



# RG-SOLAR-C/L-20A

PWM Solar Controller with LCD Display 20A (12V/24V)



RANGER



## Product Description

\*All specification is subject to change without prior notice.

The controller is suitable for the automatic control of charging and discharging process in the off grid solar system (independent system). The battery charging and discharging process of the controller is optimized, which can prolong the life of the battery and improve the performance of the system. The comprehensive function of self testing and electronic protection function can avoid the installation errors and system failures which can cause the controller damage.

## Functions

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1. Use CPU processor superior speed performance
2. Common cathode circuit design makes the system more stable and reliable.
3. The high precision A/D sampling to ensure the accuracy of sampling
4. Excellent EMC design
5. 12V/24V automatic identification system voltage or 48V battery voltage
6. Imported MSFET as power switch, low loss, high reliability
7. LCD display and keypad interface, complete menu display and operation
8. Use of RG-232 communication system voltage or 48V battery voltage
9. The controller with over temperature, over discharge, overload, short circuit protection function
10. The photovoltaic array and reverse battery protection function
11. The 5V DC output, can supply power for the mobile phone or digital products

Equipment Parameters	
Rated Voltage	12V/24V Auto
Battery Max Voltage	30V
Solar Panel Max Voltage	44V
Rated Charging Current	10A
Charging Line Voltage Drop	≤0.7V
Discharging Line Voltage Drop	≤0.2V
Static Loss	0.2W
Communication	RS458 Interface
USB Outputs	5V
Over Temperature Protection	Below 75°C full current, 75°C-90°C half current, above 90°C off charge
LCD Display Temperature	-20°C~ 75°C
Working Environment Temperature	-20°C~ 50°C
Storage Temperature	-30°C~70°C
Protection Level	IP30
Wired Terminal (mm <sup>2</sup> )	6
Size L*W*H (mm)	153*94*6.5
Net Weight (kg)	0.38

Battery Voltage Parameters	Colloid Lead Acid Battery	Sealed Lead Acid Battery	Lithium Iron Phospahte Battery
Over-charge Disconnect Voltage (V)	15.5	15.5	13.2
Overvoltage Recovery Voltage (V)	14.8	15.0	12.6
Equilibrium Charge Voltage (V)	14.6	14.6	12.4
Enhance Charge Voltage (V)	14.2	14.4	12.2
Floating Charge Voltage (V)	13.6	13.8	12.0
Under-Voltage Recovery Voltage (V)	12.6	12.8	11.5
Under-Voltage Shut Down Voltage (V)	10.8	10.8	9.6
Equilibrium Charge Durantion (Min)	-	120	120
Enhance Charge Duration (Min)	120	120	120

Battery Voltage Parameters	Manganate Lithium Battery	User Definition
Over-charge Disconnect Voltage (V)	14.4	13-16
Overvoltage Recovery Voltage (V)	14.0	13-16
Equilibrium Charge Voltage (V)	13.8	13-15
Enhance Charge Voltage (V)	13.6	13-15
Floating Charge Voltage (V)	13.2	12-14
Under-Voltage Recovery Voltage (V)	12.6	11-13
Under-Voltage Shut Down Voltage (V)	10.5	9-11
Equilibrium Charge Durantion (Min)	120	60-180
Enhance Charge Duration (Min)	120	60-180

### Light Control Voltage Parameters

Light Control Turn On Voltage	Max	10V
	Min	6V
	Default	8V
Light Control Turn Off Voltage	Max	8V
	Min	2V
	Default	4V

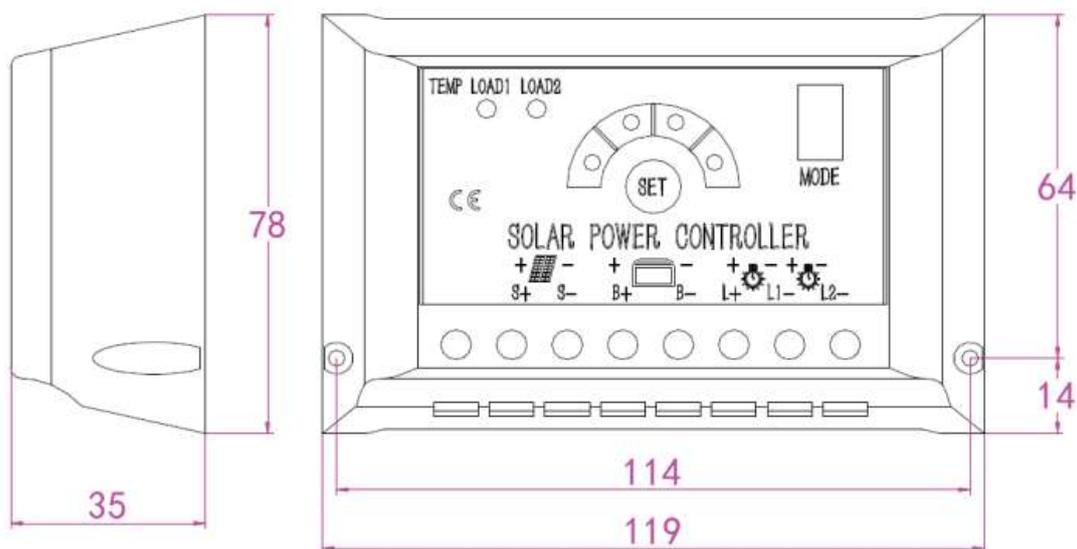
### Battery Temperature Compensation Parameters

Temperature Compensation Parameters	Max	0mV/°C/2V
	Min	-8mV/°C/2V
	Default	-4mV/°C/2V (based on 25°C)

Equilibrium, enhance, floating, enhance recovery voltage, low voltage disconnect recovery voltage, under voltage alarm recovery voltage, under voltage alarm voltage, low voltage disconnect voltage's temperature compensation parameters are the same

### Dimension Drawings (mm)

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# RG-SOLAR-C/L-10A

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8. Use of RG-232 communication system voltage or 48V battery voltage
9. The controller with over temperature, over discharge, overload, short circuit protection function
10. The photovoltaic array and reverse battery protection function
11. The 5V DC output, can supply power for the mobile phone or digital products

Equipment Parameters	
Rated Voltage	12V/24V Auto
Battery Max Voltage	15V
Solar Panel Max Voltage	22V
Rated Charging Current	10A
Charging Line Voltage Drop	≤0.7V
Discharging Line Voltage Drop	≤0.2V
Static Loss	0.2W
Communication	RS458 Interface
USB Outputs	0.5A
Over Temperature Protection	Below 75°C full current, 75°C-90°C half current, above 90°C off charge
LCD Display Temperature	-20°C~ 75°C
Working Environment Temperature	-20°C~ 50°C
Storage Temperature	-30°C~70°C
Protection Level	IP30
Wired Terminal (mm <sup>2</sup> )	2.5
Size L*W*H (mm)	153*94*6.5
Net Weight (kg)	0.35

Battery Voltage Parameters	Colloid Lead Acid Battery	Sealed Lead Acid Battery	Lithium Iron Phospahte Battery
Over-charge Disconnect Voltage (V)	15.5	15.5	13.2
Overvoltage Recovery Voltage (V)	14.8	15.0	12.6
Equilibrium Charge Voltage (V)	14.6	14.6	12.4
Enhance Charge Voltage (V)	14.2	14.4	12.2
Floating Charge Voltage (V)	13.6	13.8	12.0
Under-Voltage Recovery Voltage (V)	12.6	12.8	11.5
Under-Voltage Shut Down Voltage (V)	10.8	10.8	9.6
Equilibrium Charge Durantion (Min)	-	120	120
Enhance Charge Duration (Min)	120	120	120

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Light Control Turn On Voltage	Max	10V
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