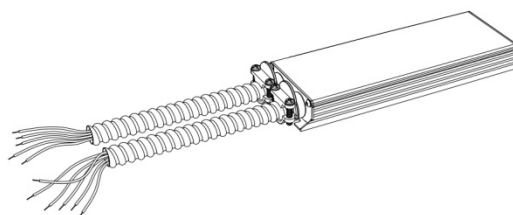
184700/1/2-2

Two group lead wires
Built-in battery



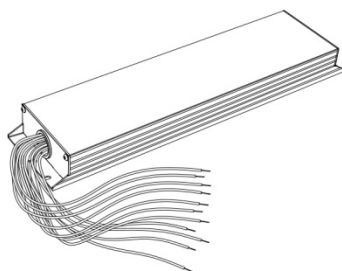
184700/1/2-3

Dual 3/8" flexible conduit
Built-in battery



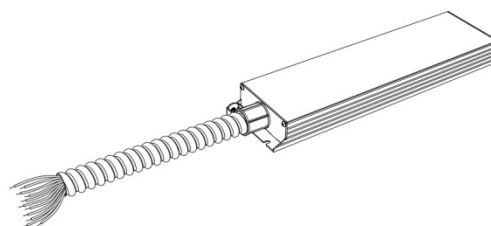
184703-2

One group lead wires
Built-in battery



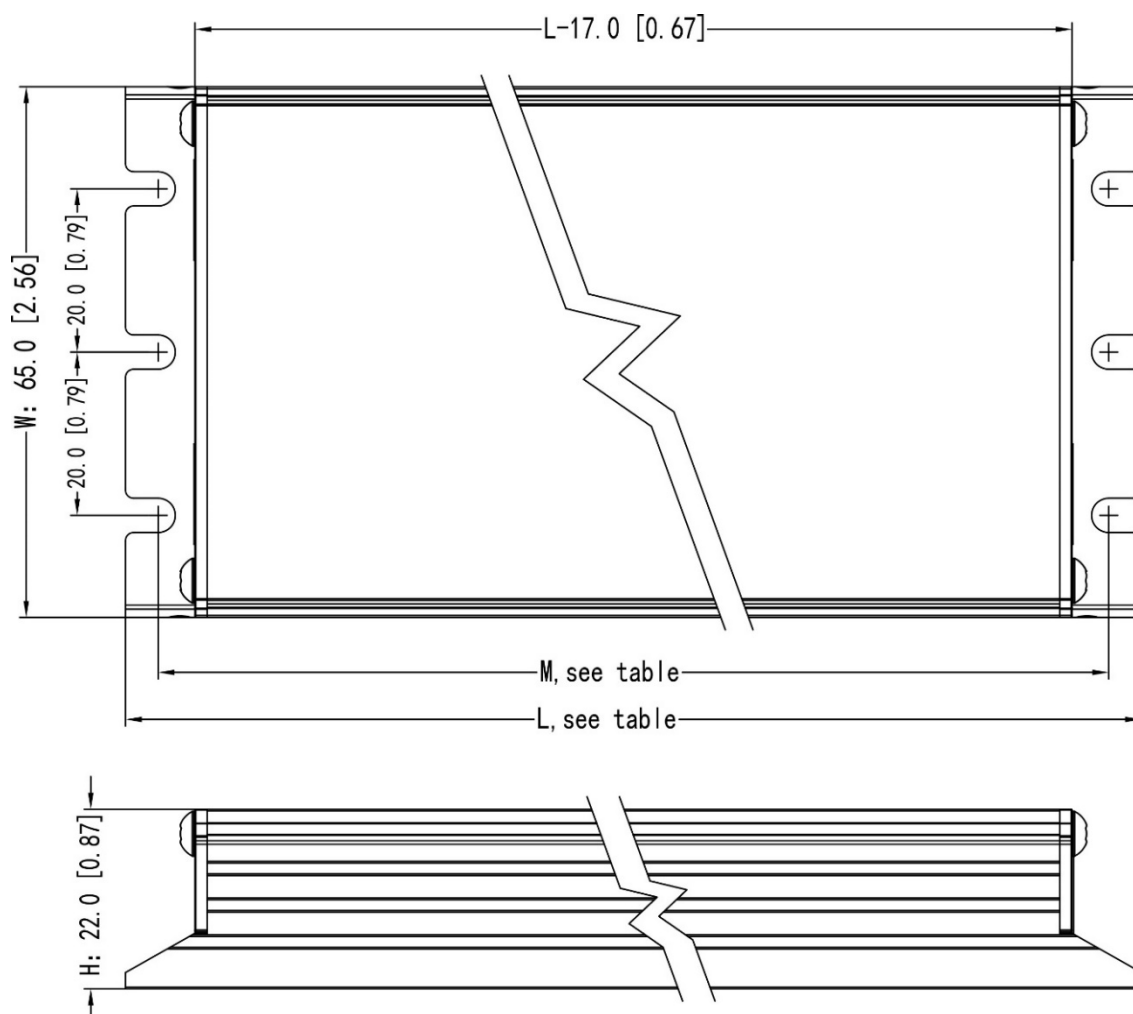
184703-3

Single 1/2" flexible conduit
Built-in battery



DIMENSIONS

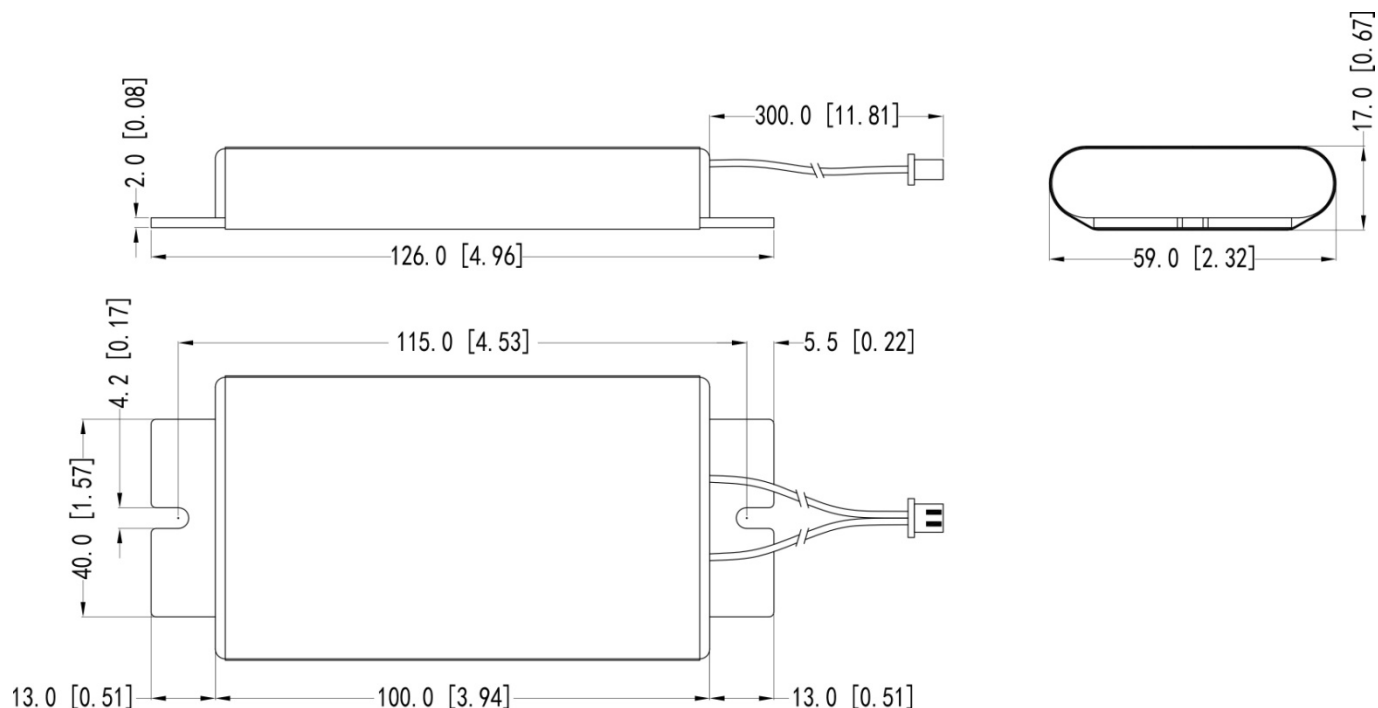
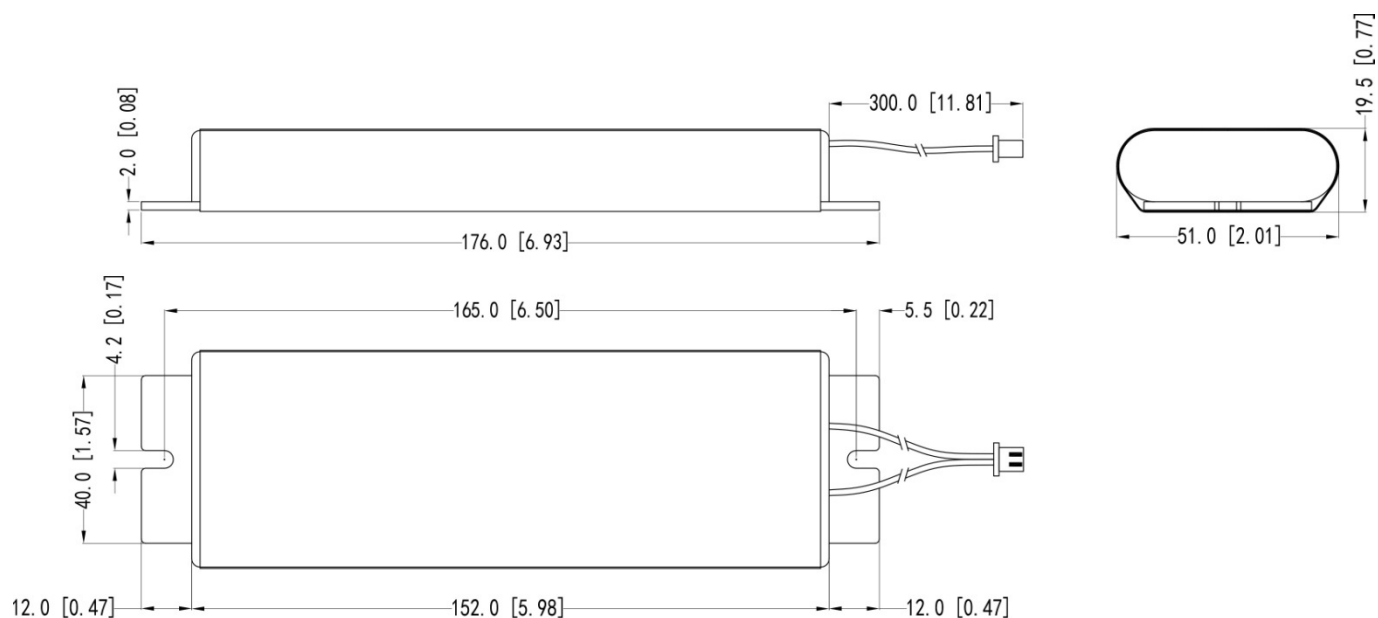
18470X-1 MODULE



Item No.	L mm [inch]	M mm [inch]	W mm [inch]	H mm [inch]
184700-1	125 [4.92]	117 [4.61]	65 [2.56]	22 [0.87]
184701-1	125 [4.92]	117 [4.61]	65 [2.56]	22 [0.87]
184702-1	125 [4.92]	117 [4.61]	65 [2.56]	22 [0.87]
184703-1	125 [4.92]	117 [4.61]	65 [2.56]	22 [0.87]

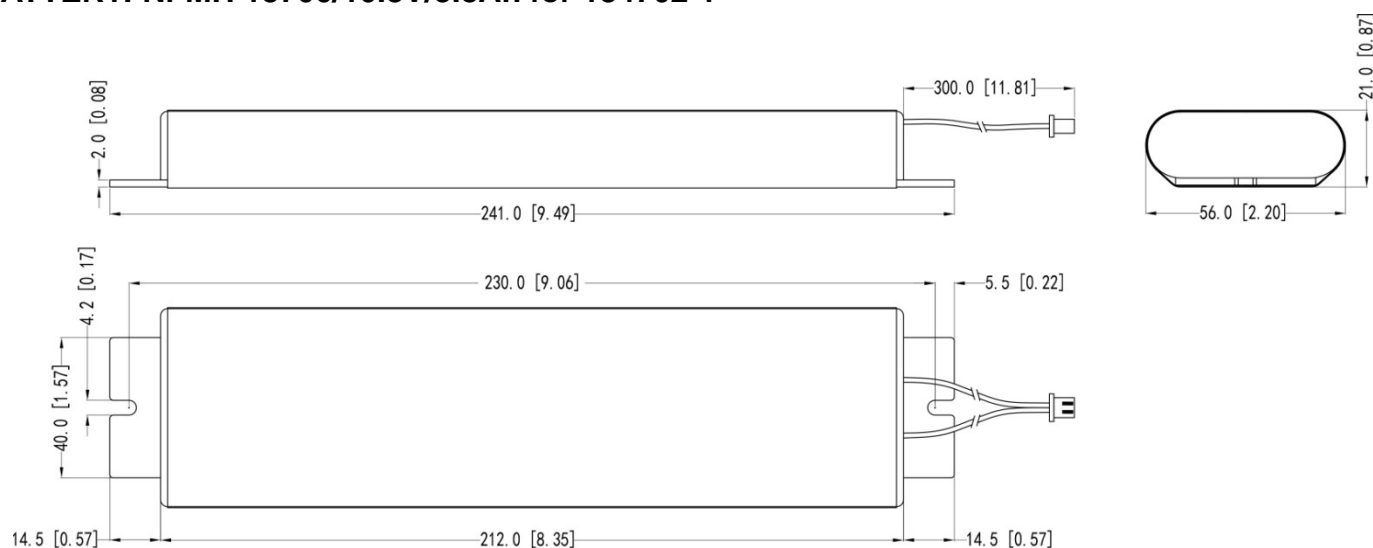
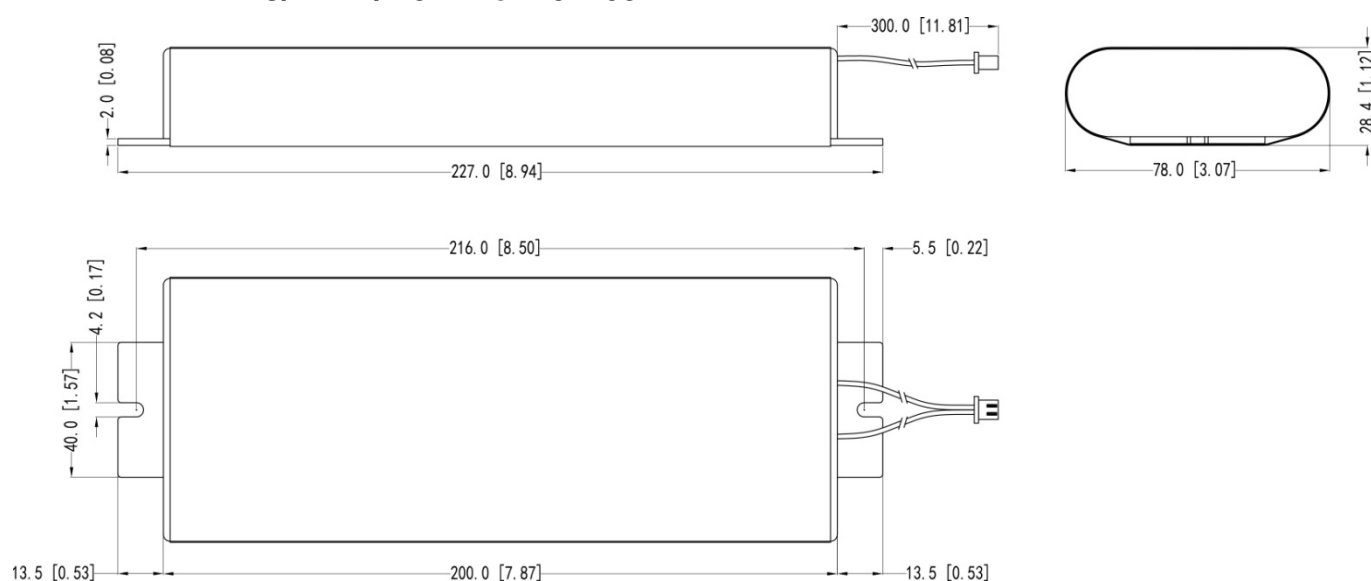
Dimension unit: mm [inch]

Tolerance: ± 1 [0.04]

BATTERY: Ni-MH AA/9.6V/1.5Ah for 184700-1**BATTERY: Ni-MH A/10.8V/2.1Ah for 184701-1**

Dimension unit: mm [inch]

Tolerance: ± 1 [0.04]

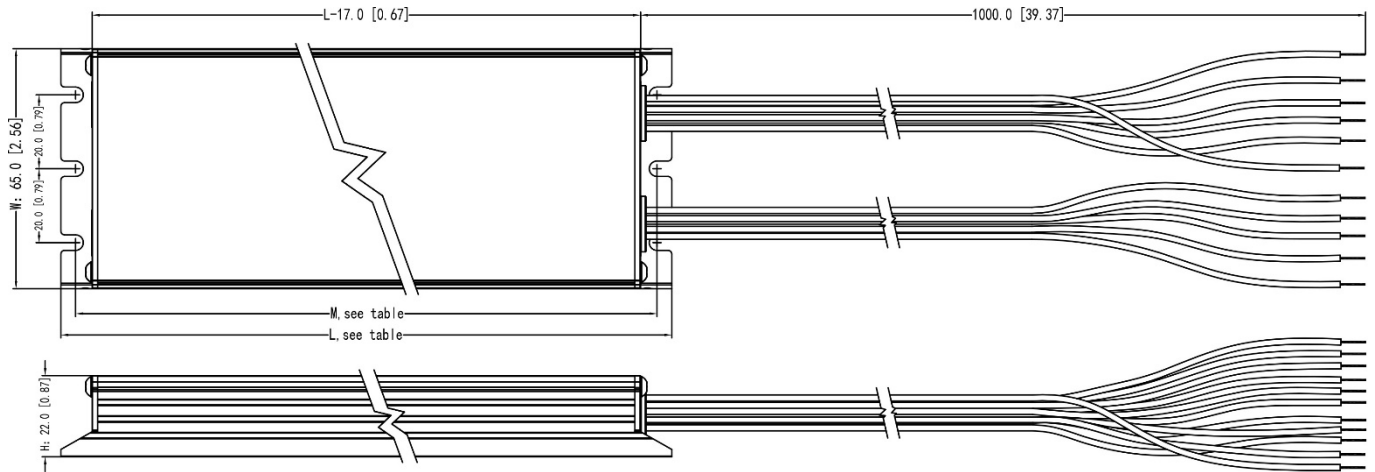
DIMENSIONS**BATTERY: Ni-MH 18700/10.8V/3.8Ah for 184702-1****BATTERY: Ni-MH C/14.4V/4.5Ah for 184703-1**

Dimension unit: mm [inch]

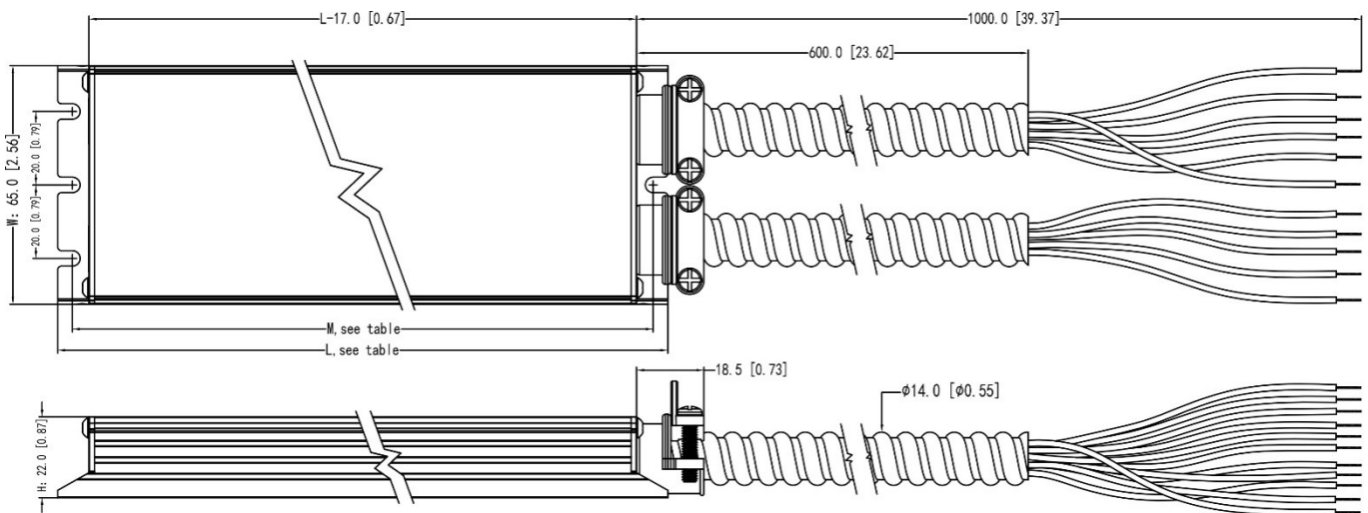
Tolerance: ± 1 [0.04]

DIMENSIONS

18470X-2



18470X-3



Item No.	L mm [inch]	M mm [inch]	W mm [inch]	H mm [inch]
184700-2/3	260 [10.24]	252 [9.92]	65 [2.56]	22 [0.87]
184701-2/3	307 [12.09]	299 [11.77]	65 [2.56]	22 [0.87]
184702-2/3	372 [14.65]	364 [14.33]	65 [2.56]	22 [0.87]
184703-2/3 *	358 [14.09]	351 [13.82]	82 [3.23]	30 [1.18]

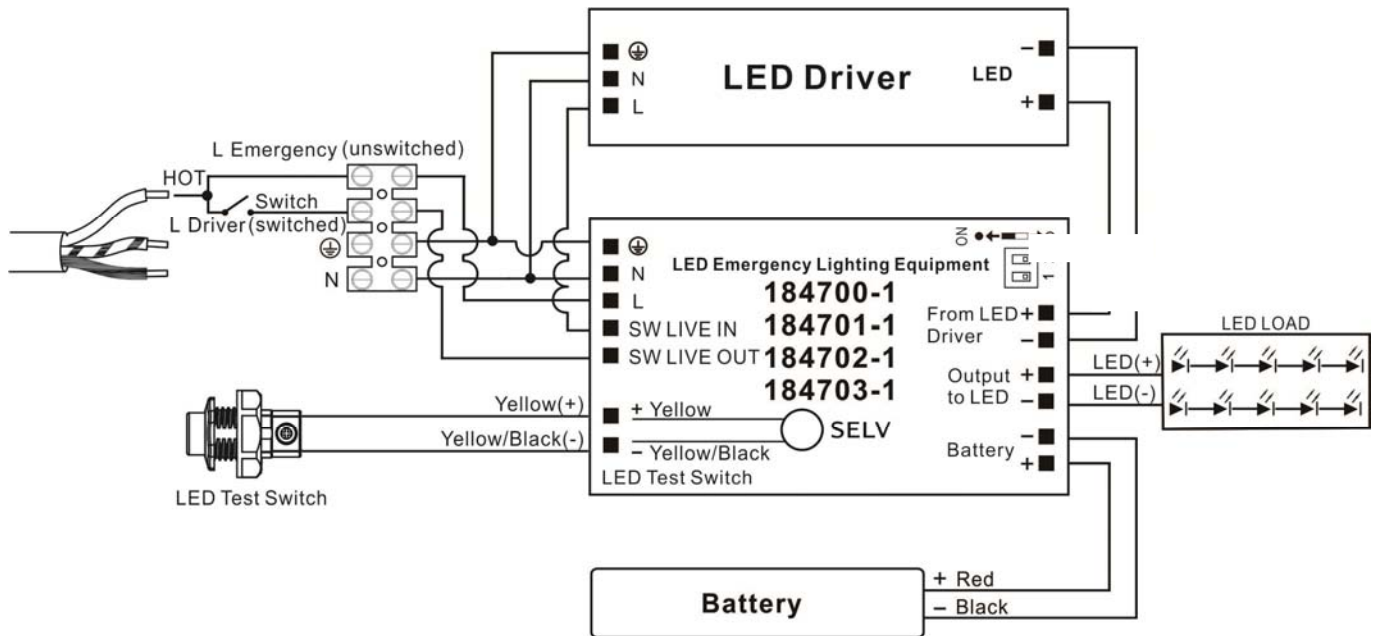
* Only one entry for wires

Dimension unit: mm [inch]

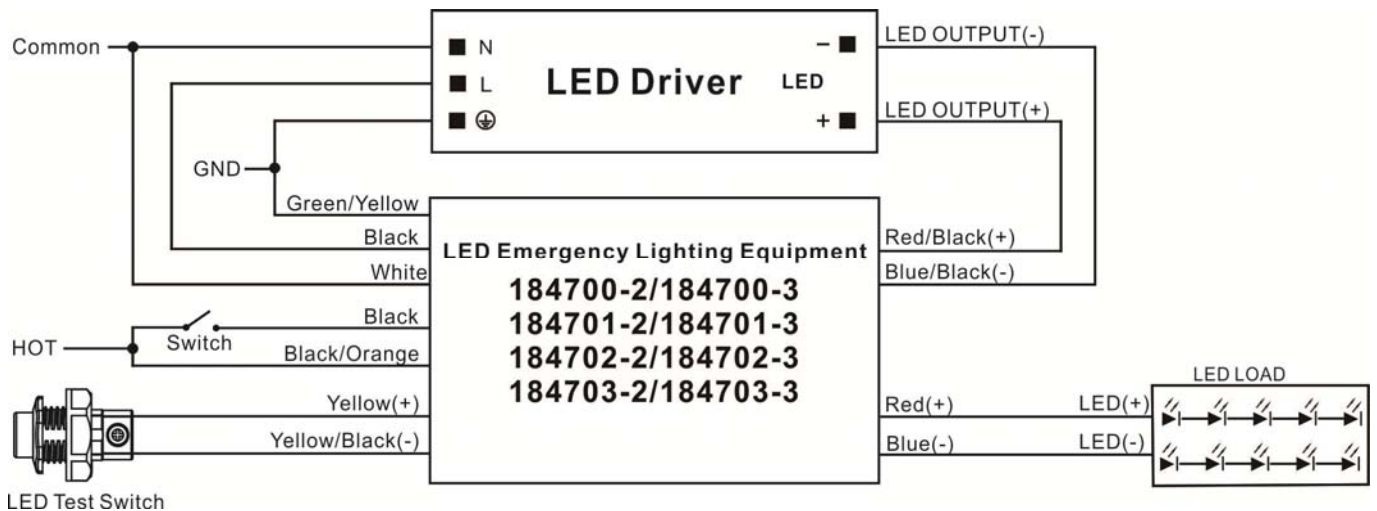
Tolerance: ± 1 [0.04]

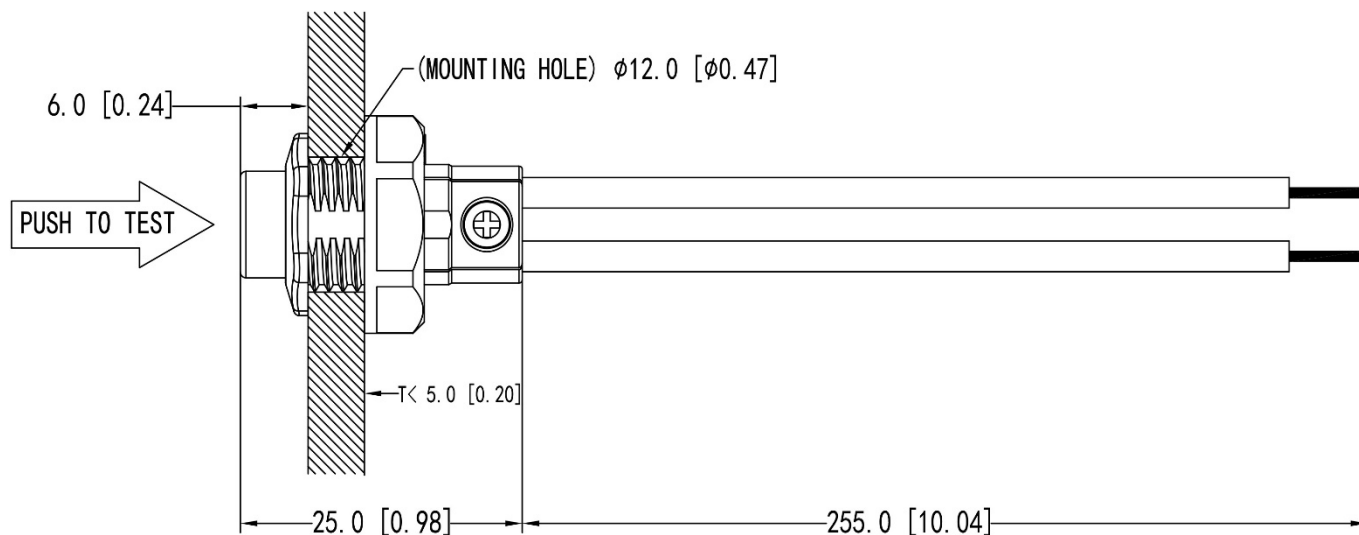
WIRING DIAGRAM

18470X-1



18470X-2 or 18470X-3





Dimension unit: mm [inch]

Tolerance: ± 1 [0.04]

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 18470X-X 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 18470X-X 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 18470X-X has been charging for 1 hour. Charge for 24 hours before conducting a long term discharge test.

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 30-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 18470X-X 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 18470X-X 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 1 time to force a one-second emergency test.
2. Press the LTS 2 times continuously within 5 seconds to force a 30-second monthly test. After the test is completed, the next (30-day) monthly test will count from this date.

OPERATION/TESTING/MAINTENANCE

3. Press the LTS 3 times continuously within 5 seconds to force a 90-minute annual test. After the test is completed, the next (52-week) annual test will count from this date.
4. 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 power is supplied to this product.
2. To reduce the risk of electrical shock, disconnect both normal and emergency power supplies and connector of this product before servicing.
3. This product requires an un-switched AC power supply of 120-277V, 50/60Hz.
4. Make sure all connections are in accordance with the National or Canadian Electrical code and any local regulations.
5. This product is for use with LED loads and provides minimum 90 minutes illumination under the emergency mode.
6. The 184700/1/2/3-1 are UL Component Recognized for factory installation. The 184700/1/2/3-2/3 are UL Listed for field installation, and use with grounded, UL Listed, damp location rated fixtures.
7. Use this product in 0°C minimum, 50°C maximum ambient temperatures.
8. This product is suitable for use in dry or damp locations. Do not mount it near gas, heaters, air outlets or other hazardous locations.
9. 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.
10. 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.
11. This product should be mounted in locations and at heights where it will not readily be subjected to tampering by unauthorized personnel.
12. The use of accessory equipment not recommended by the manufacturer may cause an unsafe condition and void warranty.
13. Do not use this product for other than intended use.
14. Installation and service should be performed by qualified service personnel.
15. 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.