

## Tycon Engineering Brief

### RemotePro® and UPSPro® Battery Care

**Summary:** RemotePro® and UPSPro® systems are designed to maintain proper battery charge within a defined range. Our systems have protections for over-discharge of batteries but batteries also self-discharge over time, so if they are left without any charge or maintenance for a long time (normally over 6 months) they will continue to self-discharge. Our systems are not designed to restore a battery function if the battery gets over discharged. Our systems work within the range of 0% (13VDC) to 100% discharge (10VDC) on batteries. If batteries are less than 10VDC the user must recondition the battery by charging the battery with a good quality automotive battery charger (6A to 25A). We find that manual type chargers work best.

#### 1. Troubleshooting Battery Problems

- a. Measure battery voltage of individual batteries. Voltage should be >10V. If less than 10V the battery must be reconditioned.
- b. If there are multiple batteries, measure all batteries and compare the voltages. They should be within 1V of each other. If some batteries are lower. Recondition the low voltage battery or all the batteries to get them back to a balanced starting point.

#### 2. Reconditioning Batteries

- a. **BEST** - Recondition batteries by charging for no more than 24hrs with a good quality automotive battery charger. Let batteries sit for another 24 hours and then measure voltages. A fully charged battery will be around 13V. If voltage drops below 12V after 24hours, the battery cannot hold a charge and needs to be replaced.
- b. **OK** - Recondition batteries by charging for no more than 24hrs with a good quality automotive battery charger. Let batteries sit for at least an hour and then measure voltages. A fully charged battery will be about 13V.