版本：1.0

4.3 寸显示屏

4.3-inch display screen

LCD-4.3-TTL-P

使用维护说明书

Operation and maintenance manual

成都极空科技有限公司

Chengdu Jikong technology co., LTD

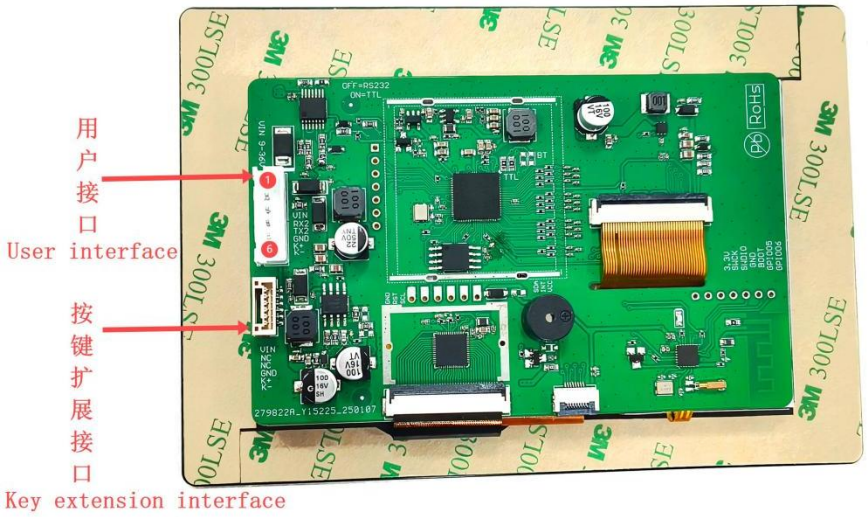
1. 产品特性与外形（Product features and appearance）

1.1. 产品特性（Product features）

- 支持宽电源工作范围：默认 9~36V；
- Support wide power supply working range: default 9~36V;
- 显示内容：电池总压、电池电量、单串电压显示；
- Display content: battery total voltage, battery power, single series voltage display;
- 支持TTL 电平，波特率默认 115200bps；
- TTL level supported, baud rate default 115200bps;
- 支持中/英/泰/越文切换；
- Chinese/English/Thai/Vietnamese switchover is supported;
- 支持显示界面定制：语种定制、logo 定制、界面定制。
- Support display interface customization: language customization, logo customization, interface customization.

1.2. 显示屏外观（Display appearance）

1.3. 外部接口(External interfaces)



- 用户接口：用于供电和串口信号连接，插座类型 HY2.0 mm-6P 立贴
- User interface: Used for power supply and serial port signal connection, socket type HY2.0mm-6P vertical stick
- 按键扩展接口：用于控制 BMS 开机和关机，插座类型 A1254WF-6A 立贴
- Key extension interface: Used to control BMS startup and shutdown, socket type A1254WF-6A vertical sticker

2. 规格参数(Specification parameters)

2.1. 总体参数 (Population parameter)

参数(Parameter)	数据(Data)
显示屏类别(Display category)	TFT
显示屏尺寸(Display size)	4.3 英寸 (4.3-inch)
尺寸/分辨率(Size/Resolution)	480*272
背光类型/亮度(Backlight type/brightness)	LED/300nit
可视角度 L/R/U/D(Viewing Angle L/R/U/D)	85°/85°/85°/85°
工作温度/存储温度 (Operating Temperature /Storage Temperature)	-20~+70℃/-30~+80℃

2.2. 供电电源 (Power supply)

参数(Parameter)	最小值(Min)	最大值(Max)
供电电压（带电源反接保护） Supply voltage (with power reverse protection)	9V	36V
功耗(Power dissipation)	1.32W （12V@110mA）	

2.3. 引脚定义(Pin definition)

显示屏端接口采用了 HY2.0 mm-6P 立贴（引脚顺序见 1.3 节）

The display end interface adopts HY2.0 mm-6P vertical mount (see pin sequence in section 1.3).

编号 (Number)	名称 （Name）	定义 （Definition）	编号 (Number)	名称 （Name）	定义 （Definition）
1	K-	激活信号负极 (Activation signal negative electrode)	4	TTL-RX	UART_RX,5V
2	K+	激活信号正极 (Activate the positive signal)	5	TTL-TX	UART_TX,5V
3	GND	电源负极 (Negative terminal)	6	VCC	显示屏电源输出 (Display power output)

2.4. 工作环境和可靠性参数 (Operating environment and reliability parameters)

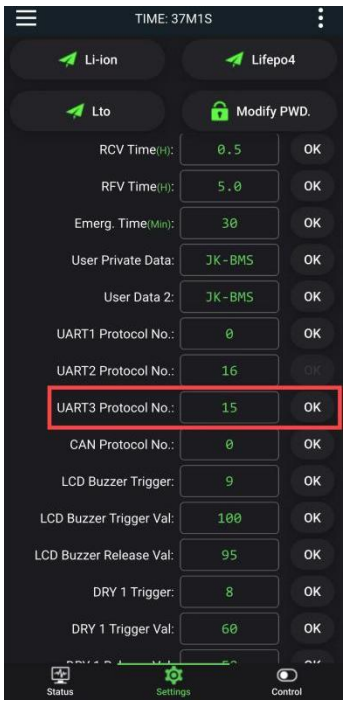
参数 (Parameter)	测试环境 (Test environment)	最小值 (Min)	典型值 (Typ)	最大值 (Max)	单位 (Unit)
工作温度 (Operating temperature)	12V 电压下，湿度 60% (At 12V voltage, the humidity is 60%)	-20	-	70	℃
储存温度 (Storage temperature)	-	-30	-	80	℃
工作湿度 (Operating humidity)	25℃	10%	60%	90%	RH

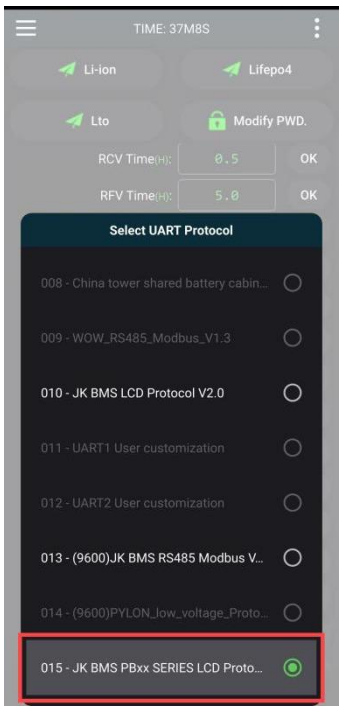
3. 操作说明(Operation instruction)

3.1. APP 操作说明 (APP operation Instructions)

打开极空 BMS APP，在“参数设置”页面将“串口 3 协议”改为“015-极空储能显示器通信协议 V1.0”即可。

Open the JiKong BMS APP, and change the "Serial port 3 protocol" to "015-JK BMS PBxx SERIES LCD Protocol V1.0" on the "Parameter Setting" page.



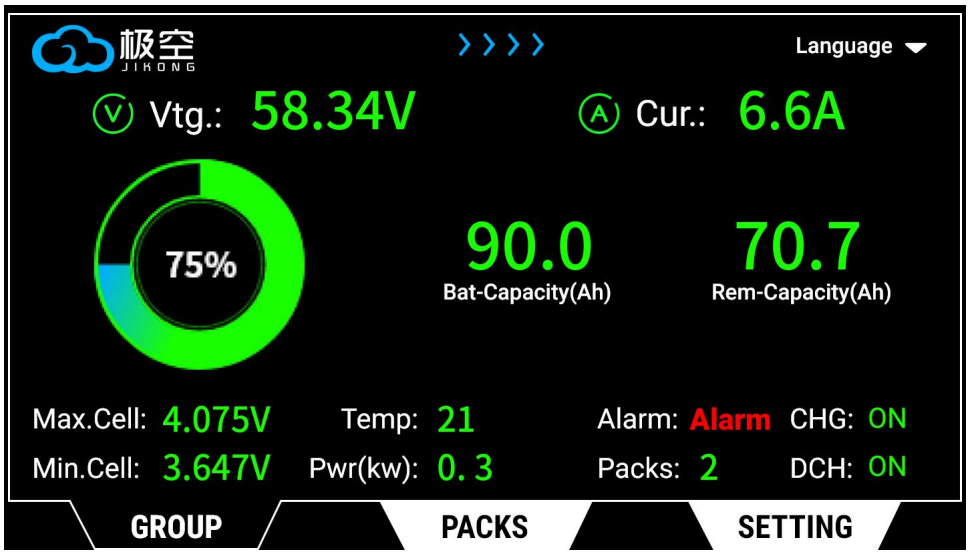


3.2. 显示屏界面操作说明 (Display interface operation description)

3.2.1. 电池组界面(Battery interface)

电池组界面可以显示当前电池组的电压、电流、在线电池包数量，整个电池组充放电状态，最高和最低单体温度。

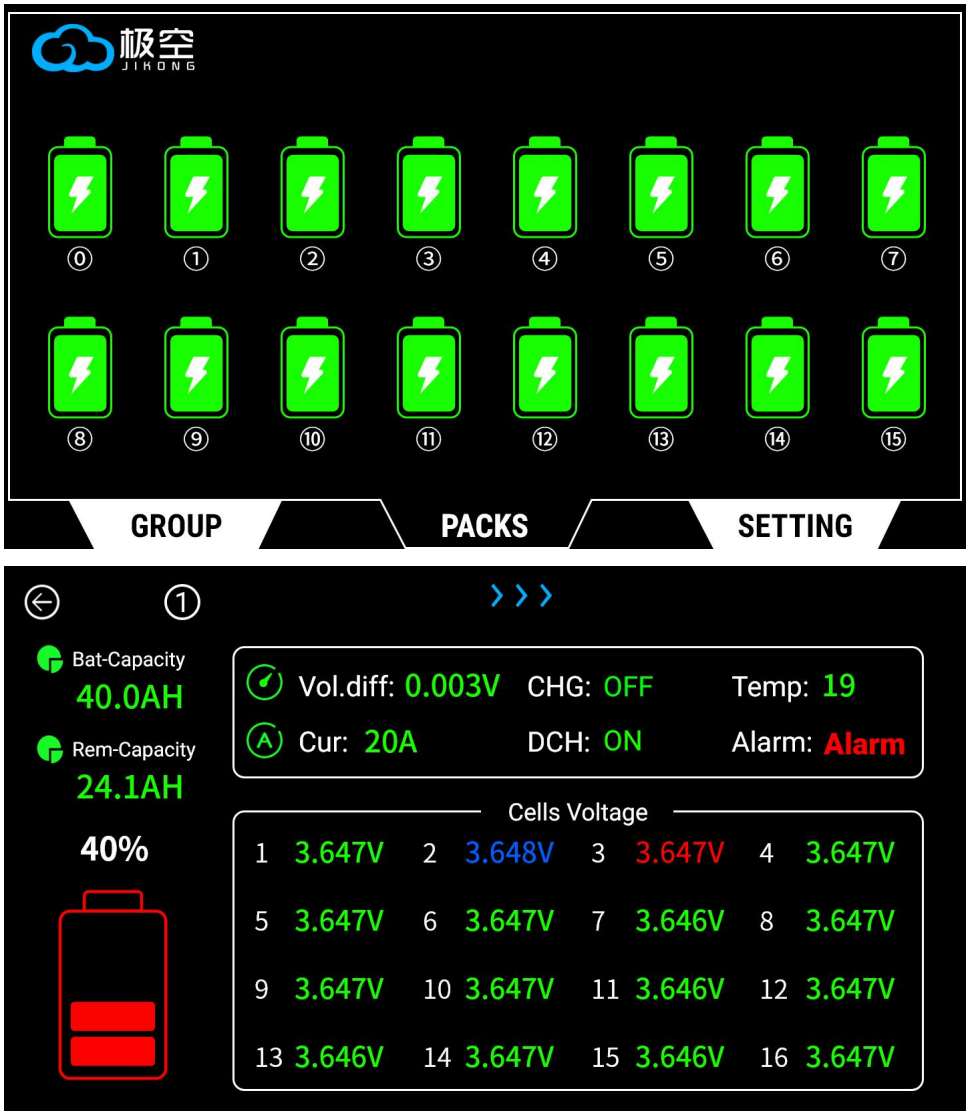
The battery string screen displays the current voltage and current of the battery string, the number of online battery packs, the charging and discharging status of the entire battery string, and the highest and lowest cell temperature.



3.2.2. 电池包界面(Battery pack interface)

在并机模式下，通过选择电池包，可以显示不同电池包设计容量、剩余容量、每个电池包的充放电状态，每个电芯单体电压等参数，最多可以对 16 个电池包的状态进行显示。

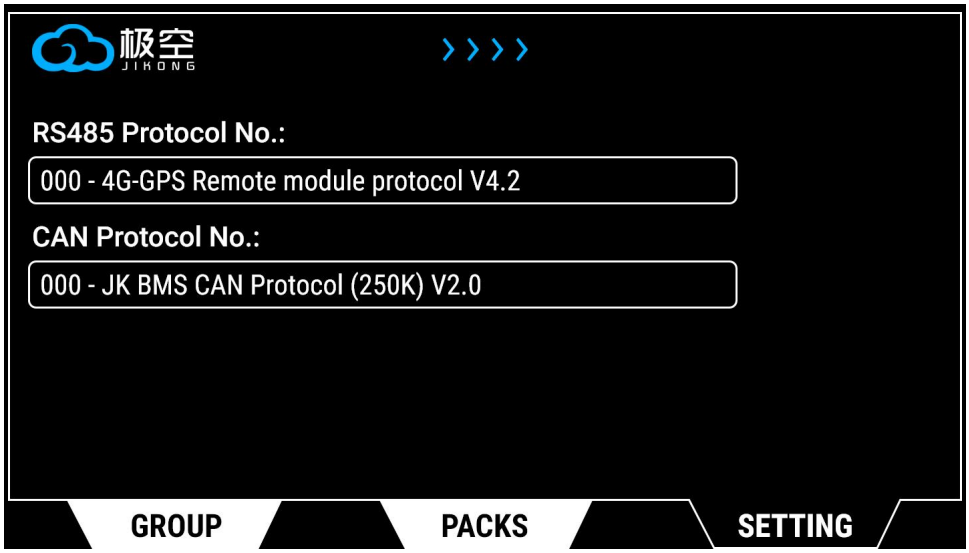
In parallel mode, by selecting the battery pack, you can display different battery pack design capacity, remaining capacity, charging and discharging status of each battery pack, voltage of each cell and other parameters, up to 16 battery packs can be displayed.



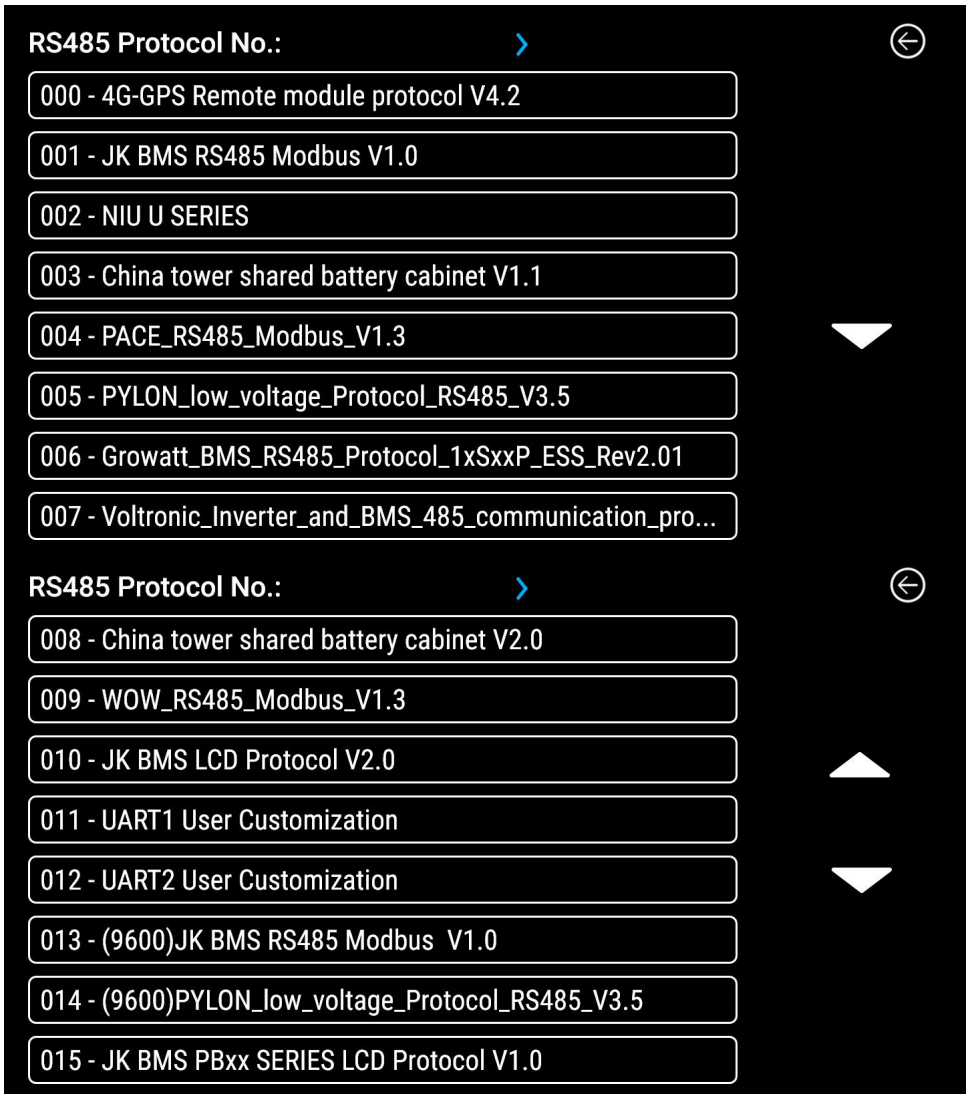
3.2.3. 协议选择界面(Protocol selection interface)

通过协议选择，可以选择相应的 485 协议和 CAN 协议，从而选择合适的通信协议进行通信。

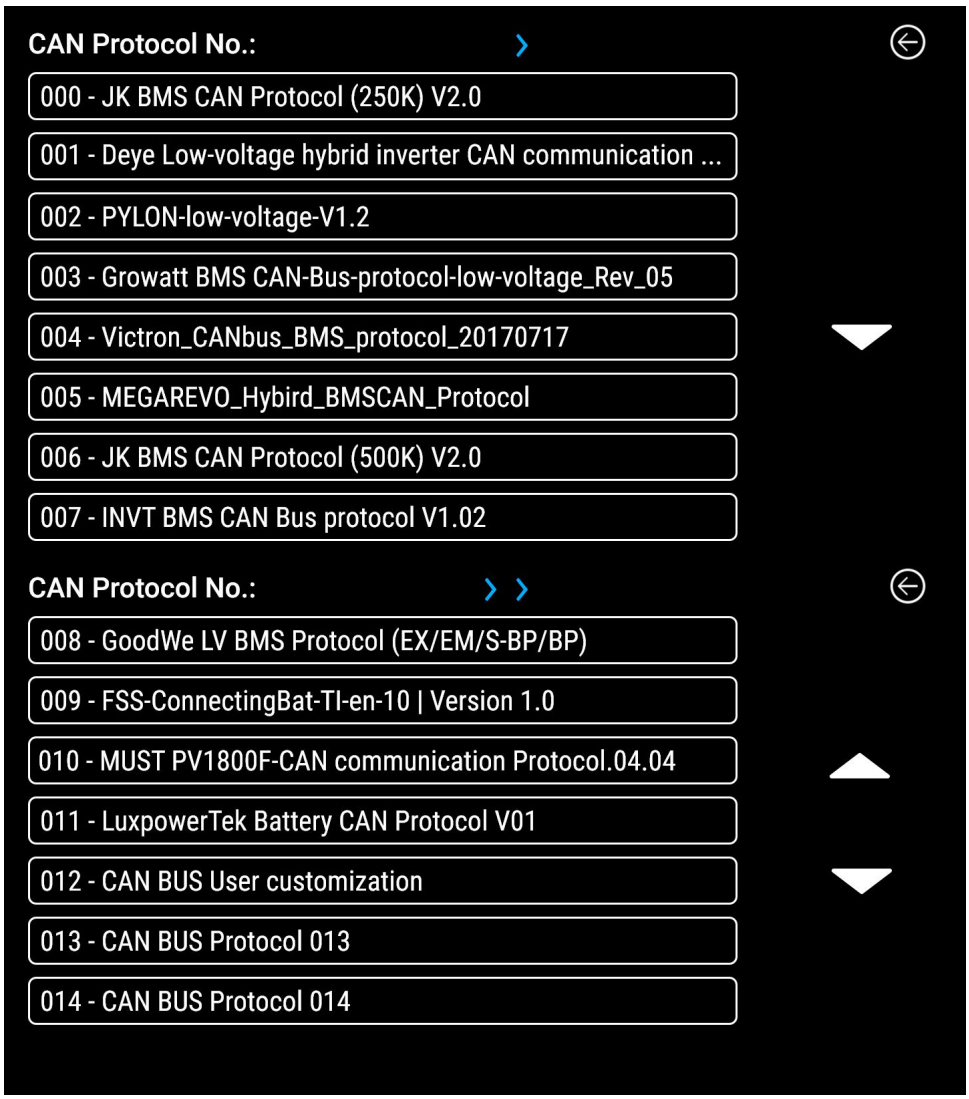
Through protocol selection, you CAN select the corresponding 485 protocol and CAN protocol, so as to select the appropriate communication protocol for communication.



485 协议选择(485 Protocol Selection)

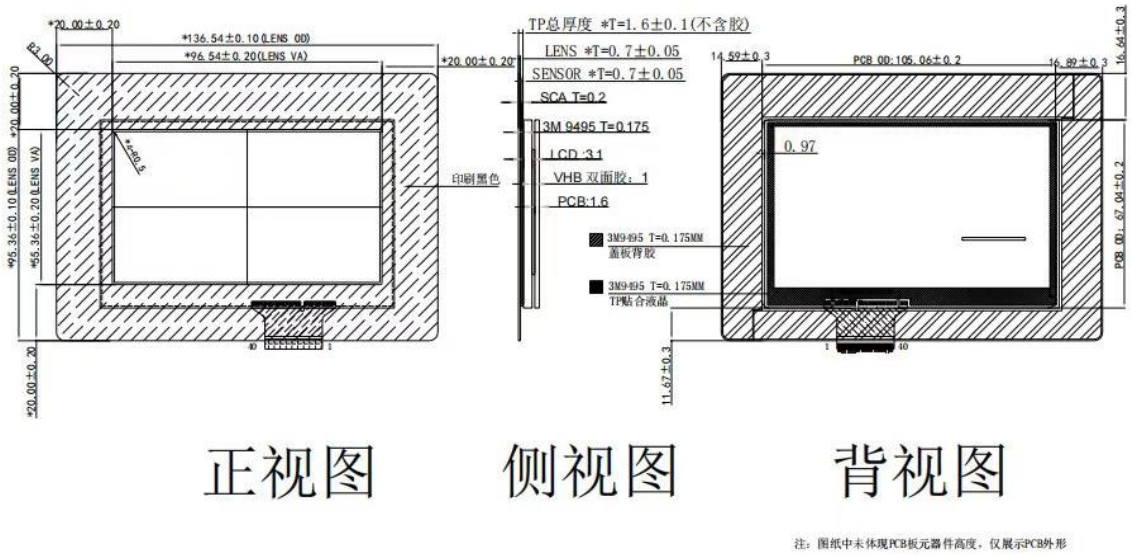


CAN 协议选择(CAN Protocol Selection)



4. 产品尺寸(Product size)

4.1. 显示屏尺寸(Display size)



注：图纸中未体现PCB板元器件高度，仅展示PCB外形

4.2. 线缆图(Cable diagram)

标配线缆总长 0.5 米，如需加长可定制

The standard cable length is 0.5 meters, and can be customized if necessary

总长 0.5 米(Total length 0.5 meters)