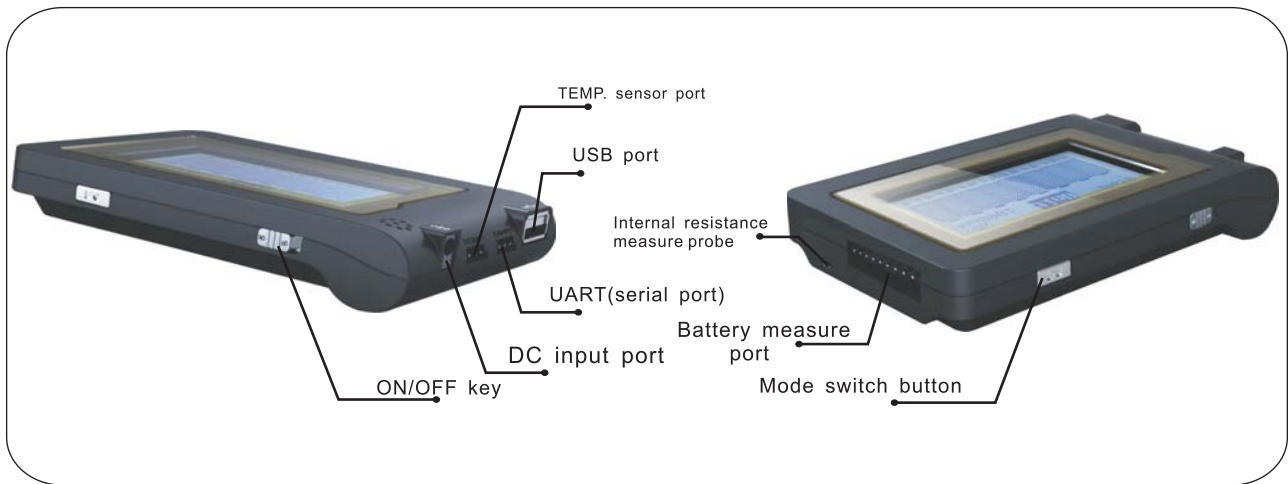# 4 in 1 Monitor Manual
Ver 1.0

Special Features:

Thanks for purchasing this 4 in 1 monitor , this portable product is designed for the users to monitor the charging/discharging process in the filed.

1. It can collect the data during the charger working and then draw a graph of the running of the voltage and current during the charging/discharging process,accurately monitor the individual voltage to show you if they are balanced.

2. It can also measure the individual voltage of the battery packs(up to 8S),with the accuracy of ± 0.01V.

3. It has a temperature sensor port, so it can still measure the temperature by use a probe via this port when the tempertature sensor port of the charger is busy.

4. An additional internal resistance measurement function can help the users to preliminary choose the batteries. Due to the I.R.is difference with the different voltage/current, so this is only a reference value, with accuracy of ± 5%.

Parameter:

1. Dimension:105*70*20mm
2. Weight：110g
3. LCD:128*64
4. USB port(serial port Customized)
5. 8-channel battery measure port,can measure 1~8S lithium battery
6. It has a temperature sensor port,its measure range is 0-100℃, tolerance:±1℃
7. It has a DC internal resistance port to measure the battery's internal resistance at the state of 2A, 4A and 1KHz.
8. Over voltage and reverse polarity protect function
9. With built-in 1200mAh lipo battery,it can work for continuously more than 10 hours
10. Standby power consumption :<2mA
11. It can accept a variety of ways to charge the built-in battery
12. It can accept the EV-PEAK、E-STATION、IMAX、G.T and such kinds of rc balance charger.and can also accept some other kinds of chargers by the OEM customer's request,such as Thunder power、Hyperion、Robbe、Triton , etc.

Configuration

Charge and storage

This monitor has a built-in LiPo battery of 1200mAh.you need to charge it before use.please use the enclosed charger or 5V/1A regulated DC power supply.

Operating and function instruction:

This monitor has 5 working modes:

1. standby mode
2. monitor mode
3. Voltage measure mode
4. internal resistance measure mode
5. power off mode.

1.Power on and stand by mode:

Turn the 【ON/OFF】 key to the ON position to enter into the power on mode.It will enter into the standby mode automatically if without any operation for more than 1 minute,this can extend the use time of the internal battery.It can also uphold for max. 1000 hours in the standby mode after full charge the internal battery.

2. monitor mode:

a. In the power on mode or standby status,connect the monitor and charger by the USB data cable , the Monitor will detect the co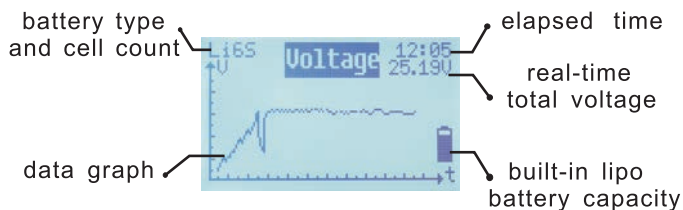nnection and will beep after signal handshaking succeed-ed. Please follow the picture to connect. ***If use the series port,please connect the charger and series port by 3-pin dubond thread**
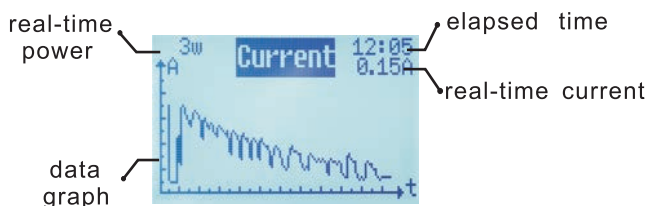
b. 5 seconds later,the Monitor will collect the data and show a graph of the movement of voltage,current and capacity.press 【M】 key to cyclic switch the menu
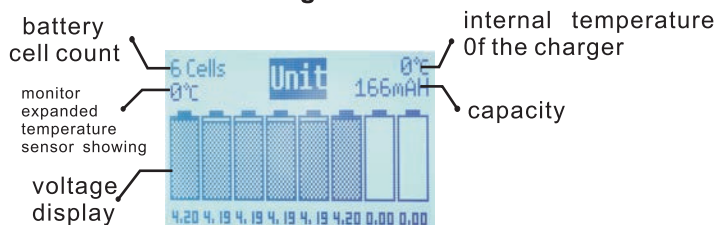
c. Menu description

Voltage graph menu

battery type and cell count — elapsed time

real-time total voltage

data graph — built-in lipo battery capacity

Current graph menu

real-time power — elapsed time

real-time current

data graph

Unit voltage menu

battery cell count — internal temperature 0f the charger
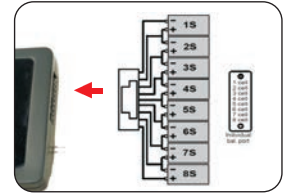
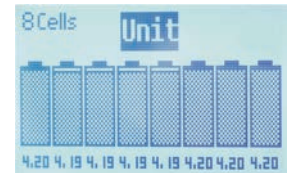monitor expanded temperature sensor showing

capacity

voltage display

3.Voltage measure mode:

In the power off mode or power on mode,insert the battery connector into the battery measure port. Please follow the sequence of the indicated picture,make sure to avoid wrong connecting or reversed polarity.
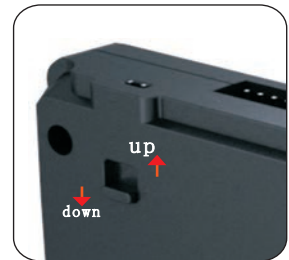
Then it will enter into the voltage measure mode automatically.it can measure 1~ 8S lithium battery. Please follow the connection indicated picture on right:
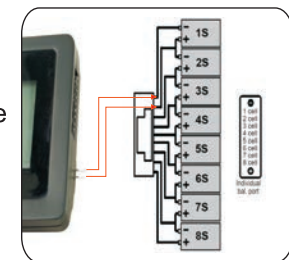
4.internal resistance mode:

When power on,press 【M】 button for more than 3 second to enter into the internal resistance measure mode,then push out the probe

Insert the probe into the battery connector,2 seconds later,it will start to measure the internal resistance and display.Due to the big effect from the connection of battery,please ensure to good connect the battery and the monitor.For detailed operating direction please see the picture

Error and warning message

【Notice】 Due to the limit of the volume,this monitor adopt the DC method of internal resistance measurement, please make sure to connect the monitor and battery well,then the accuracy can be kept within 5%.
This function is an additional gain-of function,only for your reference to choose the battery.If you need more accurately,please use the professional measuring instruments.

5. Power off mode:

Turn the 【ON/OFF】 key to the OFF position to enter the power-off state.