

User's Manual of Built-in Solar Charge Controller PSC10

PSC10 嵌入式太阳能充放电控制器使用说明

1. Function

- 1.1 LED indicator for battery condition, charge and discharge condition.
- 1.2 Overcharge and overdischarge protection, overload and reverse connection protection.
- 1.3 PWM technology
- 1.4 Technical data charge and discharge setted. (customerized for special request)
- 1.5 USB output.
- 1.6 Built-in boarding installation.

特点

- 1.1 直观的LED发光管指示当前系统电池电量、充电及放电状态。
- 1.2 具有过充、过放、过流及防反接等保护功能。
- 1.3 串联式PWM充电技术。
- 1.4 充放电控制参数出厂时设定(特殊参数定做)。
- 1.5 USB充电功能。
- 1.6 嵌入式面板安装。

2. Installation and Wiring Instruction

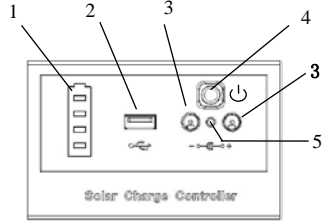


Figure 1

Instruction: 1.Battery Capacity Indicator 2.USB 5VDC output≤1A 3.DC output≤1A 4.Switch of Output
5.Output Indicator 6.Battery Type Selection (Details 3.1) 7 .Load connection 8.Battery Connection 9.Solar Panel Connection

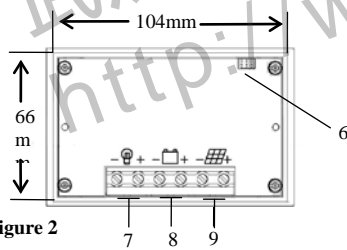


Figure 2

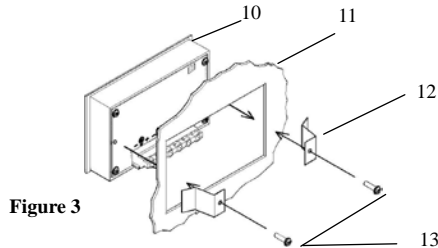


Figure 3

10.Controller 11.Board 12.Brackets 13.fix screw 14.Installed controller

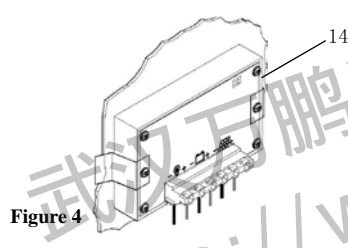


Figure 4

Installation:

- 2.1 Plug in the controller to the board (Figure 3), Size of installation window 105 * 67mm(±0.5mm).
- 2.2 Screw the controller (Figure 3), fixed with brackets. See (Figure 4)

Wiring Instruction:

- 2.3 Check the environment of installation according to safety regulations, please avoid humidity, flammable explosive and corrosive gas.
- 2.4 Get ready tools and cables. Recommend the use of (2.5-6mm²) cable.
- 2.5 First connected the battery poles (Figure 2 number 8), the battery indicator will be flash if the connection is correct.
- 2.6 Second Connected the solar panel poles (Figure 2 number 9), the battery capacity indicator will be rolling flash if the connection is correct.
- 2.7 Third connected the load poles (Figure 2 number 7), please pay attention do not reverse connection, or the load could be burned.

Dismantle: please take the wire apart according to priority "solar panel", "battery", "load".

3. Indicator Explanation:

3.1 Charge and Display:

Charging: The indicator of battery rolling flash, that means the battery closed to full condition.

二 安装及接线说明

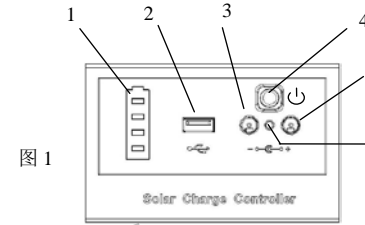


图 1

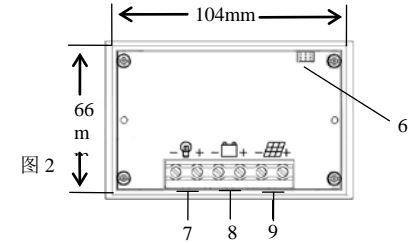


图 2

说明: 1.电池电量及状态指示 2.USB 5V 直流输出≤1A 3.蓄电池输出接口≤1A 4.输出开关按钮
5.输出指示 6.电池类型选择(详见3.1) 7.负载接线口 8.电池接线口 9.太阳能接线口

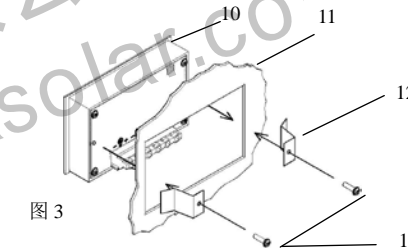


图 3

10.控制器 11.安装窗 12.固定架 13.固定螺丝 14.安装完毕的控制器

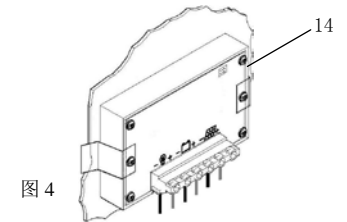


图 4

安装:

- 2.1 将控制器按图 3 所示方向装入安装窗内, 安装窗的开孔规格为 105 * 67mm(±0.5mm).
- 2.2 将固定架图 3 所示方装到控制器上, 并用固定螺丝加以固定。安装完毕如图 4 所示。

接线:

- 2.3 检查安装场所是否符合相关安全规定, 请避免在潮湿、易燃、易爆及腐蚀性气体的场所安装使用控制器。
- 2.4 准备好相关工具及电缆。建议使用 2.5-6mm² 电缆连接控制器及相关组件。
- 2.5 先用电缆线按极性将控制器(图 2 号码 8 处)与蓄电池连接, 连接正确后控制器电量指示灯会点亮, 否则请检查连接是否正确。
- 2.6 用电缆线按极性将太阳能电池板与控制器(图 2 号码 9 处)连接, 如果有阳光照射太阳能电池板, 电量指示灯会循环点亮, 表示连接正确。否则请检查连接是否正确。
- 2.7 用电缆线按极性接入负载后再与控制器负载输出端(图 2 号码 7 处)连接, 注意+ - 极, 不要接反。否则可能烧坏您的负载。

拆卸: 为防止意外发生, 拆卸时请依次将太阳能电池板、蓄电池、负载与控制器断开连接。

Battery Full: All indicator bright, the battery is full. The battery join into float charging.

Battery Low: Only one indicator bright, the battery capacity less than 25%.

Low Voltage Warning: Only one indicator flash, the battery is empty. The controller cut off output auto.

Battery Condition	Charging	Full	Low	Warning
Indicator				

Battery Select	Sealed	Open	Glue
Set			

充满: 电量指示灯全部点亮, 电池被充满, 蓄电池进入浮充状态。

低压: 仅有一个电量指示灯点亮时, 蓄电池电量低于 25%。

低压警告: 仅有一个电量指示灯闪烁点亮时, 电池电量空。控制器自动停止所有输出。

电池状态	充电中	充满	低压	低压警告
指示灯				

电池类型	密封电池	开口电池	胶体电池
设置			

3.2 Load Indicator: When all indicator of output is bright, all load output is working. When all indicator of output is cut off, all load is closed. When all indicator of output is flash, the controller is in overload protection, all load output is closed.

4. Fault

- 1. Battery low warning:** When the battery capacity come back. The controller will restart the load output.
- 2. Indicator of Battery Capacity flash:** Over Input Voltage protection. Please check the rated voltage of battery is 12V or 24V.
- 3. Indicator of Load Flash:** Short Circuit or Overload Protection. After clear the fault, the controller will restart the load output inner 5 minutes.
- 4. All indicator cut off:** Please check the connection of battery, and confirm the battery is destroyed or not.

5. Technical Data

MODEL	PSC1012	PSC1024Z	MODEL	PSC1012	PSC1024Z
System Volts	12V	12V/24Vauto	HVR	15.0V	15.0V/30.0V
Rated Charge Current	10A		Self consumption	≤15 mA	
Rated Load Current	10A		Charge Type	PWM	
Charge Voltage Drop	<0.3V		Temperature Compensation	-4mv/cell/°C (eustomized)	
Discharge Voltage Drop	<0.15V		Cable	≤6mm ²	
Boost Voltage	Sealed Battery 14.2V/28.4V	(keep time: 2H)	Temperature	-20°C to +50°C	
	Open Battery 14.4V/28.8V		Stock	-30°C to +60°C	
	Glue Battery 14.6V/29.2V		Humidity	<90%	
Float Voltage	13.7V	13.7V/27.4V	Weight	130g	
LVD	10.7V	10.7V/21.4V	Size	70*110*23mm	
LVR	12.6V	12.6V/25.2V	Window	105 * 67mm (±0.5mm).	
HVD	15.5V	15.5V/31.0V	Grade	IP30	
Over current Protection	11-15A				

3.2 负载状态指示灯: 当输出指示灯点亮时, 控制器所有输出均被打开。当输出指示灯熄灭时, 控制器所有输出均被关闭。输出指示灯闪烁时, 控制器发生输出过流保护, 输出均被关闭。

四 故障处理

- 4.1 电量低压警告:** 蓄电池欠压保护, 蓄电池电量恢复后, 控制器会重新启动负载。
- 4.2 全部电量指示灯闪烁:** 控制器输入过压保护, 所有输出被关闭, 请检查电池额定电压是否为 12V 或 24V。
- 4.3 负载指示灯闪烁:** 控制器输出发生短路或过载保护, 排除故障后, 两分钟内控制器自动解除过载保护并恢复输出。
- 4.4 所有指示灯均不亮:** 请检查控制器上的连接蓄电池的电缆是否脱落及是否接触良好, 蓄电池是否已损坏。

五 技术指标

型号	PSC1012	PSC1024Z	型号	PSC1012	PSC1024Z
系统电压	12V	12V/24V 自动识别	过压恢复	15.0V	15.0V/30.0V
额定充电电流	10A		空载损耗	≤15 mA	
额定负载电流	10A		充电方式	PWM	
充电回路压降	<0.3V		温度补偿	-4mv/cell/°C (可选)	
放电回路压降	<0.15V		电缆线径	≤6mm ²	
提升电压	密封电池 14.2V/28.4V	(维持时间: 2H)	环境温度	-20°C至+50°C	
	开口电池 14.4V/28.8V		存储温度	-30°C至+60°C	
	胶体电池 14.6V/29.2V		湿度	<90% 无凝露	
浮充电压	13.7V	13.7V/27.4V	重量	130g	
欠压保护	10.7V	10.7V/21.4V	产品尺寸	70*110*23mm	
负载恢复	12.6V	12.6V/25.2V	安装窗口	105 * 67mm (±0.5mm).	
过压保护	15.5V	15.5V/31.0V	防护等级	IP30	
过流保护	11-15A 过流保护动作。				