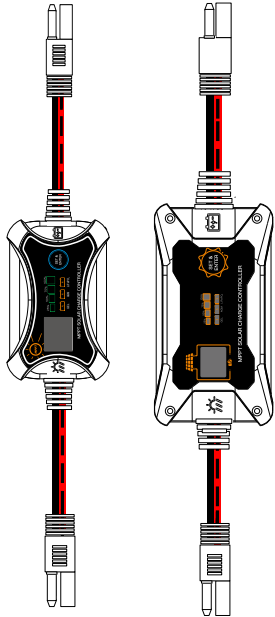


MPPT Solar Charge Controller

M1210P/M2420P

User Manual



Reminder: The controllers can be installed indoor only.

Main Feature

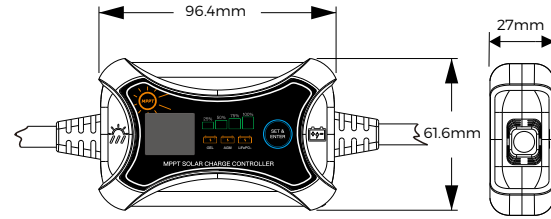
- MPPT solar charge controller with portable design.
- 3-stage charging optimizes battery performance.
- Suitable for battery types such as vented GEL/AGM and LiFePO₄.
- LCD shows Battery Voltage and Charge Current, etc.
- LED inducts Battery Soc, Charging Sta and Battery type.
- User-friendly key press operation, more simple and easier.
- Easy to be mounted.
- Overcharge, Over-temperature, Reverse Polarity Protection.

Warning and Caution

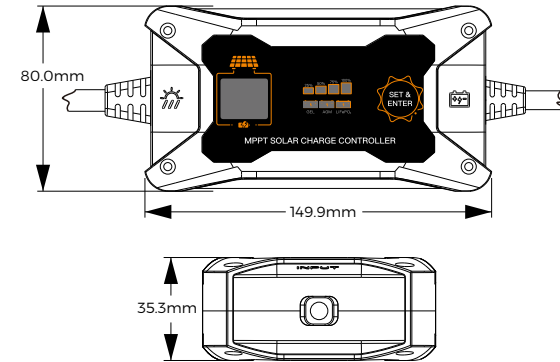
- Designed for 12V batteries, do not connect to higher voltage batteries(M1210P).
- Designed for 12V/24V batteries, do not connect to higher voltage batteries(M2420P).
- Use within rated power and voltage range.
- Avoid placing solar panels in partially sunny or shaded environments
- Keep controller away from water
- Keep controller in an environmental temperature from - 20°C~+55°C. Avoid direct sunlight.
- Keep good heat dissipation.

Product Dimension

(1) M1210P



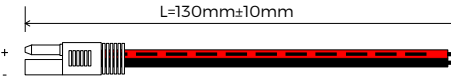
(2) M2420P



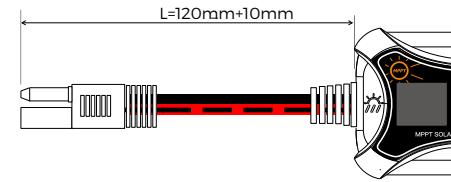
Wire Dimension

(1) M1210P

1) Accessories

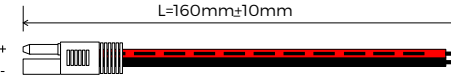


2) Controller

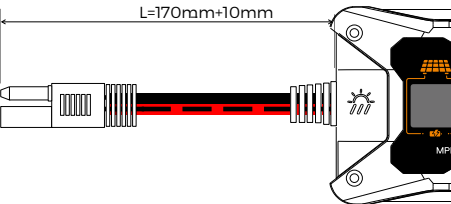


(2) M2420P

1) Accessories



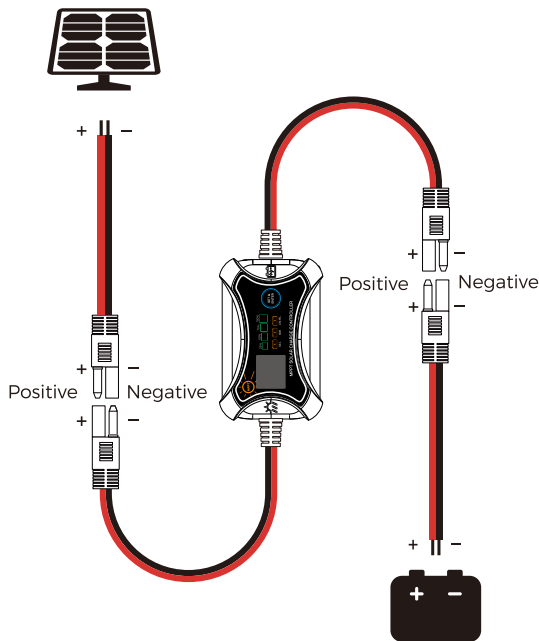
2) Controller



Specification

Parameter	Value	
Type	M1210P	M2420P
No-load Loss	20mA	12V/20mA 24V/12mA
System Voltage	12V	12V/24V
Battery Type	AGM/GEL; LiFePO ₄	
Max Solar Input Voltage	<30Voc	12V Bat/30Voc 24V Bat/60Voc
Rated Solar Charge Current	10A	20A
Max Solar Input Power	150W	300W/12V Bat 600W/24V Bat
Operating Temperature	-20°C~+45°C	
Internal Protection Temperature	-40°C~+80°C	
IP Protection	IP45	
Net Weight	130g	350g
Operating Altitude	<3000 meters	
Controller Dimension(mm)	96.4*61.6*27	149.9*80*35.3

Installation Guide

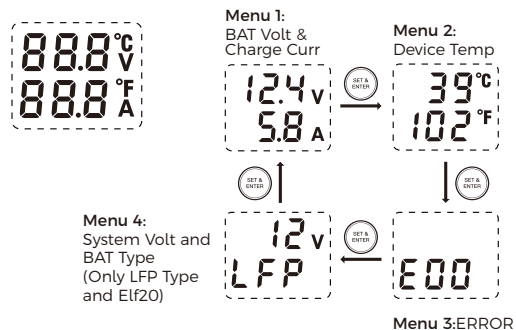


Note:

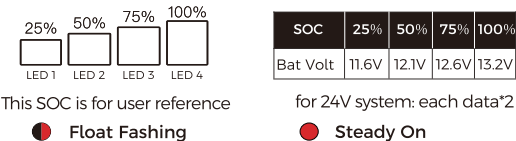
First to connect the battery, then connect PV panel.

Product Instruction

(1) LCD Display Indication



(2) Battery SOC Indication



SOC	Charging State	LED1	LED2	LED3	LED4
<25	Charging	●	●	●	●
	Idle	●			
<50	Charging	●	●	●	●
	Idle	●	●		
<75	Charging	●	●	●	●
	Idle	●	●	●	
>75	Charging	●	●	●	●
	Idle	●	●	●	●

(3) Key Operation

Function Key	System Mode	Operation	Operation indication
SET & ENTER	View Mode (LCD only)	Long Press	Enter Set Mode
		Short Press	Screen Page Switch
SET & ENTER	Set Mode (Battery LED only)	Long Press	Enter Next Set Item or Exit Set Mode And Save
		Short Press	Edit Parameter

(4) Battery Type Setting

System mode		Describe
View Mode	●	The current battery type is selected
Set Mode	●	

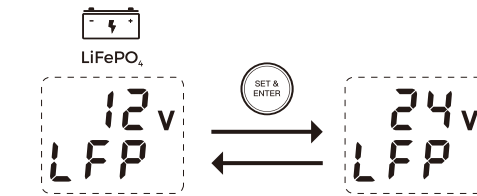
Abbreviations	Battery Types
GEL	GEL Battery
AGM	AGM Battery
LiFePO ₄	Lithium iron phosphate battery

Note:

System Voltage (M2420P And LiFePO₄)

Lead-acid batteries are selected according to the signal, generally do not need to be set, lithium batteries need to be set as follows.

First, long press the button 3s, the battery type indicator will flash, Then short press to enter the next battery type, when reach to the LiFePO₄ battery, long press the button for 3s, at this time the display screen will show a battery voltage LFP12, if you want to set 24V, short press the button, it will switch to LFP24, then long press the button 3s to save parameters.



(5) Charger Step For Diferent Battery

Battery Type	Charger Step	Voltage	
		Equalize	Boost
GEL	Voltage	GEL	-
		AGM	14.6V
		LiFePO ₄	-
AGM	Boost Charge Volt.	GEL	14.2V
		AGM	14.4V
		LiFePO ₄	14.4V
LiFePO ₄	Float Charge Volt.	GEL	13.8V
		AGM	13.8V
		LiFePO ₄	-

for 24V system: each data*2

Warning and Caution

- ▶ Solar Panel: Recommend to use nominal 18V panel for 12V battery, and 36V panel (single 36V panel or 2 units 18V panel in series) for 24V battery. Please do not arbitrarily use in series.
- ▶ Do not exceed PV Voc request as following: the PV Voc cannot exceed 30V for 12V battery; and 60V for 24V battery. Otherwise the product may be damaged.
- ▶ Charging start condition: PV voltage is 3V higher than battery voltage. PV minimum charging voltage is higher than 15V for 12V battery, 27V for 24V battery. Meanwhile the battery voltage should be higher than 3V.
- ▶ The products should be used within rated power and voltage range.
- ▶ Avoid placing solar panels in partially sunny or shaded environments.
- ▶ Keep controller away from water.
- ▶ Avoid direct sunlight.
- ▶ Keep good heat dissipation.

Error Code

Code	Error
E00	No Error
E01	Over-Discharge
E02	Battery Over Voltage
E06	Device Over Heating
E10	PV Over Voltage
E13	Solar Reverse Polarity
E14	Battery Reverse Polarity