

Precautions for use, equipment design and storage

Caution for better usage

- Use gold-plated or nickel-plated steel or stainless steel strips for terminals in order to keep good conductivity with the battery surface. Terminals made of gold-plated phosphor bronze will ensure stable conductivity.
- Y-shaped terminals (double contacts) for both the anode and cathode offer very stable contact. Each contact on the Y-shaped terminals should have range of 2N to 10N contact pressure in order to ensure stable contact.
- Before inserting batteries, check the terminal contact surfaces on both the equipment and the batteries are clean, and also check that they are not deformed. If the contact surfaces are dirty, clean up and dry them thoroughly before inserting batteries.
- If there is a sliding between the equipment terminal and the battery terminal, the surface condition of the terminal may change and the contact resistance may increase. Please design the equipment which does not cause a sliding. Depending on the usage environment, if using conductive lubricant at the contact point, there may be the effect of delaying the change of the surface condition of the terminal.
- Even if batteries of the same size or same shape, they may differ in type or grade. When replacing batteries, confirm that they are correct type by checking the identification symbol (designated by I.E.C. standards) which is marked on the battery and its packages.
- Lithium primary batteries continuously indicate high voltage even toward the end of their service life. As such, they may be mistakenly judged as yet being strong. In case of multiple batteries are used in an application or equipment, all batteries should be replaced at the same time when the one of those batteries shows it has totally consumed even other batteries seems still operating, since the remaining capacity in other batteries must be also quite little at the time.
- When multiple batteries are used in series in applications or equipments, it may occur that the one battery has a polarity inversion at the end of operation life. That behavior happen when the battery had consumed its capacity earlier than other batteries. Therefore, that is not failure of battery.
- When the Lithium battery has short-circuit, even slightly. A certain amount of time is required for recovering its voltage completely. If the electrical characteristics of the battery are measured at a time before a sufficient time has passed, it may indicate unstable values due to the battery was in recovering mode.
- If the battery touch with any antistatic conductive materials include packing bags, trays, mats, sheets, films and resin cases, sheets, it may cause of short-circuit since both the positive and the negative terminal of the battery may contact with those materials. In order to prevent short circuit, special attention may apply when handle batteries or battery attached PCB in close to those materials.

Cautions for storage

- Store the battery at a constant temperature of 5°C to 35°C in order to prevent deteriorations from heat.
- Keep the battery away from high humidity such as 85% R.H. or higher in order to prevent dew condensations on the battery that may cause to electrical leakage.
- Keep the battery away from heat sources i.e., boiler, radiator and etc., and from. direct sunlight.

Notice for equipment design

- Keep batteries away from heat source or flame, and water.
- Please contact us in case of using multiple batteries.