

Application Note-Flat S4

S4's which have been left unused, and uncharged for a long period of time will have flat batteries. The charging circuit works under microprocessor control, and therefore your unit needs to power up for the charger to actually charge the batteries. Getting such an S4 to power up can be difficult, but is usually possible.

- It is no use leaving the charger plugged in. Doing this will not charge the battery.
- The only way to start S4 is to manually override the microprocessor controlled charging system.
- If your S4's serial number is less than 12000 or greater than 18800, then use the following procedure to start your S4:
 - Plug in the S4 charger, and leave the S4 switched off. Press and hold in the reset button (this is an indented button just above the on/off switch on your S4) for at least 30 seconds. Release the reset button, and switch on. S4 should now power up. Press **ENTER** if asked **START LIBRARY?** Press **INFO**, and the display will inform you of battery voltage, temperature, and whether or not the charger is connected and switched on/off. If necessary force your unit to charge the battery by pressing the right-hand cursor key until the display reads that the charger is switched **ON**. Once this has been established then turn the S4 off by the switch (not by the power supply). The display will now inform you that S4 will switch off when charging is complete. Then when the display goes blank, your unit is fully charged.
 - If your S4s serial number is between 12000 and 18800, then you may need to hold in the reset button, and *then* plug in the charger. Then continue to hold the reset button for 30 seconds. If this fails please contact Dataman for advice. Call us on +44 0 1300 320719 and ask for technical support.

NOTE! The S4 unit itself does not regulate the charging current it draws, it relies on the charger to do this.

The rating for the S4 charger is as follows:

Input: 240 VAC~ 60 Hz

Output: 12 VAC~ 650mA

The S4 can also be charged from a DC bench supply, again caution is needed as the S4 is not capable of turning off the DC charging current, therefore this must be limited to what the battery would take continuously without over heating - 60 Ma is safe. The DC polarity does not matter as there is a bridge in the charging circuit.