

Installing Batteries – Considerations for an Off Grid System



Commercially built battery enclosure that has a lockable door and uses passive venting.

Batteries must be protected from the elements. If freezing temperatures are expected, the batteries can be buried below the frost line in a water-tight enclosure or in a building where the temperature will remain above freezing. If the batteries are buried, a well-drained location should be selected and a drain-hole provided in the battery enclosure. Batteries should not be set directly on concrete surfaces as self discharge will be increased, particularly if the surface gets damp. Adequate venting must be provided to minimize explosion hazard if open-cell batteries are used. Consider using battery fan which will not ignite the hydrogen and oxygen gas that is naturally produced during the charging process. Any battery should be stored in a location where access is limited to knowledgeable personnel. Never allow unsupervised children or pets near batteries.

Commercial battery enclosures may be available but are usually more expensive than making your own. However, commercial grade battery enclosures can make an installation safer, cleaner and often more secure than most homebrew enclosures. For small systems, a heavy-duty plastic tub may serve as an inexpensive alternative. Be sure it will withstand direct sunlight if the batteries are to be installed outdoors and above ground.