Lithium Ion battery technology in a selected range of emergency lighting

ZLi
by ZEMPER

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EMERGENCY LIGHTING

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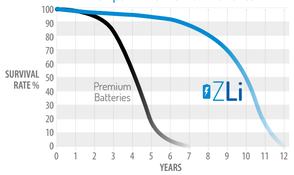
the power of lithium ion battery

Lithium Ion Phosphate battery technology is utilised to provide a range of emergency lighting with twice the battery life of existing premium products, twice the maintenance-free period, the most energy-efficient product on the market, and the first truly sustainable battery technology for emergency lighting.

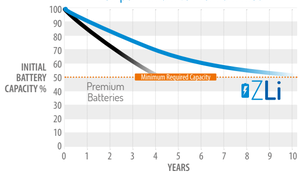
The product delivers energy and maintenance savings of approximately 80 per cent when compared to the next best available product types. Lithium Ion Phosphate battery technology contains no heavy metals or carcinogens compared to NiCad or Nickel Metal Hydride batteries.

- 2x — Twice the battery life of current battery technologies
- 2x — Twice the maintenance free period
- One of the most energy efficient emergency lighting product
- The first truly sustainable emergency lighting

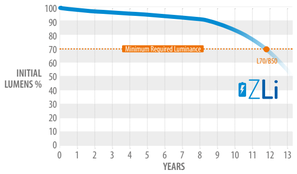
Maintenance Free Period Over Time
Zemper ZLi vs Premium Batteries



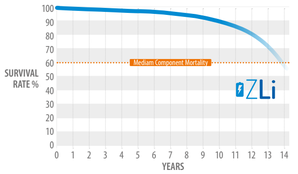
Battery Capacity Over Time
Zemper Lithium vs Premium NiCd



ZLi LED Lamp Output Over Time



ZLi Charging & Driver Electronics Survival Rate



PRODUCT & COMPONENT LIFE EXPECTANCY

Emergency lighting products are subject to a wide variety of site specific environmental and temperature conditions that will affect the performance of individual emergency lighting luminaires. This data is presented as a guide only, and is intended only as a representation of expected lifetimes across a range of products in typical operating environments.

MAINTENANCE FREE PERIOD

With twice the battery life, twice the lamp life and upgraded electronic components, the ZLi range of exits and emergency lights will operate for twice as many years before requiring repair maintenance compared with existing Premium emergency lighting operating under the same conditions.

BATTERY CAPACITY

The life projections for Lithium Ion Phosphate batteries selected for the ZLi range are based on over 2 years of actual data at 45 degrees under stand-by conditions.

The ZLi range is designed with an initial battery capacity to operate the LED's for twice the minimum duration of 60 minutes, so that at 50% initial capacity they will still run the lamps for the required 60 minutes duration.

LED LAMP LIFE

The LED's selected for ZLi exit and emergency luminaires have a rated life of 100,000 hours. This rating means that 50% of the LED's will output 70% of their initial luminance after 100,000 hours.
The ZLi range is designed with an initial luminance level approximately 30% over the minimum required to Standard, so that at 70% of initial luminance, the luminaires will still comply.
Catastrophic failure or "mortality rates" for these LED's are in the parts per million, or almost non-existent.

COMPONENTS

Components for the ZLi battery charging and lamp driver circuit boards have been selected and verified for 100,000 hour life.

ENVIRONMENTAL IMPACTS

The LFP battery technology in the ZLi range represents the fourth battery technology now available for emergency lighting applications. Due, until recently, to the absence of a suitable alternative, the other three battery types, Ni-Cd, Ni-Mh and Lead Acid, have presented the world with a serious environmental issue particular to emergency lighting. All three contain toxic heavy metal contaminants, namely Cadmium, Nickel and Lead; and all three contain carcinogens. Cadmium and Nickel are known carcinogens, and Lead is considered a probable carcinogen.
The environmental threat is so serious that the EU 2006 Battery Directive has banned the use of Ni-Cd and Lead Acid batteries. Emergency lighting applications have received an exemption to the ban as it was thought at the time that no suitable alternative was available to deliver the required performance for what is a life safety application.

ZLi PRODUCT RANGE

PREMIUM LINE

Spazio Round

Spazio Square

Spazio T-LED

T-LED

DESIGN LINE

Diana Flat

Xena Flat

Spazio Sign

EXIT SIGN LINE

Harena

Harena LED

Watt

Kons