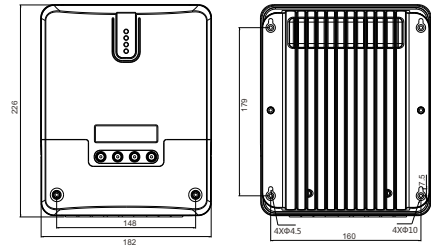


ML Series Maximum Power Point Tracking Solar Charge and Discharge Controller

SR-ML4830



SR-ML4830



ML4830
 Product size: 266×182×81mm
 Hole position: 179×160mm
 Hole size: Φ4.5mm
 Line material used: diameter <10mm

Features



- Advanced double-peak or multiple-peak tracking technology. When the panel has a shadow block or a part of the panel is damaged, I-V curve shows multiple peaks. The solar charge controller can still accurately track the maximum power point.
- Built-in algorithm for maximum power tracking. This significantly raises energy utilization efficiency of photovoltaic systems, with charging efficiency 15% ~ 20% higher than traditional PWM solar charge controllers.
- Combination of multiple tracking algorithms that can track the optimum working point of I-V curve accurately in a very short period of time.
- MPPT tracking efficiency can be as high as 99.9%.
- Advanced digital power technology, with circuit energy conversion efficiency as high as 98%.
- Supporting charging procedures of gel batteries, sealed batteries, open batteries, lithium batteries and other types of batteries.
- Current-limiting charging mode. When the power of a solar panel is too large, and the charging current is greater than rated current, the solar charge controller automatically reduces charging power, thereby making the solar panel work at rated charging current.
- Supporting the start of capacitive load instantaneous large current.
- Supporting automatic identification of battery voltage.
- LED indicator of malfunction, buzzer alarm, and liquid crystal display of abnormal information. This helps users identify system failures.
- Supporting historical data storage for up to 5 years.
- LCD screen display function. The display enables users to view equipment operation data and status, and modify controller parameters at the same time.
- Supporting standard Modbus protocol that meets communication needs on different occasions.
- Built-in mechanism of over-temperature protection. When the temperature exceeds the preset value, the charging current falls linearly with temperature, therefore slowing down the rise of controller temperature and avoiding controller damage from high temperature.
- External battery voltage sampling function. This function prevents line loss from affecting external battery voltage sampling and ensures greater preciseness of control parameters.
- Temperature compensation functions. Charging and discharging parameters are automatically adjusted, thereby extending battery service life.
- TVS lightning protection.

Parameter

Parameter Name	Parameter Value
Model	M4830
System Voltage	12V/24V/36V/48V Auto
No-Load Loss	0.7 W ~ 1.2W
Battery Voltage	9 ~ 70
Max Solar Energy Input Voltage	<150V
Max Power Point Voltage Scope	Battery Voltage +2V ~ 120V
Rated Charging Current	30A
Rated Load Current	20A
Max capacitive load capacity	10000uF
PV System Max Input Power	400W/12V 800W/24V 1200W/36V 1600W/48V
Conversion Efficiency	≤98%
MPPT Tracking Efficiency	>99%
Temperature compensation coefficient	-3mv/°C/2V (Default)
Working Temperature	-35°C ~ +45°C
Protection Level	IP32
Weight	2.3Kg
Max Wiring Size	25 mm ²
Communication Mode	RS485, RS232
Altitude	≤ 3000m
Product Size	226×182×81mm

Comparison Table of Parameters for Each Type of BatterySetting Voltage

Battery Type	Sealed Lead-Acid Battery	Gelled Lead-Acid Battery	Open Lead-Acid Battery	User (User-Defined)Overvoltage
Disconnect Voltage	16.0V	16.0V	16.0V	9 ~ 17V
Equalizing Voltage	14.6V	---	14.8V	9 ~ 17V
Boost Voltage	14.4V	14.2V	14.6V	9 ~ 17V
Floating Voltage	13.8V	13.8V	13.8V	9 ~ 17V
Boost Restoring Voltage	13.2V	13.2V	13.2V	9 ~ 17V
Low Voltage Disconnect Restoring Voltage	12.6V	12.6V	12.6V	9 ~ 17V
Under-Voltage Alarming Restoring Voltage	12.2V	12.2V	12.2V	9 ~ 17V
Under-Voltage Alarming Voltage	12.0V	12.0V	12.0V	9 ~ 17V
Low Voltage Disconnect Voltage	11.1V	11.1V	11.1V	9 ~ 17V
Discharging Limit Voltage	10.6V	10.6V	10.6V	9 ~ 17V
Over-Discharge Delay Time	5s	5s	5s	1 ~ 30s
Equalizing Duration Time	120Min	---	120Min	0 ~ 600Min
Equalizing Charging Interval	30Days	0Day	30Days	0 ~ 250D (0 refers to close equalizing charging function)
	120Min	120Min	120Min	10 ~ 600Min

The User battery is customized battery. The system's default voltage parameters are consistent with sealed lead-acid battery parameters. When modifying battery charging and discharging parameters, observe the following logic:

- ◆ Overvoltage Disconnect Voltage> Charging Limit Voltage≥ Equalizing Voltage≥ Boost Voltage≥ Floating Charging Voltage> Boost Restoring Voltage ;
- ◆ Overvoltage Disconnect Voltage> Overvoltage Disconnect Restoring Voltage ;
- ◆ Low Voltage Disconnect Restoring Voltage> Low Voltage Disconnect Voltage≥ Discharging Limit Voltage ;
- ◆ Under-Voltage Alarming Restoring Voltage> Under-Voltage Alarming Voltage≥ Discharging Limit Voltage ;
- ◆ Boost Restoring Voltage> Low Voltage Disconnect Restoring Voltage ;

