



## MD series

### DC-DC charger with MPPT

MD1230N05

MD1250N05



#### / Specifically designed for RV

- Can be connected to both PV and alternator
- Can charge both the leisure battery and the starter battery

#### / User-Friendly

- Easy to install and simple to use
- Natural cooling, absolutely quiet

#### / Safety

- 360 degrees of security from hardware to software

#### / All-in-One

- 4 charging mode, be your reliable power steward
- Helps you save space and wire

#### / Efficient

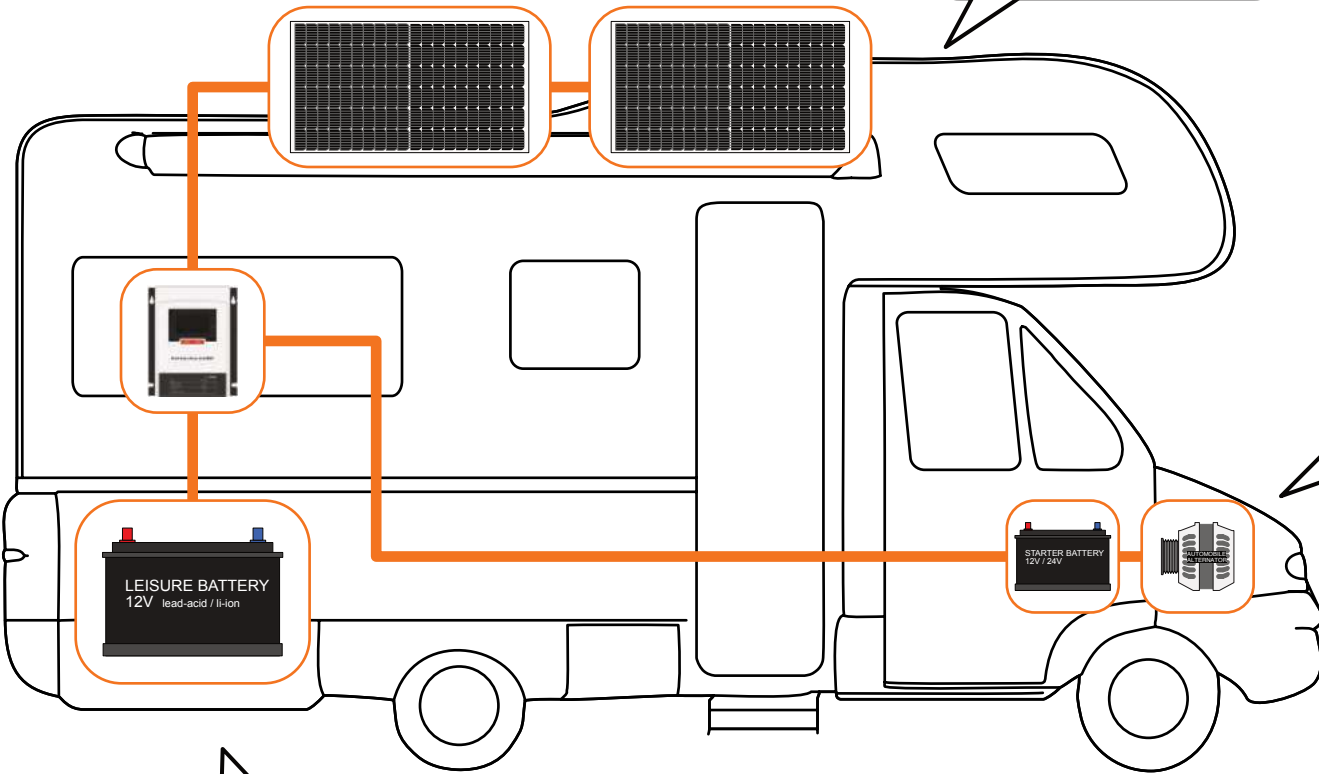
- MPPT with up to 99.9% efficiency
- Support 2 in series/2 in parallel connection

#### / Intelligent

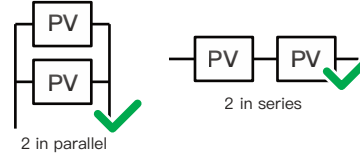
- Supports TTL communication

MODEL	MD1230N05	MD1250N05	CAN BE SET
<b>PV INPUT</b>			
Max.Voltage of Open Circuit	55Vdc		
MPPT Voltage Range	17~36Vdc		
Max.PV Input Current	27A	45A	Y
Max.PV Input Power	400W	700W	Y
<b>LEISURE BATTERY</b>			
Battery Type	Lead-acid / Li-ion / User Defined		Y
Rated Battery Voltage	12Vdc		
Battery Voltage Range	9~17Vdc		
Max.MPPT Charging Current	30A	50A	Y
Max.Alternator Charging Current	35A	60A	Y
MPPT Charging Mode	Buck		
<b>STARTER BATTERY / ALTERNATOR</b>			
Battery Type	Lead-acid		
Rated Battery Voltage	12Vdc		
Max.MPPT Charging Voltage	13.8V		
Max.MPPT Charging Current	≤15A	≤25A	
Max.Alterna- tor Input Voltage	Conventional Alternator	13.2~16Vdc / 26.4~32Vdc	
	Euro 6 Standard Alternator	12~16Vdc / 14~32Vdc	
Alternator Charging Mode	Buck,Boost,Buck-Boost		
<b>EFFICIENCY</b>			
MPPT Tracking Efficiency	>99%		
Max. Charging Conversion Efficiency	98%		
<b>COMMUNICATION</b>			
Embedded Interfaces	TTL, Remote Switch		Y
External Modules	Bluetooth (with APP)		Y
<b>GENERAL</b>			
Weight	2.08kG (4.58 lb)	2.14kG (4.71lb)	
Dimension	221*175.8*82.4mm (8.7*6.9*3.24 in)		
Protection Degree	IP32		
Operating Temperature Range	-35°C~65°C (-31°F~149°F)		
<b>CERTIFICATION</b>			
Safety	IEC62109		
EMS	IEC61000, FCC sDoC		
Rohs	YES		

## Specially Designed For RV Electricity

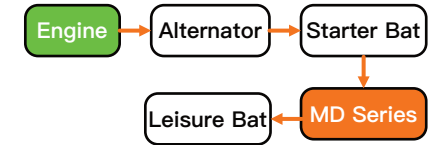


### PV connection



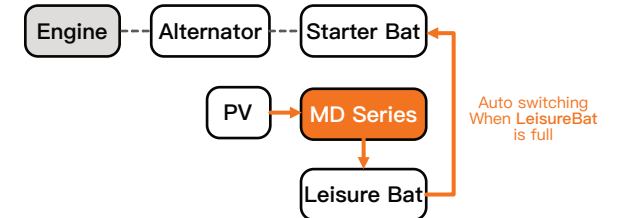
### When the engine runs

Alternator to charge the Leisure Battery

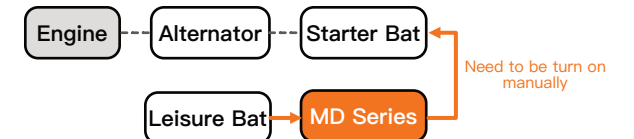


### When the engine stops

PV to charge the Starter Battery



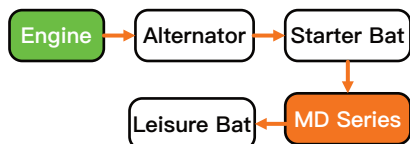
Leisure Battery to charge the Starter Battery



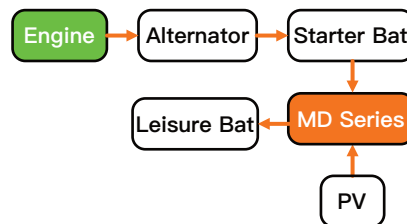
### PV to charge Leisure Bat



### Alt to charge Leisure Bat



### PV&Alt to charge Leisure Bat



### Bluetooth Mobile APP Download



# ALL IN ONE

## MODE1



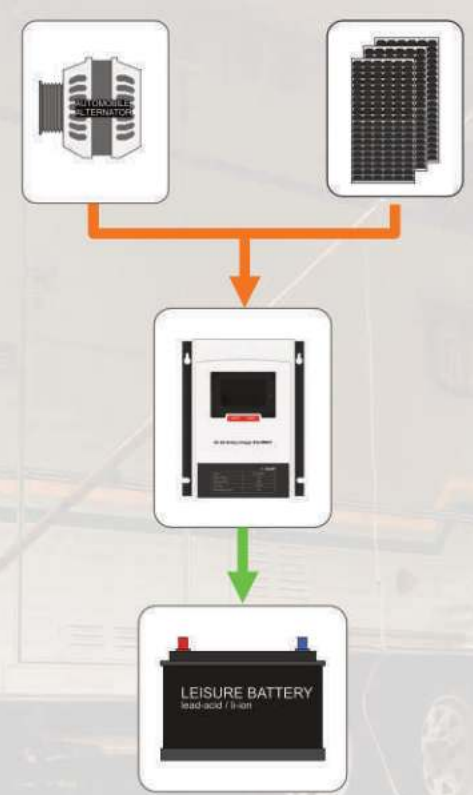
MPPT Charge the Leisure Battery

## MODE2



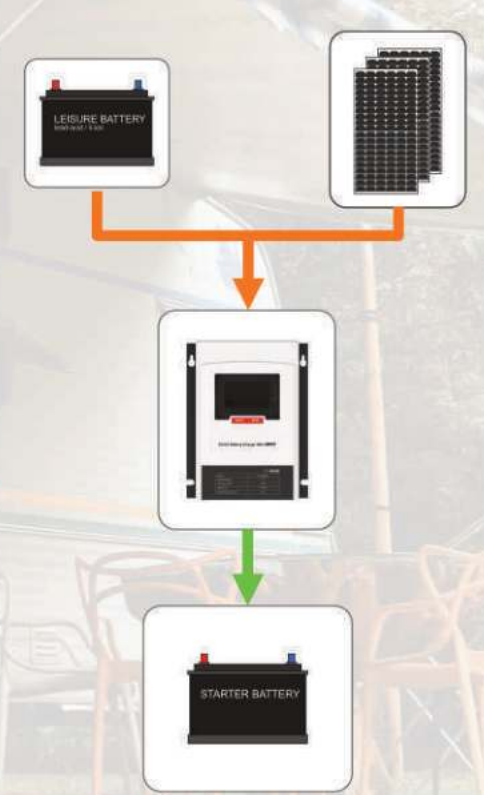
Automobile Alternator Charge the Leisure Battery

## MODE3



Automobile Alternator & PV Hybrid Charge the Leisure Battery

## MODE4



MPPT/LeisureBat Charge the Starter Battery

Even if the RV is parked for a long period of time, the starter battery has sufficient power to ensure that the RV never fails to start.

## Wiring sequence

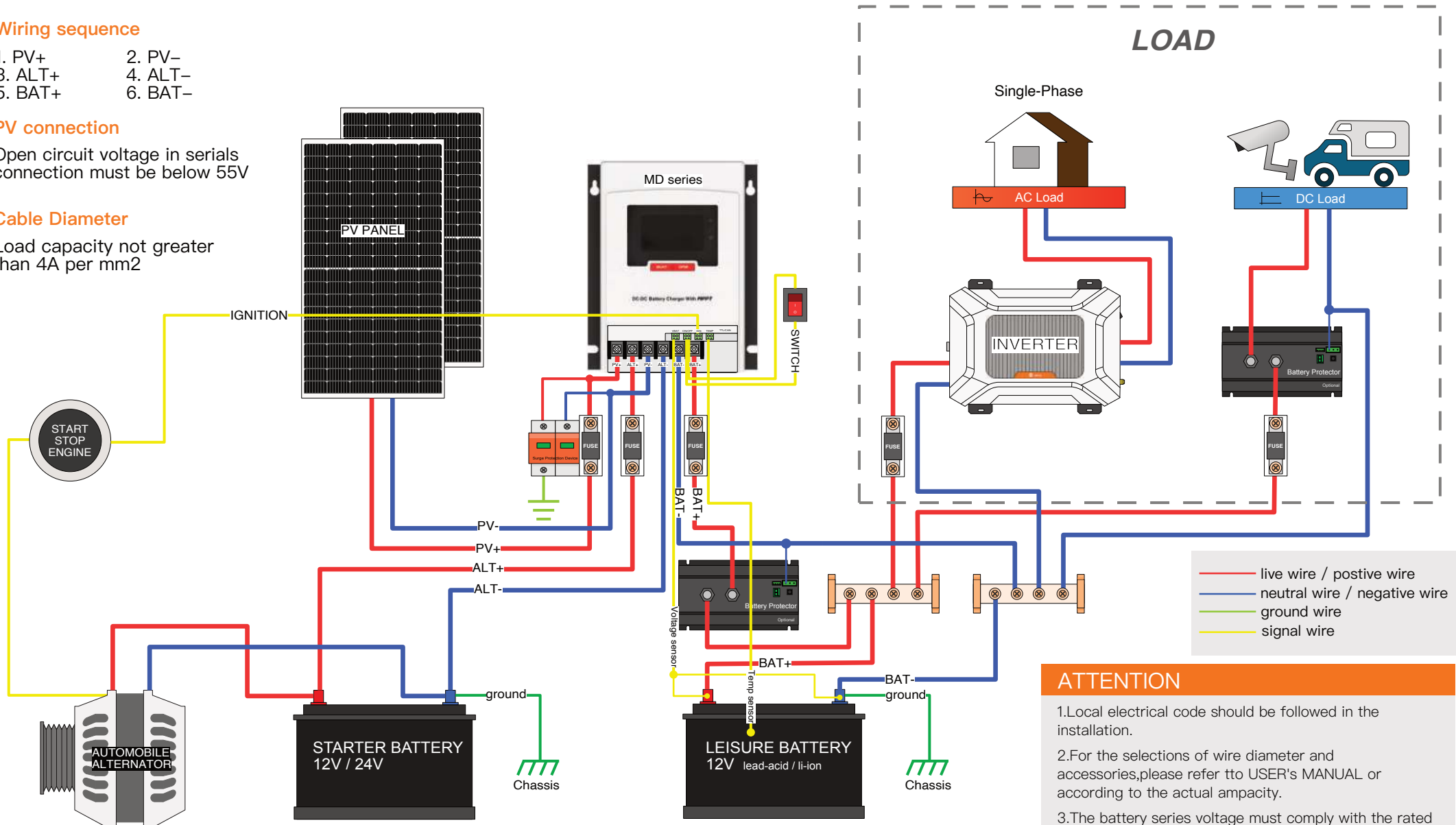
1. PV+
2. PV-
3. ALT+
4. ALT-
5. BAT+
6. BAT-

## PV connection

Open circuit voltage in serials connection must be below 55V

## Cable Diameter

Load capacity not greater than 4A per mm<sup>2</sup>



- live wire / positive wire
- neutral wire / negative wire
- ground wire
- signal wire

## ATTENTION

1. Local electrical code should be followed in the installation.
2. For the selections of wire diameter and accessories, please refer to USER'S MANUAL or according to the actual ampacity.
3. The battery series voltage must comply with the rated battery voltage of the device. The PV module series open circuit voltage must be below than the Max.Voc of the device.
4. This diagram is for reference only, please decide on the connection method according to the actual situation.



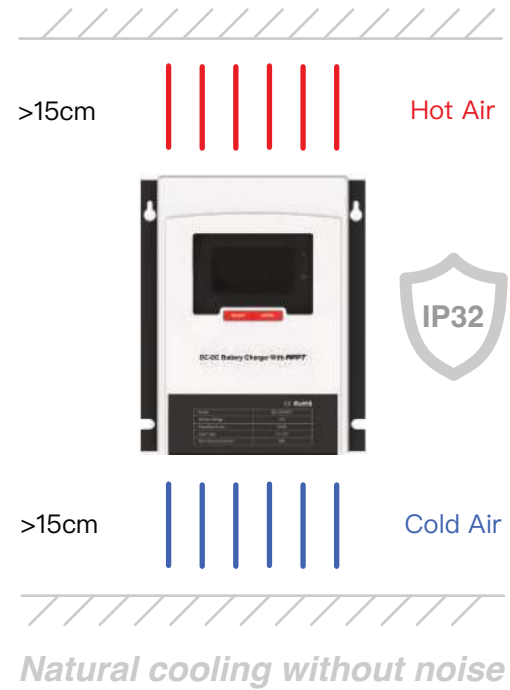
Mounting hole  $\Phi 10\text{mm}$

## Dimension

1. You can place this paper on the wall and puncture the Mounting holes with a pen to determine the mounting position
2. Please use standard A4 size paper for printing



## Environment



If you are printing on your own, there may be a few millimeters of error in the border size due to printer scaling, please check the printer settings