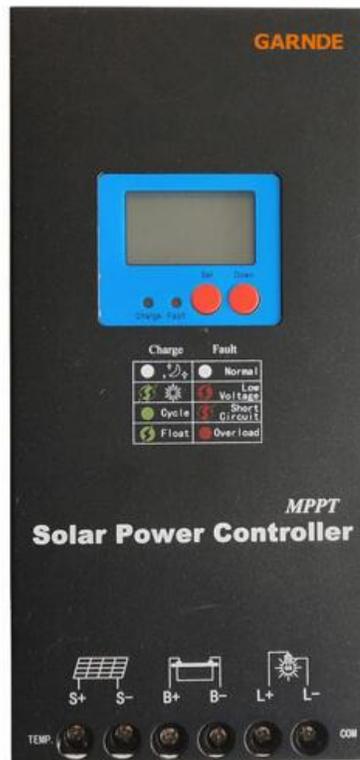


MPPT Solar Charge Controller

SM series



SM Medium

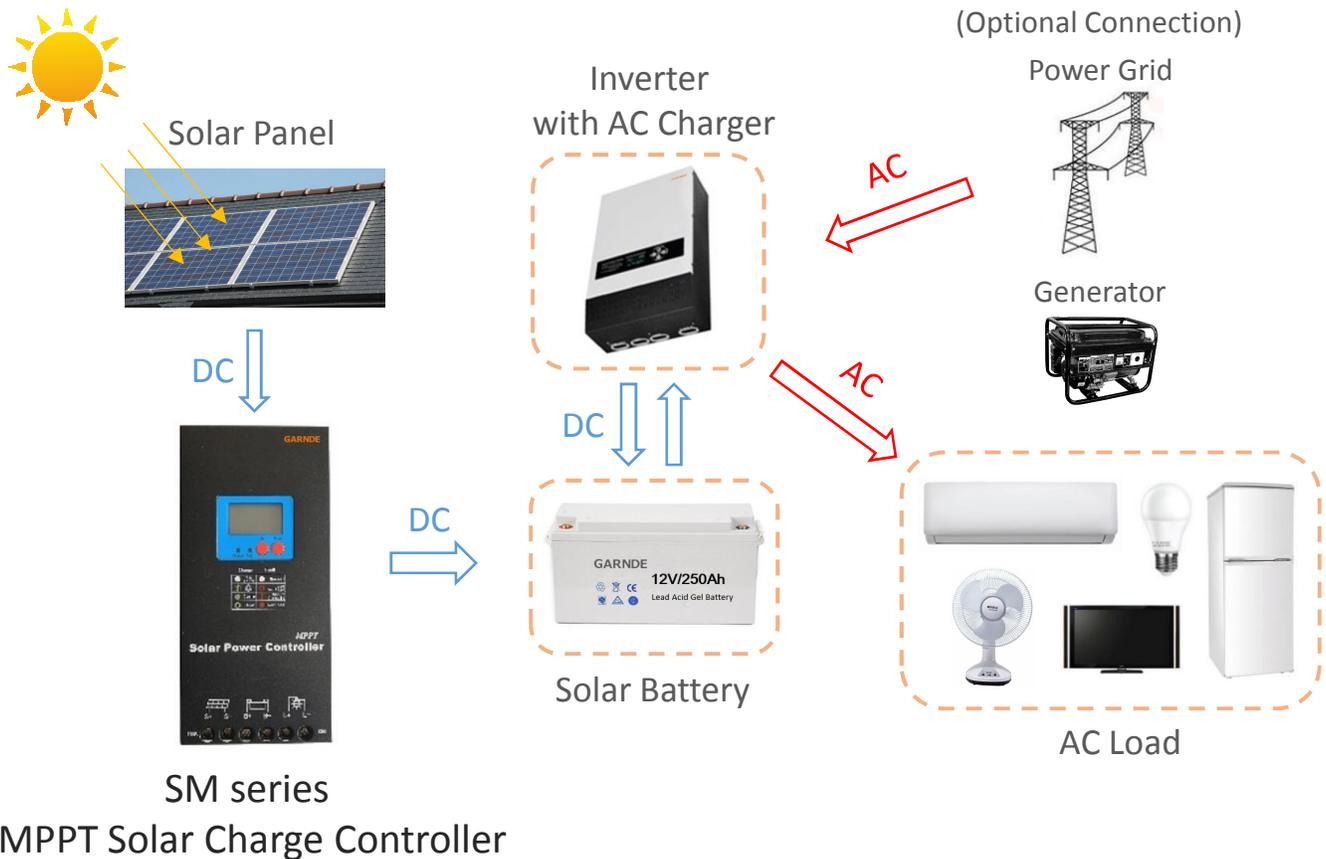


SM Large



INTRODUCTION

SM series solar charge controllers are developed for off-grid solar system and battery backup solar system. Maximum Power Point Tracking (MPPT) charging technology can increase 20-30% power usage efficiency of solar panels more than PWM charging technology. Efficiency up to 99% MPPT charging, the adventurer increases battery lifespan by regulating the charge flowing from the solar panels to the battery bank.



FUNCTIONAL CHARACTERISTICS

- Auto identification and selection of system voltage
- High performance 32 bits CPU
- Excellent heat radiation structure with aluminum shell
- EMC design
- MPPT charge mode, increase power usage efficiency of solar panels
- LCD display, intelligent batteries charging status display
- Running status display of solar panels, batteries and loads
- External temperature sensor, high precision temperature compensation
- Auto save of settings
- Over-charge protection, over-discharge protection, over-load protection, short-circuit protection and battery wrong-connecting protection, anti-thunder-stroke protection

TECHNICAL SPECIFICATIONS

SM Medium					
Model	SM24-20		SM24-30		SM24-40
INPUT					
Max. PV Input Voltage	100V				
MPPT Voltage Range	12V	13V - 100V			
	24V	26V - 100V			
Max. PV Input Power	12V	260 W	400 W	530 W	
	24V	530 W	790 W	1060 W	
BATTERY CHARGING					
Battery System Voltage	12V/24V auto recognition				
Max. Charging Current	20A	30A	40A		
Charging mode	Maximum Power Point Tracking (MPPT)				
Max. Charging Efficiency	98%				
Battery Types Supported	Lead Acid Battery, Gel Battery, Flooded Battery, Lithium Battery				
PROTECTION					
PV Input Over Voltage Protection	Charging stopped when PV input voltage exceed 140V, automatic recovery in 1 minute				
Over Current Protection	Charging stopped when over 1.1 times rated current, automatic recovery in 1 minute				
Under Voltage Protection	10.8V/21.6V \pm 1%				
Under Voltage Recovery	12.8V/25.6V \pm 1%				
Overload Protection	1.5 times rated current 3s overload protection action, automatic recovery in 1 minute				
Output Short Circuit Protection	Hardware protection fuses, automatic recovery in 10 minute				
Over Temperature Protection	Charging or discharging stopped when controller temperature over 75°C, Charging or discharging recovery when temperature back to 55°C				
OTHERS					
Load Mode	Options: Pure lighting control mode; Lighting & time control mode; Household mode (Acquiesce in Household mode)				
Cooling Method	Natural Cooling				
Remote Control	Optional				
Comunication Method	RS485 (RS232 optional)				
Own Consumption	< 20mA				
Ambient Temperature	-25°C - 60°C				
Protection Grade	IP30				
Dimensions	186 x 148 x 65 mm (7.3 x 5.8 x 2.6 inches)				
Weight	1.5 kgs (3.4 lbs)				
Packing	CTN: 41 x 33 x 23 cm, 12 pcs, 21.8 kgs (16.1 x 13.0 x 9.1 inches, 12 pcs, 40.1 lbs)				
Warranty	3 years				

TECHNICAL SPECIFICATIONS

SM Large				
Model	SM48-40	SM48-50	SM48-60	
INPUT				
Max. PV Input Voltage		150V		
MPPT Voltage Range	12V	13V - 150V		
	24V	26V - 150V		
	48V	52V - 150V		
Max. PV Input Power	12V	540 W	670 W	800 W
	24V	1070 W	1340 W	1610 W
	48V	2150 W	2690 W	3200 W
BATTERY CHARGING				
Battery System Voltage		12V/24V/48V auto recognition		
Max. Charging Current		40A	50A	60A
Charging mode		Maximum Power Point Tracking (MPPT)		
Max. Charging Efficiency		99%		
Battery Types Supported		Lead Acid Battery, Gel Battery, Flooded Battery, Lithium Battery		
PROTECTION				
PV Input Over Voltage Protection		Charging stopped when PV input voltage exceed 200V, automatic recovery in 1 minute		
Over Current Protection		Charging stopped when over 1.1 times rated current, automatic recovery in 1 minute		
Under Voltage Protection		10.8V/21.6V/43.2V ± 1%		
Under Voltage Recovery		12.8V/25.6V/51.2V ± 1%		
Overload Protection		1.5 times rated current 3s overload protection action, automatic recovery in 1 minute		
Output Short Circuit Protection		Hardware protection fuses, automatic recovery in 10 minute		
Over Temperature Protection		Charging or discharging stopped when controller temperature over 75°C, Charging or discharging recovery when temperature back to 55°C		
OTHERS				
Load Mode		Options: Pure lighting control mode; Lighting & time control mode; Household mode (Acquiesce in Household mode)		
Cooling Method		Temperature Control Fans		
Remote Control		Optional		
Communication Method		RS485 (RS232 optional)		
Own Consumption		< 20mA		
Ambient Temperature		-25°C - 60°C		
Protection Grade		IP30		
Dimensions		345 x 188 x 122 mm (13.6 x 7.4 x 4.8 inches)		
Weight		4.2 kgs (9.3 lbs)		
Packing		CTN: 54 x 44 x 40 cm, 4 pcs, 19.0 kgs (21.3 x 17.3 x 15.7 inches, 4 pcs, 42 lbs)		
Warranty		3 years		

GARNDE

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