



ALL SOLAR POWER PRODUCT



Complete Range of

Solar rMPPT™ Solutions



rMPPT™ Offline Solar PCU (ALFA & BETA SOLAR PCU)

Available in
1 to 15KVA
(1in-1out)



PCU Mode Priority

Solar/Battery/Grid

Hybrid Mode Priority

For Load - Grid/Solar/Battery
For Charging - Solar/Grid

Smart Mode Priority

For Day Time - Solar/Battery/Grid
For Night Time - Grid/Battery

FEATURES

- ➔ Upto 30% more Efficient because of MPPT Charge Controller
- ➔ Advance DSP Based design Pure Sine Wave.
- ➔ NLSD & Grid Charging - Enable/Disable by LCD.
- ➔ Tested as per IEC 61683 and IEC 60068-2-(1,2,14,30) standards.
- ➔ USB/Ethernet based monitoring with 30 days data storage, DC and AC energy meter.
- ➔ User Configurable Parameters.
- ➔ Lightning, Surge Protection.
- ➔ Short Circuit Protection.
- ➔ Intelligent Charge Sharing.

TECHNICAL SPECIFICATION



ALFA SOLAR PCU (1Ph in 1Ph out)

Parameters	Units	Rating										
System Rating	KVA	1	1	2	3	5	5	6	7.5	10	10	15
Operating DC Voltage	V	24	48	48	48	96	120	120	120	120	180	240
Photovoltaic Input												
Input Voltage Range (Min-Max)	VDC	36-90	72-180			144-360	180-450			270-450	360-450	
Maximum PV Power Recommended	KW	1.0	1.0	2.0	3.0	5.0	5.0	6.0	7.5	10	10	15
MPPT Based Charging Controller												
Switching Element		MOSFET					IGBT					
Controller		DSP										
Type of Charger		PWM with MPPT										
Efficiency	%	92					95					
Configurable Parameter												Default Value
Battery Low Buzzer	V	Batt Low Cut + 0.2										11.2
Battery Low Cut	V	10 - 11.7										11.0
Battery High Cut	V	15 - 16										15.5
Battery Charging Voltage by SPV	V	13.5 - 15										14.5
Battery Charging Current by SPV	A	12 - 25										18
Battery Charging Voltage by Grid	V	13.0 - 14.5										14.2
Battery Charging Current by Grid	A	3 - 12										10
Grid Low Cut Voltage (IT Mode/Normal)	V	175 / 120										
Grid High Cut Voltage (IT Mode/Normal)	V	255 / 280										
Grid Charging		Enable / Disable										Enable
IT Load		Enable / Disable										Disable
Operating Mode		Smart/PCU/Hybrid										Smart
Output Voltage Low	V	170 - 190										185
Output Voltage High	V	250 - 260										260
No Load Shut Down		Enable / Disable										Disable
Input Source		GRID/GENSET										GRID
Battery												
Grid Disconnect (Solar Available)		@14.5 / Battery for 2 minutes OR 13.5/Battery-100% Current										
Grid Connect (PCU Mode/Smart Mode)	V	11 - 12										11.5
Temp. Compensation		@ 3mV/cell; 18mV/battery										
Inverter												
Switching Element		MOSFET					IGBT					
Control		PWM										
Nominal Output Voltage	VAC	220										
Output Supply Phase		1 phase, 3 wire										
Output Waveform		sinewave										
Nominal Frequency	Hz	50.0										
Load Current	V	4.5	9	13.5	18	21.8	27.2	36.3	54.5			
Voltage Regulation	%	1.00										
Output Voltage Distortion with 100% Linear load	%	<3										
Overload Capacity (IT LOAD DISABLE)	%	100-120(3time auto reset) : 60sec					200-300 : 1sec					
		120-150(3time auto reset) : 30sec					300-400 : 250ms					
		150-200 : 2sec					>400 : 20ms					
Overload Capacity (IT LOAD ENABLE)	%	100-110 : 10 Min					150-200 : 2Sec			>400 : 20ms		
		110-120 : 2 Min					200-300 : 1Sec					
		120-150 : 30sec					300-400 : 250ms					
Peak Efficiency	%	>82										>88
Noise @ 1meter	dB	60										
Cooling		Temp Controlled, fan					FAN					
Protections		Overload, Battery low, Battery high, Output low, Output high, Output Short Ckt Input Short Ckt, Overheat, under frequency, over frequency, Solar panel reverse										
Display Parameters		Battery voltage, charging current, discharging current, charging KWH, discharging KWH Solar voltage, solar current, instantaneous power, cumulative power Grid Voltage, Grid Current, Cumulative Power, Instantaneous Power, Grid Frequency Output Voltage, Output Current, Cumulative Power, Instantaneous Power, Output Frequency										
Switches		Reset for system on/off, up, down, back, enter (for LCD configuration)										
Indications		system on, inv on, SPV charging, Grid charging, batt low/high, overload, overheat, mains low, mains high, under frequency, over frequency, NLS										
Environment												
Operating Temperature	C	0-50										
Max Relative Humidity @25°C(non condensing)	%	95										
Degree of Protection		IP21										
Data Loggin		30 days data storage										
Dimension (LxWxH)	Inch	18 X 10 X 18					24 X 13 X 23			24 X 13 X 26		
Weight	Kg.	40	45	60	70	100						

*Specification are subject to change without prior notice due to constant improvement in design & technology.

TECHNICAL SPECIFICATION



BETA SOLAR PCU (1Ph in 1Ph out)

Parameters	Units	Rating			
System Rating	KVA	1	2	3	5
Operating DC voltage	V	24	48	48	96
Photovoltaic input					
Input voltage range (Min.-Max)	VDC	36-90	72-180	72-180	144-360
Maximum PV power recommended	KW	1.0	2.0	3.0	5.0
Number of charge controller		1			
MPPT based charge controller					
Switching element		MOSFET	IGBT		
controller		DSP			
Type of Charger		PWM with MPPT			
Efficiency	%	94	95		
Parameter		Default Value			
Battery Low Buzzer	V	10.2			
Battery Low Cut	V	10V			
Battery High Cut	V	15.5			
Battery Charging Voltage by SPV	V	14.5			
Battery Charging Current by SPV	A	18			
Battery Charging Voltage by Grid	V	14.2			
Battery Charging Current by Grid	A	10			
Grid Low Cut Voltage (IT Load Enable/Disable)	V	120/175			
Grid High Cut Voltage (IT Load Enable/Disable)	V	280/255			
Output Voltage Low	V	185			
Output Voltage High	V	260			
No Load Shut Down	%	<2			
Grid Charger	Configurable	Enable / Disable, Default - Enable			
No Load Shut Down		Enable / Disable, Default - Disable			
IT Load		Enable / Disable, Default - Disable			
Operating Mode		SMART/PCU/HYBRID, Default - SMART			
Input Source		GRID/GENSET, Default-GRID			
Battery					
Grid Disconnect (Solar Available)		@14.5 / Battery for 2 minutes OR 13.5/Battery-100% Current			
Grid Connect (PCU Mode / Smart Mode)	V	11.5			
Inverter					
Switching element		MOSFET	IGBT		
control		PWM			
Nominal output voltage	VAC	220			
Output supply phase		1 phase, 3 wire			
Output waveform		sinewave			
Nominal frequency	Hz	50.0			
Load Current	A	4.5	9	13.5	18
Voltage regulation	%	1.00			
Output voltage distortion with 100% linear load	%	<3			
Overload Capacity (IT LOAD DISABLE)	%	100-120(3time auto reset) : 60sec 120-150(3time auto reset) : 30sec 150-200 : 2sec	200-300 : 1sec 300-400 : 250ms >400 : 20ms		
Overload Capacity (IT LOAD ENABLE)	%	100-110 : 10 Min 110-120 : 2 Min 120-150 : 30sec	150-200 : 2Sec 200-300 : 1Sec 300-400 : 250ms	>400 : 20ms	
Peak efficiency	%	82	88		
Noise @ 1meter	dB	55			
Cooling		Temp Controlled, Fan			Fan
Protections		Overload, Battery low, Battery high, Output low, Output high, Output Short Ckt Input Short Ckt, Overheat, under frequency, over frequency, Solar panel reverse			
Display parameters		Battery voltage, charging current, discharging current, Solar voltage, solar current, instantaneous power, Grid Voltage, Grid Frequency Output voltage, Load %, Output Frequency Grid, Inverter & SPV Charger Status			
Switches		Reset for system on/off, up, down, back, enter (for LCD configuration)			
Indications		system on, inv on, SPV charging, Grid charging, batt low/high, overload, overheat, mains low, mains high, under frequency, over frequency, NLSD			
Environment					
Operating Temperature	C	0-50			
Max relative humidity @25°C (non condensing)	%	95			
Degree of Protection		IP21			
Physical					
Weight	Kg.	30	40	70	
Dimension (LXWXH)	Inch	17X13X17	18X10X18	24X13X23	

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The Power.....

As and when you need it.

- COMBO UPS
- SOLAR PCU
- ON LINE UPS
- DEEP IMPACT
- E-RICKSHAW BATTERY CHARGER & CONTROLLER
- SINE COMBO UPS
- SUNPACK
- INVERTERS
- MPPT CHARGER



CORPORATE OFFICE

53A/4, 6 Rama Road Ind. Area
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New Delhi- 110015

MANUFACTURING UNIT

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