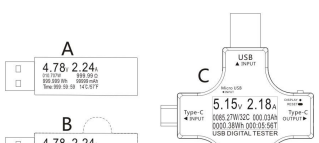
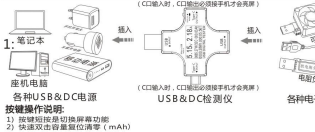
USB 电能监测仪

（使用说明书-通用版）



本品用以给手机充电时电参数监测显示，以及玩测各种充电器功率、移动电源容量等各种USB设备

产品连接应用:



按键操作说明:

1) 按键短按是切换屏幕功能
2) 快速双击容量复位清零（mAh）
3) 快速三击电量复位清零（Wh）
4) 快速四击累计时复位清零当前项目（00:00:00）
5) 快速五击是把换累计数据存储组号（NO.X）
6) 按键长按是启动、调整光标每片刻显示OK字样表低白动保存数值，再继续梅等片刻显示OK字样表低白动保存数值，再继续梅等片刻显示OK字样表低白动保存数值，并是显给手机充电时电流值。所以不同的负载有不同的电流值，实际要提高或降定律来计算电流值，而在给手机等设备充电时，手机在不同状态和不同时段的充电电流值是波动变化的，U表只显示实际流过的电流值，并非部分用户看到U表测试显示值和标称电流值不一样就怀疑U表的电流测量显示准确性。

负载电流大小的选择遵循物理学欧姆定律计算公式：

电压(伏特) / 电阻(欧姆) = 电流(安培)

敬告本表内部几根电线直通不影响任何快充协议传输,偶然个别因插入损耗原因造成不能识别低压大电流快充模式,是属于正常此时需要联系在线客服讨论解决方案

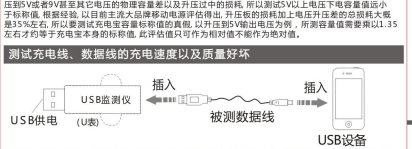
测试移动电源的容量电量方法以及技巧

首先把的充电宝把电充满, 然后插上本表, 此时通过按键把容量电量清零, 然后插

上连接图上的电子负载或者手机开始对充电宝放电, 直到把充电宝电量耗尽, 本表再上电就可以读取到累计容量与电量值, 这就是此充电宝的容量和电量大约值, 由于本表内部有断电记忆功能, 所以放电过程中可以一次放电完成, 也可以分多次放电, 直到充电宝电量耗尽后再查看容量值。

温馨提示: 由于目前市面上充电宝的标称的容量值绝大部分标注的是机内的电芯值, 而在从3.7V电芯升压到5V或者9V甚至其它电压的物理容量差以及升压过中的损耗, 所以测试5V以上压下电容量值远小于标称值, 根据经验, 以目前主流大品牌移动电源评估得出, 升压板的损耗加上电压升压差的总损耗大概是35%左右, 所以要测试充电宝容量标称值的真假, 以并压到5V输出电压为例，所测容量值需要乘以1.35左右才约等于充电宝本身的标称值, 此评估值只可作为相对值不能作为绝对值。

测试充电线、数据线的充电速度以及质量好坏



1)按上图连接, 在供电和负载不变情况下, 更换不同的数据线, U表显示电流越大数据线质量越好, 充电速度越快

2)按上图连接, 在供电和负载不变情况下, 更换不同的数据线, U表显示电流越高数据线压降越小, 质量越好

USB电能监测仪

USB power monitor

执行标准: GB/T 12116-2012

保 修 卡

Warranty card

尊敬的用户

感谢您购买本公司的安全充电监测仪器，本公司所有产品均享受15天包换，6个月保修的售后服务政策，为了确保您的合法利益，请详细阅读本保修卡并妥善保管。

使用说明

1.在保修卡作为本公司产品保修的唯一凭证
2.产品自售出之日起15天内, 如发生性能故障, 产品本身及包装完整, 无划伤, 即可更换同型号的产品 (人为因素除外)
3.产品自出售之日起6个月内，如发生性能故障，可享受有偿保修服务
4.超出产品保修期的不在保修范围内
5.配件不在保修范围内
6.非工作人员自行拆机的不在保修范围内
7.未能提供保修卡的不在保修范围内

保修记录

Warranty record

产品型号 Model	购买日期 Date of Purchase
保修内容 Warranties	维修日期 Warranty Date

合格证

Certificate

出厂日期 Date of manufacture:

检验员 Inspector: 1-01

品名: 数字电能监测仪 型号: USB Meter
品牌商: 深圳市恒玛科技有限公司
电话: 0755-29556887
生产商: 东莞市嘉科电子科技有限公司
地址: 东莞市清溪镇三中社区桥头路79号
执行标准: GB/T 12116-2012

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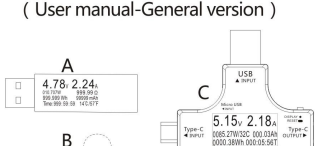
USB Power Tester

（User manual-General version）



This product is used to charge their phone when parameter monitoring, according to and play all kinds of charger, mobile power supply capacity measurement and other USB devices

Products connecting applications:

Variety USB&DC Power　　USB&DC Detector (main interface)　　Various electronic load or other equipment

The keys operation introduction:

1. Click the key to switch the screen function
2. Quick double-click capacity reset zero (mAh)
3. Quick three-click power reset to zero (Wh)
4. Quick Four-click is timing reset to zero the current group (00:00:00)
5. Quick Five-click is to change the cumulative data storage group number (NO.X)
6.The key is long press capacity, electricity, time all reset zero current group (mAh, Wh, 00:00:00)
7. When pressing the System Settings interface, press and hold the key to enter setting. Press again to switch the setting column.Press and hold again when you are in a certain column Is to execute this column. When the value of the execution column jumps and flickers, double click is to adjust the addition, click is to adjust the subtraction, and the duration of addition or subtraction adjustment is Continuous addition or subtraction. After adjustment, the system will automatically save the value after a moment, and then continue to wait for a moment and automatically exit the setting interface
8. When short press to the curve interface, long press the button to switch to refresh the curve update speed 0.5S 1S 2S 5S several gears, the button is fast Double - click to stop and continue
9. In the Display off screen interface, long press the key to enter the background mode
10. When in the background mode, press the button short to the second item and then long press It to clear the current to zero for calibration in no-load.

Tips: When the ambient temperature changes or the outside heat conduction to tester causes the current to not return to zero and the display shows 0.01A or 0.02A or otherwise,Please when operating at close to the screen, then long button press is to enter the background model, and then short button press into the second section, the output does not connect any load, and then put the reset button long-press is current, to ensure that can in no-load current in 0.00 A more precise measurement

How to test PD charger(Why Type-C input instrument does not display):

Because PD charger (USB-C) has its own PD protocol, if you don't connect a mobile phone with PD protocol, the PD protocol cannot be triggered, and the PD charger cannot work normally, so you need to connect the mobile phone to test, and its protocol works normally !
So:The input is connected to the PD charger, the output is connected to the mobile phone

TYPE-C output is not connected, Meter not display　　Type-C ouput Correct connection, Meter display

Test of mobile power supply capacity of power method and skill:

The charging treasure the electricity first, and then plug in the table, the capacity of power through the button to reset, and then plug in the electronic load on the connection diagram or cell phone to charge treasure to discharge, until the rechargeable battery, it is again electrify can read into the total capacity and the power value, this is the charge of capacity and power about value, because it is the internal power off memory function, so it can be a complete discharge, discharge process can also be multiple discharge, check again until after the treasure to battery charging capacity value.

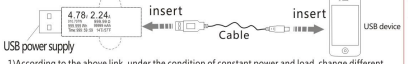
Test the charger of the maximum output current method:

Connected in figure 1, change the load size make current increase voltage is reduced to the charger nominal voltage instantaneous, when the current value is the charger can output the maximum current value; To change the load to the charger aged 2 ~ 6 hours, nominal current value of discharge current voltage stability in the process of aging, the temperature of the charger is less than 50 degrees or so, explain this charger nominal current realistic, no empty mark, can satisfy the charging speed, on the contrary, if the voltage is reduced, current value difference is too big or too hot, even U watch alarm flashing and no output, measured charger belong to the current standard, quality inferior performance, this method also adapt to all USB output current test methods.

Tips: some users of the failure to understand the current nominal value is the output of the charger when the maximum load of the maximum output current value, is not for mobile phone charging current value, so the different load current value, actual should follow ohm's law to calculate the current value, and in the devices such as mobile phone, mobile phone in different status and at different times of the charging electric current curve is fluctuation change, U table only show the actual flow of current value, is not part of the user see U table testing is not the same as the display value and the nominal current value will doubt U table shows the accuracy of current measurement.

Test of charging line and data line charging speed and quality

1)According to the above link, under the condition of constant power and load, change different cable, U table shows the better the quality, the greater the current cable charging speed is faster



2)According to the above link, under the condition of constant power and load, change different cable, U table shows that the higher the voltage data line pressure drop is smaller, the better the quality

The output current zero calibration, the button long-press said is the output Load current, when the item in color shown in Ref 2 A, output by constant current Load meter after 2 A constant current, long press again, said current calibrated once in 2 A, the last is Reset to restore factory Settings

Test the USB of voltage, current, power, power, current time

Connection after electrify to drawing, can be displayed real-time monitoring through the USB line power battery capacity and voltage current flows through the current accumulation of information such as time, in the process of electricity through the short button press screen switching, long press the screen rotation, rapid double-clicking capacity mAH, three quick blow power Wh, four quick blow zero time,five quick blow capacity battery time all reset at a time.

Warm prompt: this time show U table refers to > 0.5 W power do timing calculation, if < 0.5 Wthe system do not calculate time accumulated, only in this way can judge charging time, please know.

Performance parameters:

Voltage measuring range: 3.80 V to 32.00 V
Current measuring range: 0.00 ~ 5.10 A Max:6.5A
Cumulative capacity range: 0 ~ 99999 mah
Power cumulative range: 0 ~ 999.99 Wh
Power metering range: 000.00 ~ 163.00 W
Temperature measurement range: 0 ~ 80 ℃
Timing maximum time: 999 hours, 59 M 59 S
USB D + voltage range: 0 V to 2.99 V
USB D - voltage range: 0 V to 2.99 V
Time to refresh: > 500 ms/times
Measurement rate: 0.5/second
Since the power flow: < 0.025 A
Working temperature: - 10 ~ + 60 ℃
Working humidity: 10 ~ 80 (no doubt)
The pressure of work: 80 ~ 106 kpa
Product size: 67 mm * 24 mm * 15 mm

Bluetooth connection (this part is used for Bluetooth version):

Bluetooth version: Search for E_test in the Apple app or scan the Android code to download and install it, then click the icon to open the APP, then click the Bluetooth icon in the upper left corner of the interface to enter the list and display the E-test_BLE model, and then click the model toautomatically return to the main interface of the APP. At this time, the bluetooth icon of the host changes from the original gray to blue and you hear the beeping sound of the speaker, which means that the connection to the computeris successful, and the data starts to be transmitted and displayed synchronously.

Warning: If the model E_test_BLE cannot be displayed after clicking the Bluetooth icon in the upper left corner of the APP interface, please enter your mobile phone settings to open the storage permission and location information options of this APP! After these two items are fully turned on, return to the APP interface and then enter to display the model correctly.