

CONSTANT POWER

LINEAR EMERGENCY EQUIPMENT

LEM-Pww-vvv-A-U-Hx



FEATURES



LEM-Pww-vvv-A-U-HT



LEM-Pww-vvv-A-U-HAC



LEM-Pww-vvv-A-U-HE

1. Emergency operation of LED light source or LED luminaire, for both factory and field installation
2. Compatible with both DC LED loads and a range of AC LED tubes / bulbs / luminaires*
3. Constant emergency power output, wide range of output voltage from ~5VDC to ~300VDC**, output current auto adjusting
4. Various emergency power options:

Model #	Emergency Power
LEM-P04-200-A-U-Hx	Max. 4.5W
LEM-P09-300-A-U-Hx	Max. 9W
LEM-P13-300-A-U-Hx	Max. 13.5W
LEM-P18-300-A-U-Hx	Max. 18W

5. Various connection options:

Type	Connection Type	Application
HT	Terminal block	Indoor, Dry and Damp
HAC	External wires with metal conduits, simple wiring for AC luminaires	Indoor, Dry and Damp
HE	IP66 Waterproof, simple wiring for AC luminaires	Outdoor and Wet

6. Auto Test
7. Slim aluminum housing, integrated battery

* Test to verify AC / Luminaire compatibility prior to use

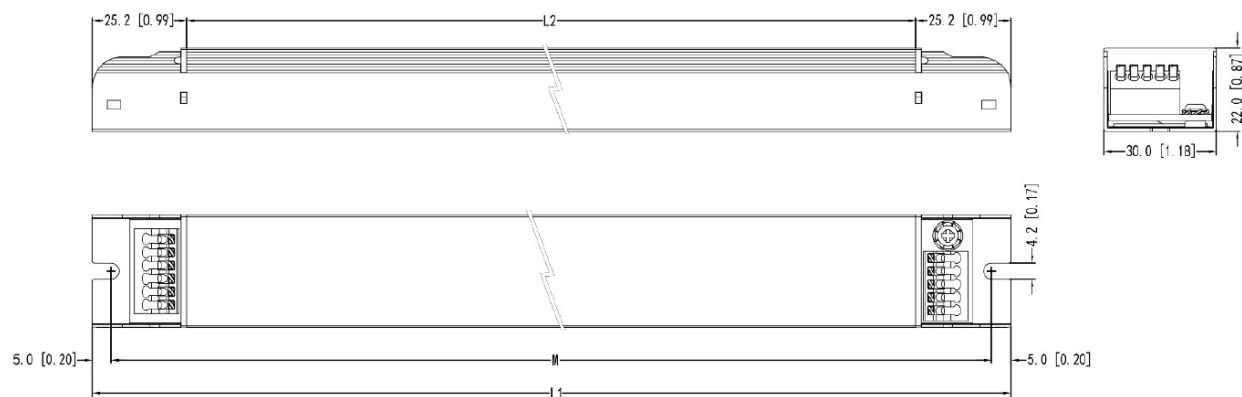
** Ref. data table on following page

CHARACTERISTICS

Type	LEM-P04-200-A-U-Hx	LEM-P09-300-A-U-Hx	LEM-P13-300-A-U-Hx	LEM-P18-300-A-U-Hx
Rated voltage	120-277VAC 50/60Hz			
Rated current	0.025A	0.04A	0.06A	0.08A
Rated power	2.7W	3.5W	4.5W	6W
Emergency output power	Max. 4.5W	Max. 9W	Max. 13.5W	Max. 18W
Output voltage	5-200VDC	10-300VDC	15-300VDC	20-300VDC
Output current	Max. 1A			
Output current from AC driver	Max. 3A			
Operation frequency	320kHz \geq f \geq 50kHz			
Power Factor	@120V>0.4; @277V>0.3			
Battery	Li-ion			
Charging time	24 Hours			
Discharge time	>90 Minutes			
Life time	5 Years			
Charging cycles	>1000			
Operation temperature	0-55°C (32°F-131°F)			
Efficiency	80%			
Abnormal protection	Over load, over temperature, open circuit, short-circuit protection with auto-reset			
Wire	0.5-1.5mm ²			
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. LEM-Pww-vvv-A-U-HT mm [inch]	LEM-P04-200-A-U-HT: L200 [7.87] x W30 [1.18] x H22 [0.87] Mounting center: 190 [7.48] LEM-P09-300-A-U-HT: L260 [10.24] x W30 [1.18] x H22 [0.87] Mounting center: 250 [9.84] LEM-P13-300-A-U-HT: L345 [13.58] x W30 [1.18] x H22 [0.87] Mounting center: 335 [13.19] LEM-P18-300-A-U-HT: L410 [16.14] x W30 [1.18] x H22 [0.87] Mounting center: 400 [15.75]			
Meas. LEM-Pww-vvv-A-U-HAC mm [inch]	LEM-P04-200-A-U-HAC: L258 [10.16] x W30 [1.18] x H22 [0.87] Mounting center: 209 [8.23] LEM-P09-300-A-U-HAC: L318 [12.52] x W30 [1.18] x H22 [0.87] Mounting center: 269 [10.59] LEM-P13-300-A-U-HAC: L403 [15.87] x W30 [1.18] x H22 [0.87] Mounting center: 354 [13.94] LEM-P18-300-A-U-HAC: L468 [18.43] x W30 [1.18] x H22 [0.87] Mounting center: 419 [16.50]			
Meas. LEM-Pww-vvv-A-U-HE mm [inch]	LEM-P04-200-A-U-HE: L530 \pm 4 [20.87 \pm 0.16] x W56 [2.20] x H44 [1.73] Mounting center: 460 [18.11] LEM-P09-300-A-U-HE: L590 \pm 4 [23.23 \pm 0.16] x W56 [2.20] x H44 [1.73] Mounting center: 520 [20.47] LEM-P13-300-A-U-HE: L675 \pm 4 [26.57 \pm 0.16] x W56 [2.20] x H44 [1.73] Mounting center: 605 [23.82] LEM-P18-300-A-U-HE: L740 \pm 4 [29.13 \pm 0.16] x W56 [2.20] x H44 [1.73] Mounting center: 670 [26.38]			

DIMENSION

LEM-Pww-vvv-A-U-HT



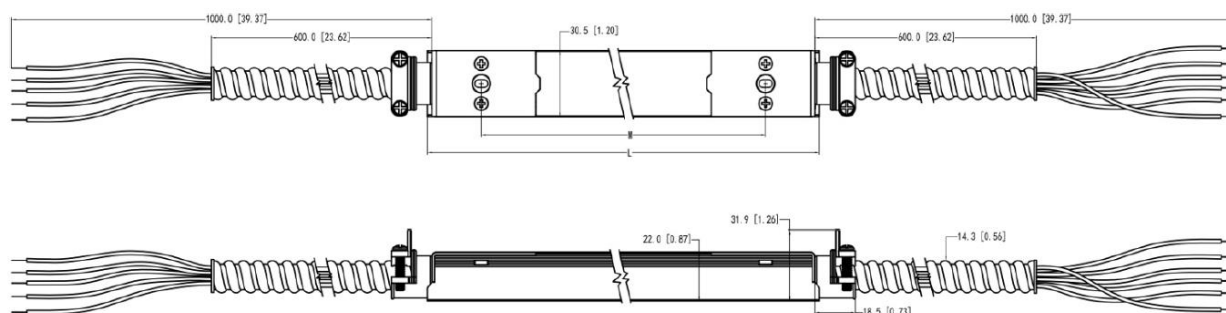
Item No.	L mm [inch]	M mm [inch]	W mm [inch]	H mm [inch]
LEM-P04-200-A-U-HT	200 [7.87]	190 [7.48]	30 [1.18]	22 [0.87]
LEM-P09-300-A-U-HT	260 [10.24]	250 [9.84]	30 [1.18]	22 [0.87]
LEM-P13-300-A-U-HT	345 [13.58]	335 [13.19]	30 [1.18]	22 [0.87]
LEM-P18-300-A-U-HT	410 [16.14]	400 [15.7]	30 [1.18]	22 [0.87]

Notes:

1. Dimension unit: mm [inch]
2. Dimension tolerance: +/-1[0.04]

DIMENSION

LEM-Pww-vvv-A-U-HAC



Item No.	L mm [inch]	M mm [inch]	W mm [inch]	H mm [inch]
LEM-P04-200-A-U-HAC	258 [10.16]	209 [8.23]	30 [1.18]	22 [0.87]
LEM-P09-300-A-U-HAC	318 [12.52]	269 [10.59]	30 [1.18]	22 [0.87]
LEM-P13-300-A-U-HAC	403 [15.87]	354 [13.94]	30 [1.18]	22 [0.87]
LEM-P18-300-A-U-HAC	468 [18.43]	419 [16.50]	30 [1.18]	22 [0.87]

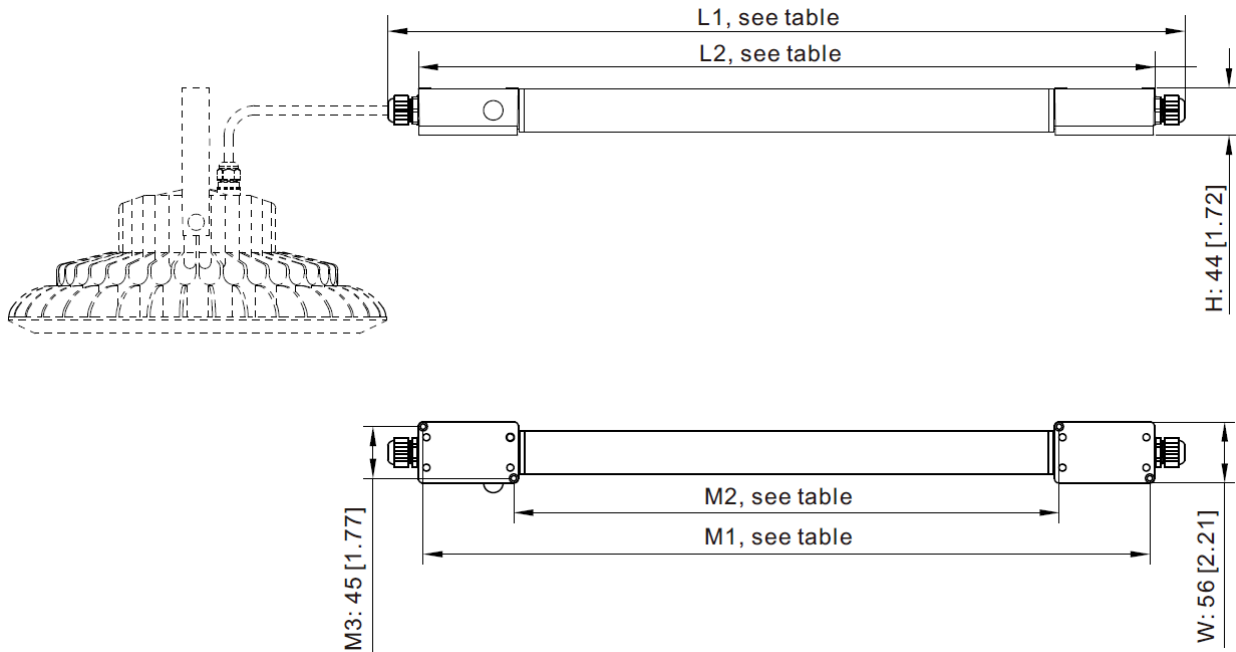
Notes:

1. Dimension unit: mm [inch]
2. Dimension tolerance: +/-1[0.04]

DIMENSION

LEM-Pww-vvv-A-U-HE

SURFACE MOUNTING



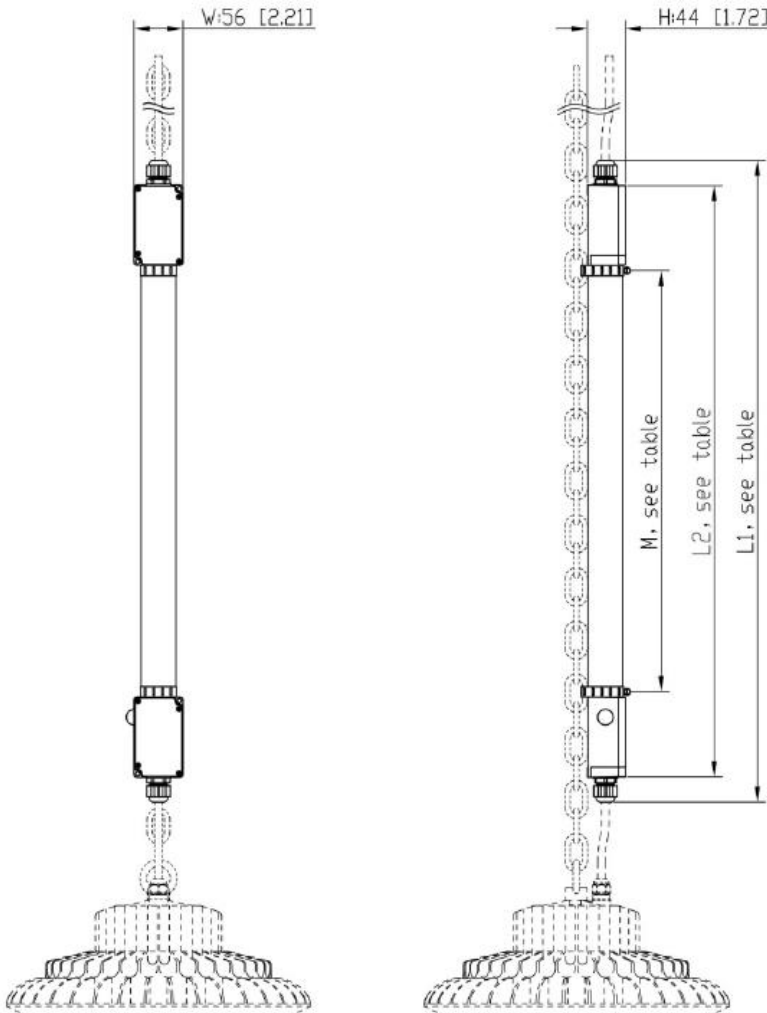
Item No.	L1 mm [inch]	L2 mm [inch]	M1 mm [inch]	M2 mm [inch]	M3 mm [inch]	W mm [inch]	H mm [inch]
LEM-P04-200-A-U-HE	530±4 [20.87±0.16]	471 [18.54]	460 [18.10]	297 [11.69]	45 [1.77]	56 [2.21]	44 [1.72]
LEM-P09-300-A-U-HE	590±4 [23.23±0.16]	531 [20.91]	520 [20.47]	357 [14.06]	45 [1.77]	56 [2.21]	44 [1.72]
LEM-P13-300-A-U-HE	675±4 [26.57±0.16]	616 [24.25]	605 [23.82]	442 [17.40]	45 [1.77]	56 [2.21]	44 [1.72]
LEM-P18-300-A-U-HE	740±4 [29.13±0.16]	681 [26.81]	670 [26.38]	507 [19.96]	45 [1.77]	56 [2.21]	44 [1.72]

Notes:

1. Dimension unit: mm [inch]
2. Dimension tolerance: +/-1[0.04]

DIMENSION

LEM-Pww-vvv-A-U-HE SUSPENSION MOUNTING



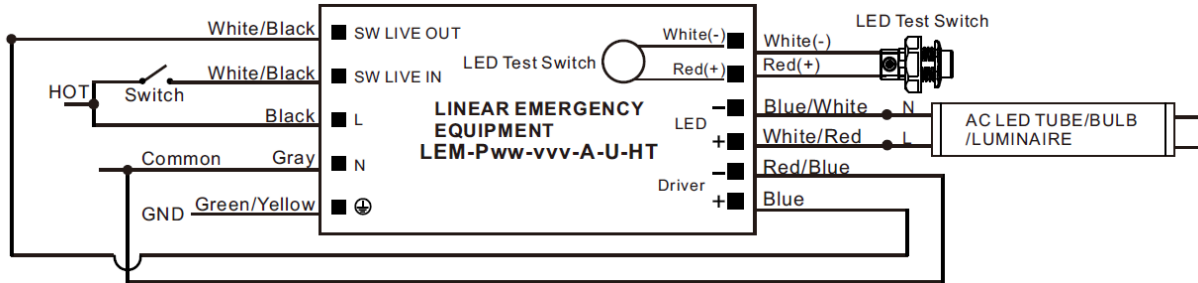
Item No.	L1 mm [inch]	L2 mm [inch]	M mm [inch]	W mm [inch]	H mm [inch]
LEM-P04-200-A-U-HE	530±4 [20.87±0.16]	471 [18.54]	274 [10.79]	56 [2.21]	44 [1.72]
LEM-P09-300-A-U-HE	590±4 [23.23±0.16]	531 [20.91]	334 [13.15]	56 [2.21]	44 [1.72]
LEM-P13-300-A-U-HE	675±4 [26.57±0.16]	616 [24.25]	419 [16.50]	56 [2.21]	44 [1.72]
LEM-P18-300-A-U-HE	740±4 [29.13±0.16]	681 [26.81]	484 [19.06]	56 [2.21]	44 [1.72]

Notes:

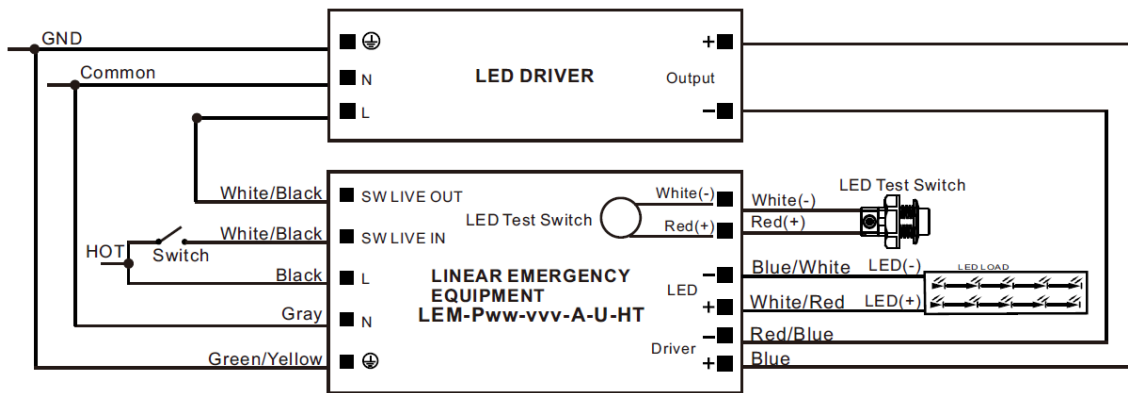
1. Dimension unit: mm [inch]
2. Dimension tolerance: +/-1[0.04]

WIRING CONFIGURATION

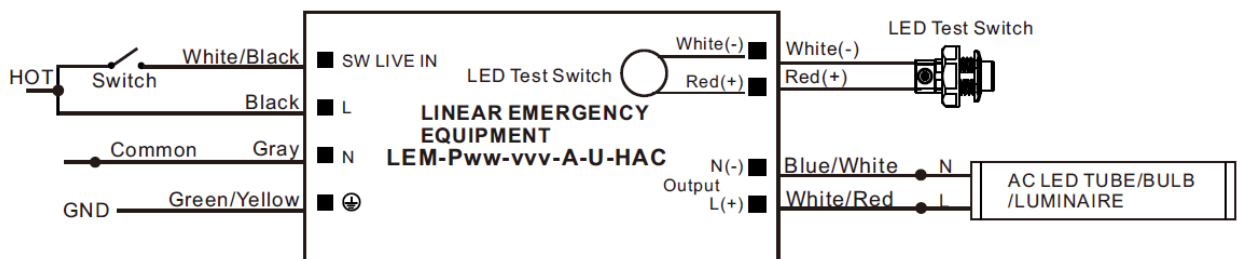
1. LEM-Pww-vvv-A-U-HT: FOR AC LED TUBE/BULB/LUMINAIRE**



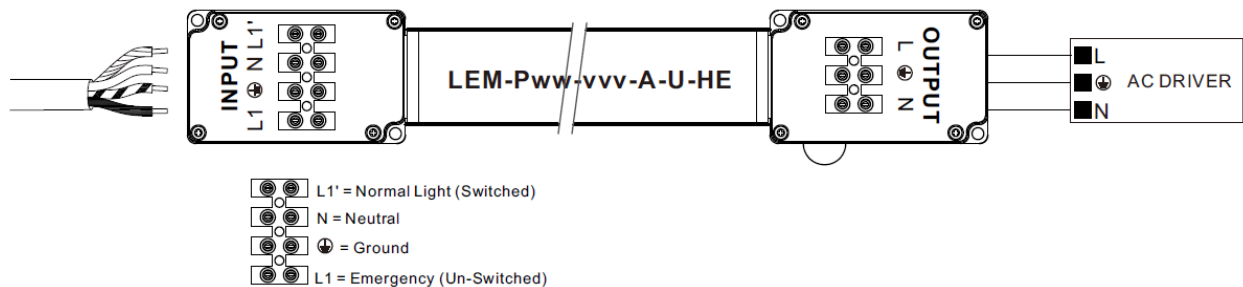
2. LEM-Pww-vvv-A-U-HT: FOR DC LED LOAD



3. LEM-Pww-vvv-A-U-HAC: FOR AC LED TUBE/BULB/LUMINAIRE**

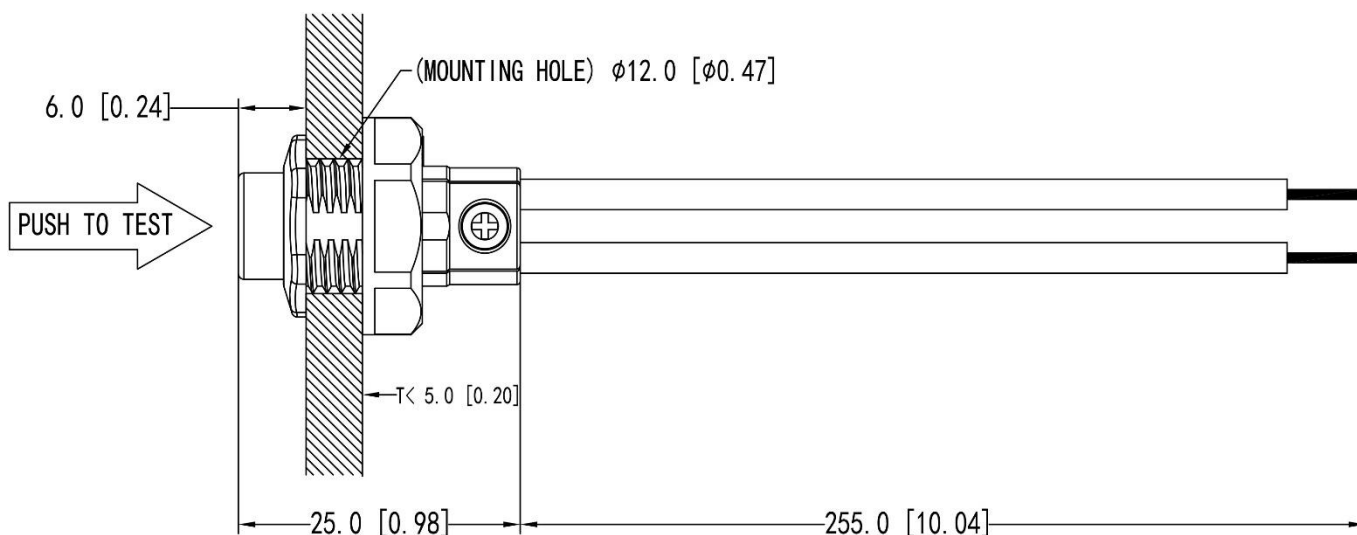


4. LEM-Pww-vvv-A-U-HE: FOR AC LED TUBE/BULB/LUMINAIRE**



**** Caution: Isolated AC drivers and AC loads with similar circuitry may not be compatible; Verify compatibility by testing with subject AC luminaire / tube / bulb prior to use!**

LED TEST SWITCH



Notes:

1. Dimension unit: mm [inch]
2. Dimension 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 LEM-Pww-vvv-A-U-Hx 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 LEM-Pww-vvv-A-U-Hx 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.

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 during test.
3. Conduct a 90-minute discharge test once per year. The LTS will be off during test.

AUTO TEST

The LEM-Pww-vvv-A-U-Hx 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 LEM-Pww-vvv-A-U-Hx will perform an initial Auto Test. If any abnormal conditions exist, the LTS will flash rapidly*. Once the abnormal condition is corrected, the LTS will function correctly.
2. Monthly Auto Test
The LEM-Pww-vvv-A-U-Hx 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, and will test transfer function from normal to emergency, emergency function, charging and discharging conditions. Monthly test time is approximately 30 seconds.
3. 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, Monthly and Annual Auto Test.

MANUAL TEST

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

- Slow Flash (once per 2 seconds): Normal Charging
- On: Battery Fully Charged - Normal Condition
- Off: Power Failure
- Gradual Change: In Testing Mode
- Rapid Flash (once per second): Abnormal Condition - Corrective Action Required