

MPPT SOLAR HYBRID INVERTER (PCU)



MPPT Solar Inverters are a next generation solar inverters, High efficiency MPPT technology ensure 20 % to 30% more solar power harvesting from the same capacity solar panels as compare to other technology. Its state-of-the-art design and intelligent control optimizes the yield of all PV installations in residential, offices, rural and other remote installations with very poor or no grid availability.

It consists of MPPT based solar charge controller and bi-directional inverter with transformer on the AC side. Transformer based design makes our inverter more rugged and reliable in verse grid input conditions. It provides uninterrupted pure sine wave power at the load output using solar, battery and grid input in customizable order of priority.

Latest DSP based control ensures excellent performance and protection from any kind of malfunction.

The high conversion efficiency helps in longer battery backup. Ease of operation and Plug 'N' Use type of design make it the ideal product for all kinds of users.

Salient Features

- Intelligent Charging Algorithm to increase Battery Life
- MPPT based State-of-the-art Latest technology for Optimum Performance
- Smart solar charging current sharing when mains is available
- DSP based automatic battery level management
- Compatible with Inverter load as well as UPS load
- Priority selection option Solar/Battery/Grid.
- Bypass switch for manual Operation
- Protection Inverter Batt. Low, Batt. High, Overload, Short circuit,Over temp, PV reverse,MCB Trip/Fuse Trip.
- Solar Mode Selection The "SOLAR MODE" selection will have three options - SBG (Solar-Battery-Grid) , SGB (Solar-Grid-Battery) and GSB (Grid-Solar-Battery). While the selected type is displayed, on pressing "CHANGE" button will alternate between the available options in the order listed above. Default value "SBG".
- Grid Reconnect Voltage mode in Solar Power Saving Mode (SBG or GSB)
- While "Grid Reconnect voltage" setting is displayed, pressing the "CHANGE" button will change voltage Grid Reconnect voltage will have options "11.8" OR "11.5" as displayed above.Default value "11.8".

Advance Battery Management for longer battery life and prevent battery from overcharging

1KVA | 2KVA | 2.5KVA | 3KVA | 3.5KVA | 5KVA | 7.5KVA | 10KVA | 15KVA | 20KVA

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TECHNICAL SPECIFICATIONS

INVERTER RATING (KVA)	2KVA 48V DC	3.5 KVA 48V DC	5KVA 48V DC	7.5KVA 96V DC	10KVA 120V DC	15KVA 240V DC	20KVA 240V DC
A. SOLAR CHARGE CONTROLLER (SCC)							
1 Charger Type & Topology	Buck Type MPPT						
2 PV Total Nominal Capacity (KVA)	2KW	3KW	5KW	7.5KW	10KW	15KW	20KW
3 No. of MPPT Channels	1	1	1	1	1	1	1
4 Per Channel PV Capacity (w)(Nominal Peak)	2KW/2.2KW	3KW/3.3KW	5KW/5.5KW	7.5KW/8.2KW	10KW/11KW	15KW/16.5KW	20KW/22KW
5 Max. open Circuit PV Volts (Voc)	240	240	240	300	400	700	700
6 MPPT Voltage Range (Volts)	70-240	70-240	70-240	96-300	140-400	240 - 700	240 - 700
11 Battery type Supported	VRLA / LMLA/Li-Ion/Li-Ph (User Settable)						
13 Peak charging Efficiency (%)	>93						
B. SOLAR INVERTER							
1 No. of Phases/Connection Type	1-Phased/2 wire						
4 Nominal Output Voltage/Frequency (Volts/Hz)	230 V AC /50 HZ						
6 Output Amps	6.96	10.43	17.39	26.09	34.78	52.17	69.57
7 Voltage Regulation (in standalore Mode)	± 2%						
8 Freq. Regulation (in Standalone mode)	± 0.5 Hz						
9 THD	< 3%						
10 Load Power Factor	0.8 lag to unity						
12	100-110% - 60 sec						
13 Over Loads :	110-125% - 30 sec						
14	125-150% - 5 sec						
16 Auto Bypass Feature	Provided						
C. GRID CHARGER							
160V-280V (Phase to Neutral)							
1 Grid Voltage Range (Voltage Sync. Range)	50 Hz ±5%						
2 Grid Frequency Range (Freq. Sync. Range)	50 Hz ±5%						
4 Max Battery Amps During Grid Charging (Amps)	27	40	68	51	54	40	54
INVERTER (KW)	1.6	2.4	4.0	6.0	8.0	12.0	16.0
1 PV Side	Reverse Polarity , Surg Protection						
2 Battery Side	Reverse Polarity, Over/Under Voltage , Current Limit						
3 Grid Side	Over/Under Voltage , Over/Under Frequency ,Anti-Islanding,Surg Protection						
4 Load Side	Overloads, Short circuit						
5 System Protection	Over Temperature.Trip,Breakers at all Inputs,Emergency stop						
D. USER INTERFACE							
1. DISPLAY INTERFACE	LCD NUMERICAL DISPLAY						
2. DISPLAYED PARAMETERS							
1 Battery Parameters	Voltage, Charging Current, Discharging Current,AH-in,AH-out,Cumulative AH-in,Cumulative AH-out,charging state-charging/Discharging.						
2 PV Parameters	Voltage, Current, Power, Cumulative,Today Generation						
3 Grid Parameters	Voltage, Current, Frequency, Import Power, Import Cumulative Energy,Power Factor						
4 Load Parameters	Voltage, Current, Frequency, Power,Cumulative,Power Factor						
5 Data Logging (Optional)	90 Days PV Generation, Import Energy, Load Energy.						
3. INDICATIONS/PROTECTION							
1 LED Indications:	Power ON, PV Available, PV Charging, Inverter ON, Grid Import Mode, Fault, HYBRID /OFF GRID Mode						
2 User Keypad for Settings Change	Keypad for Settings Input						
3 Breakers at all inputs/Space Heater/Emergency stop	Provided						
4 Over shoot due to misbehaviour of BHMS	Provided						
5 Remote monitoring: Optional*	Data monitoring through GPRS (Optional)						
MISCELLANEOUS							
1 Degree of Protection	IP31						
2 Cooling Method	Temp. Controlled Force Cooling						
3 Operating Temperature	0-55°C ambient operation						
4 Humidity (Non-condensing)	Max. 95% Non-Condensing						
5 Altitude (above sea level)	1000m above sea level						
6 Housing	Sheet Metal,Floor Standing					Floor Standing,Front/Rear Door	
7 Colour Shade	RAL-7035/RAL-7016						
8 Cable Entry	Rear Bottom					Front Bottom	
9 Cable Termination Type	Bus Bar Type with ring type lugs					50MM/25MM/25MM	
10 Terminal Sizes(PV/Battery/Grid/Load)	TERMINAL SCREW TYPE					35-50MM/35-	
11 Dimensions in mm (H X W X D)	360X280X560	360X280X665	360X280X665	528X375X775	528X375X775	715x850x750	
12 Approx. Weight (kg)	35	60	80	130	140	160	215

Technical Specifications can be changed without prior notice.