数控直流稳压电源使用说明

Instructions for use of numerical control DC stabilized voltage power supply

English Instruction Manual

中文说明书

数控直流稳压电源使用说明

产品型号 WZ6012

修订时间 **2021/10/08**

版本号 **V1.0**

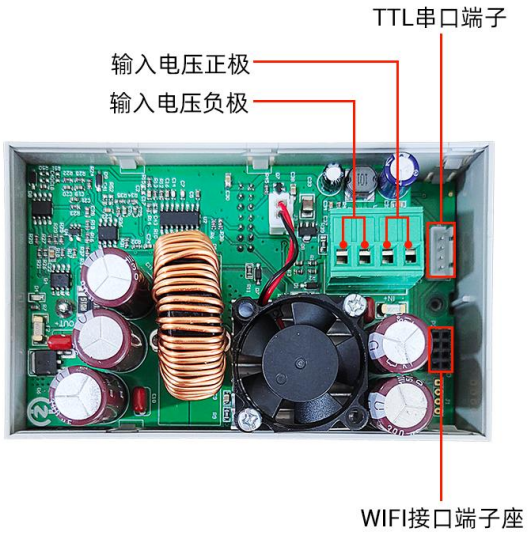
注：为了更好的了解和使用本产品的全部功能，获得好的用户体验，请仔细阅读本产品的说明书，避免误操作。

目录

1.1 操作面板说明

1.1.1 前面板

1.1.2 后面板

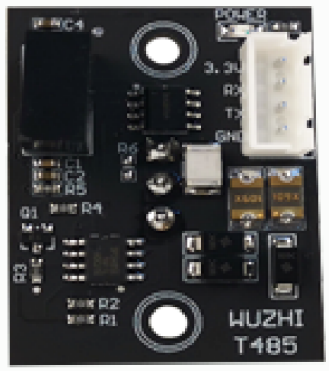


注意事项：

电源输入接口必须严格接入9-70V的稳压直流电(切勿接入交流电或超过电压范围的电源。否则会烧毁本产品！)，当电流或功率或温度过高时，风扇打开，否则关闭，当温度高于 80 度时显示 OTP 并关闭输出。通讯端口为专用接口，请勿接别的模块或设备。WIFI 模块和 USB 模块、RS485 模块为选配，需要请另行购买。

WIFI通信模块x1(选配)

USB转TTL模块x1(选配)



RS485转TTL模块(选配)

1.2 产品技术指标

产品型号	WZ6012	屏幕显示	1.8寸彩色液晶
输入电压范围	9-70.00V	输入电压分辨率	0.01V
输出电压范围	0-60.00V	输出电压分辨率	0.01V
输出电流范围	0-12.00A	输出电流分辨率	0.01A
输出功率范围	0-720.0W	输入电压精度	±(1%+5个字)
输出电压精度	±(0.3%+3个字)	输出电流精度	±(0.5%+5个字)
输出纹波典型值	200mV峰峰值	正常工作温度范围	-10℃~40℃
统计时间范围	0-100小时(单位S)	能量测量范围	0-9999.99WH
容量测量范围	0-9999.99AH	容量能量统计误差	±2%
屏幕亮度	0-6共7级	降压工作模式	压差>0.05%+1V
含包装重量	约 384g	产品尺寸	120*74*35mm

1.3 产品核心功能

1.8 寸高清彩屏显示	安卓 APP/PC 上位机
4 组快捷存储调用	多种显示界面
扩展外接 USB/RS485/WIFI	一体化面板，方便装配
多重防护	

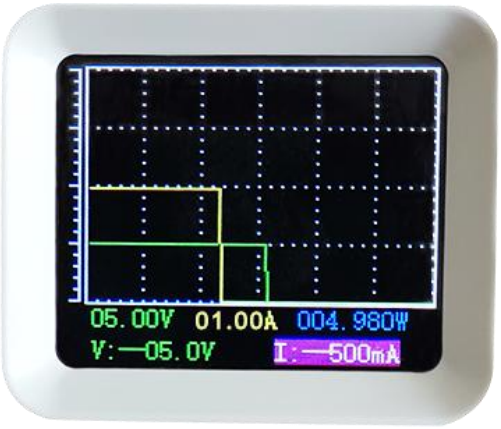
1.4 操作说明

上电后，如果菜单里面设置的是 WIFI 模式，先连接 WIFI 服务器，再显示开机界面，否则直接显示开机界面，然后进入主界面。

1.4.1 主界面

数据显示界面

统计界面



曲线界面

1.4.2 使用说明

菜单操作中，红色阴影处为当前选中菜单，绿色为未选中状态，按方向键移动光标或切换菜单，选中后按 OK 键确认。

按上或下方向键可以切换数据显示或统计界面。

1.4.2.1 主界面电压电流设置、保护设置

电压设置：按下电压设置键V-SET，电压设置被选中(曲线显示界面设置会自动跳出)，设置选中位反红显示，左右按键移位，转动旋转编码器顺时针加，逆时针减。设定完成，按OK LOCK键、V-SET

或其它设置按键，退出并保存设置值。

电流设置：按下电流设置键I-SET，电流设置被选中(曲线显示界面设置会自动跳出)，设置选中位反红显示，左右按键移位，转动旋转编码器顺时针加，逆时针减。设定完成，按OK LOCK键、I-SET或其它设置按键，退出并保存设置值。

过压保护设置：按下保护设置键P-SET，过压保护设置被选中(曲线显示界面设置会自动跳出)，设置选中位反红显示，左右按键移位，转动旋转编码器顺时针加，逆时针减。设定完成，按OK LOCK键、P-SET或其它设置按键，退出并保存设置值。

过流保护设置：按下保护设置键P-SET，过压保护设置被选中(曲线显示界面设置会自动跳出)，再按下保护设置键P-SET，过流保护设置被选中，设置选中位反红显示，左右按键移位，转动旋转编码器顺时针加，逆时针减。设定完成，按OK LOCK键、P-SET或其它设置按键，退出并保存设置值。

1.4.2.2 快捷存储和调出

长按上左下右 4 个方向键，调出 M1、M2、M3、M4。设置当前输出电压、输出电流、过压保护、过流保护值，设置完自动存储。

1.4.2.3 按键锁定解锁

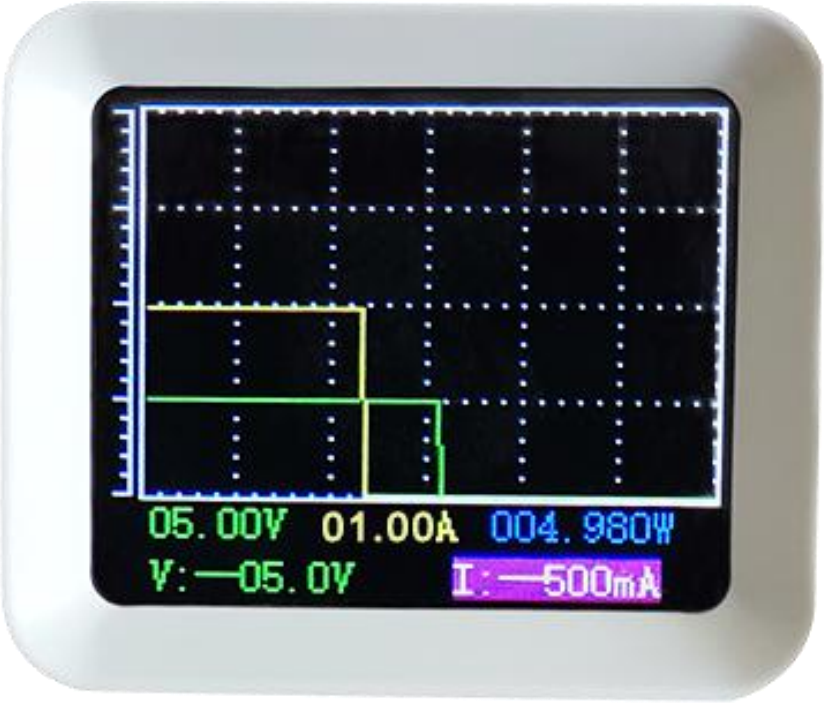
长按 

键 2S 以上，可以手动锁定或者解锁键盘。

在通信状态下，通信状态标志变为绿色，此时按键也自动被锁定，通信断开，标志位变成白色，自动解锁。

1.4.2.4 曲线显示界面刻度调节

在曲线显示界面，坐标轴刻度值大小根据每格刻度决定。在下方默认选中电压刻度设置，按左右方向键更改选中设置对象，设置值反红显示，转动旋转编码器改变每刻度大小。



1.4.2.5 系统设置

按动旋转编码器按键 MENU，进入系统设置菜单界面。

按动方向键选择设置选项，红色反显处为选中位置，旋转编码电位器改变设置。

1)调整主显界面，可以选择数字经典界面或曲线显示界面。

2)设备地址可以从 1-255 之间设置。

3)通信接口可以设置为 COM 或 WIFI 接口。COM 口为后部接 RS485、USB 模块的接口，选中后显示COM；WIFI 口为接 WIFI 模块的接口，选中后通信图标为WIFI；通信状态下都变为绿色。

4) COM 接口通信速率可以设置为 9600，19200，38400,57600,115200，WIFI 下通信速率固定为 115200。

5) 系统语言可以设置为简体中文、英文。

6) 打开开机输出时，开机后自动打开输出，关闭时，开机后电源输出处于关闭状态。

7)打开调出输出后，快捷调出后会自动打开输出，关闭后，快捷调出时会自动关闭。

8)打开按键声音后，按动按键蜂鸣器提示，关闭后按动按键为静音状态。

9)打开开机图片后，开机先显示开机 logo 图片然后进入主界面，关闭后直接进入主界面。

10)可以设置为 0-6 共七级亮度。

11)系统校零确定后会打开对话框，当系统长期使用有小电流时执行此操作。左右按键选择确认或取消，按确定键退出。

12) 恢复出厂确定后会打开对话框，当使用过程中出现异常时可执行此操作，恢复出厂设置。左右按键选择确认或取消，按确定键退出。

13)系统版本显示当前系统系统版本号。

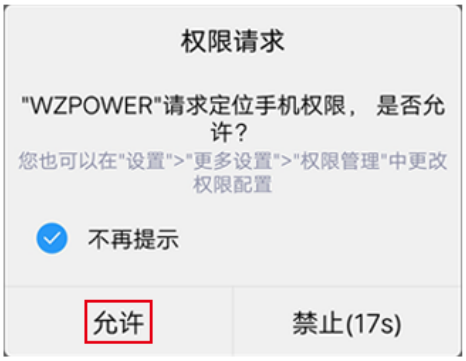
WiFi版电源安卓手机APP使用说明

1.手机APP扫码下载安装

2.安装时注意

本软件仅支持Android5.1及以上系统使用，安装过程中会申请定位服务或者要获取手机权限，不同的手机系统版本会略有不同。请同意并打开定位服务或者允许权限请求。

如图,请选择允许



安装完成后手机APP图标如图：

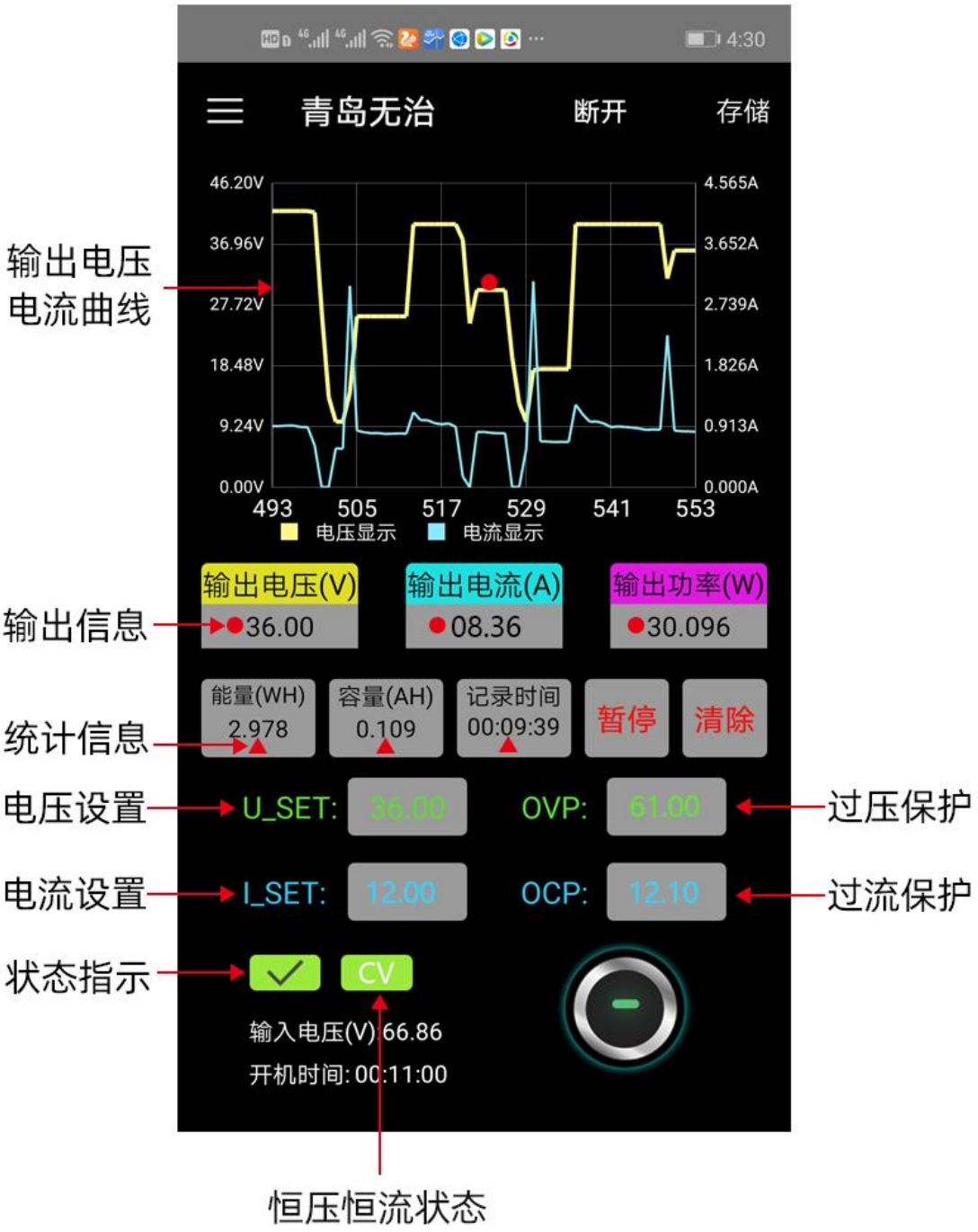
2.1软件更新

点击APP图标，APP启动后，系统会自动后台检测APP版本是否有更新，如果有,新版本会弹框提醒更新。

2.2 APP界面显示

2.2.1启动完成后，APP主界面显示如下图：

2.2.2连接后，APP主界面显示如下图：

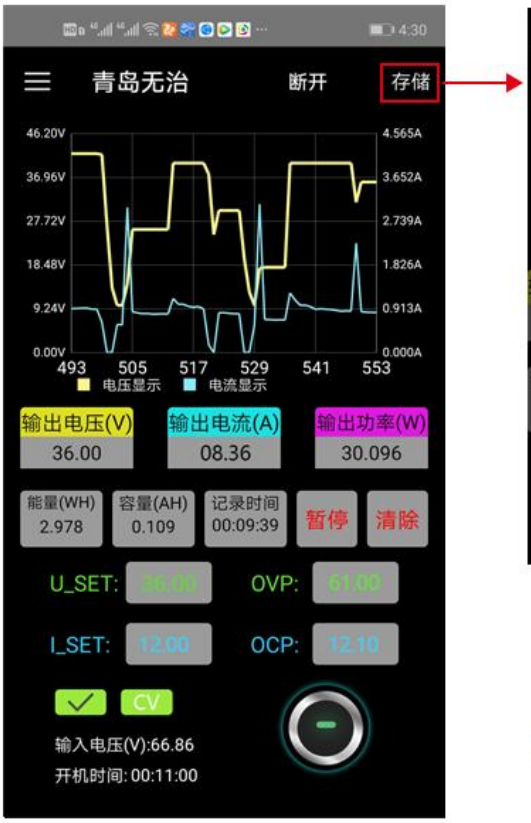


点击菜单图标，打开侧滑界面，点击地址选择，操作如图

2.2.3点击地址选择，APP主界面显示如下图：

侧滑界面中的语言选项和关于选项操作和地址选择类似，点击进入界面进行操作。

2.2.4点击存储,手机APP弹出选择打开方式,如下图:

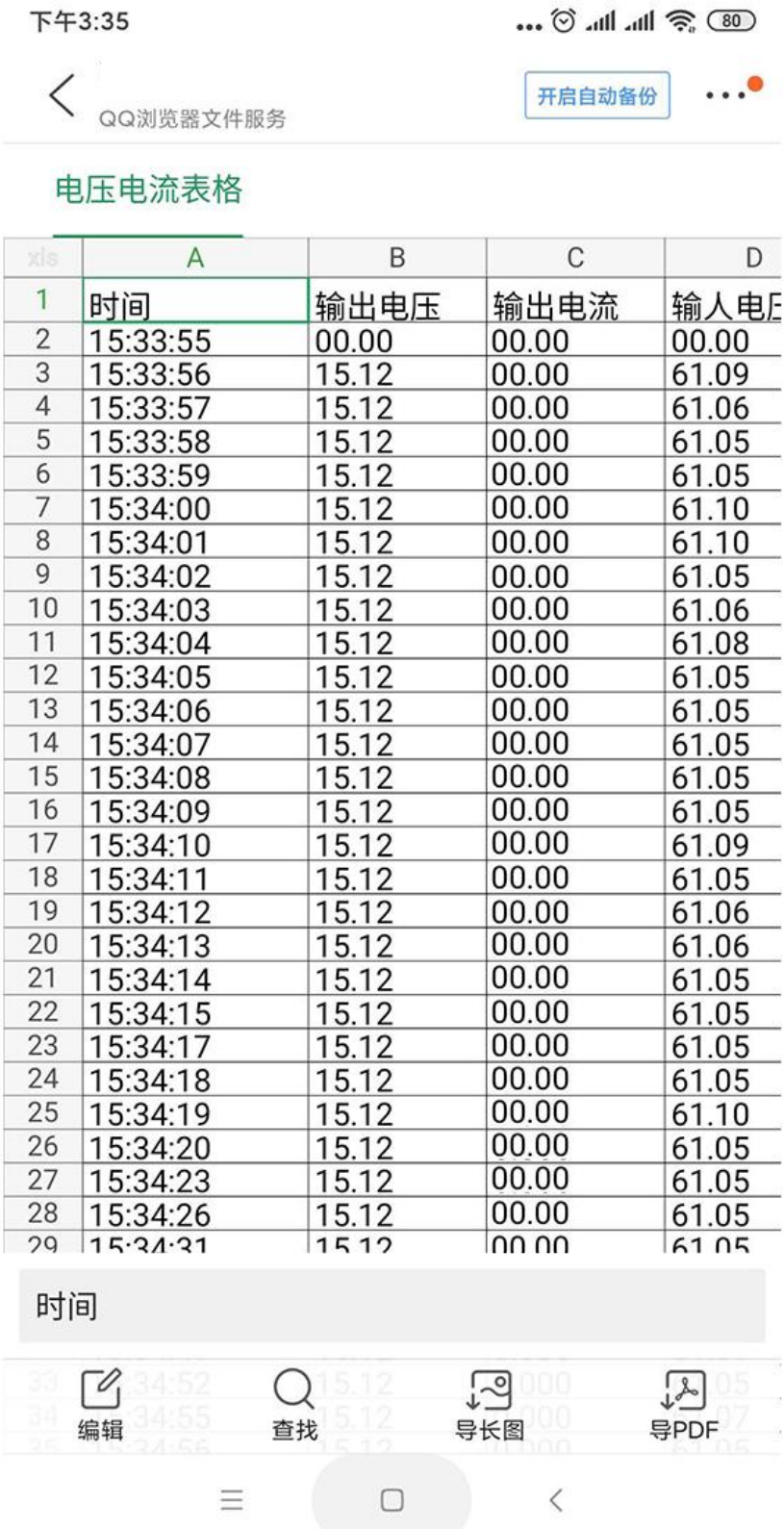


上图为Android版本6.0.1显示

★★★
打开方式仅作为举例说明,不同手机显示不同,选择您想用的方式打开数据表格。

上图为小米手机Android版本9显示

点击选择打开方式后，打开存储的数据表格,如下图:



3.APP的使用

3.1打开WZ6012，设置WZ6012通信接口为WiFi，WZ6012界面显示如下:

★★注意:设置好通信接口为WiFi后，需要把WZ6012重新开机一下！重启后WZ6012界面显示如下:

这里需要注意，要先把 APP 打开，再开启电源模块 WZ6012 设置电源模块 WZ6012 的通信接口模式，APP 只在 WIFI 模式下进行使用。具体操作如上图

3.2 打开APP智能配网

智能配网步骤:参见下面图片标注

第1步:点击智能配网。(图①)

第2步:出现图②界面,先不要下一步操作，等WZ6012显示IP地址(图③)界面时,再点击图②下一步。

第3步:显示图④界面,输入WiFi密码,点击确认。

第4步:图⑤界面稍等片刻,显示图⑥界面时,点击确定。

第5步:图⑦ 界面,点击返回箭头,返回主界面如图⑧, 配网完成。

第6步:点击连接按钮， 图⑧所示

★★如果图③不显示IP地址，请再次打开配网选项执行一次。

接上页 APP 配网操作步骤中的第 5 步，第 6 步操作演示。

注意事项：

1.手机APP第一次连接设备需要智能配网,如果配网失败，请给电源断电，重新操作一次。如果配网成功,下次打开APP会自动连接,直接点击连接按钮即可，不需要重新配网。如果更换手机或者手机IP地址改变,需要重置重新智能配网。

2.电源模块启动后,会先连接WiFi，然后检测手机APP是否能连通，如果未连通，确保手机APP打开的情况下可重新开机连接。锁屏或APP后台运行时,可能会无法连接。如果手机的IP地址发生变更需要先按左键然后按OK键重置网络，再次执行智能配网过程。

3.安卓手机种类繁多，系统版本不同，不同品牌或者同一品牌不同分辨率的屏幕UI界面显示可能不太一样。

4.手机APP权限要求,除了允许程序安装时的必要权限,在安装完毕后还要在手机中设置程序的权限:如锁屏时不清理,允许后台运行,允许自启动等,防止系统在APP持续记录数据时强制退出APP。

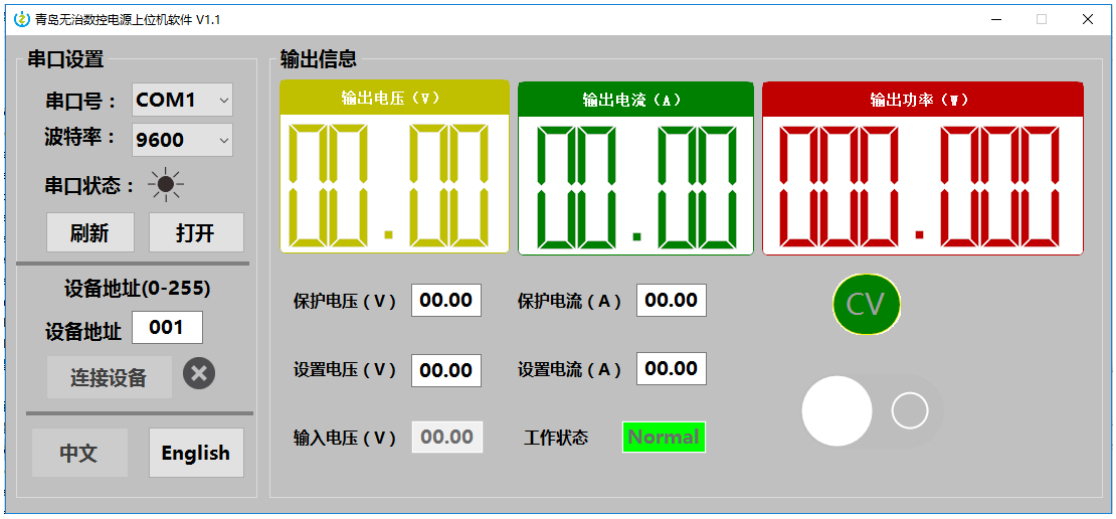
上位机软件的安装使用说明

安装软件需求：win7 以及以上系统，需要安装有 Net framework4 或以上版本，电脑没有的话，请自行安装。

本软件由本公司开发，不带有病毒，如果杀毒软件提示请允许它的所有功能，否则会影响软件的正常运行。

打开资料包软件，双击图标 

，打开软件。



通过 USB 数据线或 USB 转 RS485，连接带有 USB 或 RS485 模块的设备。选择好通讯端口号，点击打开，成功后指示灯变成红色。然后选择好设备地址，点击连接设备，成功后指示状态变为绿色。软件和设备建立连接进行实时通讯。

通过软件可以简单的设置输出电压、输出电流、保护电压、过流保护以及输出开关。显示当前输出电压、输出电流、输出功率、工作状态等。

附录 1 通讯协议

帧格式命令：帧的长度为20,格式如下：

同步头	电源地址	命令字	4—19 字节为相关信息内容	校验码

当设备接收到一帧设置命令时，将对这帧命令校验。若校验和错误，则返回参数90H;
若设置参数错误或参数溢出，则返回参数AOH；若命令不能被执行，则返回参数BOH;
若命令是无效的，则返回参数COH；若命令是未知的，则返回参数DOH；否则，返回参数80H。

当负载接收到一帧读命令时，将对这帧命令校验：若校验和正确，则返回相应的被读取的数据。若校验和错误，则返回校验命令（90H）。

命令字	寄存器	内容
0x20	1	设置操作模式（0 为面板操作模式，1 为远程操作模式）
0x21	1	设置新通讯地址(1~255)
0x22	1	设置 电源输出状态（0 为输出OFF，1 为输出ON）
0x71	1	设置时间容量能量统计运行状态 0 暂停 1运行
0x72	1	清空时间容量能量统计
0x23	1	读取 当前电源输出状态（（0 为输出OFF，1 为输出ON）
	2	读取 当前工作状态（0 - CV模式 1 -CC模式）
	3	读取 当前系统状态（0 - 正常 1 -过压 2 - 过流 3 - 过温度 4 - 输入欠压）
0x24 读取产品信息	1	读取产品型号
	2	读取产品版本高字节
	3	读取产品版本低字节
	4	读取出厂编号的高字节
	5	读取出厂编号的次高字节
	6	读取出厂编号的次低字节
	7	读取出厂编号的低字节
0x25/0x26 读取和设置系统参数	1	设备地址
	2	开机界面（0无 1无治）
	3	开机默认输出（0无 1有）
	4	声音标志位 0关闭按键声音 1打开按键声音
	5	背光亮度 0-6
	6	语言 0简体中文 1英文
	7	通信接口类型 0 TTL 1WIFI 2 蓝牙 3 USB

	8	调出后输出状态 0不输出 1输出
	9	默认界面 0不数字 1曲线 2 电池 3指针仪表
	10	波特率 0 9600 1 19200 2 38400 3 57600 4 115200
0x29 读取当前信息	1	读取当前输入电压值的高字节
	2	读取当前输入电压值的低字节
	3	读取当前输出电压值的高字节
	4	读取当前输出电压值的低字节
	5	读取当前输出电流值的高字节
	6	读取当前输出电流值的低字节
	7	读取当前功率值的高字节
	8	读取当前功率值的次高字节
	9	读取当前功率值的次低字节
	10	读取当前功率值的低字节
0x2A 读取当前信息	1	读取当前时间值的高字节
	2	读取当前时间值的次高字节
	3	读取当前时间值的次低字节
	4	读取当前时间值的低字节
	5	读取当前能量值的高字节
	6	读取当前能量值的次高字节
	7	读取当前能量值的次低字节
	8	读取当前能量值的低字节
	9	读取当前容量值的高字节
	10	读取当前容量值的次高字节
	11	读取当前容量值的次低字节
	12	读取当前容量值的低字节
	13	读取当前温度值的高字节
	14	读取当前温度值的低字节
0x2B/0x2C 读取和设置信息	1	当前保护电压值的高字节
	2	当前保护电压值的低字节
	3	当前保护电流值的高字节
	4	当前保护电流值的低字节
	5	当前设置电压值的高字节
	6	当前设置电压值的低字节
	7	当前设置电流值的高字节
	8	当前设置电流值的低字节
	9	
	10	
	11	
	12	
	13	
	14	

Instructions for the use of CNC dc stabilized power supply

Product model WZ6012

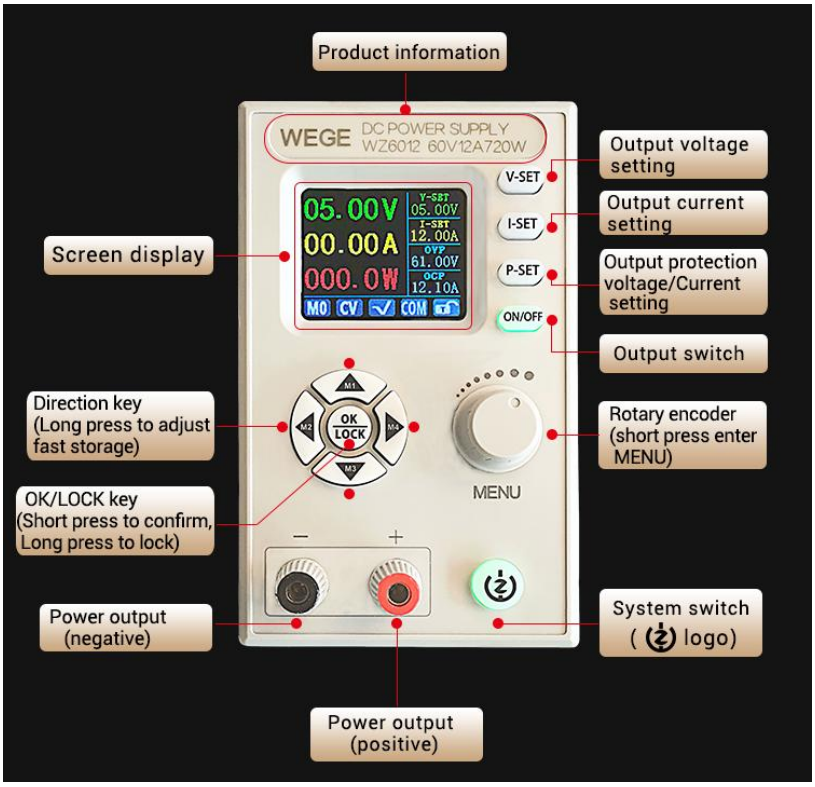
Revision time 2020/10/08

Version No V1.0

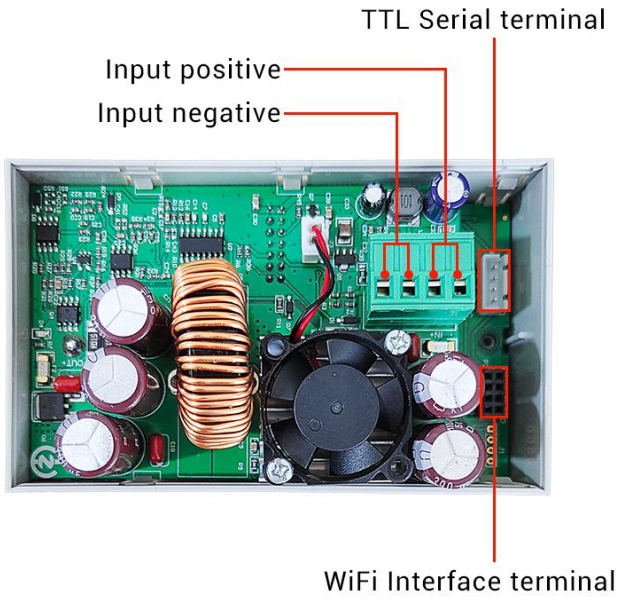
Version No. note: in order to better understand and use all functions of the product and obtain a good user experience, please read the product manual carefully to avoid misoperation.

1.1 Operation panel description

1.1.1 Front Panel



1.1.2 Rear panel



matters needing attention:

The power input interface must be strictly connected to the regulated dc power of 9-70V (do not connect to ac power or power beyond the voltage range. Otherwise the product will be burnt!)When the current or power or temperature is too high, the fan is turned on; otherwise, the fan is turned off. When the temperature is higher than 80 degrees, the OTP is displayed and the output is turned off. The communication port is a special interface, do not connect other modules or devices. WIFI module, USB module and RS485 module are optional, please purchase separately.

1.2 Product technical indicators

Product model	WZ6012	Display	1.8 inch LCD
Input voltage range	9-70.00V	Input voltage resolution	0.01V
Output voltage range	0-60.00V	Output voltage resolution	0.01V
Output current range	0-12.00A	Output current resolution	0.01A
Output power range	0-720.0W	Input voltage accuracy	±(1%+5)
Output voltage accuracy	±(0.3%+3)	Output current accuracy	±(0.5%+5)
Output ripple	200mV	Temperature	-10℃~40℃
Time range	0-100 hour(unit:S)	Energy range	0-9999.99WH
Capacity range	0-9999.99AH	Capacity energy error	±2%
Screen brightness	0-6 7 levels	Differential pressure	>0.05%+1V
Package weight	about 384g	Product Size	120*74*35mm

1.3 Product core functions

1.8-inch HD color display	Android app / PC upper computer
4 groups of quick storage calls	Multiple display interfaces
Extended external USB / RS485/WIFI	Integrated panel for easy assembly
Multiple protection	

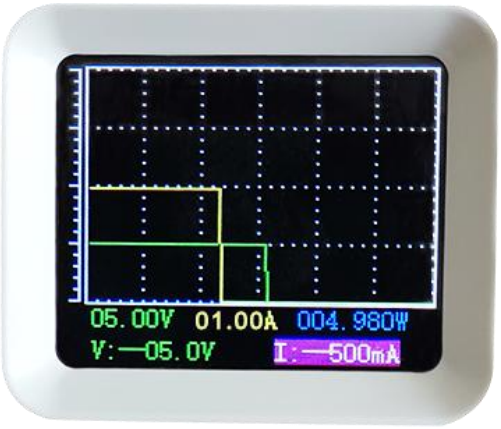
1.4Operating instructions

After power on, if WIFI mode is set in the menu, connect WIFI server first, and then display the power on interface, otherwise directly display the power on interface, and then enter the main interface.

1.4.1 main interface

Data display interface

Statistics interface



Curvilinear interface

1.4.2 instructions

In the menu operation, the red shadow is the currently selected menu, and the blue is not selected. Press the direction key to move the cursor or switch the menu, and then press OK to confirm.

Press up or down direction key to switch data display or statistics interface.

1.4.2.1 Main interface voltage and current settings, protection settings

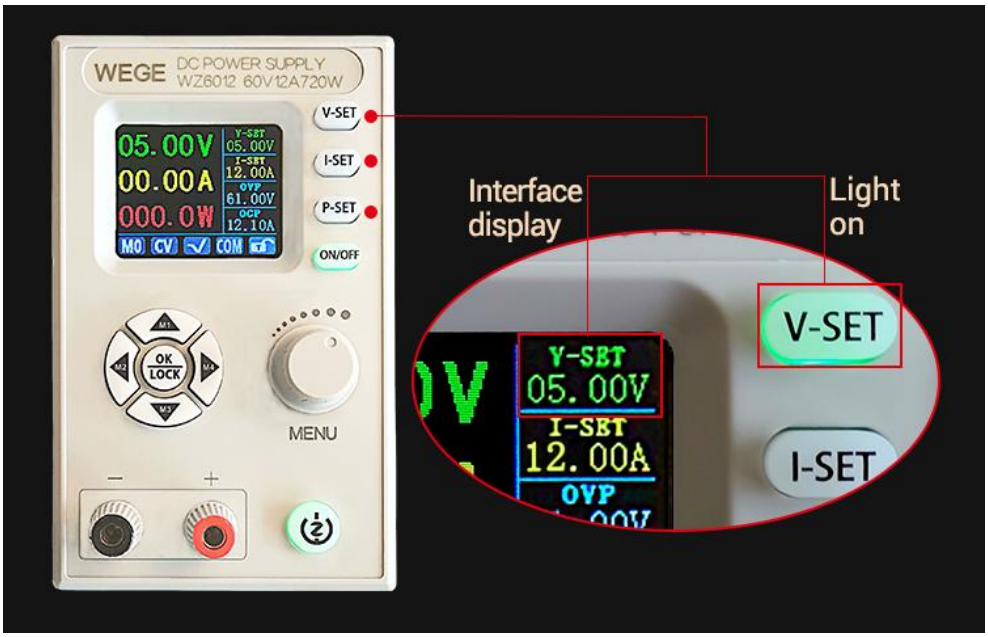
Voltage setting：Press the voltage setting key V-SET，Voltage setting is selected (curve display interface setting will automatically jump out)，Set the selected bit to display in reverse red，Shift left and right buttons，Turn the rotary encoder to increase clockwise and decrease anticlockwise. Setting complete，Press OK LOCK key、V-SET Or other setting buttons, exit and save the setting value.

Current setting：Press the current setting key I-SET，Current setting is selected (curve display interface setting will automatically pop up)，Set the selected bit to display in reverse red，Shift left and right buttons，Rotate the rotary encoder to add clockwise and decrease anticlockwise. Setting complete，Press OK LOCK key、I-SET Or other setting buttons, exit and save the setting value.

Overvoltage protection settings：Press the protection setting key P-SET，Overvoltage protection setting is selected (curve display interface setting will automatically jump out)，Set the selected bit to display in reverse red，Shift the left and right buttons, turn the rotary encoder to increase clockwise and

decrease anticlockwise. Setting complete，Press OK LOCK key、P-SET Or other setting buttons, exit and save the setting value.

Overcurrent protection settings：Press the protection setting key P-SET，Overvoltage protection setting is selected (curve display interface setting will automatically jump out)，Press the protection setting key again P-SET，The overcurrent protection setting is selected, and the selected bit is displayed in reverse red，Shift the left and right buttons, turn the rotary encoder to increase clockwise and decrease anticlockwise. Setting complete，Press OK LOCK key、P-SET Or other setting buttons, exit and save the setting value.



1.4.2.2 Fast storage and recall

Long press up, left and right 4 direction keys to call out M1, M2, m3 and M4. Set the current output voltage, output current, over-voltage protection and over-current protection values, and set the automatic storage.

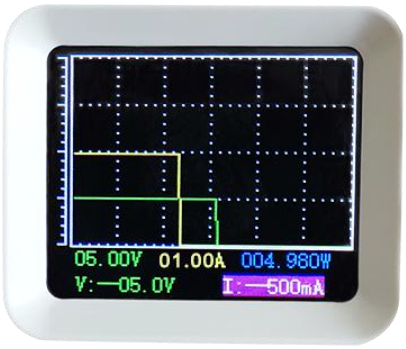
1.4.2.3 Key lock unlock

Long press 

key More than 2S，You can lock or unlock the keyboard manually. In the communication state, the communication status flag turns green, at this time, the key is automatically locked, the communication is disconnected, the flag bit turns white, and the key is automatically unlocked.

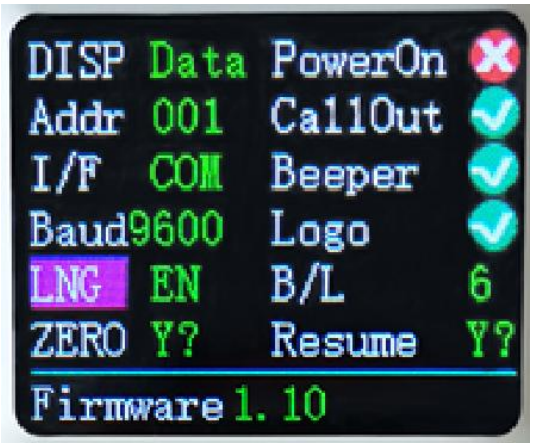
1.4.2.4 Scale adjustment of curve display interface

In the curve display interface, the scale value of coordinate axis is determined by each scale. Select the voltage scale setting by default below, press the left and right direction keys to change the selected setting object, the setting value is displayed in reverse red, and rotate the rotary encoder to change the size of each scale.



1.4.2.5 System settings

Press the rotary encoder key MENU，Enter the system setting menu interface.



Press the direction key to select the setting option. The red reverse display is the selected position. Rotate the encoding potentiometer to change the setting.

1) Adjust the main display interface, and you can choose digital classic interface or curve display interface.

2) The device address can be set from 1-255.

3) The communication interface can be set as COM or WIFI interface. COM port is the interface connecting RS485 and USB module at the rear，Show when selected COM；The WIFI port is the interface connecting to the WIFI module, When selected, the communication icon is WIFI； It turns green in communication state.

4) The communication rate of COM interface can be set as 9600,19200,38400,57600,115200, and the communication rate

under WIFI is fixed as 115200.

5) The system language can be set to simplified Chinese and English.

6) When the power on output is turned on, the power output will be turned on automatically after the power on. When the power is turned off, the power output will be turned off.

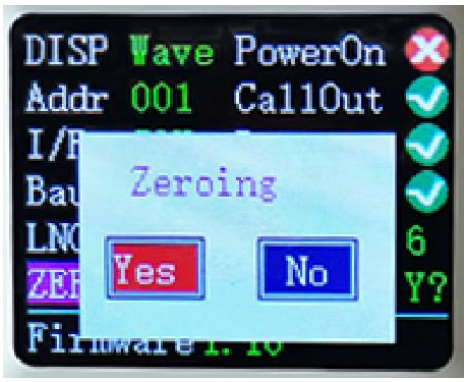
7) When the transfer out output is turned on, the output will be turned on automatically after the shortcut transfer out. When the shortcut transfer out is turned off, the output will be turned off automatically.

8) When the button sound is turned on, press the button buzzer to prompt, and when it is turned off, press the button to mute.

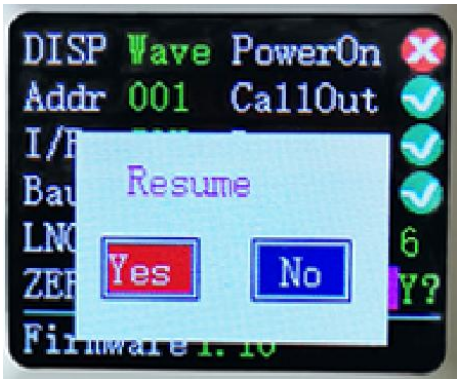
9) After opening the boot image, the boot logo image will be displayed before entering the main interface, and then directly entering the main interface after closing.

10) It can be set to 0-6 with seven levels of brightness.

11) The dialog box will be opened after the system zero calibration is confirmed, and this operation will be performed when the system has a small current for a long time. Press the left and right keys to confirm or cancel, and press the OK key to exit.



13) The dialog box will be opened after the factory confirmation is restored. This operation can be performed when there is an exception in the use process to restore the factory settings. Press the left and right keys to confirm or cancel, and press the OK key to exit.



13) System version displays the current system version number.

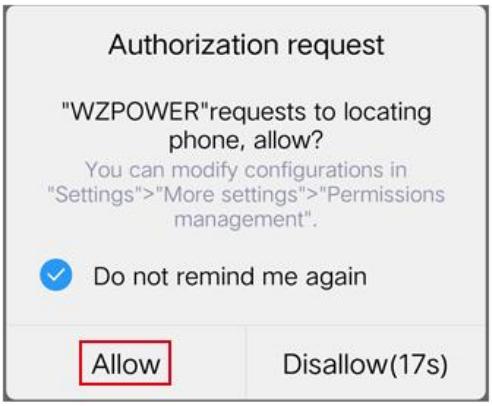
WiFi version power android mobile APP instructions

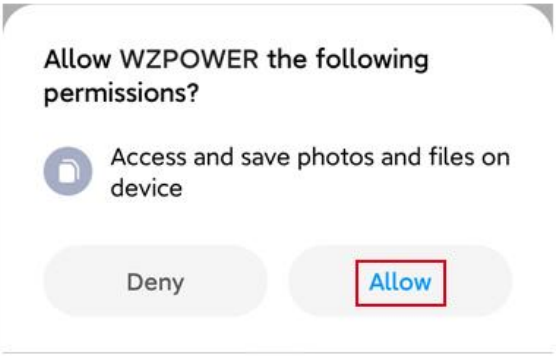
1. Mobile APP scan code download and install

2. Attention during installation

This software only supports Android5.1 and above system use, during the installation process will request the location service or to obtain the mobile phone permission, different mobile phone system version will be slightly different.Please agree and open the location service or allow permission requests.

As shown, please select allow





After installation, the APP icon is shown in the following figure:

2.1 Software updates

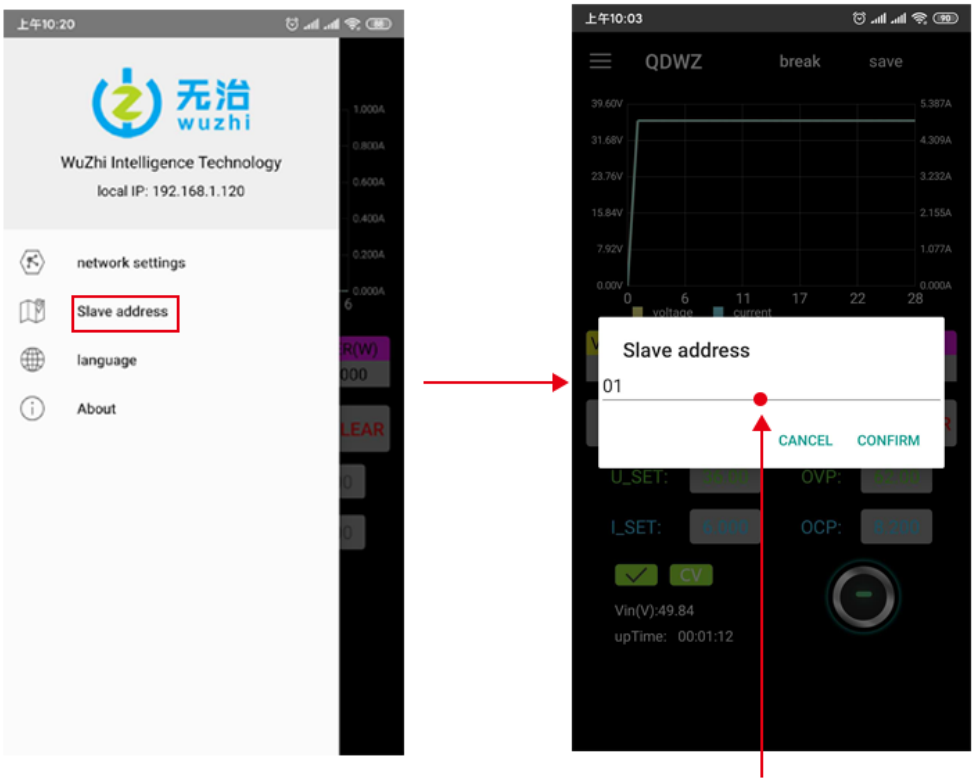
Click the APP icon, after the APP starts, the system will automatically detect whether the APP version has been updated in the background. If so, the new version will pop up to remind the update.

2.2 APP interface display

2.2.1 After startup, the main interface of the APP is shown as follows:

Click the menu icon to open the sideslip interface, click the address selection, and the operation is as shown in the figure.

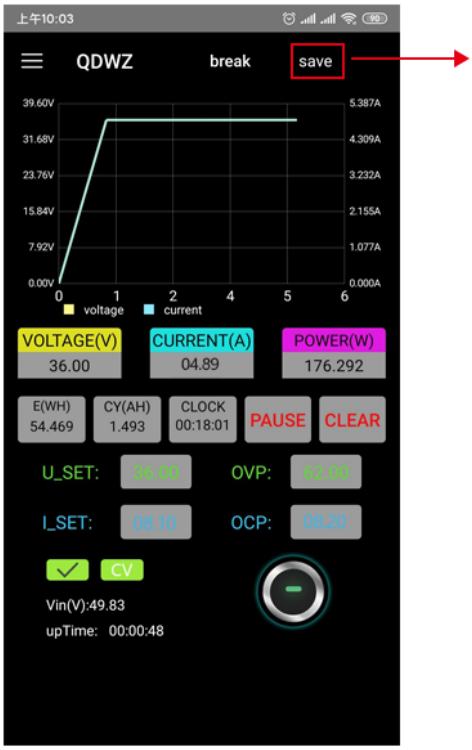
2.2.3 Click address selection, and the main interface of the APP will display the following figure:

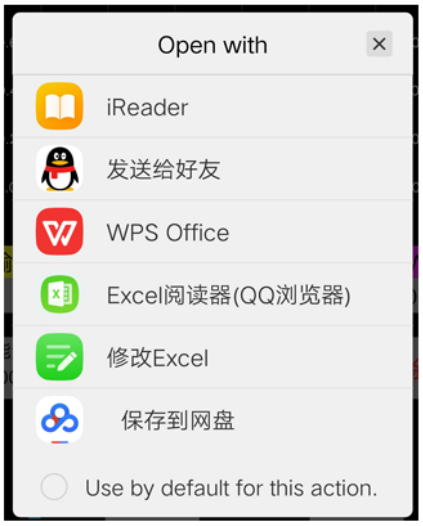


Enter your device address
The input range is integers 01~255

The language option in the sideslip interface is similar to the option operation and address selection. Click to enter the interface for operation.

2.2.4 Click storage, and the mobile app pops up and selects the opening mode, as shown in the following figure:

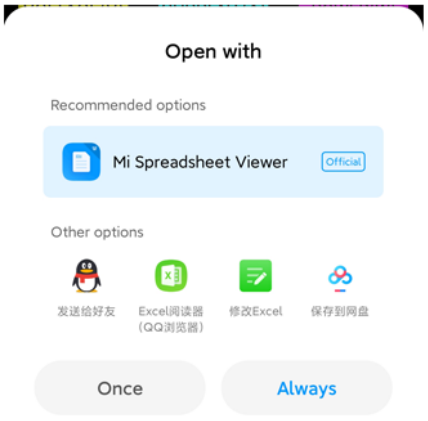




Above, Android version 6.0.1 is shown

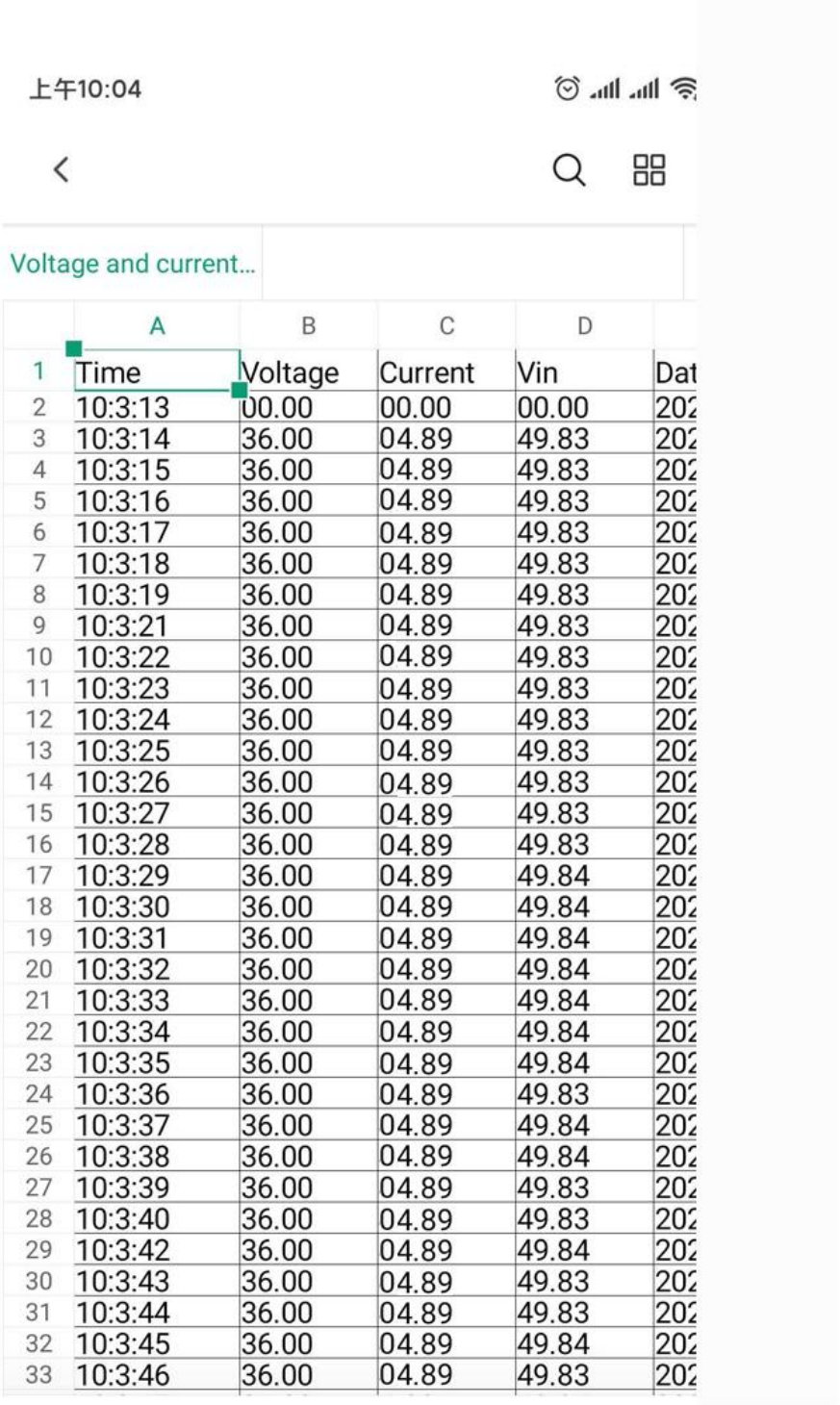
★★★

The opening method is only for example. Different mobile phones display differently. Select the way you want to open the data table



Above, XiaoMi's Android version 9 is displayed

After selecting the opening method, open the stored data table, as shown in the following figure:



	A	B	C	D	
1	Time	Voltage	Current	Vin	Dat
2	10:3:13	00.00	00.00	00.00	202
3	10:3:14	36.00	04.89	49.83	202
4	10:3:15	36.00	04.89	49.83	202
5	10:3:16	36.00	04.89	49.83	202
6	10:3:17	36.00	04.89	49.83	202
7	10:3:18	36.00	04.89	49.83	202
8	10:3:19	36.00	04.89	49.83	202
9	10:3:21	36.00	04.89	49.83	202
10	10:3:22	36.00	04.89	49.83	202
11	10:3:23	36.00	04.89	49.83	202
12	10:3:24	36.00	04.89	49.83	202
13	10:3:25	36.00	04.89	49.83	202
14	10:3:26	36.00	04.89	49.83	202
15	10:3:27	36.00	04.89	49.83	202
16	10:3:28	36.00	04.89	49.83	202
17	10:3:29	36.00	04.89	49.84	202
18	10:3:30	36.00	04.89	49.84	202
19	10:3:31	36.00	04.89	49.84	202
20	10:3:32	36.00	04.89	49.84	202
21	10:3:33	36.00	04.89	49.84	202
22	10:3:34	36.00	04.89	49.84	202
23	10:3:35	36.00	04.89	49.84	202
24	10:3:36	36.00	04.89	49.83	202
25	10:3:37	36.00	04.89	49.84	202
26	10:3:38	36.00	04.89	49.84	202
27	10:3:39	36.00	04.89	49.83	202
28	10:3:40	36.00	04.89	49.83	202
29	10:3:42	36.00	04.89	49.84	202
30	10:3:43	36.00	04.89	49.83	202
31	10:3:44	36.00	04.89	49.83	202
32	10:3:45	36.00	04.89	49.84	202
33	10:3:46	36.00	04.89	49.83	202

3. Use of app

3.1 Open WZ6012 and set the communication interface of WZ6012 as WIFI, WZ6012 the interface is shownas follows:

★★ Note: after the communication interface is set to WIFI, WZ6012 needs to be reset After restart, the interface of WZ6012 is as follows:

It should be noted here that the app should be opened first, and then the WZ6012 should be opened to set the communication interface mode of WZ6012. The app is only used in WIFI mode. The specific operation is shown in the figure above

3.2 Open the app intelligent distribution network

Steps of intelligent distribution network: see the following picture annotation

Step 1: Click intelligent distribution network. (Figure ①)

Step 2: The interface shown in Figure 2 appears. Do not proceed to the next step, wait for WZ6012 When the IP address (Figure ③) interface is displayed, click next in figure ②.

Step 3: Display the interface of figure ④, input the WIFI password, and click OK.

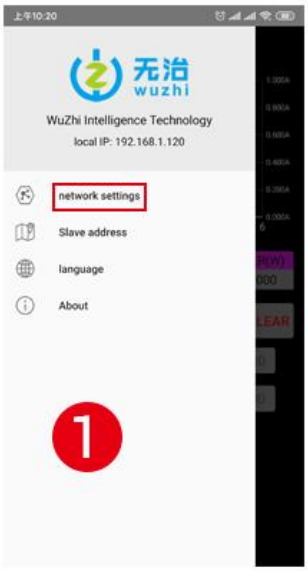
Step 4: Wait for a moment in figure ⑤ and click OK when figure ⑥ is displayed.

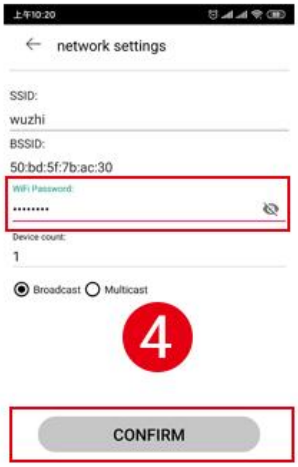
Step 5: figure ⑦ interface, click the return arrow to return to the main interface as shown in figure ⑧, and the distribution network is completed.

Step 6: Click the connect button, as shown in figure ⑧

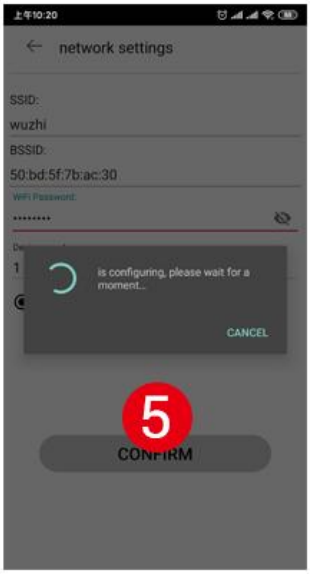
Please refer to the following picture for specific operation steps, and pay attention to the operation sequence in the next step 2.

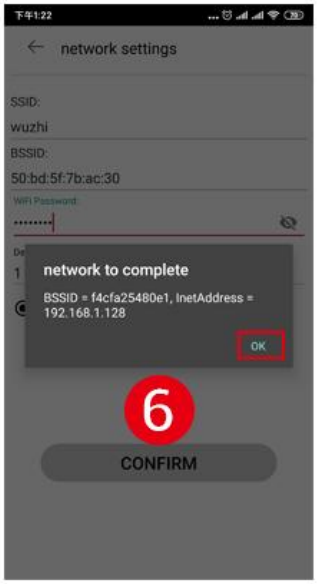
Wait until the IP address appears on the WZ6012 interface





★★ If the IP address is not shown in figure ③, please open the distribution network option again to execute.





Matters Needing Attention:

1. The first connection of the mobile APP to the device requires intelligent distribution network. If the distribution network fails, please cut off the power and operate it again.If the distribution network is successful, the next time you open the APP, it will be connected automatically. Just click the connection button, and there is no need to redistribute the network.If the mobile phone is replaced or the IP address of the mobile phone is changed, the re-smart distribution network needs to be reset.

2. After starting WZ6012, it will first connect to WiFi, and then check whether the mobile APP can be connected. If not, make sure that the connection can be rebooted if the mobile APP is opened.When the lock screen or the APP runs in the background, the connection may not be possible.If the IP address of the phone changes, you need to press the left button and then press OK to reset the network, and then execute the intelligent network distribution process again.

3. There are a variety of android phones, with different system versions, different brands or different resolutions of the same brand.

4. The permission requirement of mobile APP: in addition to the necessary permission when the APP is installed, the permission of the APP should be set in the phone after the installation: for example, the lock screen should not be cleaned, the background is allowed to run, the startup is allowed, etc., to prevent the system from forcing the exit of the APP when the APP keeps recording data.

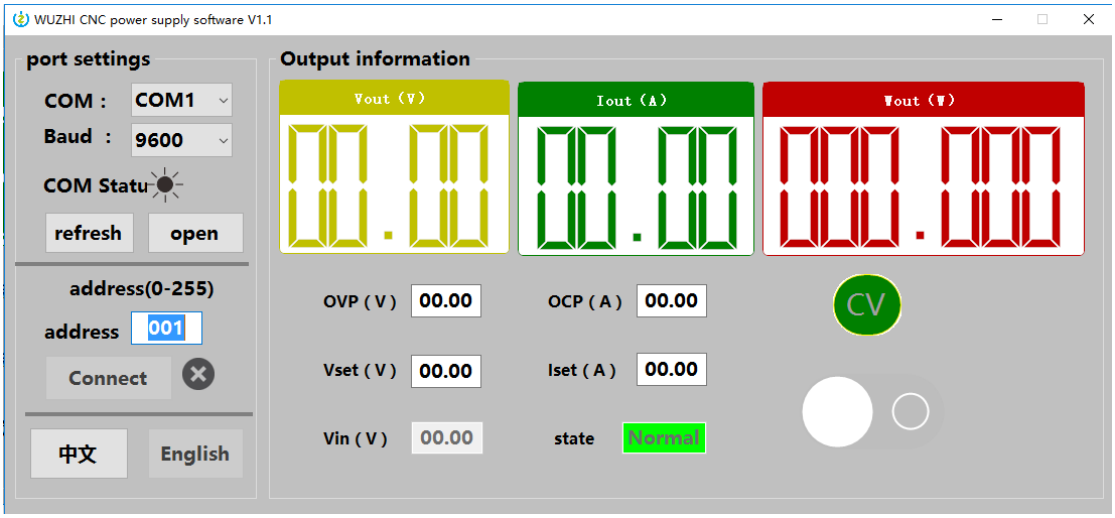
Instructions for installation and use of upper computer software

Installation software requirements: win7 and above systems need to be installed with net framework 4 or above. If the computer does not have one, please install it yourself.

This software is developed by our company without virus. If the antivirus software prompts, please allow all its functions, otherwise it will affect the normal operation of the software.

Open package software， Double click Icon 

， Open the software.



Connect the device with USB or RS485 module through USB data line or USB to RS485. Select the communication port number and click open, The indicator turns red after success. Then choose the device address， Click to connect device， Indicator state turns green after work. Establish connection between software and equipment for real-time communication.

Through the software, the output voltage, output current, protection voltage, over-current protection and output switch can be simply set. Display the current output voltage, output current, output power, working status, etc.

Appendix 1 Communication Protocol

Frame format command：Frame length is 20, The format is as follows：

Synchro head	Power address	Command word	4-19 bytes are related information content	Check code

When the device receives a frame setting command，The command of this frame will be verified. If the checksum is wrong，Then return parameter 90H；
If the setting parameter is wrong or the parameter overflows，Then return parameterA0H；If the command cannot be executed，Then return parameter B0H；If the command is invalid，Then parameter C0H is returned；If the command is unknown，Then return parameter D0H；Otherwise, return parameter 80H。

When the load receives a frame read command, it will check the frame command: if the check sum is correct, it will return the corresponding read data. If the check sum is wrong, the check command (90H) is returned.

Command word	register	content
0x20	1	Set operation mode (0 is panel operation mode, 1 is remote operation mode)
0x21	1	Set new address (1-255)
0x22	1	Set power output status (0 is output OFF, 1 is output ON)
0x71	1	Set time capacity energy statistics operation state 0 suspend 1 operation
0x72	1	Clearing time capacity energy statistics
0x23	1	Read the current power output status ((0 is output OFF, 1 is output ON)
	2	Read the current working state (0 - CV mode 1 - CC mode)
	3	Read the current system status (0 – normal 1 – over voltage 2 – over current 3 – over temperature 4 – input under voltage)
0x24 Read product information	1	Read product model
	2	Read product version high byte
	3	Read product version low byte
	4	Read the high byte of the factory number
	5	Read the next highest byte of the factory number
	6	Read the next lower byte of the factory number
	7	Read the low byte of the factory number
0x25/0x26 Read and set system parameters	1	Device address
	2	Power on interface (0 No 1 WZ)
	3	Power on default output (0 No 1 has)
	4	Sound flag 0 turns off key sound 1 turns on key sound
	5	Backlight brightness 0-6
	6	Language 0 simplified Chinese 1 English
	7	Communication interface type 0 TTL 1WiFi 2 Bluetooth 3 USB
	8	Output state 0 does not output 1 output after calling out
	9	Default interface 0 Non digital 1 Curve 2 battery 3 pointer meter
	10	Baud rate 0 9600 1 19200 2 38400 3 57600 4 115200
0x29 Read current information	1	Read the high byte of the current input voltage value
	2	Read the low byte of the current input voltage value
	3	Read the high byte of the current output voltage value
	4	Read the low byte of the current output voltage value
	5	Read the high byte of the current output current value
	6	Read the low byte of the current output current value
	7	Read the high byte of the current power value
	8	Read the next highest byte of the current power value
	9	Read the next lower byte of the current power value
	10	Read low byte of current power value
0x2A	1	Read the high byte of the current time value

Read current information	2	Read the next highest byte of the current time value
	3	Read the next lower byte of the current time value
	4	Read the low byte of the current time value
	5	Read the high byte of the current energy value
	6	Read the next highest byte of the current energy value
	7	Read the second lowest byte of the current energy value
	8	Read the low byte of the current energy value
	9	Read the high byte of the current capacity value
	10	Reads the next highest byte of the current capacity value
	11	Read the next lower byte of the current capacity value
	12	Read the low byte of the current capacity value
	13	Read the high byte of the current temperature value
	14	Read the low byte of the current temperature value
0x2B/0x2C Read and set information	1	High byte of current protection voltage value
	2	Low byte of current protection voltage value
	3	High byte of current protection current value
	4	Low byte of current protection current value
	5	High byte of current set voltage value
	6	Low byte of current set voltage value
	7	High byte of current value currently set
	8	Low byte of current value currently set
	9	
	10	
	11	
	12	
	13	
	14	