

# Battery Life Expectancy

## Valve Regulated Lead Acid (VRLA) Batteries

### Overview:

The most common type of battery used on UPS systems and for backup of telecommunications systems. VRLA batteries are designed to be maintenance free and the hydrogen that is emitted is recombined internally so that the electrolyte does not need replacing over the life of the battery, a valve is installed to release any excess pressure that may build up if the battery were failing.



Plate thickness in this type of cell is determined by the application it is used in; long discharge durations require a thicker plate than high power rapid discharges which require thin plates.

### Battery Life & Performance are affected by the following:

#### Ambient temperature:

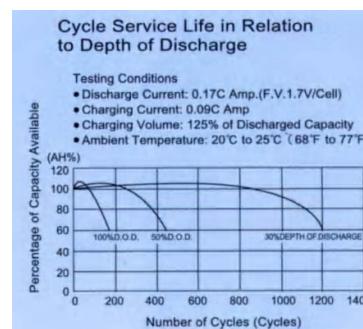
The ambient temperature should be at 22°C for optimum performance. For every 10°C above or below this ambient battery life and performance be halved.

#### Ripple Current:

This is an AC component on the charge voltage, which has devastating effects on your batteries. A quality UPS will have less than 1% ripple current emanating from its rectifier \ charger.

#### Number of Deep Cycles:

Quality UPS batteries are capable of being cycled numerous times. But there is a limit, each time the power fails and the batteries provide maximum back up – this is called a deep discharge. Most quality battery sets can withstand between 150 and 200 “Deep Discharges” depending again on ambient temperature and battery



#### Battery maintenance:

There is invariably some form of capillary action on the battery terminals, which leads to corrosive build up. Terminal should be cleaned, tightened and treated periodically to ensure optimum performance.

Experience has proven that there is no better method of testing and maintaining a battery set than to load the batteries and to physically check each Block \ cell – human intervention is the best method of battery maintenance.