Connection Diagram

Fuctions:

1)MPPT (Maximum Power Point Tracking) charge function
2)Auto Recognition function
3)3-stage charge function
4)Professional PC communication function

Feature:

1.MPPT charge mode,conversion efficiency upto 99%,can save 30%~60% of the power than traditional controller.

2.With high efficient MPPT operation scheme and adopting TI28035 chip,make the Solar panels utilization rate upto 99%.

Intelligent design,the device can be upgraded online,customers enjoy the lifelong upgrade service.

4.Compliance with the 2002/95/EC environment protecting demand,doesn’t include the Cadmium, hydride and fluoride

5.Adopting the well-known brand components,the devices can suffer the temperature not less than 105℃.The service life is designed to extend to 10 years in theory.

6.Charge mode: three stages (fast charge,constant charge,floating charge)

7.12V/24V/48V system auto recognize for easy control.

8.Nominal maximum solar input is DC 150V

9.Connected Battery Type choosing: Sealed lead acid, vented, Gel, NiCd battery. Other types of the batteries can also be defined.

10. LCD and LEDs show all kinds of parameter like products model, PV input voltage,battery

voltage,charge current,charge power,work condition,and also can add customers’company name and website.

11. Communication Port.RS232 communication can provide communication protocol, This make the unified and integrated management more convenient to customers.

12. With providing a Microsoft by connecting with PC that can show the working state and all parameters in 7 languages.

13. Extensible LAN remote control.

14.Equipment integrity: controller+CD-ROM(microcomputer software) + communication wire+Anderson terminals;

15.CE,ROHS,FCC,PSE certifications approved.The device also can support to pass the other certifications.

16. 2 years warranty. And 3~10 years extended warranty service also can be provided.

Parameters

Model:I-P-MSC-DC12V/24V/48V-series		40A	50A	60A
Charge Mode	Maximum Power Point Tracking			
Method	3 stages: fast charge(MPPT),constant voltage,floating charge			
System Type	DC12V/24V/48V	Automatic recognition		
System Voltage	12V system	DC9V~DC15V		
	24V system	DC18V~DC30V		
	48Vsystem	DC36V~DC60V		
Soft Start Time	12V/24V/48Vsystem	≤10S		
Dynamic Response Recovery Time	12V/24V/48Vsystem	500us		
Conversion Efficiency	12V/24V/48Vsystem	≥96.5%,≤99%		
PV Modules Utilization Rate	12V/24V/48Vsystem	≥99%		
Input Characteristics				
MPPT Working Voltage and Range	12V system	DC18V~DC150V		
	24V system	DC34~DC150V		
	48V system	DC65~DC150V		
Low Voltage Input Protection Point	12V system	DC16V		
	24V system	DC30V		
	48V system	DC60V		
Low Voltage Input Recovery Point	12V system	DC22V		
	24V system	DC34V		
	48V system	DC65V		
Max DC Voltage	12V/24V/48V system	DC160V		
Input Overvoltage Protection Point	12V/24V/48V system	DC150V		
Input Overvoltage Recovery Point	12V/24V/48V system	DC145V		
Max. PV Power	12V system	570W	700W	900W
	24V system	1130W	1400W	1700W
	48V system	2270W	2800W	3400W
Output Characteristics				

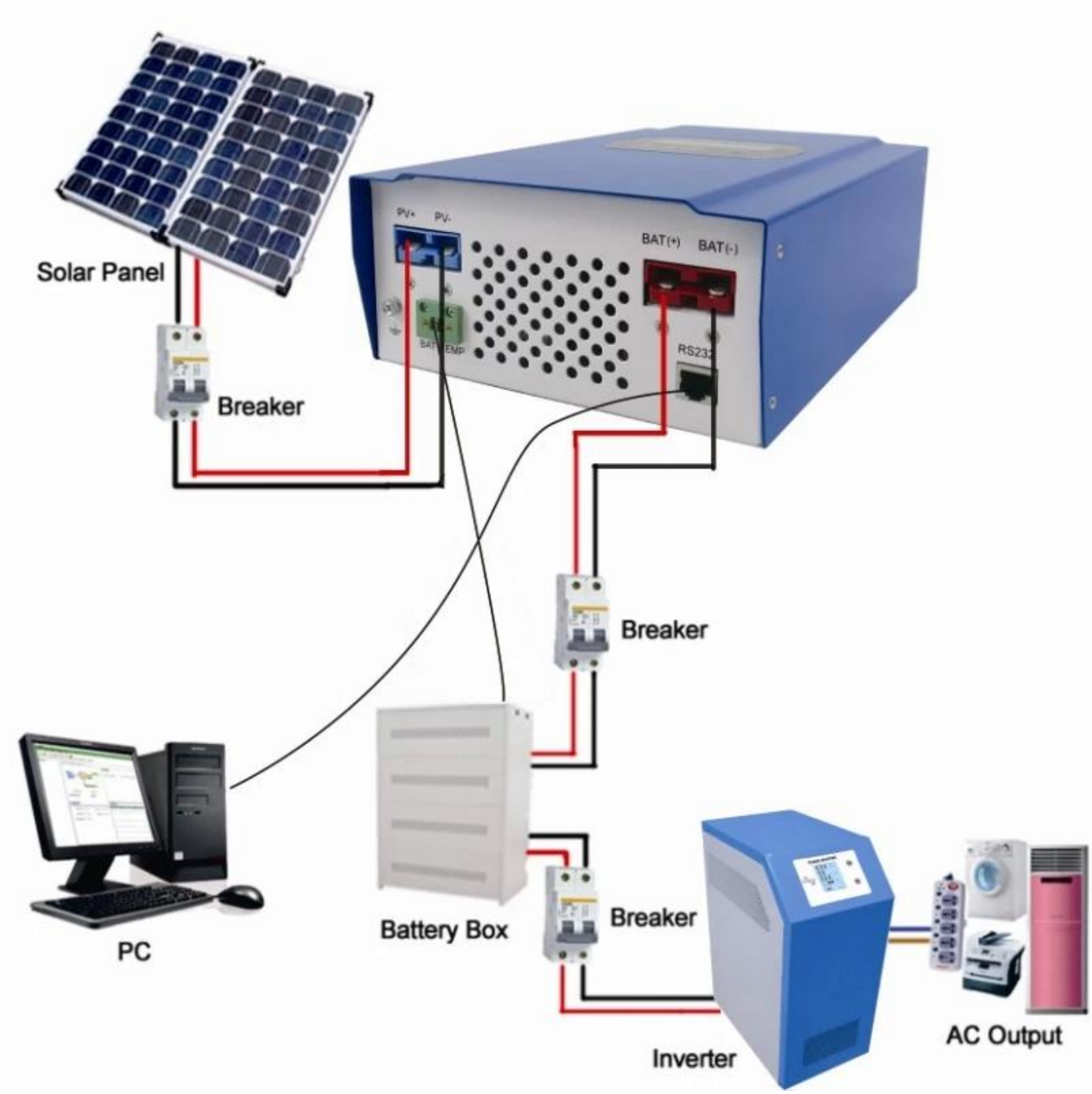
Selectable Battery Types (Default type is GEL battery)	12V/24V/48Vsystem	Sealed lead acid, vented, Gel, NiCd battery (Other types of the batteries also can be defined)		
Constant Voltage	12V/24V/48V system	Please check the charge voltage according to the battery type form.		
Floating Charge Voltage	12V/24V/48V system			
Over Charge Protection Voltage	12V system	14.6V		
	24V system	29.2V		
	48V system	58.4V		
Rated Output Current	12V/24V/48V system	40A	50A	60A
Current-limiting Protection	12V/24V/48V system	44A	55A	66A
Temperature Factor	12V/24V/48V system	±0.02%/℃		
Temperature Compensation	12V/24V/48V system	14.2V-(The highest temperature-25℃)*0.3		
Output Ripples(peak)	12V/24V/48V system	200mV		
Output Voltage Stability Precision	12V/24V/48V system	≤±1.5%		

Display	
LCD display	Input,output parameter and output power etc (check the LCD display instruction)
LED display	3 LEDs indicates:Fault indicate light,charge indicate light,power source indicate light(check the LED instruction)
Software Control through PC(communication port)	RS232 (matching) or LAN(optional)
Protection	
Input Low Voltage Protection	Check the input characteristics
Input Overvoltage Protection	Check the input characteristics
Input Polarity Reversal Protection	yes
Output Overvoltage Protection	Check the output characteristics
Output Polarity Reversal Protection	yes
Short-circuit Protection	Recover after eliminating the Short-circuit fault,no problem for long term Short-circuit
Temperature Protection	95℃
Temperature protection	Above 85℃,decrease the output power,decrease 3A per degree.
Other Parameters	
Noise	≤40dB
Thermal methods	Forced air cooling,fan speed rate regulated by temperature,when inner temperature is too low,fan ran slowly or stop;when controller stop working,fan also stop ran.
Components	World brand raw materials. Compliance with EU standards.All rated temperature of electrolytic capacitors not less than 105℃
Smell	No peculiar smell and and toxic substances.
Environment Protection	Meet the 2002/95/EC,no cadmium hydride and fluoride

Physical	
Measurement DxWxH(mm)	270*185*90
N.G(kg)	3
G.N(kg)	3.6
Color	Blue/Green (optional)
Safety	CE,RoHS, PSE,FCC
EMC	EN61000
Type of Mechanical Protection	IP21
Environment	
Humidity	0~90%RH (no condense)
Altitude	0~3000m
Operating Temperature	-20℃ ~ +40℃
Storage Temperature	-40℃ ~ +75℃
Atmospheric Pressure	70~106kPa

The specification is only for reference. Subject to change without prior notice.We provide OEM and ODM service.The 36V/72V/96V model also can be custom made for you.

Communication way



Applications

1. Industrial,commercial,household off-grid solar power system
2. moveable off-grid solar power system
3. Communication base stations
4. Energy knowledge popularization

Welcome to order I-Panda [MPPT Solar Charge Controller Smart1 48V 60A]