

# ALL SOLAR POWER PRODUCT



Complete Range of

## Solar rMPPT™ Solutions



# rMPPT™ Solar PCU

## (SIGMA-Grid Export SOLAR PCU)

**Available in  
1 to 10KVA**



### PCU Mode Priority

**Solar/Battery/Grid**

### Hybrid Mode Priority

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

### Smart Mode Priority

**Solar/Battery/Grid (Day Time)  
Grid/Battery (Night Time)**

### Grid Export Mode

**Solar/Grid/Battery**

## FEATURES

- ➔ Grid Interactive.
- ➔ DSP based design built in MPPT solar charge controller.
- ➔ USB/Ethernet based monitoring with 30 days data storage.
- ➔ Maximum preference to Solar Power.
- ➔ Priority based working modes:
  - Smart Mode - Solar , Battery, Grid (Day time)  
Grid, Battery (Night time).
  - PCU Mode - Solar, Battery, Grid.
  - Hybrid Mode - Grid, Solar, Battery.
  - Grid Export Mode - Solar, Grid, Battery.
- ➔ User friendly & easily accessible LCD Display with all AC & DC parameter configurable from LCD:
  - AC- Input & Output Voltage.
  - DC- Battery charging voltage, Charging current, Low cut & High cut.
- ➔ Compatible with all PV arrays having different no of cells (36 cell/60 cell/72 cell) with 100% panel power rating.
- ➔ IEC 61683, 61727, 60529, 60068-2 (1,2,14,30) and 62116 standards approved from MNRE.



# TECHNICAL SPECIFICATION

## SIGMA-Grid Export SOLAR PCU (1Ph in 1Ph Out)



Parameters		Units		Rating					
System Rating	KVA	1	2	3	4	5	7.5	10	
Operating DC Voltage	V	48	48	48	48	96	120	180	
Photovoltaic Input									
Input Voltage range(Min.-Max.)	VDC	72-180	72-180	72-180	72-180	144-360	180-450	270-450	
Maximum PV power recommended	kW	1	2	3	4	5	7.5	10	
MPPT based charge controller									
Switching Element		IGBT							
Controller		DSP							
Type of Charger		PWM with MPPT							
Efficiency	%	95							
Parameters		Configurable							Default Value
Battery Low Buzzer	V	Batt. Low Cut +0.2							11.2
Battery Low cut	V	10-11.7							11
Battery High cut	V	15-16							15.5
Battery Charging Voltage with SPV	V	13.5-15							14.5
Battery Charging Current with SPV	A	2-24							18
Battery Charging Voltage with Grid	V	13-14.5							14.2
Battery Charging Current with Grid	A	1-15							10
Grid low cut voltage(IT Mode/Normal)	V	175-200/120-200							175/120
Grid high cut voltage(IT Mode/Normal)	V	245-255/245-280							255/280
Grid Charging	V	Enable/Disable							Enable
IT Load		Enable/Disable							Enable
Operating mode		Smart/PCU/Hybrid/Grid Export							Smart
Output voltage low	V	170-190							185
Output voltage high	V	250-260							255
No load shutdown		Enable/Disable (<2%)							Disable
GRID EXPORT MODE ENABLE									
Grid Low/recover	V	185/195							
Grid High/recover	V	280/275							
Synchronization voltage range	V	185-280V							
Synchronization frequency range	HZ	47 to 53							
maximum charging current from grid (import)	A	1-15A							10
Battery									
Grid Disconnect (Solar Available)		@14.5V/Battery for 2 minutes OR 13.5V/Battery-100% Current							
Grid Reconnect (PCU Mode / Smart Mode), Import ON (Grid Export mode)	V	11-12							11.5
Temp. Compensation		@ 3mV/cell; 18mV/Battery							
Inverter									
Switching Element		MOSFET			IGBT				
Control		PWM							
Nominal Output voltage		220							
Output supply phase		1Phase, 3 Wire							
Output waveform		Sine Wave							
Nominal frequency	Hz	50							
Load power factor	Lagging	1			0.8				
Voltage regulation	%	1							
Output voltage distortion with 100% linear load	%	<3							
Overload capacity	%	IT Load Disable 100-120%(3Times auto reset):60sec; 200-300%:1 sec; 120-150%(3Times auto reset : 30sec; 300-400%:250msec; 150-200%:2sec;			IT Load Enable 100-110%:10min; 150-200%:2sec; >400%:20msec; 110-120%: 2min; 200-300%:2sec; 120-150%:30sec; 300-400%:250msec;				
Peak efficiency	%	>85							
Noise @ 1 meter	dB	60							
Cooling		Temp. Controlled Fan upto 3kva							
Protections		Overload,Battery Low,Battery High, Output Low, Output High, Output Short Ckt., Input Short Ckt., Overheat, Under Frequency, Over Frequency, Solar Panel Reverse, Anti-islanding							
Display Parameters		Battery Voltage, Charging Current, Discharging Current, charging KWH and discharging KWH							
		Solar Voltage, Solar Current, Instantaneous Power,Cummulative Energy							
		Grid Voltage Grid Current, Frequency, Import Power, Import Energy							
		Export Power, Export Energy							
		Output Voltage, Output Current, Frequency, Instantaneous Power & Cummulative Energy							
Switches		Grid, Inverter & SPV Charger Status							
Indications		Reset for System ON/OFF, UP, DOWN, BACK, ENTER (for LCD Configuration)							
SystemON, Inv ON, SPV Charging, Grid Charging, grid export on, Batt Low/ High,No load, Overload, Overheat, Mains Low, Mains High, under frequency, over frequency, operaton modes (smart, hybrid, pcu and grid export)									
Environment									
Operating temperature	°C	0-50							
Max. Relative Humidity @ 25 C (non condensing)	%	95							
Degree of Protection		IP-21							
Data Logging		30 Days Data Storage							
Dimension (LxWxH)	inches	18 x 10 x 20				23 x 13 x 26		26 x 13 x 26	
Weight	kg	35	43	50	52	60	78	90	

\*Specifications are subject to change without prior notice due to constant improvement in design & technology



# 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  
Near Sat Guru Ram Singh Marg Metro Station  
Near NDPL Grid Office,  
New Delhi- 110015

## MANUFACTURING UNIT

**Fujiyama Power Systems**  
Village: Naryal, Near Sec.4 Barrier  
Parwanoo-173220, Distt.Solan  
Himachal Pradesh (India)

For Sales & Support : +91 9250 885 885

Landline: +91 11 65099208

E-mail: [sales@utlups.com](mailto:sales@utlups.com), Web : [www.upsINVERTER.com](http://www.upsINVERTER.com)