

NiMH Batteries from Nilar – When Safety Matters

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Nickel metal hydride is a mature battery technology that has been used commercially for over 25 years for a variety of applications including consumer products, electric vehicles, hybrid electric vehicles, and stationary power applications. The mass introduction of batteries into cars is driving safety regulations both for vehicles and other battery applications, such as energy storage. The Swedish energy storage company Nilar have NiMH battery technology that is well positioned for this progress with safety as one of its main benefits.

Thanks to the stable nickel metal hydride chemistry, the bipolar battery from Nilar does not pose an explosion hazard – a common problem with lithium solutions. NiMH batteries utilise aqueous electrolyte rather than organic electrolyte – the chemistry base of lithium-ion batteries. This means there is no risk of self-ignition in NiMH batteries. NiMH batteries also perform well under fluctuating conditions, such as instant drops in temperature, shocks and constant motion.

“Lithium-ion batteries are capable of storing relatively large amounts of energy in a small and lightweight package, which is why they are so widely used today – and there are currently no other viable alternatives for small devices or fully electric vehicles. However, this is not the case for heavy-duty equipment, hybrid-vehicles, and stationary energy storage applications, where the NiMH battery technology is a far more stable and reliable option”, says Marcus Wigren, CEO at Nilar.

One of the many functionalities of the Nilar Battery Management System (BMS) is preventing the battery from overcharging or deep-discharging.

“Lithium-ion batteries in general require a very strict safety region when it comes to upper voltage limits, temperature limits and current limits. If you pass these set limits, you come into the safety critical region where thermal runaway can be triggered by internal short circuits, during deep discharge or during over charge. NiMH batteries, on the other hand, are more robust and capable of managing various safety critical events such as electrical and mechanical abuse, critical environmental exposure and faulty workmanship”, continues Marcus Wigren.

“We all know that lithium-ion batteries will continue to spread, despite the dangers. But safety is not to be taken lightly and people should know that there are more robust technologies available. For a private home, office building, or at other public areas, NiMH batteries offer the safest energy storage solution available as they will not cause harm to homeowners, passersby or properties. Rather, they will provide energy as and when required”, concludes Marcus Wigren.

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About Nilar

Nilar brings you the next generation in modular power technology with the bi-polar NiMH energy storage. The unique construction of the battery delivers incredible power and reliability from a lighter, smaller and greener unit. Furthermore, the modular design allows batteries to be coupled in parallel and series to deliver the power and capacity required to meet virtually any need. Put simply, Nilar batteries deliver more from less.

Since it was founded in 2000 by two of the leading experts from the battery industry, Nilar has always sought to challenge the norms of the battery industry. From its two R&D departments in the USA and Sweden, the company has revolutionized the way industrial batteries are constructed – developing a unique energy storage system that can be easily scaled to fit different applications. Today, the batteries are produced at the company's state-of-the-art factory in Sweden.

Read more about Nilar at: www.nilar.com