

# CellDIAG X4/X6 Manual

(Version 81219)

## Specifications:

The CellDIAG is designed to measure the battery pack voltage for 2-6 cells (CellDIAG 6X)/ 2-4 cells (CellDIAG 4X) Li-Po/ Li-Ion/ Li-Fe batteries with balance charging port.

Working Temperature Range: -20°C to 50°C

Weight: 10g

Dimension: 53x 29x 5mm



## Features:

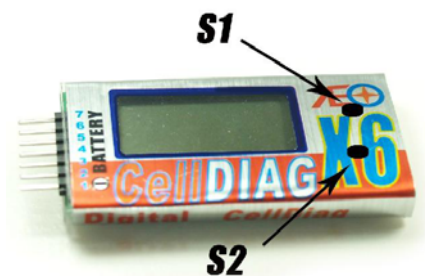
- 1, Small, light and ultra-portable with only 5mm thickness including the LCD screen.
- 2, High resolution dot-matrix LCD screen has a display capability of cell count, individual cell voltage, and total pack voltage simultaneously, up to 6 cell (for CellDIAG6X) / 4 cell (for CellDIAG4X).
- 3, High voltage resolution with +/-0.01V (10mv).
- 4, High precision, not less than +/-2% accuracy.
- 5, Able to direct observe the battery pack balancing condition efficiently.
- 6, Able to record the minimum voltage during the flight.
- 7, Voltage measurement trimming.
- 8, Reverse connection protection

## Remarks and attentions:

Due to the battery pack loading drop, to avoid the voltage checking difference/ error, make sure the battery pack is disconnected from the load, and observe the reading 30 seconds later the disconnection.

Data display refresh rate may drops in low temperature environment. This is normal because of the LCD panel characteristics.

Although it is a device with ultra low power consumption, make sure disconnect the battery after use to void over discharge/ damage to the battery.



## How to use:

### 1, Normal voltage check:

Connect the battery to the CellDIAG after the battery pack is unloaded for at least 30 seconds. To connect the battery balancing port to the CellDIAG, always use the pin 1 on the CellDIAG, and make sure the negative pin of the battery balancing port is connected to pin 1. For example, if a 3 cell Li-Po pack need to be measured, connect the battery to pin 1~4, and the negative pin on the balancing port is connected to pin 1; if it is a 5 cell Li-Po pack, then connect the battery to pin 1~6, and the negative on the balancing port must be connected to pin 1. Read the voltage on the display.

**2. Lowest voltage recording:**

The voltage of a battery will increased slightly when the load is removed. Due to the battery internal resistant, we can't figure out the condition of a battery pack from the voltage reading when unloaded. The voltage might increases to about a same level regardless of the battery condition. The Lowest voltage recording Function is designed for the purpose of recording the lowest voltage when the battery is loaded though out the flight. Hence the condition of the battery pack can be understood according to the percentage of the voltage drop.

1. Install the battery on your model, and connect the battery pack to the CellDIAG. Mount the CellDIAG on the plane.
2. After the CellDIAG is initialized, press the button S1 for not less than 4 seconds until "HOLD" appears on the bottom-right of the screen, which indicates the lowest voltage capturing (LVC) mode is enabled. The lowest voltage of each cell will be renewed when a lower voltage is triggered during the flight.
3. The lowest voltage can be observed when the model is landed. And you may exit LVC mode and return to normal voltage display by pressing the S1 button for not less than 4 seconds.



**3. Voltage measurement trimming:**

Voltage drift can be happened after long time of use, so adjustment of voltage is very important to keep the good accuracy of voltage measurement.

1. Press both S1, S2 button simultaneously, and connect the CellDIAG with the battery. Continue to hold the two buttons for 1 second after the connection. The CellDIAG enters voltage measurement trimming mode (VMT) as per shown on the right
2. You can use the two bottoms to adjust the reading of the highlighted voltage value for each of the battery cells. Pressing the S1 to increase the value, and press the S2 to decrease the value. For example the displayed in the above figure is adjusting voltage of the first cell, which is connected to pin 1 and pin 2. You may press the S1 to increase 39873 (means 3.9873V) to 39874 and so on, or press the S2 to decrease 39873 to 39872.
3. Press S1 and S2 simultaneously to jump to the next voltage reading of the battery cell, which is connected between pin 2 and 3 in this case.



4. Repeat the step 2 and 3 until all 4 cell voltages (CellDIAG X4) or all 6 cell voltages (CellDIAG X6) is done. It is recommended to apply 4 cell battery pack (CellDIAG X4) or 6 cell battery pack (CellDIAG X6) to perform the VMT, so that all readings can be adjusted. During the VMT, is it suggested to adjust the value according to a voltage measuring instrument to minimize the error, such as a good quality multi-meter.

