

Fire protection system and tests :

Blauhoff BLH-5KW

Our battery has IEC62619 certification, which includes overheating protection and heat-resistant spread test.



So, products meet the safety standards and can be used indoors in normal state if getting this certification.

Normally, you know, the temperature get higher because of overcharging or larger current.

Now, we have three temperature sensors inside of the battery and set the current range to prevent high temperature.

And the current will be cut directly if temperature and current are not in the safety range.

All those measures are used for monitoring temp, so it can avoid fire.

Each BLH-5KW has 16 pcs fuses in each cell to prevent excessive current.

UR95401 Heat Spread test approved, so if fire happens it stays in the heavy 11 kg iron battery box and will not affect the batteries surrounding.

IEC 62619

Registration number
SG PSB-BT-02972

IEC 62619:2017
nr 085-282160216-000



NEN-EN-IEC 62619 specifies requirements and tests for the safe operation of secondary lithium cells and batteries used in industrial applications including stationary applications. When there exists an IEC standard specifying test conditions and requirements for cells used in special applications and which is in conflict with this document, the former takes precedence (e.g., IEC 62660 series on road vehicles). The following are some examples of applications that utilize cells and batteries under the scope of this document. - Stationary applications: telecom, uninterruptible power supplies (UPS), electrical energy storage system, utility switching, emergency power, and similar applications. - Motive applications: forklift truck, golf cart, auto guided vehicle (AGV), railway, and marine, excluding road vehicles. Since this document covers batteries for various industrial applications, it includes those requirements, which are common and minimum to the various applications. Electrical safety is included only as a part of the risk analysis of Clause 8. In regard to details for addressing electrical safety, the end use application standard requirements have to be considered. This document applies to cells and batteries. If the battery is divided into smaller units, the smaller unit can be tested as the representative of the battery. The manufacturer clearly declares the tested unit. The manufacturer may add functions, which are present in the final battery to the tested unit.

IEC61000

Registration number
SHEM210800997401

EN IEC 61000-6-1:2019
EN 61000-6-3:2007 +A1:2011



NEN-EN-IEC 61000-6-1 for EMC immunity requirements applies to electrical and electronic equipment intended for use in residential, commercial, public and light-industrial locations. Immunity requirements in the frequency range 0 Hz to 400 GHz are covered. No tests need to be performed at frequencies where no requirements are specified. This generic EMC immunity standard is applicable if no relevant dedicated product or productfamily EMC immunity standard exists. This standard applies to electrical and electronic equipment intended to be operated in - residential locations, as defined in 3.8, both indoor and outdoor, - commercial, public and light industrial locations, as defined in 3.9, both indoor and outdoor. This standard applies also to equipment which is battery operated or is powered by a nonpublic, but non-industrial, low voltage power distribution system if this equipment is intended to be used in the locations defined in 3.8 or 3.9. This standard defines the immunity test requirements for equipment specified in the scope in relation to continuous and transient, conducted and radiated disturbances, including electrostatic discharges.

UN38.3

Registration number

812200300200537

UN38.3



Lithium and lithium-ion batteries are an integral part of everyday life thanks to their small size, and they offer a long life due to the high energy density. They are used in a wide variety of industries from medical to consumer electronics, industrial applications to transportation, and these small, lightweight energy sources pack quite a punch making them a popular choice for manufacturers everywhere.

Most lithium or lithium-ion batteries are safe when designed, manufactured and used properly. However, if they are comprised of low-quality materials, assembled incorrectly, used or recharged improperly, become damaged, or if they have design defects, they can pose a huge risk. Additionally, because of their high energy density, these batteries are susceptible to overheating and can become a fire hazard. Because of this, there are several safety standards that manufacturers need to know when using these devices.

Nearly all lithium batteries are required to pass section 38.3 of the UN Manual of Tests and Criteria (UN Transportation Testing). Intertek can test for conformance to the UN 38.3 Transportation Testing requirements and help manufacturers avoid costly delays in getting their product to market.

Standard UN 38.3: Transportation Testing for Lithium Batteries and Cells

It is important to note that lithium batteries have been identified as a Class 9 dangerous good during transport, as a result of a potential fire hazard. To be safely transported (by air, sea, rail or roadways), they must meet the requirements laid out by Standard UN 38.3. This standard applies to batteries transported either on their

own or installed in a device.. It applies to all points in the battery's transportation process: from sub-suppliers to end-product manufacturer; manufacturer to distributor; in or out of the product; in the field; during product returns or with non-original packaging. It is important for manufacturers to be familiar with these requirements as the use of lithium and lithium-ion batteries become more prevalent.

UN 38.3 has been adopted by regulators and competent authorities around the world, making it a requirement for global market access. The protocol includes identifying/classifying lithium batteries; testing/qualification requirements; design guidance/conditions and packaging/shipping obligations.