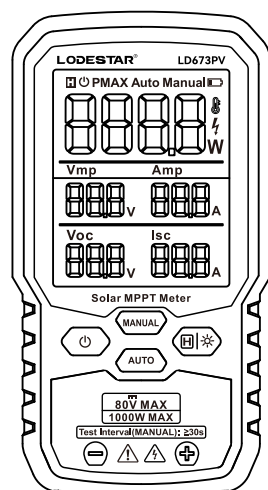


太阳能光伏板功率测试仪

LD673PV/LD673PV+



快速指南(用户手册)

1.安全事项

- (1)本产品严格遵循按照中国太阳能行业安全标准和欧洲太阳能行业安全设计标准。
- (2)请在使用仪表前仔细阅读“安全事项”并严格按照安全规范进行操作。
- (3)请正确按照国家规定的安全测量和产品规定的对应量程安全范围测量,避免仪表误操作可能损坏。
- (4)禁止在测量时触摸超过30V以上带电导体,请小心避免触电危险。
- (5)当测量超出量程范围时会有显示高压闪电符号和蜂鸣报警提示,请注意测量安全。
- (6)禁止在易燃易爆等特殊环境周围使用,避免危险。
- (7)当显示低电符号应及时更换电池,避免测量误差。
- (8)测量前检查测试线有无破损和漏电,如有发现请禁止使用。
- (9)正确连接标准的MC4,检查测试线的正、负极性。
- (10)请注意安全标示符号和安全警告语。

2.通用技术指标

产品量程: 最大功率Pmax 1000W (LD673PV)
 最大功率: Pmax 2000W (LD673PV+)
 输入保护: 防错输入, 正负反向保护, 内部过温保护。
 采样速率: 3次/S; 超量程显示OL
 自动关机: 约10分钟
 操作温度: 0~40°C
 准确精度: 23°C±5°C (18~28°C; 湿度<75%); 1年
 存放温度: -10~60°C; 湿度≤80%
 污染等级: 2
 海拔高度: 0~2000米

电池供电: 7号 / AAA 1.5V×3
 外形尺寸: 142.5H×76W×32Dmm
 产品重量: 198g (标配电池,不同型号重量有差异)
 测试配件: MC4专用测试线, 标配MC4专用的扳手工具。

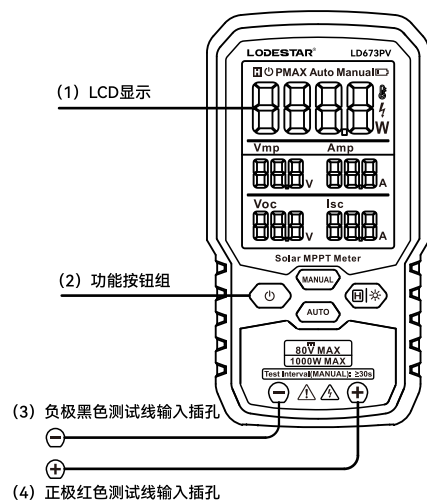
3.产品简述

全新专业设计, 太阳能功率测试仪, 有很好的手握舒适感设计, 符合人体工程学设计, 超大屏LCD显示, 具备高精度, 高性能, 防跌落、安全稳定等特点, 能准确测量太阳能板的最大点功率, 最大点电压, 最大点电流。设计有误操作反向保护, 内部过温保护, 适用于专业的太阳能板生产厂家、和太阳能板发电安装工程系统, 太阳能光伏板爱好者安装和维修专业的测量工具。

4.外观描述

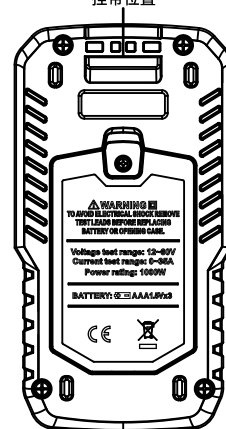
- (1) LCD显示
- (2) 功能按键
- (3) V-负极电压黑色测试输入端口
- (4) V+正极电压红色测试输入端口

产品外观图-正面



- (1) LCD显示
- (2) 功能按钮组
- (3) 负极黑色测试线输入插孔
- (4) 正极红色测试线输入插孔

产品外观图-背面



挂带位置

5.显示符号说明

序号	功能符号	说明
1	Pmax(W)	最大功率点(瓦特) 在强光下最大发电量的功率
2	Vmp(V)	最大电压点(伏特) 在强光下最大发电量的电压
3	Amp(A)	最大电流点(安培) 在强光下最大发电量的电流
4	Voc(V)	开路电压, 在太阳能光伏板没有连接负载的测量电压
5	Isc(A)	短路电流, 在太阳能光伏板正负极快速短路测量电流
6	MANUAL	手动测量, 按下一次测量一次停止。
7	AUTO	自动测量, 自动循环测量。
8	HOLD	保持数据符号
9	自动关机符号	10分钟自动关机
10	温度符号	产品内部过温检测符号
11	低电压符号	更换电池提示

6.按键功能说明

1	OFF	长按3S开机和长按2S关机
2	MANUAL	手动测量模式
3	AUTO	自动循环测量模式
4	HOLD	测量时按下数据保持, 长按3S背光点亮

7.国际电气符号

1	小心	“小心”表示有危险的操作
2	高压	“高压”表示有高压危险警告
3	CE	欧盟统一指令, 欧盟CE认证
4	回收	符合WEEE回收指令

8.功能技术指标

功能/型号	LD673PV	LD673PV+	分辨率	精度
最大功率点功率(W) Pmax	1000W	2000W	0.1W	≤800W ±(1.0%+5) ≥810W ±(1.5%+5)
最大功率点电压(V) Vmp	80V	120V	0.1V	±(1.0%+5)
最大功率点电流(A) Imp	35A	35A	0.1A	±(1.0%+5)
开路电压(V) Voc	80V	120V	0.1V	±(1.5%+5)
短路电流(A) Isc	35A	35A	0.1A	
输入保护	正/反向保护			
温度保护	长时间测量温度超过60度, 过温保护停止测试			

9.测试参考

太阳能光伏板电压规格: 12V 18V 24V 36V 48V 60V
 太阳能光伏板功率规格: 60W 100W 200W 300W
 500W 600W 700W 800W

测试功率计算: $V_{mp} \times I_{mp} = W$

示例: $48.0V \times 11.0A = 528W$

⚠️ 禁止测试大于1020W

⚠️ 禁止测试大于82.0V

⚠️ 禁止测试大于35.2A

10.一般维护

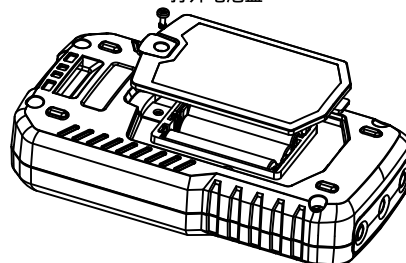
(1)更换电池 ⚠️⚠️

更换前必须先断开表笔与电路连接, 避免触电危险。
 电池规格: 7号LR03-AAA1.5V×3
 更换电池按以下图示扭开电池盖螺丝。更换电池, 更换电池后请确保电池盖扭紧螺丝才能正常使用仪表。

(2)维修 ⚠️⚠️

请由经过认可和具有专业维修经验的技术人员才能打开机外壳进行维修, 如不能解决产品故障请及时联系官方售后服务, 非专业人员请禁止操作, 避免维修不当造成损坏和触电危险。

打开电池盖



乐达以顾客为本

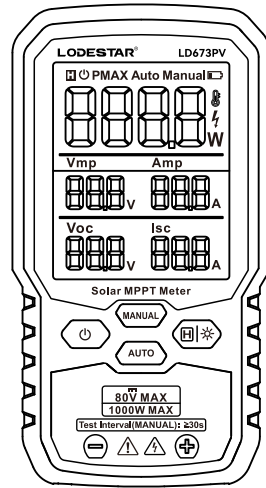
LODESTAR 乐达®

深圳市乐达精密工具有限公司
 Shenzhen LODESTAR Precision Tool Co., Ltd.
 地址: 深圳市龙岗区坂田街道龙塘工业区10栋二楼
 售后服务电话: (86-755)82533796
 邮箱: lodestar@szlodestar.com.cn



Made in China

SOLAR MPPT POWER METER
LD673PV/LD673PV+



Quick Guide (User Manual)

1. Safety Precautions

- (1) This product strictly adheres to the safety standards of the Chinese solar energy industry and the safety design standards of the European solar energy industry.
- (2) Please read the "Safety Precautions" before using the instrument and operate strictly in accordance with the prescribed safety regulations.
- (3) Please measure correctly within the safety range specified by national safety measurement standards and the corresponding range of the product to avoid possible damage from incorrect operation of the instrument.
- (4) Do not touch conductors with a voltage exceeding 30V during measurement. Please be careful to avoid electric shock.
- (5) When the measurement exceeds the range, a high-voltage lightning symbol and a buzzer alarm will be displayed. Please pay attention to measurement safety.
- (6) Do not use in flammable, explosive or other special environments to avoid danger.
- (7) When the low battery symbol is displayed, replace the battery in time to avoid measurement errors.
- (8) Before measurement, check if the test leads are damaged or leaking electricity. If any are found, do not use them.
- (9) Correctly connect the standard MC4 and check the positive and negative polarity of the test leads.
- (10) Please pay attention to safety symbols and safety warnings.

2. General Technical Specifications

Product range: Maximum Power Pmax 1000W (LD673PV) Maximum Power Pmax 2000W (LD673PV+)
 Input protection: Anti-mistake input, positive and negative reverse protection, internal over-temperature protection.
 Sampling rate: 3 times/s; Overload display OL
 Auto power off: About 10 minutes
 Operating temperature: 0~40°C
 Accuracy: 23°C±5°C (18~28°C; Humidity < 75%); 1 year
 Storage temperature: -10~60°C; Humidity ≤ 80%
 Pollution grade: 2
 Altitude: 0~2000m
 Battery-powered: 7/AAA 1.5V × 3
 Dimensions: 142.5H × 76W × 32D mm
 Weight: 198g (standard battery included, weight varies for different models)
 Test accessories: MC4 dedicated test cable, standard MC4 dedicated wrench tool.

3. Overview

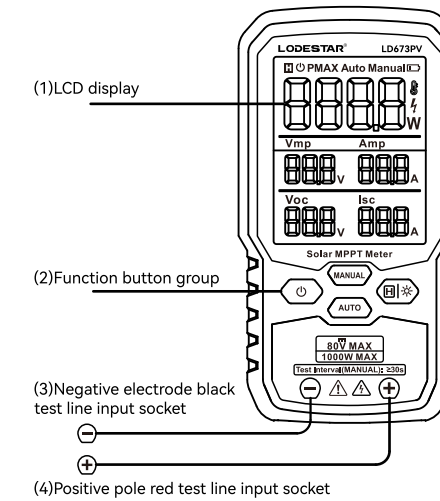
This is a brand-new professional design solar panel power tester. It has a very comfortable grip. The design is ergonomic and features a large LCD screen. It boasts high precision, high performance, shock resistance, safety and stability. It can accurately measure the maximum point power, maximum point voltage, and maximum point current of the solar panel. It is equipped with reverse operation protection and internal over-temperature protection. It is suitable for professional solar panel manufacturers, solar

panel power generation installation systems, and is also a professional measuring tool for solar photovoltaic panel enthusiasts for installation and maintenance.

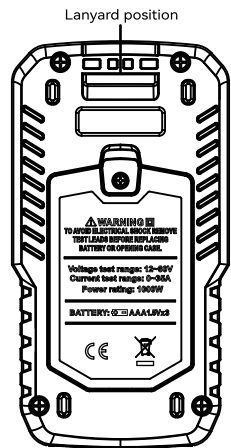
4. Appearance description

- (1) LCD display
- (2) Function key
- (3) Black test input port for negative voltage V-
- (4) Red test input port for positive voltage V+

Product appearance picture - Front side



Product appearance picture - Back side



5. Display symbol explanation

SERIAL NUMBER	SYMBOL	EXPLAIN
1	Pmax(W)	Maximum power point (W), the power at which the maximum electricity generation occurs under strong light conditions
2	Vmp(V)	Maximum voltage point (V), the voltage at which the maximum power generation occurs under strong light
3	Amp(A)	Maximum maximum current point (A), the current at which the maximum power generation occurs under strong light
4	Voc(V)	Open-circuit voltage, the measured voltage when the solar photovoltaic panel is not connected to a load
5	Isc(A)	Short-circuit current, the current measured when the positive and negative poles of the solar photovoltaic panel are rapidly short-circuited
6	MANUAL	Manual measurement: Press once to start the measurement and press again to stop it
7	AUTO	Automatic measurement, automatic cyclic measurement
8	HOLD	Maintain data symbols
9	[Symbol]	Automatic shutdown symbol, automatic shutdown after 10 minutes
10	[Symbol]	Temperature symbol, symbol for detecting excessive internal temperature of the product
11	[Symbol]	Low voltage symbol, battery replacement prompt

6. Key functions

1	OFF	Press and hold for 3 seconds to turn on the device and press and hold for 2 seconds to turn it off
2	MANUAL	Manual measurement mode
3	AUTO	Automatic loop measurement mode
4	HOLD	When measuring, press the data retention button. Press and hold for 3 seconds to turn on the backlight

7. International electrical symbols

1	[Symbol]	"Caution" indicates an operation that poses a risk
2	[Symbol]	"High pressure" indicates a warning of high voltage danger
3	[Symbol]	EU uniform directive, EU CE certification
4	[Symbol]	Compliant with the WEEE Recycling Directive

8. Technical Parameter

Function/Model	LD673PV	LD673PV+	Resolution	Accuracy
Pmax(W)	1000W	2000W	0.1W	±800W ±(1.0%+5) ±810W±(1.5%+5)
Vmp(V)	80V	120V	0.1V	±(1.0%+5)
Imp(A)	35A	35A	0.1A	±(1.0%+5)
Voc(V)	80V	120V	0.1V	±(1.5%+5)
Isc(A)	35A	35A	0.1A	±(1.5%+5)
Input protection	Forward/reverse protection			
Temperature protection	Long term temperature measurement exceeding 60 degrees, over temperature protection stops testing			

9. Test Reference

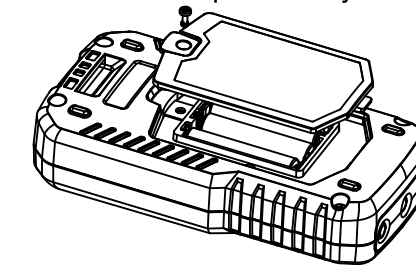
Voltage specifications of solar photovoltaic panels:
12V 18V 24V 36V 48V 60V
 Power specifications of solar photovoltaic panels:
60W 100W 200W 300W 500W 600W 700W 800W
 Test power calculation: Vmp × Amp = W
 Example: 48.0V × 11.0A = 528W

- ⚠️⚠️ Prohibit tests greater than 1020W
- ⚠️⚠️ Prohibit tests greater than 82.0V
- ⚠️⚠️ Prohibit tests greater than 35.2A

10. General Maintenance

- (1) Replace the battery ⚠️⚠️
 Before replacement, it is necessary to disconnect the connection between the meter pen and the circuit to avoid the risk of electric shock.
 Battery specification: 7#LR03·AAA1.5V×3
 To replace the battery, follow the illustration below to unscrew the battery cover screws, replace the battery, and then make sure to tighten the screws of the battery cover before using the instrument normally.
- (2) Maintenance ⚠️⚠️
 Only authorized and professionally experienced technicians should open the machine casing for repair. If the product malfunction cannot be resolved, please contact the official after-sales service immediately. Non-professionals are strictly prohibited from operating. Avoid improper repair that may cause damage and electric shock hazards.

Open the battery cover



LODESTAR® IS COMMITTED TO CUSTOMER-CENTRICITY

LODESTAR 乐达®
 Shenzhen LODESTAR Precision Tool Co., Ltd.
 Address: 2nd Floor, Building 10, Longbin Industrial Zone, Shatian Street, Longgang District, Shenzhen
 After-sales service hotline: (86-755)8253 3796
 Email: lodestar@szlodestar.com.cn

