

electronics maker

THE MOST POPULAR ELECTRONICS MONTHLY MAGAZINE

Highly Integrated Gate Drivers for Compact Motor Control Design

- How Bluetooth simplifies smart metering
- Power Management Solutions for Energy Harvesting Systems
- LiDAR drives forwards in Autonomous Cars

- BGA Rework Station with Optical alignment
- The power challenge presented by wearable medical devices
- Charging from a USB Port

Access to **8.4 Million+** Products Online

DIGIKEY.IN



Digi-Key is an authorized distributor for all supplier partners. New products added daily. © 2019 Digi-Key Electronics, 701 Brooks Ave. South, Thief River Falls, MN 56701, USA

ECIA MEMBER
Supporting The Authorized Channel



Shridhar Pandey,
Managing Director, Elecorev Energy

Reasons why Lithium Ion batteries are best companion for Solar Applications

Investment in solar is the smart option and pairing off solar with lithium battery storage is even smarter.

Meanwhile, Initial investment on Lithium-ion batteries is higher compared with the lead-acid batteries, Lithium-ion superior performance and long life make it an ideal choice or grid tie and off-grid applications. Before selecting lithium battery to comply with your solar system, understanding of advantage of lithium batteries over lead-acid batteries is a must. Please refer below for some of the major key advantages of the lithium batteries:

1) Lithium batteries are efficient. According to IEEE, the efficiency of Lead-acid batteries is less i.e. approximately 70% TO 80% which will be presented throughout the life of the system. In today's scenario whereas inverters and charge controllers are achieving high efficiency in the 90s, so it is highly desirable the battery energy should also be highly effective. Here lithium batteries win the show which exceeds their efficiency is

typically 99%.

2) Lithium batteries are long lasting.

The life cycle of the battery is defined by its discharge followed by recharging, It is considered as the most important parameter in batteries as it determines the life of a battery. This is another area whereas lithium-ion batteries outperform lead acid battery as it offers 20 times longer life than lead-acid batteries. If a lead-acid battery is discharged to its 100% capacity, it will deliver approx. about 400-600 cycles and in the same circumstances Lithium batteries will deliver about 4000-5000 Cycles.

3) Lithium is cost-effective.

Considering lead acid batteries, you have to design your battery bank oversized to limit the discharge rate of your batteries. Lead-acid battery manufacturers are not recommending to discharge the batteries beyond 50%. It clearly suggests that you need to have the battery bank of double size than the actual requirement. whereas lithium



battery allows you to use its 100% Capacity without any damage, thus it eliminates the need for an oversized battery bank. Lead acid batteries are affected by low temperatures while lithium batteries are easily working in low temperatures.

4) Lithium is zero maintenance.

Lead-acid batteries need to be monitored carefully and need maintenance, continuously monitoring of water level is required or else it will affect the life of a battery. While lithium batteries require zero maintenance. Lithium batteries require very less space. If you are planning to set up your solar application and find running out of the space, choose lithium to reduce the size considerably.

