

# off-grid solar system 12V/24V/36V48V 80A MPPT solar charge controller



## 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.
- 12.2 years warranty, and 2~10 years extended warranty service also can be provided.

## Parameter

MASTER series		48BL-80A	48BH-80A
Product category	Controller Properties	MPPT (maximum power point tracking)	
	MPPT efficiency	$\geq 99.5\%$	
	Standby power	0.5W~1.2W	
	System voltage	Automatic recognition	48V
	Heat-dissipating method	Air cooling	

Input Characteristics	Max.PV input voltage(VOC)	DC150V	DC300V	
	Start the charge voltage point	Battery voltage + 3V	Battery voltage + 10V	
	Low input voltage protection point	Battery voltage + 2V	Battery voltage + 5V	
	Over voltage protection point	DC150V	DC300V	
	Rated PV power	12V system	1040W	□
		24V system	2080W	□
36V system		3120W	□	
48V system		4160W	4160W	
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	80A	80A	
	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	80A	80A	
	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°C~+50°C
	Storage Temperature	-40°C~+75°C
	IP(Ingress protection)	IP43
	Max. connection size	50mm2
	Net Weight (kg)	7.1
	Gross Weight (kg)	8.8
	Product Size□mm□	420*280*95
	Packing Size(mm)	510*368*210

### 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

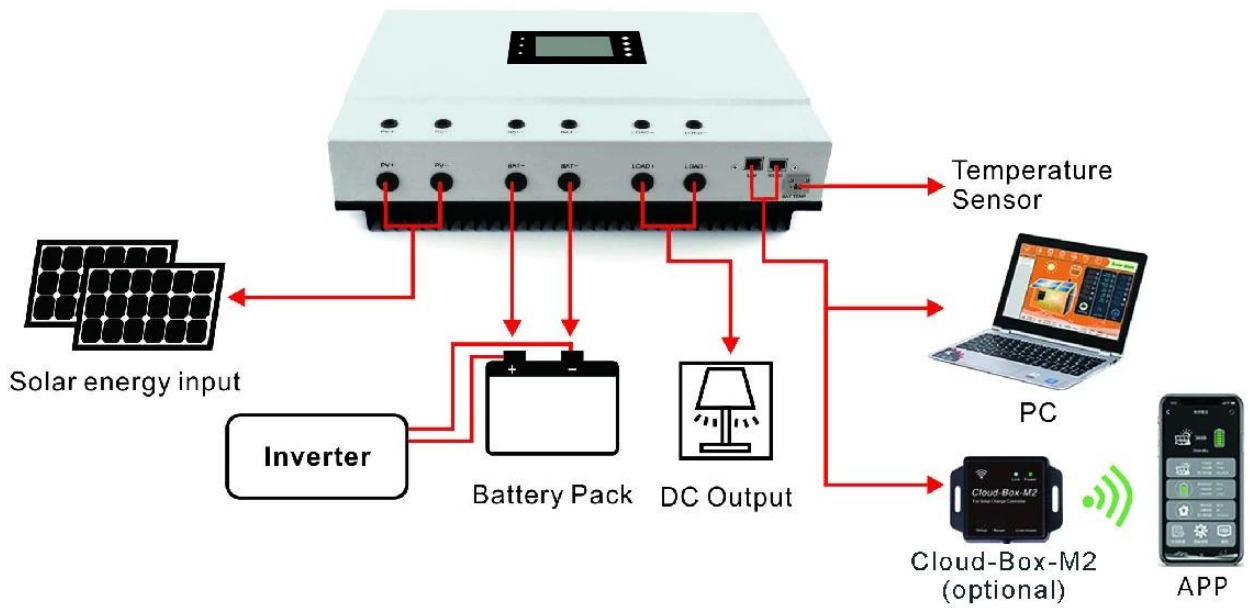
The screenshot shows the IPANDEE MPPT Solar Monitor V1.0 software interface. The title bar indicates the software version and includes standard window controls. The main interface is divided into several sections:

- Running State:** Shows the controller is in "Standby" mode.
- Real-time Data:** Displays various real-time parameters such as PV Voltage (0.1V), BAT Voltage (14.2V), Load Voltage (14.1V), CHG Current (0.0A), Load Current (0.4A), CHG Power (0W), Load Power (5W), Inner Temp (27.0°C), BAT Temp (25.0°C), and Alarm Tip (PV Low).
- Electricity Statistics:** Shows cumulative energy statistics for Day, Month, and Total CHG, as well as Day Used, Month Used, and Total Used.
- Bat Parameters Of Controller:** Displays battery-related parameters including Bat Category (FLD), C.V. Charge (14.6V), Equalizing V (14.8V), Max Chg Curr (60.0A), Battery Over (15.0V), Battery Low (10.5V), System Volt (Auto)12V, Float Charge (13.8V), Equalizing T (30min), Max LoadCurr (30.0A), Over Recover (14.8V), and Low Recover (11.0V).
- Bat Parameters Set:** Allows configuration of Bat Type (FLD), Sys. Volt (Auto), Max CHG -I (30.0A), and Max Load-I (30.0A).
- Load Output Parameters Of Controller:** Shows Load Control Mode (On Mode) and a note about Vbat protection.
- Load Output Set:** Configures Load Output Set, Light Mode (On Load->PV Low, Off Delay), Dual Timer Mode (Timer1->On Time, Off Time, Timer2->On Time, Off Time), and Light-Time Mode (Dark->On Load->PvLow, On Hour, Dawn->OffLoad->Pv Ok, On Hour).
- Load Mode Selection:** Shows the current Load Mode (On Mode) and a SAVE button.

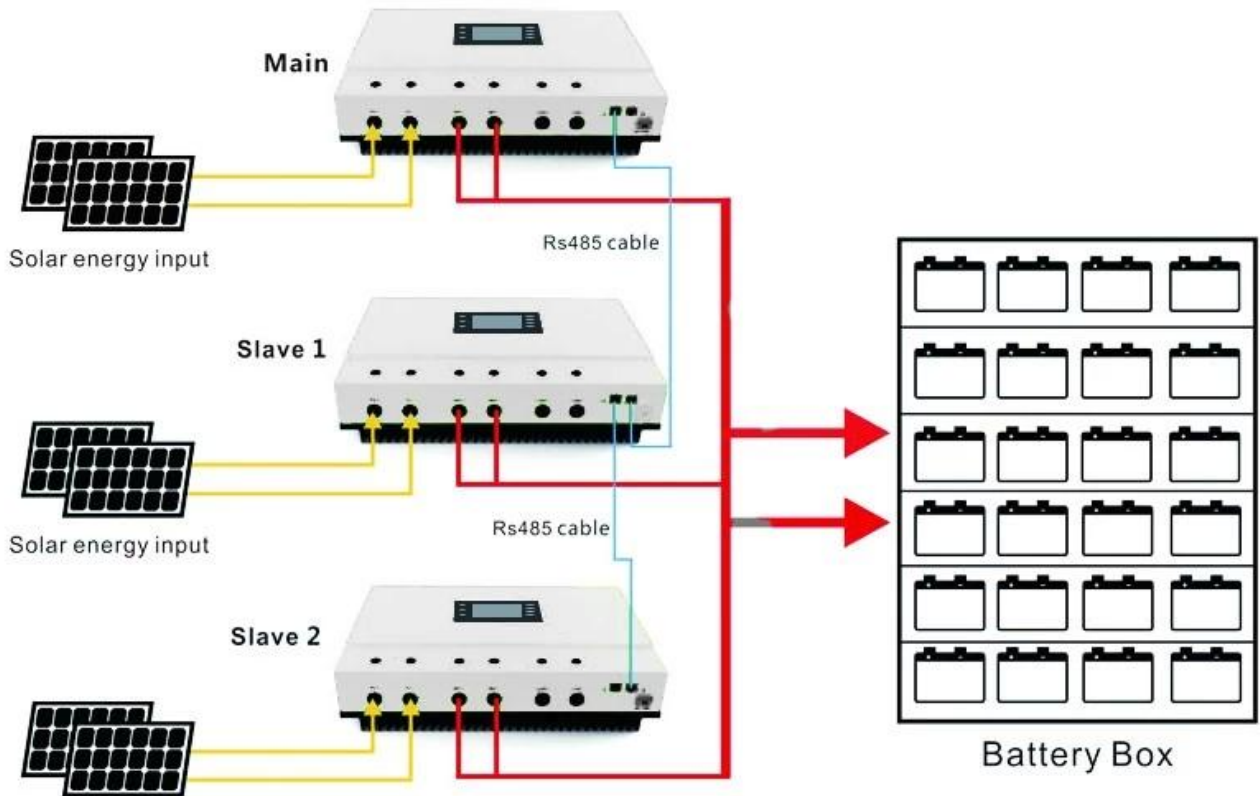
The bottom status bar provides system information: Copyright(C)IPANDEE [2022/1], 2022- 4-19 15:37:33, Bytes received: 379468, Bytes sent: 99320, Language: English, and a button to switch to Chinese (切换为中文).



### System connection diagram



### Parallel connection diagram



**MASTER MPPT controller won Shanghai 10th(2016) SNEC Fair 10TOP Highlights**



**Welcome to contact discuss more details**