smartRobot®-LIPO-Battery-Information

For independent work without external power supply and to save the cable connection, the unit is powered by a Lithium Polymer Battery. This type of battery has advantages (high energy efficiency, low weight) but to maximize lifetime, charge and discharge conditions should be observed.

1. Charge

Best charging conditions are fulfilled by use of the delivered charger. With estimated charge/discharge cycles of about 500, the working time can be calculated with more than 4000 hours.
Charging voltage maximum has been fixed at exactly 12.6 Volts. Higher voltage would reduce battery lifetime, lower voltage would reduce efficiency. The charging current is fixed at 1 Ampere. Higher current may reduce battery charge/discharge cycles. Do not cover unit or charger while charging and remove ignitable material.

2. Work and Storage

The **smartRobot®** unit shows actual charge value 00 – 99 percent. At 99 %, the battery voltage is 12.6 V and at 00 %, the nominal minimum of 10.8 V is reached. With a computer controlled fuse and optimized power management, the unit will automatically stop work at errors but will continue welding at low 00 % of battery. The welding can be finished normally but if reaching battery voltage of only 9.0 V, the unit will not start new welding and will show message “Low Battery”. However, to continue work, charger can be connected while working. Because long time low battery voltage can reduce battery lifetime, the unit should be charged directly after end of work, for about 2-4 hours. If the unit should be stored for some days or longer, the battery charge should not to be more than 90 %.

3. Discharge

The discharge behavior of the battery has been tested with standard self-test program (Figure 1), running 20 times continuously. Start condition: completely charged 99 %, End condition: battery power 00 %.

Figure 1

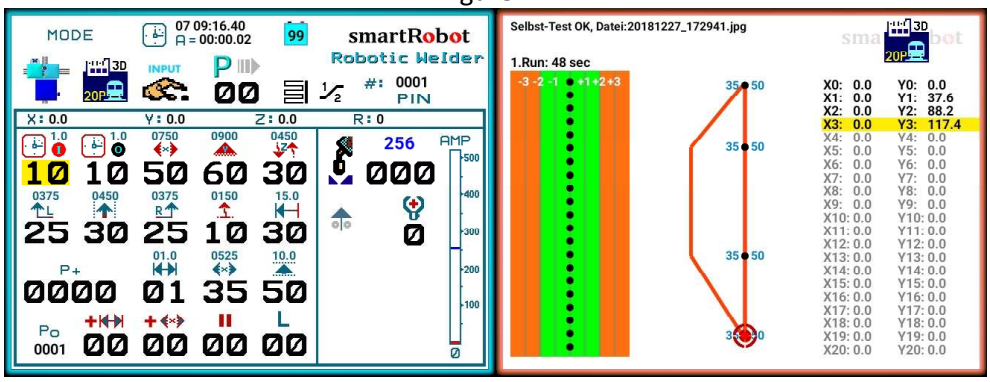

Figure 2 -shows voltage rise of battery.