



Lithium-Ion Battery Advantages

Lithium-Ion (Li-ion) batteries used in Assurance LED emergency drivers offer significant advantages over traditional nickel-cadmium batteries (Ni-Cd):

- **Reduced Size:** High power density of Li-ion batteries result in overall size and weight of the emergency driver of 30% to 50% less than emergency drivers with traditional Ni-Cad Batteries. (See Table 1 below for competitive comparison of Assurance L10 Emergency Driver)
- **Higher Efficiency:** The Li-ion battery voltage per cell is greater than Ni-Cd: 3.2 vs 1.2Vdc, so electronic designs are more efficient – higher voltage less current for same power- then less losses on circuit board with lower current.
- **Shorter Recharge Time:** Li-Ion batteries require shorter recharge time than Ni-Cad batteries. This is important to meet NEC and NFPA life safety code requirements.
- **Cycle Life Memory Effect:** Ni-Cd batteries have noticeable memory effect that must be remedied by periodic conditioning. Li-Ion batteries have no memory effect, so conditioning is not necessary.
- **Lower Self-Discharge Rate:** In standby mode, Li-ion batteries self-discharge rate is 3% loss of charge/month compared to Ni-Cd batteries 20% loss of charge/month. (at 25 deg. C)
Results in lower power consumption to maintain full charge (saves \$).
- **Environmentally Friendly:** Ni-Cad batteries are required by law to be properly disposed of and recycled, while Li-ion batteries are not. Mechanical damage or piercing of the Li-ion battery casing will not result in combustion or toxic chemical leakage.
- **Safety:** Assurance LED Emergency Drivers with Li-ion batteries have numerous safety features: Thermal protection, overcharge protection, and short circuit protection. Complies with UL1642 standards for Lithium batteries.

Table 1. Size and weight comparison of Assurance L10 10-Watt LED Emergency Driver with Li-ion batteries and Iota and Bodine 10-watt LED EM Driver with Ni-Cd batteries.

Emergency Driver Comparison: Assurance L10 - Bodine BSL310 - Iota ILB-CP-10			
	Assurance L10	Bodine BSL310	Iota ILB-CP-10
Output	10 W Constant Power	10 W Regulated Power	10 W Constant Power
Enclosure	Galvanized Steel	Plastic	Galvanized Steel
Battery	Lithium	Ni-Cad	Ni-Cad
Dimensions	9.5" x 1.7" x 1.14"	14" x 2.25" x 1.18"	13" x 2.2" x 1.25"
Weight	1.3 lb.	1.87 lb.	3.5 lb
Temperature Rating	0 - 60 deg. C	0 -55 deg. C	0 -55 deg. C

For more information on Assurance Emergency Lighting L series emergency drivers, please visit:

<http://www.assurancelighting.com/products/led-drivers.htm>

Or contact us at: tech.support@assurancelighting.com or 877-774-4775.

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