## 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 Tl28035chip, make the Solar panels utilization rate upto 99%.
- 3.Intelligent design, the device can be upgraded online, customers enjoy the lifelong upgrade service.
- 4.Compliance with the 2002/95/EC environment protectingdemand, 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°C. The service life is designed to extend to 10 years in theory.
- 6. Charge mode: three stages (fastcharge, constant charge, floating charge)
- 7.12V/24V/48V system autorecognize for easy control.
- 8. Nominal maximum solar input isDC 150V
- 9.Connected BatteryType choosing: Sealed lead acid, vented, Gel, NiCd battery. Other types of thebatteries can also be defined.
- 10. LCD and LEDs show all kinds ofparameter like products model, PV input voltage, battery voltage, charge current, charge power, work condition, and also can add customers' company name andwebsite.
- 11. Communication Port.RS232communication can provide communication protocol, This make the unified and integrated management more convenient to customers.
- 12. With providing a Microsoft byconnecting with PC that can show the working state and all parameters in 7languages.
- 13. Extensible LAN remote control.
- 14.Equipment integrity:controller+CD-ROM(microcomputer software) + communication wire+Anderson terminals;
- 15.CE,ROHS,FCC,PSE certificationsapproved. The device also can support to pass the other certifications.
- 16. 2 years warranty. And 3~10years extended warranty service also can be provided.

## **Parameter:**

Model:I-P-MSC-DC12V/24V/48V-series		40A	50A	60A			
Charge Mode	Maximum Power Point Tra	cking	ing				
Method	3 stages: fast charge(MPPT	ast charge(MPPT),constant voltage,floating charge					
System Type	DC12V/24V/48V	Automatic recog	Automatic recognition				
System Voltage	12V system	DC9V~DC15V	DC9V~DC15V				
	24V system	DC18V~DC30V	DC18V~DC30V				
	48Vsystem	DC36V~DC60V	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%					

12	PV Modules Utilization Rate	12V/24V/48Vsyst	tem	≥99%				
MPPY Working Voltage and Range	Input Characteristics							
May System								
27	MPP1 Working Voltage and Range							
Dow Voltage Input Protection Point   Park System   DCSOV								
May   1979   1970   1	Low Voltage Input Protection Point							
22	Low voltage input Flottection Foilit							
247 system								
M89 y system	Low Voltage Input Recovery Point							
Max DC Voltage   120/24/V48V system   120/24/V48V								
120/124/488 system	May DC Voltage		tem					
129724/4884 system   129724/4884   129724/4884   129724/4884   129724/4884   12972								
22								
Max. PV Power	imput overvoitage necovery rount		icem		700W	900W		
Selectable Battery Types (Default type is GEL battery)   27/24/48/8/ystem	Max. PV Power							
Selectable Battery Types (Default type is GEL battery)  247/24/488 ysystem  247/24/488 ysystem  247/24/488 ysystem  247/24/488 ysystem  248 ystem  259 ystem  250 yst				2270W	2800W	3400W		
Constant Voltage   2017/24/V48V system   Please check the charge voltage   2017/24/V48V system   Please check the charge voltage   2017/24/V48V system   Please check the charge voltage according to the battery type form.   Please check the charge voltage according to the battery type form.   Please check the charge voltage according to the battery type form.   Please check the charge voltage according to the battery type form.   Please check the charge voltage according to the battery type form.   Please check the charge voltage according to the battery type form.   Please check the charge voltage according to the battery type form.   Please check the charge voltage according to the battery type form.   Please check the charge voltage according to the battery type form.   Please check the charge voltage according to the battery type form.   Please check the charge voltage according to the battery type form.   Please check the charge voltage according to the battery type form.   Please check the charge voltage according to the battery type form.   Please check the charge voltage according to the battery type form.   Please check the charge voltage according to the battery type form.   Please check the charge voltage according to the battery type form.   Please check the charge voltage according to the battery type form.   Please check the charge voltage according to the battery type form.   Please check the charge voltage according to the battery type form.   Please check the charge voltage chec	Output Characteristics							
Floating Charge Voltage   12/7/44/48V system   14.6V   14.00	Selectable Battery Types (Default type is GEL battery)	,						
Principating voltage				Please check the charge voltage according to the battery type form				
247 system   29.7V	Floating Charge Voltage		tem					
ABM System   SB.4V   ABM   SDA   BOA   B	Over Charge Protection Voltage							
24/24//488 / system	Over Charge Protection voltage							
Current-limiting Protection   22/24//88V system   44A   55A   66A	Rated Output Current		tem		50Δ	604		
Temperature Factor   20/24/148 / system   20.02%/°C   Temperature Compensation   20/24/148 / system   14.74/The highest temperature-25°C)*0.3   Output Nipples(peak)   20/24/148 / system   200m'   Output Notage Stability Precision   22/24/148 / system   Output Output parameter and output power etc (check the LCD display instruction)   Input Country (Check the LED instruction)   Output Overvoltage Indicates Fatalitical light, harge indicate light, power source indicate light(check the LED instruction)   Output Overvoltage Protection   Security (Check the LED instruction)   Output Overvoltage Protection   Check the input characteristics   Output Overvoltage Protection   Yes   Ou								
Temperature Compensation   12V24V/48V system   14.2V-The highest temperature-25°C;*0.3					J			
Supply   S	Temperature Compensation							
Input, output parameter and output power etc (check the LCD display instruction)   Input, output parameter and output power etc (check the LCD display instruction)   3 LED sindicates.Fault indicate light, charge indicate light, power source indicate light(check the LCD display instruction)   RS232 (matching) or LAN(optional)   Protection	Output Ripples(peak)	12V/24V/48V sys	tem	200mV				
LCD display (heck the LCD display instruction) (heck the LCD distruction) (heck the lingual towarding) (heck the LCD distruction) (heck the input characteristics (hinput Overvoltage Protection (hour O	Output Voltage Stability Precision	12V/24V/48V sys	tem	≤±1.5%				
Cracket the LCD display   Cracket the LCD display instruction	Display			h				
ight(check the LED instruction)	LCD display							
Protection   Check the input characteristics   Input Overvoltage Protection   Check the output characteristics   Output Overvoltage Protection   Check the output characteristics   Output Overvoltage Protection   Check the output characteristics   Check the output characteristics   Output Overvoltage Protection   Check the output characteristics   Check the output power, decrease   Check the output Protection   Check the output power, decrease	LED display					dicate light,power source indicate		
Input Low Voltage Protection   Check the input characteristics	Software Control through PC(communication port)			RS232 (matching) or LAN(optional)				
Input Overvoltage Protection Input Polarity Reversal Protection Output Overvoltage Protection Output Overvoltage Protection Output Polarity Reversal Protection Output Overvoltage Protection Output Overvoltage Protection Output Overvoltage Protection  Recover after eliminating the Short-circuit fault, no problem for long term Short-circuit Fau				Check the input characte	orietice			
Inout Polarity Reversal Protection Output Overvoltage Protection Output Polarity Reversal Protection Output Polarity Reversal Protection Short-circuit Protection Recover after eliminating the Short-circuit fault,no problem for long term Short-circuit Temperature Protection Temperature protection Short-circuit Protection Temperature protection  Temperature protection  Other Parameters Noise Safety Short-circuit Protection Short-circuit Fault,no problem for long term Short-circuit Above 85°C,decrease the output power,decrease 3A per degree.  Safety Short-circuit Protection Above 85°C,decrease the output power,decrease 3A per degree.  Safety Safety Short-Circuit Protection Above 85°C,decrease the output power,decrease 3A per degree.  Safety Saf								
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°C           Temperature protection         Above 85°C, decrease the output power, decrease 3A per degree.           Other Parameters         **ONSE           Noise         \$40dB           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°C           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)         3.6           G.N(kg)         3.6           G.N(kg)         3.6           G.N(kg)         3.6           G.N(kg)         5.6           C.E.RoHS, PSE,F.CC           EMC         ENG           Type of Mechanical Protection         P21 </td <td colspan="3"></td> <td colspan="4"></td>								
Recover after eliminating the Short-circuit fault,no problem for long term Short-circuit Temperature Protection  Temperature protection  Other Parameters Noise  Sequence of 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  Components  Components  World brand raw materials. Compliance with EU standards.All rated temperature of electrolytic capacitors not less than 105°C  Smell  No peculiar smell and and toxic substances.  Forvionment Protection  Meest the 2002/95/EC,no cadmium hydride and fluoride  Physical  Measurement DxWxH(mm)  270*185*90  N.G(kg)  3.6  Color  Safety  Color  Blue/Green (optional)  Safety  EMC  EMG1000  Type of Mechanical Protection  P21  Funvionment  Huridity  O~90%RH ( no condense)  Altitude O~3000m Operating Temperature  40°C ~ +13°C  Large Table Tooling fan speed rate regulated by temperature, when inner temperature, in coloning, fan also stop rate regulated by temperature should be the output power, decrease 3A per degree.  40°C ~ +13°C	Output Overvoltage Protection			/				
circuit Temperature Protection  Temperature Protection  Other Parameters Noise  Substituting the protection  Thermal methods  Thermal methods  Components  Components  Components  World brand raw materials. Compliance with EU standards.All rated temperature of electrolytic capacitors not less than 105°C  Smell  No peculiar smell and and toxic substances.  Environment Protection  Measurement DxWxH(mm)  N.G(kg)  Sology	Output Polarity Reversal Protection			·				
Temperature protection  Other Parameters  Noise  Setud B  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°C  Smell  No peculiar smell and and toxic substances.  Environment Protection  Meet the 2002/95/EC, no cadmium hydride and fluoride  Physical  World brand raw materials. Compliance with EU standards. All rated temperature of electrolytic capacitors not less than 105°C  Smell  No peculiar smell and and toxic substances.  Meet the 2002/95/EC, no cadmium hydride and fluoride  Physical  3 3  G.N(kg)  3 3  G.N(kg)  3 36  Color  3 36  Color  3 36  Color  3 36  Color  5 36  Color  5 8lue/Green (optional)  Safety  CE,ROHS, PSE,FCC  EMC  ENG1000  Foye of Mechanical Protection  Environment  Humidity  0~90%RH ( no condense)  Altitude  0~3000m  Operating Temperature  20°C ~ +40°C  Storage Temperature  40°C ~ +43°C  Storage Temperature	Short-circuit Protection			circuit				
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°C         Smell       No peculiar smell and and toxic substances.         Environment Protection       Meet the 2002/95/EC, no cadmium hydride and fluoride         Physical       70°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       EN61000         Topic of Mechanical Protection       EN61000         Environment       Humidity         Humidity       0~90%RH (no condense)         Altitude       0~3000m         Operating Temperature       40°C ~ +40°C         Storage Temperature       40°C ~ +40°C	Temperature Protection			95℃				
Noise  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°C  Smell  No peculiar smell and and toxic substances.  Meet the 2002/95/EC,no cadmium hydride and fluoride  Physical  Measurement DxWxH(mm)  270*185*90  N.G(kg)  3.6  Color  Blue/Green (optional)  Safety  CE,RoHS, PSE,FCC  EMC  ENG1000  EN61000  EN6200  EN61000	Temperature protection			Above 85°C,decrease the output power,decrease 3A per degree.				
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  Morld brand raw materials. Compliance with EU standards. All rated temperature of electrolytic capacitors not less than 105°C  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)  3.6  Color  Blue/Green (optional)  Safety  CE,RoHS, PSE,FCC  EMC  EMC  EMC  ENG1000  Type of Mechanical Protection  IP21  Environment  Humidity  0~90%RH (no condense)  Altitude  0~3000m  Operating Temperature  40°C ~ +40°C  Storage Temperature				<40dB				
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°C  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)  3.6  G.N(kg)  3.6  Color  Blue/Green (optional)  Safety  CE,RoHS, PSE,FCC  EN61000  Type of Mechanical Protection  IP21  Environment  Humidity  0~90%RH ( no condense)  Altitude  0~3000m  Operating Temperature  240°C ~ +40°C  Storage Temperature  440°C ~ +75°C	INVISC							
temperature of electrolytic capacitors not less than 105°C  Smell  No peculiar smell and and toxic substances.  Environment Protection  Meet the 2002/95/EC,no cadmium hydride and fluoride  Physical  Weasurement DxWxH(mm)  270*185*90  N.G(kg)  3 G.N(kg)  3.6  Color  Blue/Green (optional)  Safety  EMC  ENGLOR  ENGLOR  ENGLOR  ENGLOR  Type of Mechanical Protection  IP21  Environment  Humidity  0~90%RH ( no condense)  Altitude  0~3000m  Operating Temperature  -20°C ~ +40°C  Storage Temperature  -40°C ~ +75°C	Thermal methods			temperature is too low,fan ran slowly or stop;when controller stop working,fan				
Environment Protection         Meet the 2002/95/EC,no cadmium hydride and fluoride           Physical         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           Humidity         0~90%RH (no condense)           Altitude         0~3000m           Operating Temperature         -20°C ~ +40°C           Storage Temperature         -40°C ~ +75°C	Components							
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         IP21           Humidity         0~90%RH (no condense)           Altitude         0~3000m           Operating Temperature         -20°C ~ +40°C           Storage Temperature         -40°C ~ +75°C	Smell			No peculiar smell and and toxic substances.				
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       IP21         Humidity       0~90%RH (no condense)         Altitude       0~3000m         Operating Temperature       -20°C ~ +40°C         Storage Temperature       -40°C ~ +75°C	Environment Protection			Meet the 2002/95/EC,no cadmium hydride and fluoride				
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       IP21         Humidity       0~90%RH ( no condense)         Altitude       0~3000m         Operating Temperature       -20°C ~ +40°C         Storage Temperature       -40°C ~ +75°C				270*185*90				
G.N(kg) 3.6  Color 8llue/Green (optional)  Safety CE,RoHS, PSE,FCC  EMC ENGLOU  Type of Mechanical Protection   P21  Environment  Humidity 0~90%RH ( no condense)  Altitude 0~3000m  Operating Temperature -20°C ~ +40°C  Storage Temperature -40°C ~ +75°C	, ,			3				
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°C ~ +40°C           Storage Temperature         -40°C ~ +75°C	G.N(kg)			3.6				
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 $-40$ ℃ ~ $+75$ ℃	Color							
Type of Mechanical Protection         IP21           Environment         Very 1           Humidity         0~90%RH (no condense)           Altitude         0~3000m           Operating Temperature         -20°C ~ +40°C           Storage Temperature         -40°C ~ +75°C	Safety			CE,RoHS, PSE,FCC				
Environment       Humidity $0 \sim 90\%$ RH ( no condense)       Altitude $0 \sim 3000$ m       Operating Temperature $-20^{\circ}\text{C} \sim +40^{\circ}\text{C}$ Storage Temperature $-40^{\circ}\text{C} \sim +75^{\circ}\text{C}$	EMC							
Humidity0~90%RH ( no condense)Altitude0~3000mOperating Temperature $-20$ °C $\sim +40$ °CStorage Temperature $-40$ °C $\sim +75$ °C	31			IP21				
Altitude $0\sim3000\mathrm{m}$ Operating Temperature $-20^\circ\mathrm{C}\sim+40^\circ\mathrm{C}$ Storage Temperature $-40^\circ\mathrm{C}\sim+75^\circ\mathrm{C}$			0. 000/PU/-	andansa)				
Operating Temperature $-20^{\circ}\text{C} \sim +40^{\circ}\text{C}$ Storage Temperature $-40^{\circ}\text{C} \sim +75^{\circ}\text{C}$								
Storage Temperature -40°C ~ +75°C								
· ·								
	Atmospheric Pressure 70~106kPa							

The specification is only forreference. Subject to change without prior notice.

We provide OEM and ODMservice. The 36V/72V/96V model also can be custom made for you











## The Figures of the PC Firmware and Testing Software

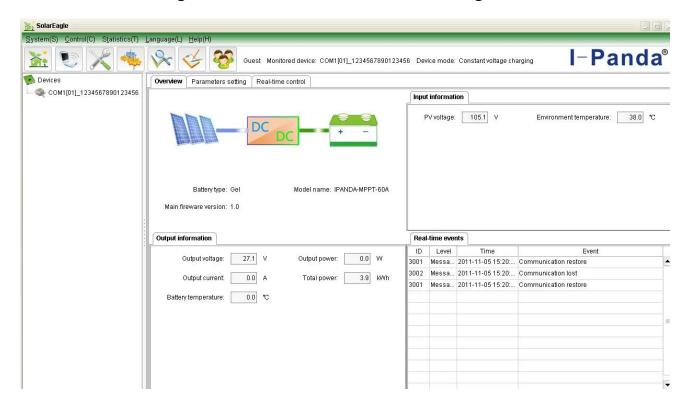


Figure1: PC Firmware

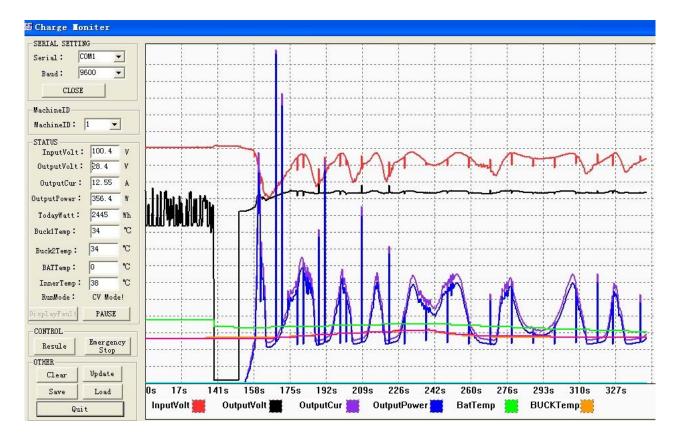


Figure:Testing Software

## system



**Package** 

