

off-grid solar system 12V/24V/36V/48V 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

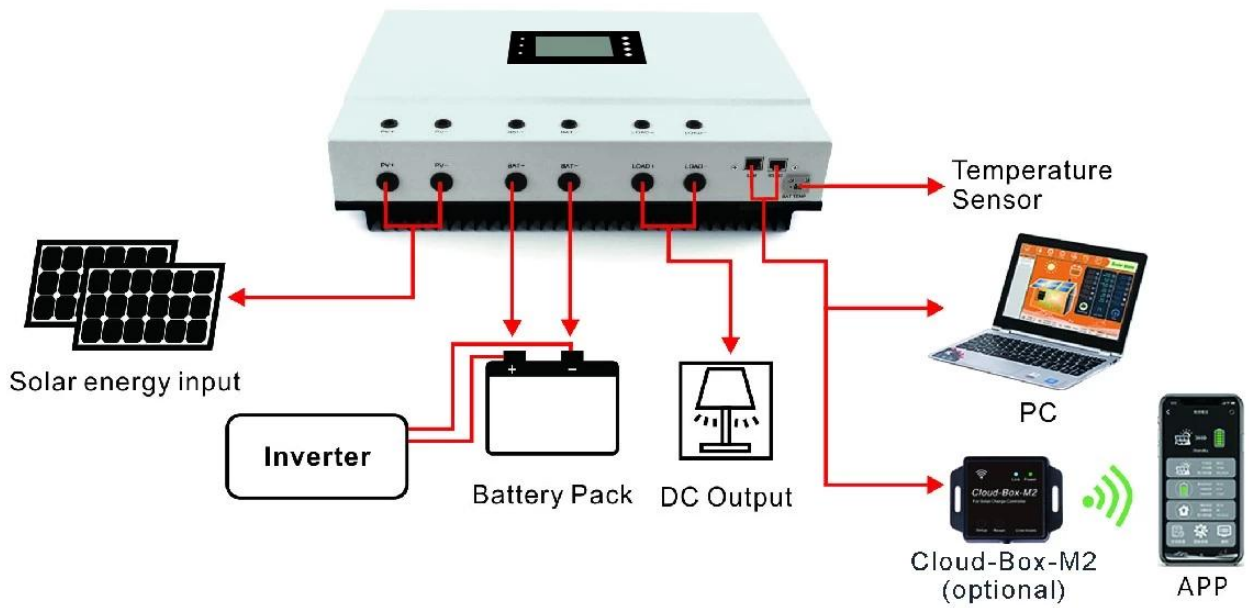
The screenshot displays the IPANDEE MPPT Solar Monitor V1.0 software interface. At the top, it shows the MPPT Model (Explorer-M2460), Firmware (V2.6), and Serial number (9246111120220419). A message prompts the user to click [START EDIT] to modify parameters. The interface is organized into several functional areas:

- Running State:** Currently shows 'Standby'.
- Real-time Data:** Displays various electrical 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 usage for Day, Month, and Total, including CHG and Used values.
- Bat Parameters Of Controller:** Lists battery-related settings like Bat Category (FLD), C.V. Charge (14.6V), Equalizing V (14.8V), Max Chg Curr (60.0A), Battery Over (15.0V), and Battery Low (10.5V).
- Bat Parameters Set:** Allows configuration of BatType (FLD), Sys. Volt (Auto), Max CHG -I (30.0A), and Max Load-I (30.0A).
- Load Output Parameters Of Controller:** Includes Load Control Mode (On Mode) and a note about Vbat protection.
- Load Output Set:** Configures Light Mode (On Load/Off Load PV Low/OK voltages and Off Delay) and Dual Timer Mode (Timer1/Timer2 On and Off times).
- Light-Time Mode:** Sets Dark/Down On Load/Off Load PV Low voltages and On Hours.
- Load Mode Selection:** Currently set to 'On Mode'.

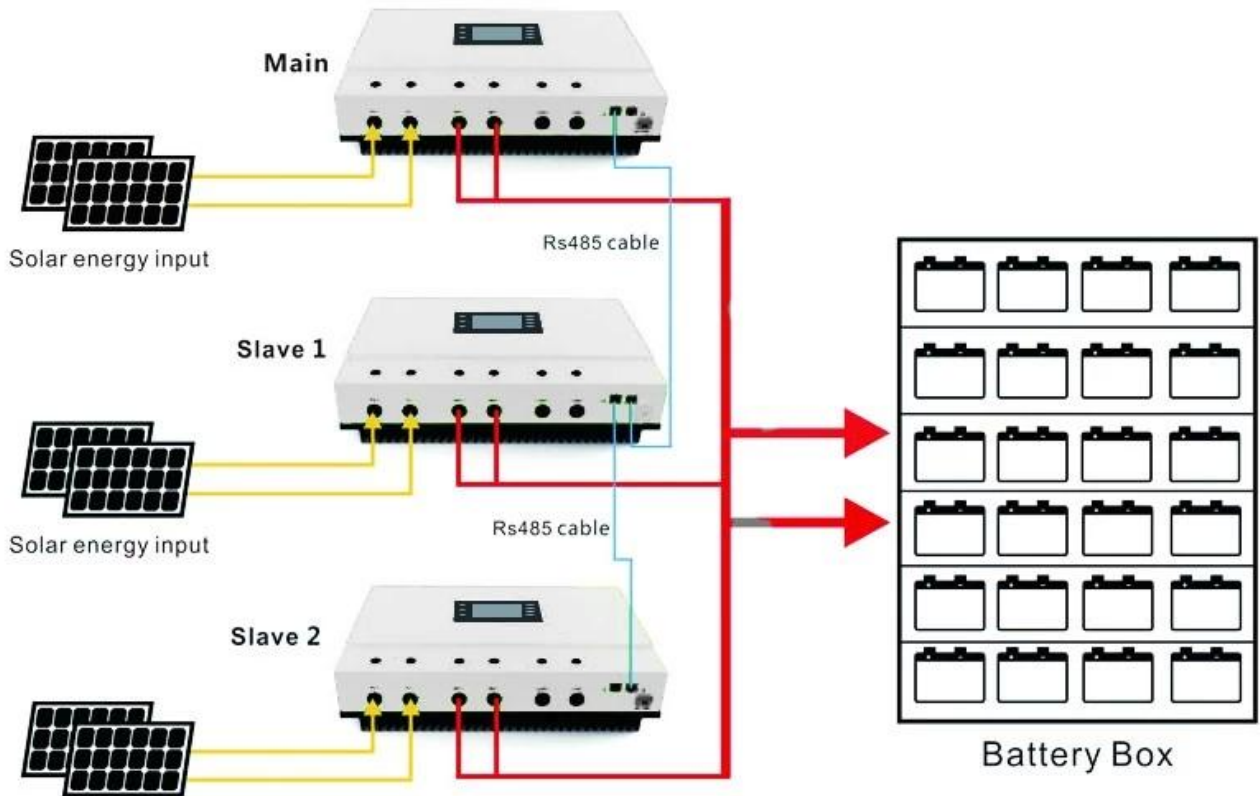
The interface also features a left sidebar with control buttons: CHECK ADDRESS, STOP MONITOR, START EDIT, SET TIME, RESTORE, and DATA CORRECTION. The status bar at the bottom provides system information including the date and time (2022- 4-19 15:37:33), data transfer statistics (Bytes received: 378468, 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