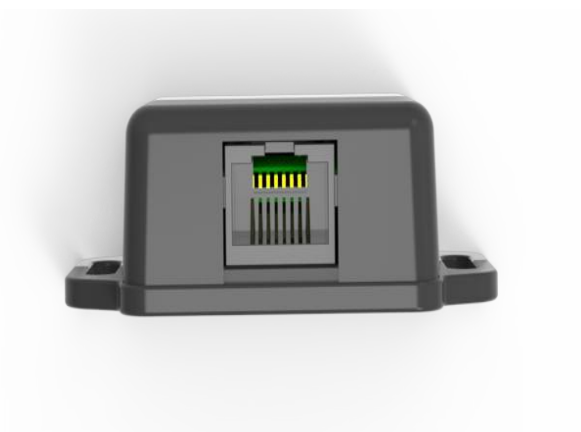


MPPT Solar Charger Controller Bluetooth Module User Manual

BL01 model

Compatible with all SUNOPEN products with RJ45 interface



Thank you so much for choosing our products!

Instruction manual version: V1.0. Subject to change without notice; please contact sales for the latest e-document.

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1.Product Introduction and Specifications

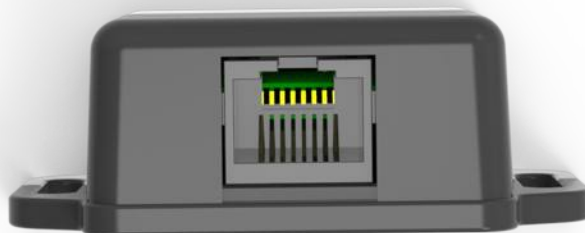
1.1Product brief introduction

This mini Bluetooth module features low power consumption, stable connection, and strong anti-interference capabilities. Custom-designed to support Topsun photovoltaic controllers, it supports WeChat mini-programs and Android APKs, allowing customers to easily monitor system data via their mobile phones.

1.2Product parameters and appearance description

- Supports all SUNOPEN models with RJ45 controllers.
- Dimensions (L*W*H): 40*40*20mm
- Small-sized, flame-retardant casing
- TTL baud rate 9600bps
- The communication success indicator light stays on.
- Operating temperature -40℃ to +85℃
- Operating frequency 2402MHz~2480MHz
- Transmit power 0~1dBm
- Receiver sensitivity -92dBm
- Debugging method GFSK
- Stable communication distance up to 10 meters, unobstructed straight-line distance.
- Communication UART TTL
- Power consumption: 5mA

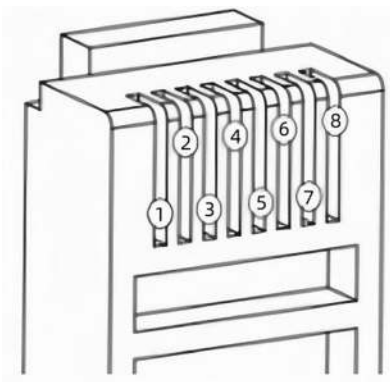
Front Interface Introduction



RJ45 Port

Please use the network cable provided by our company. If you need a longer network cable, please refer to the other sections on network cable making.

2.TTL communication, RS485 communication, external 12V output interface pin definitions

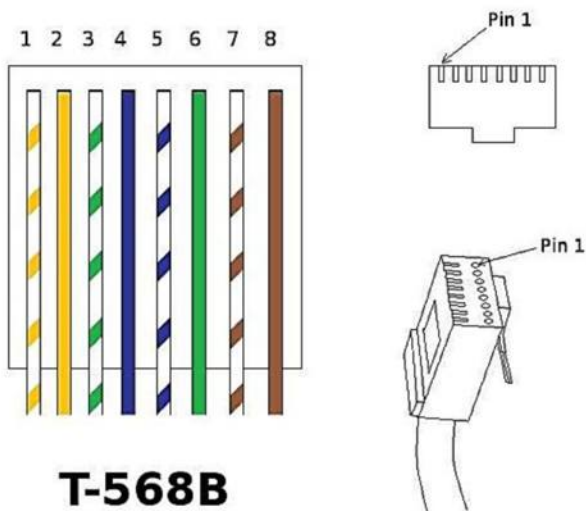
	Serial Number	definition
	①	TTL-RXD
	②	TTL-TXD
	③	Unused
	④	Unused
	⑤	GND
	⑥	12V
	⑦	485-B
	⑧	485-A

Note: The 12V output provides a maximum current of 300mA; exceeding this may damage the interface. It is reversed compared to the controller.

3.Communication line extension fabrication

3.1Network cable type

- Standard T568B: Orange-white, Orange, Green-white, Blue, Blue-white, Green, Brown-white, Brown;



- Supported network cable length: <2 meters;

4、Common problems and solutions

Phenomenon	processing method
Indicator light not lit	Check if the wiring sequence is incorrect and if there is poor contact.
Communication is not smooth	Check if the Bluetooth module is obstructed or shielded by a metal casing.
Poor communication within the embedded housing	The casing needs to have a window for the Bluetooth module and be waterproof.

5、Product installation diagram



6. Product installation diagram

6.1 MPPT Interface

1. After installing the app, connect to "SUNOPENMPPT".
2. The interface display effect is as follows:

PV data

Power: 215 W

Voltage: 36 V

Current: 5.97 A

Battery data

Power: 215 W

Voltage: 23.27 V

Current: 9.23 A

Load data

Power: 0W

Stop

Current: 0A

Status information

Equipment Model:	M24PB
Electricity generated on that day:	1215Wh
Total historical charges:	21.5KWh
Maximum PV power:	600W
Charging status:	In charge
Full electrical sign:	Not fully charged
The charging stage:	Constant pressure
Battery type:	Lithium Iron Phosphate
Battery serial number:	7
Battery temperature:	25°C
Fan startup status:	Stop
Remote load switch:	open
PV radiator temperature:	50°C
BUCK Heat Exchanger Temperature:	50°C
PV failure code:	normal
Battery failure code:	normal

6

Status information

Battery overpressure value:	25.6V
Battery low pressure value:	16.8V
Maximum input and output current:	PV:19A; BAT:21A
Maximum voltage for PV access:	56.0V
Minimum voltage for PV access:	16.0V
The system works like this:	MPPT
Hardware version number:	V1.1
Software version number:	V2.0

Parameter settings

PV maximum power settings [W]:	600
User-set battery overvoltage [V]:	25.2V
User-set battery undervoltage [V]:	16.8V
Load short circuit time [us]	2000
Load return voltage [mV]	1200
Recharge voltage setting [mV]	1200
Remote load switch:	

Remote load switch:

to read

save

光伏数据

功率：215W

电压：36V

电流：5.97A

电池数据

功率：215W

电压：23.27V

电流：9.23A

负载数据

功率：0W

关闭

电流：0A

状态信息

设备型号：	M24PB
当日发电量：	1215Wh
历史充电总量：	21.5KWh
光伏最大功率：	600W
充电状态：	充电中
满电标志：	未满电
充电阶段：	恒压
电池类型：	磷酸铁锂
电池串数：	7
电池温度：	25℃
风扇启动状态：	关闭
远程负载开关：	打开
光伏散热器温度：	50℃
BUCK 散热器温度：	50℃
光伏故障码：	正常
电池故障码：	正常

状态信息

电池过压值：	25.6V
电池欠压值：	16.8V
输入输出最大电流：	PV:19A; BAT:21A
光伏接入最高电压：	56.0V
光伏接入最低电压：	16.0V
系统工作模式：	MPPT
硬件版本号：	V1.1
软件版本号：	V2.0

参数设置

光伏最大功率设置 [W]：	600
用户设定电池过压[V]：	25.2V
用户设定电池欠压[V]：	16.8V
负载短路时间[us]	2000
负载回差电压[mV]	1200
回充电压设定[mV]	1200
远程负载开关：	

远程负载开关：



读取

保存