



Batteries

Lead Acid



WARNING - FIRE HAZARD

A low voltage power supply is just as likely to cause a fire if a short circuit occurs as with any other voltage. Please use suitable fuses or circuit breakers near the battery and between the battery and any other power sources. Also ensure that electrical conductors such as metal objects cannot accidentally fall across the battery terminals.

Exploding Battery: Batteries generate explosive gases during operation and when charging. Flames, sparks, burning cigarettes or other ignition sources must be kept away at all times. Ensure that there are no loose metal objects around the batteries that can be blown down by a strong wind or knocked onto the battery terminals. Similarly sparks can be generated at the battery due to a poor connection.

Always shield eyes when working near batteries. Battery charging should be carried out in a well ventilated area - never in a closed room. Always turn battery charger off before disconnecting a battery.

BATTERY SAFETY

Battery acid can cause burns. Use extreme care when handling acid. If electrolyte is spilled or splashed onto clothing or the body, wash with water and neutralise with a solution of baking soda and water. Electrolyte splashed into the eyes is extremely dangerous. If this occurs, force eyes open and wash with clean cool water for five minutes and call a doctor. A solution of 1 tablespoon of bicarbonate of soda to ½ litre of water should be kept readily available and in view near the battery bank. This solution will neutralise the acid and hence be a more effective eye-wash in the event of such an accident.

BATTERY ACID

Otherwise referred to as electrolyte. The water used for diluting acid and for topping up must be free of mineral impurities. Distilled water, demineralised water, or rain water collected in glass or plastic may be used. Never use tap water as the effect of impurities is cumulative and detrimental to the battery.

NOTE: Do **NOT** add battery acid to the battery unless under the specific directions of a battery technician.

Placement of Batteries

Place batteries on a firm, solid and level support. Weight of batteries should be equally distributed over the base area. Batteries should not be in direct contact with a cold surface such as concrete. If the base of the battery stays cold, the acid will not mix readily and will tend to stratify (most concentrated acid at the bottom and least concentrated at the top). It is recommended that you use an insulating material such as rubber or vinyl under the batteries that will not be affected by the corrosive properties of battery acid.

Battery Connections

Make as few connections directly to the battery as possible. It is desirable to have a fully fused Distribution/Meter Box from which all other connections can be made.

Before making your connection to the battery, first smear petroleum jelly (eg Vaseline) over the terminal post to prevent or reduce the likelihood of battery acid creeping up the terminal post and rapidly corroding your connector.

Make sure that the connector is fixed very firmly and that it is making good contact with the terminal post to reduce voltage drop.

Do not increase your battery capacity by connecting several small batteries in parallel. The more parallel connections there are, the more prone the system is to uneven charging due to lazy cells and unequal cell characteristics. This will cause an overall reduction in expected battery life and increase maintenance requirements.

**DO NOT LIFT BATTERY
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