

## Introduction:

This is a Maximum Power Point Tracking(MPPT) function with high efficiency MPPT charge controller. It has many advantages such as self cooling, system voltage automatic recognition, wide rang of PV input,bcharge for all kinds of batteries, intelligent discharge control, RS485 communication function etc. It is the most high-end product in solar market.



## Feature:

- 1.It has an efficient MPPT algorithm, MPPT efficiency  $\geq 99.5\%$  and converter efficiency up to 98%.
- 2.Charge mode: three stages (constant current, constant voltage, floating charge), it prolongs service life of the batteries.
- 3.Four types of load mode selection: ON/OFF, PV voltage control, Dual Time control, PV+Time control .
- 4.Battery system voltage automatic recognition.
- 5.Three kinds of commonly used lead-acid battery (Seal\Gel\Flooded) parameter settings fcan be selected by the user, and the user can also customize the parameters for other battery charging.
- 6.It has a current limiting charging function. When the power of PV is too large, the controller automatically keeps the charging power, and the charging current will not exceed the rated value.
- 7.Support multi - machine parallel to realize system power upgrade.
- 8.High definition LCD display function to check the device running data and working status, also can support modify the controller display parameter.
- 9.RS485 communication, we can offer communication protocol to convenient user's integrated management and secondary development.
- 10.Support PC software monitoring and WiFi module to realize APP cloud monitoring.
- 11.CE, RoHS, FCC certifications approved, we can assist clients to pass various certifications.
- 12.3 years warranty, and 3~10 years extended warranty service also can be provided.

## Parameter

MASTER series		48BL-100A
Product category	Controller Properties	MPPT (maximum power point tracking)
	MPPT efficiency	$\geq 99.5\%$
	Standby power	0.5W~1.2W
	System voltage	Automatic recognition
	Heat-dissipating method	Air cooling

Input Characteristics	Max.PV input voltage(VOC)		DC150V
	Start the charge voltage point		Battery voltage + 3V
	Low input voltage protection point		Battery voltage + 2V
	Over voltage protection point		DC150V
	Rated PV power	12V system	1300W
		24V system	2600W
		36V system	3900W
		48V system	5200W
		96V system	□
Charge Characteristics	Selectable Battery Types (Default Gel battery)		Sealed lead acid, Gel battery, Flooded (Other types of the batteries also can be defined)
	Charge rated current		100A
	Charging Method		3-Stage: constant current(fast charging)-constant voltage-floating charge
LOAD Characteristics	Load voltage		The same as the battery voltage
	Load rated current		100A
	Load control mode		On\Off mode, PV voltage control mode, Dual-time control mode, PV + Time control mode
Display & Communication	Display mode		High-definition LCD segment code backlight display
	Communication mode		8-pin RJ45 port/RS485/support PC software monitoring/support WiFi module to realize APP cloud monitoring

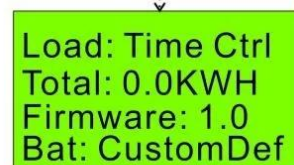
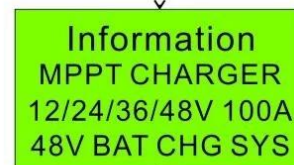
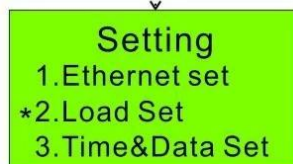
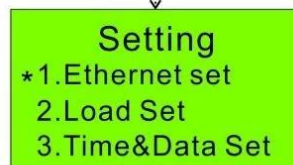
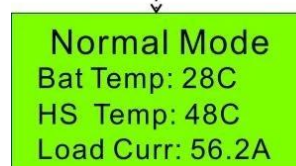
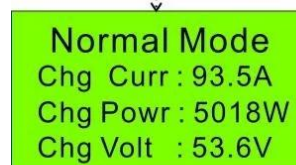
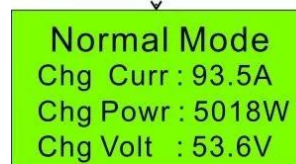
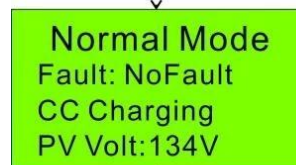
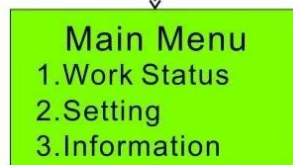
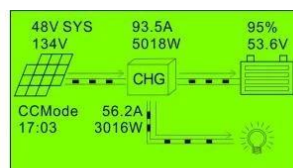
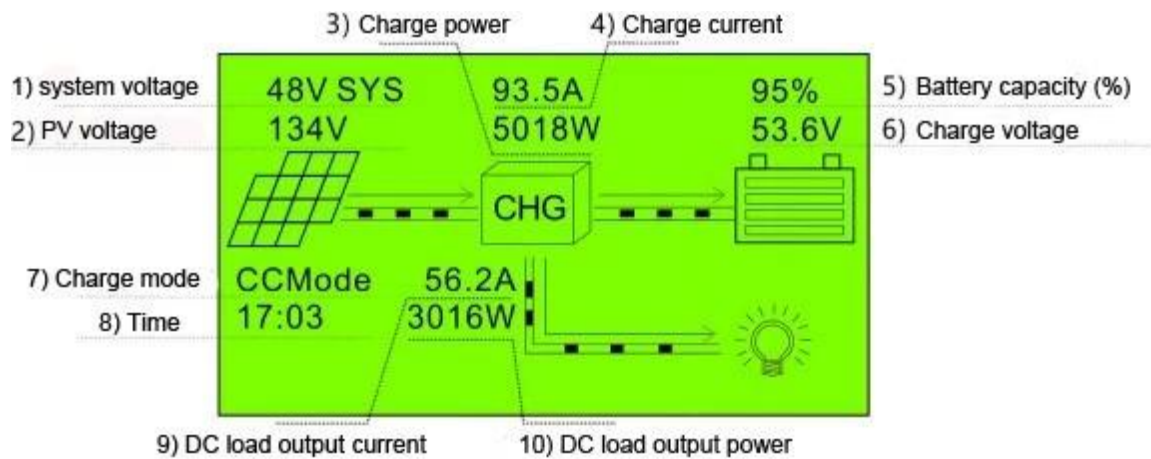
Other Parameters	Protect function	Input-output over \ under voltage protection, Prevention of connection reverse protection,battery shedding protection etc.
	Operation Temperature	-20℃~+50℃
	Storage Temperature	-40℃~+75℃
	IP(Ingress protection)	IP43
	Max. connection size	50mm <sup>2</sup>
	Net Weight (kg)	7.1
	Gross Weight (kg)	8.8
	Product Size(mm)	420*280*95
	Packing Size(mm)	510*368*210

Remark:Above is company's standard parameters;

## Product Parts:

NO.	Quantity	Description
1	1PC	MPPT Solar controller□Blue,Green or White□
2	2 pc	hangers(To install the controller on the wall )
3	8 set	Screw(To keep the hangers into the controller )
4	1 pc	RJ45 turn to RS232 communication cable
5	1 pc	Temperature sensing wire
6	1 pc	User manual

## The Main Information of MPPT



## Setting page

Note: All above information is a sample which is the working state of MASTER in some time . In

different working stage the parameters will change, like working mode , charge current ,charge mode ,charge power and so on ; In the fault mode it will show fault mode ;

## Upper Computer Software and Test Software

MPPT Solar MonitorV1.0

**IPANDEE** MPPT Model: Explorer-M2460 Firmware: V2.6 Serial: 9246111120220419 Message: Click [START EDIT] to modify parameters!

Com Port: COM1 BaudRate: 9600 Address: 1

Opened CLOSE

CHECK ADDRESS

STOP MONITOR

START EDIT

SET TIME

RESTORE

DATA CORRECTION

**Running State**

Standby

**Real-time Data**

PV Volt: 0.1V  
BAT Volt: 14.2V  
Load Volt: 14.1V  
CHG Curr: 0.0A  
Load Curr: 0.4A  
CHG Power: 0W  
Load Power: 5W  
Inner Temp: 27.0°C  
BAT Temp: 25.0°C  
Alarm Tip: PV Low

**Electricity Statistics**

Day CHG: 0.0kWh  
Month CHG: 0.0kWh  
Total CHG: 0.0kWh  
Day Used: 0.5kWh  
Month Used: 0.5kWh  
Total Used: 0.5kWh

**Bat Parameters Of Controller**

Bat Category: FLD System Volt: (Auto)12 V  
C.V. Charge: 14.6 V Float Charge: 13.8 V  
Equalizing V: 14.8 V Equalizing T: 30 min  
Max Chg Curr: 80.0 A Max Load Curr: 30.0 A  
Battery Over: 15.0 V Over Recover: 14.8 V  
Battery Low: 10.5 V Low Recover: 11.0 V

**Load Output Parameters Of Controller**

Load Control Mode: On Mode  
Note: If Vbat exceeds the protection, will turn off!

**Bat Parameters Set**

Select Battery

BatType: FLD Sys. Volt: Auto  
Max CHG -I: 80.0 A Max Load-I: 30.0 A  
SAVE

**Load Output Set**

Light Mode

On Load->PV Low: 30.0 V Off Delay: 10 min  
OffLoad->PV OK: 30.0 V Off Delay: 10 min

Dual Timer Mode

Timer1->On Time: 10:30 Off Time: 21:00  
Timer2->On Time: 00:00 Off Time: 00:00

Light-Time Mode

Dark->On Load->PvLow: 30.0 V On Hour: 1 H  
Dawn->OffLoad->Pv Ok: 30.0 V On Hour: 0 H

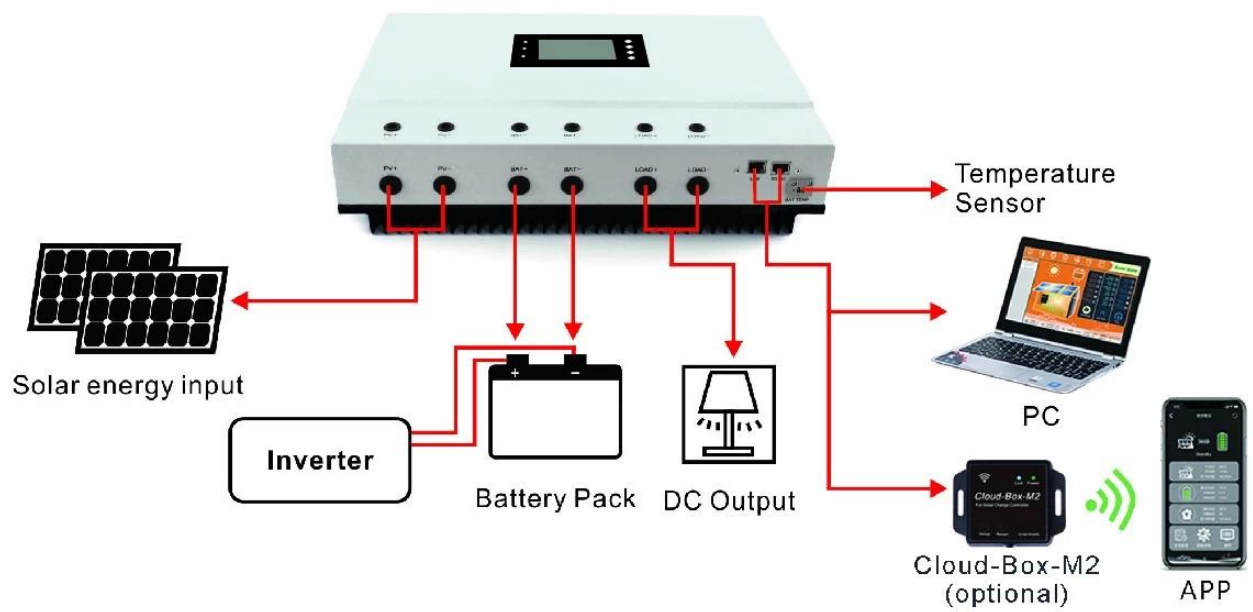
Load Mode Selection:

On Mode SAVE

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The interface of upper computer software working state

## System connection diagram



### Parallel connection diagram

