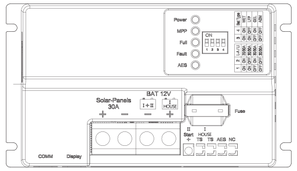
CMP User Manual



PRODUCT MANUAL

MPPT SOLAR REGULATOR 12VDC BATTERY SYSTEM

MODEL: 15A 30A

Thank you for purchasing MPPT solar regulator. Manufactured to a high standard,this product will, if used according to the instructions and maintained properly, give you years of trouble free performance.

SPECIFICALLY, PLAESE NOTE THIS SOLAR REGULATOR SHOULD NOT BE USED IN CONECTION WITH THE LIFE SUPPORT SYSYTEM OR OTHER PRECIESE MEDICAL EQUIPEMENT OR DEVIECES. BEFORE USING THE UINT, YOU NEED READ AND SAVE THE SAFETY INSTRUCTIONS.

REFER TO INSTRUCTIONS BEFORE OPERATION

1. SAFETY

>> Battery

⚠ DANGER! - Beware, lead-acid batteries generate explosive gases during normal battery operation. Wash with soap and water immediately if battery acid contacts skin or clothing. If acid enters eye, flush immediately with cool,clean running water for at least 15 minutes and seek immediate medical attention.

✕ DO NOT smoke or allow a spark or arc in the vicinity of the battery or engine.

✓ If the battery terminals are corroded or dirty, clean them before attaching the leads.

⚠ WARNING! To prevent the risk of sparking, short circuit and possible explosion DO NOT drop metal tools in the battery area, or allow them to touch the battery terminals.
Before attaching to battery, remove personal metallic items such as rings, bracelets, necklaces and watches. A lead acid battery can produce a short-circuit current which is high enough to weld such items and cause severe burns.

>> MPPT SOLAR REGULATOR

✕ **DO NOT** expose MPPT solar regulator to rain, snow, spray, bilge or dust. DO NOT cover or obstruct ventilations

✕ **NEVER** use the unit in locations where the risk of gas explosion exists!

✓ **MAKE SURE** existing wiring is in good electrical condition. DO NOT operate this unit with damaged or substandard wiring.

✕ **DO NOT** install in compartments containing batteries or frammable materials or in hcations which require ignition protected equipment.

✕ **DO NOT** disassemble this MPPT solar regulator. Internal capacitors remain charged after all power is disconnected.

✓ **Always** lead the connection cables from below to the solar regulator to ensure that penetrating humidity cannot reach the regulator in case of failure, which might result in damage of the regulator.

⚠ **Never** lay 12V cables and 230V mains supply cables into the same cable conduit the unit is to be disconnected from any connection prior to execution of electrically welding or work on the electric system

2. INTRODUCTION

MPPT(Maximum Power Point Tracking) solar regulator for high quality campers, motorhomes, fifth-wheels, caravans and boats.
Based on the MPPT technology, solar regulator gives a better performance(+10%~30%, compared with conventional regulator) of battery charging particularly in cooler times of the year, such as in case of foggy weather conditions or gloomy diffuse light(winter break).

>>Dual-Battery Charging

It not only charges house battery, also charge the start battery with Max. 2A current. This characteristic ensures the start battery be powered to start the vehicle in the emergency condition.
Two charging circles are working at the same time independently.

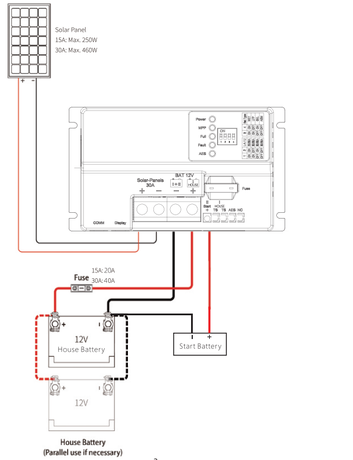
>>Multi-types Battery Applicability

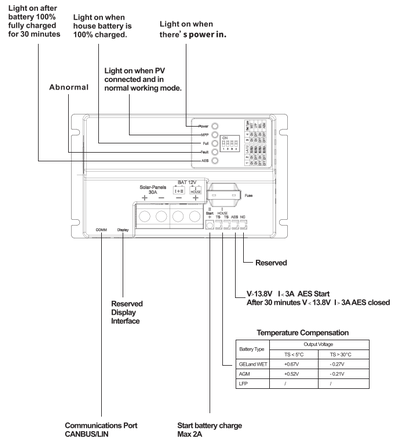
Switchable characteristic charge curve of charging or optimum charging of wet, AGM or GEL batteries, as well as LiFePO4 batteries.

According to different battery type user can choose the most suitable charging curve
Which can get rid of over-volt.

This unit can work parallel with wind-driven charger, other DC-DC boost charger, or even AC-DC charger.

3.WIRING DIAGRAM





>>Cable Requirement

The wiring diagram shows the maximum terminal assignment for operation of all existingfunctions of the solar controller. The minimum terminal assignment consists of the solar paneinputs ("+ and "-" and the connections to the main battery.
Always connect the fuses as close as possible to the batteries (cable protection!)

Required Cable Guage	15A	30A
+/ Panel cables	4-6 mm²	6-10 mm²
+/ House battery cables	4-6 mm²	6-10 mm²
Fuse to house battery	20A	40A

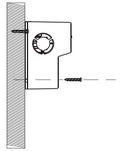
>>Cable Wiring

1. Connect house battery firstly! House battery must be connected!
Connect the 12V house battery with solar regulator, observing the correct polarity and the cross-section of the cables.
Parallel charging of two or several batteries of the same voltage (12 V) is admissible. Thebatteries are to be "paralleled", i.e. the "+ connections of the batteries have to be coupled andshould be connected to the "+ connection of the solar regulator. The connections nave to be coupled in the same way.

2. Connect solar panels after house battery is connected. Solar panels must connected.
Shade the panels to minimize sparking during connection and to avoid damages due to eventual reverse battery (hall).
If several small solar panels are used, please keep them in parallel.(< 45V)

3. Start battery can be connected(if necessary)
Connect the second charging port (START) to the vehicle's start battery
If used,start battery will share pull of charging power from house battery.

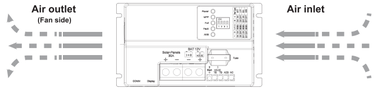
>> Solar Regulator Mounting



Screw-down the solar regulator on an even and hard mounting surface at locations being protected from humidity and near the house battery to ensure that the length of the battery connection cable is as short as possible.
Vertical installation of the regulator is highly recommendable (the terminals for solar panel and batteries point down).
This mode of installation improves cooling of the unit and avoids that water runs along the connection cables of the solar panel into the solar regulator, even in case of damaged seals.
If used, the cable to the starter battery can be longer.

Despite the solar regulator's high efficiency, heat is produced. Ensure sufficient ventilation in the environment of the unit, for better heat dissipation.
The unit might heat-up. Consequently, the vent holes of the casing should never be covered to ensure full charging capacity (minimum distance all around: 10 cm).

>>Heat dissipation instructions



>>LED Indicator

LED	Status	Details
Indicator status	POWER	Light on when there' s power in.
	MPP	Light on when PV connected and in normal working mode.
	FULL	Light on when house battery is 100% charged.
	FAULT	Abnormal
	AES	light on after battery 100% fully charged for 30 minutes.

When the PV is just connected, "FAULT" light will on for 10s.

4. MPPT SETTINGS

>>DIP Switch

Dip Switch	1	2	3	4
	Charge Current		Batt. Type	

By operating this Dip Switch, CMP can work for different types of batteries with adjustable charge current. The following chart can be also found on the CMP housing cover.

Dip		Lead Acid	Lithium	Dip		Battery Type	Absorption	Float
1	2	Solar Charge	Solar Charge	3	4			
on	on	20A	30A	on	on	WET	14.7V	13.7V
on	off	30A	30A	on	off	LFP	14.4V	13.5V
off	on	30A	30A	off	on	GEL	14.1V	13.5V
off	off	30A	30A	off	off	AGM	14.4V	13.5V

The following chart is an example

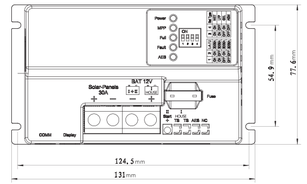
This wave code indicates that the battery type is GEL and the maximum charging current is 20A

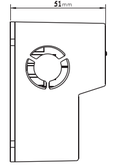
This wave code indicates that the battery type is LFP and the maximum charging current is 30A

5. SPECIFICATIONS

	15A	30A
PV Input Power	50~250W	50~460W
Photovoltaic voltage range	17V~45V	
CHARGE		
Battery Type	WET/LFP/GEL/AGM	
Rated Charge Current	15A	30A
Rated Battery Voltage	12V	12V
Fuse Included	20A	40A
Charging stages	Lead-acid(4-stages) / Lithium(2-stages)	
PROTECTION		
Input low-volt protection	Low-volt cut-off point	15.5±1VDC
	Low-volt recovery	17.0±1VDC
Input over-volt protection	over-volt cut-off point	46.0±1VDC
	over-volt recovery	45.0±1VDC
Battery low-volt protection	Low-volt cut-off point	10.0±1VDC
	Low-volt recovery	11.0±1VDC
Battery over-volt protection	over-volt cut-off point	15.0±1VDC
	over-volt recovery	14.0±1VDC
Output over-volt	Treatment	reduce current/cut-off output
Short circuit	Output short circuit	Cut-off out put returns after short circuit recoverd
GENERAL		
Communication mode	Can Bus and Lin	
Bluetooth	Yes	
Working temperature	-20~40°C	
Storage temperature	-25~65°C	
Working humidity	0-95% no condensation	
Dimension (W*D*H)	131*77.6 * 54.9mm	131*77.6 * 54.9mm
Weight	300g	300g
Package Size(W*D*H)	150*100* 60mm	

6. INSTALLATION DIMENSION





7. App Interface

Cool Go is available for both Android and ISO platforms

8. SCOPE OF DELIVERY

Description	Quantity
Solar Regulator	1
User Manual	1