

Off-Grid Hybrid High Power Solar Charger System



Features

- CombiPlus inverter & AC charger 18kW, 120Vdc Battery Input, 220Vac Output*3 sets
- SunStar MPPT solar charger SS-50CV-MPPT, 50A 480Vdc solar input, 120Vdc Battery Output*9 sets
- CombiPlus 3-Phase connection package, CP-3PX*3 sets for 3-phase load connection
- AC Grid Power Backup input/AC Generator Power Input
- Battery banks can be charged with both AC input and DC input
- Auto Transfer Switch built-in for continuous power supply
- High PV voltage and battery voltage for better operating efficiency of the high power 54kw system
- Open Front Door and Open Rear Door design
- DC Meter on the cabinet panel to display the real-time solar harvest power
- AC Meter on the cabinet panel to display the real-time AC output power supply to the loads
- All the AC and DC breakers included for complete protections
- High Voltage design for the minimum of cable wiring

Specifications

Model No.	SS-50CV-MPPT Solar Charger
Maximum output current (Continuous at up 50°C ambient temperature)	50 Amps
Battery Voltages	48, 72, 96, 120 VDC Normal
Max PV Input Current	40 Amps
Input Voltage Range	64~384VDC Operating
Maximum Open Circuit Voltage	480VDC
Max PV Array Power	8000 Watts (Maximum when equalizing a 120V battery to 160V at 50 Amps)
Charge Regulation Modes	Bulk, Absorption, Float, Auto / Manual Equalization
Battery Temperature Compensation	5.0 mV per°C, per 2 volt cell
DC to DC Conversion Capability	48V Bat. : 64~384VDC
	72V Bat. : 96~384VDC
	96V Bat. : 128~384VDC
	120V Bat. :160~384VDC
Display Status	Built-in 2-line, 20-character LCD with backlight LCD status screen displays input voltage and current, output voltage and current, charge-mode, Battery SOC
Data Logging	Logs energy harvested for 90 days, LCD displays WH, KWH, AH
Energy Monitor	LCD shows SOC, AH, WH, and present charge or discharge current. A 50mV / 500Amp shunt is required to use
Auxiliary Relays	Two independent relays with from A (SPST) contacts for control of external devices. Contact rating is 3 Amps, 50VDC
Operation Temperature	Full Power Output to +50°C ambient
Standby Power	< 4 Watts
OPTIONS	
PC Monitoring Unit (PMU-SS)	Monitoring the values displayed in PC
Shunt	Measuring the current drawn into and out of the battery
Dimension (HxWxD) mm	426 x 265 x 167
Weight (kgs)	10.6

Specifications

Model No. 120 Volt System	CP-18KW-1202 Inverter/Charger
GENERAL	
Ventilation	Forced cooling
Temperature – Operation – Storage	- 20°C ~ + 70°C - 25°C ~ + 80°C
Protection	
a. Output short circuit	✓
b. Over load	✓
c. Battery voltage too high	✓
d. Battery voltage too low	✓
e. DC voltage ripple too high	✓
f. Temperature Sensor	X
Transformer	(105°C)
Electronic & Powerstage	(70°C)
Battery Temp BTS-3	(50°C)
Humidity	0 ~ 95 % (non condensing)
Power Control Function	✓
Power Shifting Function	✓
Uninterrupted AC Power	✓ (Less than 10 msec)
Adaptive 4-stage Charge	✓
Two output to charge 2 battery banks	✓
Auxiliary Relay	X 3
Parallel Operation (Requires optional CP-PX)	(Max. 5 sets)
3-phase Capacity (Requires optional CP-3PX)	✓
Battery Voltage Sensor	✓
Battery Temperature Sensor (BTS-3 Optional)	✓
Remote Control Port	✓
Extension Port (Port C)	✓

INVERTER	
Input Voltage Range (VDC)	120V-(95-160V)
Output Voltage (VAC)	210 ~ 245 V
Output Frequency	50Hz / 60Hz ± 0.1%
Output Waveform	True Pure Sinewave
Output Voltage THD	< 5%
Power Factor (All Loads)	✓
No linger load, crest factor	3 : 1
Cont. Power Output @ 70°C (W) Under 70°C (cos θ=1.0)	18000 Watt (No derate 70°C)
Cont. Power Output (W) Over 70°C (cos θ=1.0)	0W (Shutdown)
Maximum Power (W)	36000 Watt
Maximum Efficiency (%)	88 / 89
Zero-load Power (W)	(72W Power Save) 120W (Normal)
CHARGER	
Input Voltage Range (VAC)	180 ~ 265 VAC
Input Frequency	45 - 55 Hz / 55 - 65 Hz
Power Factor	1
Charge Characteristic	4-stage adaptive Bulk-Absorption-Float-Equalize + Safe
Maximum DC Voltage Ripple (Vms)	< 1.25V
Charge Current House Battery (A)	70A
Output Charging Voltage (VDC)	120V ~ 160V
Absorption Voltage Default (VDC)	144V
Float Voltage Default (VDC)	138V
Equalize Voltage Default (VDC)	132V
Output Charge Voltage (min ~ max)	80V ~ 160V
Battery Temperature Sensor	BTS-3 (optional)
AC INPUT SWITCH	
AC IN Auto Transfer Switch Current	192A (220V)
Switch-over Time	
a. inverter to AC input	<0.5 second
b. AC input to inverter	<0.5 second
Detection Time AC Input Fault	<0.1 second
MECHANICAL	
Cabinet / Protecting Class	Aluminum / IP20
Dimension (H x W x D) mm	570 x 440 x 395
Weight (kgs)	46

54KW High Power System Schematic

