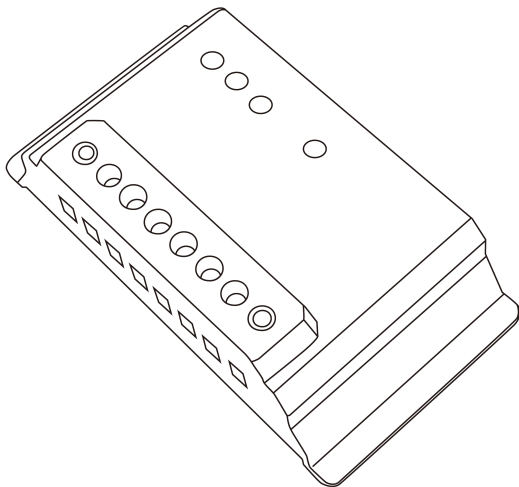


Solar Charge Controller



www.empresascarbone.com



Part I: Introduction

Solar charge controller is in the core of solar power system. This controller applies to general PV system, using high-performance MCU for intelligent control. Controller combines the charge modes of MCT (maximum current track) and PWM. In this way, it not only ensures high-efficiency of charging, but also greatly extends the battery's lifecycle.

Charge and discharge by using MOS tube; low voltage drop in circuit; LED display real-time status of charge, discharge, errors for PV system. And PV system has high reliability and safety by using this controller which has kinds of protection mechanisms.

Part II: Technical Parameters

Mode		GLC1205C	GLC1210C	GLC1215C	GLC1220C	GLC1230C
Rated voltage		12V				
Rated current		5A	10A	15A	20A	30A
PV Panel	Max Current	5A	10A	15A	20A	30A
	Max Voltage	30V				
Float Voltage		14.2V				
Idle Draw		≤13mA				
Temperature compensation		-4mV/2V/°C				
Voltage Drop in Charging Circuit		≤0.25V				
Charge Protection Voltage		14.6V±0.2V				
Low Voltage Protection		11.1V±0.2V				
Recovery Voltage		12.8V±0.2V				
Voltage Drop in Discharging Circuit		≤0.15V				
Working Mode		General				
Output		Normally Open				
Protection		Reverse polarity, overload, reverse charge, etc.				
Working Temperature		-20~70°C				
Storage Temperature		-35~80°C				
Elevation (m)		≤5000				
Size(mm)		138*70*33	138*70*33	125*97*40.5	125*97*40.5	184*152*78
Weight(g)		160	160	380	380	930

Remarks:

1. Under-voltage protection means the battery voltage is lower than this value, close the output;
2. Out of protection means the system is in undervoltage protection, when battery voltage is restored to the value, exit protection on output;

- 3、Charging protection means that when the battery voltage is higher than the value, will be suspended.

Part II: LED Indicators and Working Status:

Green	Red	Working Status	Remark
On	On	Initialization	
Flicker	Flicker	Idle	
On	Off	Charge	
Off	On	Discharge	
Flicker	On	Charge & Discharge	
Off	Flicker	Low Voltage Protection	Output Closed
On	Flicker	Charge & Low Voltage Protection	Output Closed
Flicker	Flicker	Overcharge & Overload	Protected, retry after 2-3 minutes

Part III: Installation:

a) Installation Notes

Please use copper wire to connect between the battery and controller. The wire should be shorter than 2 meters, and the diameter is 2.5 mm² or bigger.

Please connect the solar panel, battery, controller and load device according to the diagram on the controller.

b) Installation steps

Please connect the battery to the controller first, then solar panels and load devices.

c) System diagram as below:



Controller PV+, PV-mouth were connected with the positive and negative PV modules, BAT+, BAT-mouth respectively with positive and negative battery connection, LOAD+, LOAT-DC were loaded with positive and negative connections.

Part IV: Load Output Instructions:

- 1、 Battery voltage, the load output off ;
- 2、 Overcharge, or overload, the load output is turned off ;
- 3、 Normally working, the load output on.

Part V: Safety warnings and Notes:

- a) Please don't connect the battery to the location of solar panels.
- b) Please don't open the controller so as to avoid accidents.
- c) In order to ensure good performance and long working life, the controller's work environment should be from mechanical shock, vibration and other harsh environmental violations.

Quality Assurance: System is mainly imported chips are used abroad, through the whole life tests, is committed to providing the product life-long maintenance free service.