

# FUJIIYAMA SOLAR

## PRODUCT CATALOGUE

India's own wide range Energy Solutions



SOLAR INVERTER | SOLAR PCU | PWM CHARGER |  
SOLAR PANEL | SOLAR BATTERY

REV 03

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# VIKRANTA (Solar Home PCU)

**Affordable Yet,  
Very Reliable**



**Available in  
VK 750 - VK1600**

## FEATURES

- ▶ **Maintain battery health for longer life.**
- ▶ **Modified Sine wave output.**
- ▶ **Built-in IT mode.**
- ▶ **Easy Installation & low maintenance.**
- ▶ **Best Regulated output.**
- ▶ **Battery Charging with Multi stage (Bulk, Absorption & Float)  
Auto Equalize in a month.**
- ▶ **Protections : RBP, RSPV, OVL, BL, BH, S.Ckt, I/P HV& LV, OHT.**
- ▶ **Inbuilt PWM Solar Charge Controller.**
- ▶ **Priority Mode Selection**
  - 1) PCU    2) Hybrid    3) Smart**For Saving Energy & Money.**
- ▶ **Can Operated without Solar.**
- ▶ **LED Display for Operation & Fault.**

# TECHNICAL SPECIFICATION

## VIKRANTA (Solar Home PCU)

Parameters		Rating			
Model No		VIKRANTA750	VIKRANTA1000	VIKRANTA1200	VIKRANTA1600
System Rating		675VA	875VA	1075VA	1475VA
Operating DC Voltage		12V			24V
Switching Element		Mosfet			
Charger Topology		Triac Based			
Max. Battery Capacity		200AH			
Operating Mode (SMART/PCU/HYBRID)		SMART			
Parameters (Grid)		Default Value			
Nominal Grid Voltage		230V 1Φ			
Nominal frequency		50Hz			
Battery Charging Method 4 Stages		Bulk/Absorption/Float/Equalize			
Grid - Battery Charging Voltage (TUB) Default mode	Boost	14.5V ± 0.2V (Each battery )			
	Float	13.8V ± 0.2V (Each battery )			
Grid - Battery Charging Voltage (SMF)	Boost	13.5V ± 0.2V (Each battery )			
	Float	13.5V ± 0.2V (Each battery )			
Grid - Battery Charging Voltage (Equalize)		After 30 days			
Grid Charging Current	Normal/Boost	10A/12.5A ± 2A			
	Enable/Disable	Enable			
Grid Reconnect @ Battery Voltage		11.8V ± 0.2V (Each battery )			
Grid Low Cut Voltage		170V ± 10V			
Grid Low Cut Recovery	IT Mode Enable	180V ± 10V			
Grid High Cut Voltage		265V ± 10V			
Grid High Cut Recovery	IT Mode Disable	255V ± 10V			
Grid Low Cut Voltage		100V ± 10V			
Grid Low Cut Recovery		110V ± 10V			
Grid High Cut Voltage		290V ± 10V			
Grid High Cut Recovery		280V ± 10V			
Change Over (Battery to Mains)	IT Mode Enable/disable	<5ms			
Change Over (Mains to Battery)		<15ms			
Parameters (Inverter)					
Output Phase		1Φ			
Nominal output voltage		240V ± 10% RMS			
Nominal Frequency		50Hz ± 1%			
Max. Output Current		2.1A	2.5A	2.9A	4.3A
Output Waveform		Modified Sinewave			
Battery Low Buzzer		10.8V ± 0.2V (Each battery )			
Battery Low Cut		10.5V ± 0.2V (Each battery )			
Battery High Cut		17V ± 0.2V (Each battery )			
Typical Efficiency		>82%	>80%	>88%	>88%
Over Load Capacity	IT Mode Disable	>100% After 30 sec delay (with Alarm) 3Time Auto Reset , 4th Time Shut Down			
	IT Mode Enable	>100% After 30 sec delay (with alarm) 1st Time Shut Down			
		>150% Output Goes Down			
Protection		Overload, Battery Low, Battery High, Output Short Ckt, Battery Reverse (Fuse Blown), Over Heat @90°C ± 10°C , SPV High , I/P HV, I/P LV			
LED Indication		System ON, (IT mode, SMF/TUB, Boost Chg, Grid Chg.)Enable/Disable, Mains Status, Overload, Grid chg., Inverter ON, Battery Status, SPV Chg., Fault			
Switches (Micro)		System ON, (IT Mode, SMF/TUB, Boost Chg, Grid Chg.) Enable/Disable			
Parameters (Inverter)					
Switching Element		MOSFET			
Type of Charger		PWM			
SPV Charging Voltage (TUB)	Boost	15V ± 0.2V (Each Battery)			
	Float	14.2V ± 0.2V (Each Battery)			
SPV Charging Voltage (SMF)	Boost	13.7V ± 0.2V (Each Battery)			
	Float	13.7V ± 0.2V (Each Battery)			
Max. SPV Current		25A	50A	50A	50A
Efficiency		>95%			
Input Voltage Range (Min- Max) Voc		17V-25V			31V-49.5V
Maximum PV Power Recommended		(150W/160W)X2 (Parallel)	(150W/160W)X4 (Parallel)	(150W/160W)X5 (Parallel)	(315W/320W/325W)X4 (Parallel)
Parameters (Environment)					
Operating Temperature		0-50°C			
Cooling		Fan			
Max. Relative Humidity @ 25°C (non Condensing)		95%			
Noise @ 1 meter		50dB			
Standard Compliance		IP20			
Weight (kg)		7.75	8.8	11	14.2
Dimension (LXWXH)		275X276X131mm		306*274*166 mm	

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

\* "Battery Set point" for each type of battery mentioned.

# UMANG (Solar Home PCU)

**Cost Effective PCU Compatible  
with SMF, Gel and Tubular Batteries**



**Available in  
UM 1100 - UM 4500**

## FEATURES

- ▶ **Inbuilt PWM Solar Charge Controller.**
- ▶ **Multi-Colour LCD Display.**
- ▶ **Freq.-Available 50 & 60Hz.**
- ▶ **Multi Charging Stage (Bulk, Absorption & Float) Auto Equalize in a month.**
- ▶ **Solar Priority for Load & Battery Charging.**
- ▶ **Preference to Solar Power over Grid Power.**
- ▶ **Pure Sine Wave Output.**
- ▶ **Protections : RBP, RSPV, OVL, BL, BH, S.Ckt, I/P HV& LV, OHT.**
- ▶ **Compatible with DG as an Input Source.**
- ▶ **Compatible with IT Load.**
- ▶ **Compatible with SMF, Gel & Tubular Batteries.**
- ▶ **Priority Selection - PCU, Smart & Hybrid for Saving Energy and Money.**

# TECHNICAL SPECIFICATION

## UMANG (Solar Home PCU)

Parameters		Rating							
Product		UMANG							
Model No.		1100	1600	2025	2550	3050	3500	4500	
Capacity		850VA	1050VA	1500VA	2000VA	2200VA	3000VA	3500VA	
Operating DC Voltage		12V			24V			48V	
Switching Element		Mosfet							
Charger Topology		Boost Mosfet							
Battery Capacity		200AH MAX.							
Operating Mode		SMART/PCU/HYBRID							
DG Mode		Enable/Disable							
Solar Current MAX.		50A							
Solar Current MIN.		>3A (Below 3A, System will act like Solar Absent)							
Input Voltage Range (Min - Max)Voc		17V-25V			31V-49.5V			60V-99V	
Maximum PV Power Recommended		700W	850W	1350W	2000W	3000W			
Parameters (Grid)		Default Value							Variable Range
Nominal Grid Voltage		230V 1Φ							
Nominal Grid frequency		50Hz							
Frequency Range		47-53Hz ± 1Hz							
Default mode		TUB/SMF							
Grid Charging Voltage		Tubular							
Grid Charging Voltage	TUB	Boost							13.5V-15V
		Float							13V-14.2V
Grid Charging Voltage	SMF	Boost							13.5V-14.2V
		Float							13.5V-14.2V
Battery Charging Method 4 Stages		Bulk/Absorption/Float/Equalize							
Grid Charging Voltage (Equalize)		After 30 Days							NA
Grid Charging Current (Normal/Boost)		12A/15A ± 2A							1A-20A
Optional Grid Charging		Enable/Disable							
Grid Reconnect @ Battery Voltage		Enable							11V-12V
Grid Low Cut Voltage		11.8V ± 0.2V							
Grid Low Cut Recovery		170V ± 10V							
Grid High Cut Voltage		180V ± 10V							
Grid High Cut Recovery		265V ± 10V							
Grid Low Cut Voltage		255V ± 10V							
Grid Low Cut Recovery		100V ± 10V							
Grid High Cut Voltage		110V ± 10V							
Grid High Cut Recovery		290V ± 10V							
Grid High Cut Recovery		280V ± 10V							
Changeover (Batt. to Mains)		IT Mode Enable/Disable							
Changeover (Mains to Batt.)		IT Mode Enable							
		IT Mode Disable							
		<5ms							
		<12ms							
		<30ms							
Parameters (Inverter)									
Output Phase		1Φ							
Nominal Output Voltage		220V ± 8%							
Nominal Frequency		50Hz ± 1%							50-60Hz
Max. Output Current		2.5A	2.9A	4.3A	5.6A	6.8A	9A	10.0A	
Battery Low Buzzer		10.8V ± 0.2V							Batt. Low Cut+0.3V
Battery Low Cut		10.5V ± 0.2V							10V-11.5V
Battery High Cut		16.5V ± 0.2V							16.5V-17.5V
Output Waveform		Sinewave							
Typical Efficiency		≥80%			≥85%				
Voltage Harmonic		<3% (Linear Load)							
Over Load Capacity		IT Mode Disable >100% After 30 sec delay (with Alarm) 3Time Auto Reset , 4th Time Shut Down Note : 1HP Motor Load Run for 15min with alarm (1 sec ON 5sec OFF) in 2550 & 3050 Model.							
		IT Mode Enable >100% After 30 sec delay 1st Time Shut Down							
		>150% Output Goes Down							
Motor 1 HP		NA			Yes (<6.5A)		Yes (<7.5A)		
Protection		Overload, Battery Low, Battery High, Output Short Ckt., Battery Reverse (Fuse Blown), Over Heat @90°C + 10°C., Over/Under Frequency, I/P Hi, I/P Low, SPV High.							
LED Indication		System ON, (IT Mode, SMF/TUB, Boost Chg., DG Mode, Grid Chg.) Enable/Disable.							
Switches (Micro)		System ON/OFF, UP, Down, Back, Enter(For LCD Calibration)							
Display (Multi Color)		Battery Voltage, Charging Current, Grid Voltage, Grid Frequency, Output Voltage, Output Frequency, Load%, Battery Graph, Overheat, BLK/ABS/FLT., SPV Current, Operating Mode(HYB/PCU/SMT).							
Parameters (Solar)									
Switching Element		Mosfet							
Type of Charger		PWM							
SPV Charging Voltage (Boost)		15V ± 0.2V							14.2V-15.5V
SPV Charging Voltage (Reconnect)		14.2V ± 0.2V							13.1V-14.5V
SPV Charging Voltage (Boost)		14.0V ± 0.2V							13.6V-14.5V
SPV Charging Voltage (Reconnect)		13.7V ± 0.2V							13.6V-14.5V
Efficiency		≥95%							
Parameters (Environment)									
Operating Temperature		0-50°C							
Cooling		Fan							
Max. Relative Humidity @25°C (non Condensing)		95%							
Noise @ 1meter		50dB							
Standard Compliance		IP20							
Weight (kg)		10	11	15	19	17	28		
Dimension L x W x H(mm)		300x265x128		300x265x165	300x306x207	333x306x275	333x306x315		

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

\* "Battery Set point" for each type of battery mentioned..

# TEJAS (Solar Home PCU)

**Get Two Battery Back -up  
in Single Battery**



**Available in  
TEJAS 1200 - TEJAS 3300**

## FEATURES

- ▶ **Controller based Design, Pure Sine Wave with 100% Tracking of Solar Panel, Built in rMPPT Solar Charge Controller.**
- ▶ **Multi-Colour LCD Display.**
- ▶ **All Parameter Selected.**
- ▶ **Freq.:- Available - 50Hz & 60Hz.**
- ▶ **Multi Charging Stage (Bulk, Absorption & Float)**
- ▶ **Solar Priority of Load & Battery Charging.**
- ▶ **Preference to Solar Power Over Grid Power.**
- ▶ **Pure Sine Wave Output.**
- ▶ **Protections : RBP, RSPV, OVL, BL, BH, S.Ckt, I/P HV& LV, OHT.**
- ▶ **Compatible with DG as an Input Source.**
- ▶ **Compatible with IT Load.**
- ▶ **Compatible with Lithium, Gel & Tubular Batteries.**
- ▶ **Priority Selection - PCU, Smart & Hybrid for Saving Energy and Money.**

# TECHNICAL SPECIFICATION

## TEJAS (Solar Home PCU)

Parameters				
Model	TEJAS PCU			
Model No.	TEJAS 1200	TEJAS 2400	TEJAS 3300	
System Rating	1000VA	2000VA	3000VA	
Operating DC Voltage	12V	24V		
Switching Element	MOSFET			
Charger Topology	Boost Mosfet			
Max. Battery Capacity	200AH			
Operating Mode	SMART/PCU/HYBRID			
Optional DG mode	Enable/Disable			
Solar Power Maximum	1000W	2000W	2160W	
Input Voltage Range (Min - Max) Voc	15V-53V	30V-106V		
Parameters (Grid)				Variable Settable Range (Each Batt.)
Nominal Grid Voltage	230V 1Φ			
Nominal frequency	50Hz			
Frequency Range	47-53Hz ± 1Hz			
Battery Charging Method 3 Stages	Bulk/Absorption/Float			
Default charging mode	TUB./LITHIUM (Optional)	Tubular		
Grid - Battery Charging Voltage (TUB)	Boost	14.5V ± 0.2V (Each Battery )		
	Float	13.8V ± 0.2V (Each Battery )		
Grid - Battery Charging Voltage (LITHIUM) (Optional)	Boost/Float	13.8V ± 0.2V (Each Battery )		
	Normal/Boost	10A/15A ± 2A		
Optional Grid charging	Enable/Disable			
Grid Reconnect @ Battery Voltage (TUB)	11.8V ± 0.2V (Each Battery )			
Grid Reconnect @ Battery Voltage (LITHIUM) (Optional)	12.4V ± 0.2V (Each Battery )			
Grid Low Cut Voltage	IT Mode Enable	170V ± 10V		
Grid Low Cut Recovery		180V ± 10V		
Grid High Cut Voltage		265V ± 10V		
Grid High Cut Recovery		255V ± 10V		
Grid Low Cut Voltage	IT Mode Disable	100V ± 10V		
Grid Low Cut Recovery		110V ± 10V		
Grid High Cut Voltage		290V ± 10V		
Grid High Cut Recovery		280V ± 10V		
Change Over (Battery to Mains)	IT Mode Enable/Disable	<8ms		
Change Over (Mains to Battery)	IT Mode Enable	<12ms		
	IT Mode Disable	<30ms		
Parameters (Inverter)				
Output Phase	1Φ			
Nominal Output Voltage	220V			
Output voltage range	220V ± 8%			
Nominal Frequency	50 Hz ± 1%			50Hz/60Hz
Max. Output Current	2.9A	5.6A	9A	
Battery Low Buzzer (TUB)	10.8V ± 0.2V (Each Battery )			Battery Low Cut-0.3V
Battery Low Cut (TUB)	10.5V ± 0.2V (Each Battery )			10-11.5V
Battery Low Buzzer (LITHIUM) (Optional)	11.9V ± 0.2V (Each Battery )			NA
Battery Low Cut (LITHIUM) (Optional)	11.6V ± 0.2V (Each Battery )			NA
Battery High Cut (TUB)	16.5 ± 0.2V (Each Battery )			16.5-17.5V
Battery High Cut (LITHIUM) (Optional)	14.5 ± 0.2V (Each Battery )			NA
Output Waveform	Sinewave			
Typical Efficiency	>80%	>82%		
Voltage Harmonic	<3% (Linear Load)			
Over Load Capacity	IT Mode Disable	>100% After 30 sec delay (with alarm) 3Time Auto Reset , 4th Time Shut Down Note : 1HP Motor Load Run for 15min with alarm (1 Sec ON, 5 Sec OFF) in 2400 Model .		
	IT Mode Enable	>100% After 30 sec delay (with Alarm) 1st Time Shut Down		
		>115% Output Goes Down		
Motor 1 HP	NA	Yes (<6.5A)	Yes	
Protection	Overload, Battery Low, Battery High, Output Short Ckt, Battery Reverse (Fuse Blown), Over Heat @90°C ± 10°C, Over/Under frequency, I/P HV, I/P LV, SPV High, SPV Low			
LED Indication	Sys.ON, (IT mode, TUB/LITHIUM (Optional), Boost Chg, DG mode, Grid Chg.) Enb/Disb			
Switches (Micro)	System ON/OFF, UP, Down, Back, Enter (For LCD Calibration)			
Display (Multi Color)	Battery Voltage, Charging Current, Grid Voltage, Grid Frequency, Output Voltage, Output Frequency, Load %, Battery Graph, Overheat, SPV Current, Operating Mode (HYB/PCU/SMT)			
Parameters (Solar)				
Switching Element	Mosfet			
Type of Charger	MPPT			
SPV Chgarging Voltage (TUB)	Boost	15V ± 0.2V (Each Battery )		14-15.5V
	Float	14.2V ± 0.2V (Each Battery )		13.8-14.5V
SPV Charging Voltage (LITHIUM)	Boost / Float	13.9V ± 0.2V (Each Battery )		13.6-14.4V
SPV Charging Current	18A ± 2A			11-40A
Battery Charging Method 3 Stages	Bulk/Absorption/Float			
Efficiency	>94%			
Parameters (Environment)				
Operating Temperature	0-50°C			
Cooling	Fan			
Max. Relative Humidity @ 25°C (non Condensing)	95%			
Noise @ 1 meter	50dB			
Standard Compliance	IP20			
System Weight (KG)	12.4	17.6	27	
Dimension (LXWXH)mm	327.8 X305.5 X 116	333.8 X 305.5 X 158.6	340 X 305.5 X 360	

**Note.** 1) Specification are subject to change without prior notice due to constant improvement in design & technology.

2) Solar Panel Max. (\*S- Series, \*P- Parallel)

\* "Battery Set point" for each type of battery mentioned.

## Affordable Home rMPPT PCU

Available in  
3.75kVA- 5kVA/48V



### FEATURES

- **DSPic based Pure Sine Wave Design.**
- **Inbuilt in rMPPT charge controller (30% more efficient).**
- **Maximum preference to Solar Power.**
- **GSM based remote monitoring (Optional).**
- **Comply with IEC 61683 and IEC 60068-2-(1,2,14,30) standards.**
- **Robust design-20 yrs product life, 2-5 yrs of warranty.**
- **Reverse AC Voltage Protection.**
- **User friendly & Easily accessible LCD Display with all AC DC Parameter Configurable by Display Switches & Digital LCD (20X4) Display.**
- **User Friendly Control :- Output Voltage, Chg. Voltage - SPV/Grid, Chg. Current - SPV/Grid, Grid Reconnect, Batt. Low.**
- **Priority based working modes - Smart/PCU/Hybrid (for saving energy & money).**
- **Grid Charging, IT Load - Enable/Disable by LCD.**

# TECHNICAL SPECIFICATION

## TEJAS SOLAR PCU 1Ph in 1Ph out

Parameters	Units	Rating	
System Rating	KVA	3.75	5
Operating DC voltage	V	48	
<b>Photovoltaic input</b>			
Input Open Circuit Voltage Range(Min-Max)	VDC	80-160	
Maximum PV power recommended	KW	3.75	5.0
Number of charge controller		1	
Solar Charge Controller rating	A	80	100
<b>MPPT based charge controller</b>			
Switching element		IGBT	
Controller		DSPIC	
Type of Charger		MPPT	
Peak Efficiency	%	95	
<b>Parameter</b>		<b>Configurable</b>	<b>Default Value</b>
Battery Low Buzzer	V	Batt Low Cut + 0.2V/BATTERY	11.2
Battery Low Cut**	V	10.0-11.7	11.0
Battery High Cut (INV.)	V	SPV Present-SPV CHG. REF +1.3V for 15Sec, SPV CHG. REF +1.8V for 2Sec	16
		SPV Absent-SPV CHG. REF +0.5V for 15Sec, SPV CHG. REF +1.2V for 2Sec	14.7
Battery Charging Voltage by SPV	V	12.8-16.0	14.5
Battery Charging Current by SPV	A	12-60	18
Battery Charging Voltage by GRID	V	12.5-15.5	14.0
Battery Charging Current by GRID	A	6-15	10
Grid Low Cut Voltage (IT Load Disable/Enable)	V	120-200 / NA	120
Grid High Cut Voltage (IT Load Disable/Enable)	V	245-280 / NA	280
Output Voltage Low(Inverter Mode)	V	170-190	185
Output Voltage High(Inverter Mode)	V	250-260	255
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	11-12
Grid Charger	Configurable	Enable / Disable	Enable
IT Load		Enable / Disable	Disable
Operation Mode		SMART/PCU/HYBRID	SMART
Input Source		GRID/GENSET	GRID
<b>Inverter</b>			
Switching element		MOSFET	
Control		PWM	
Nominal output voltage	VAC	220	
Output supply phase		1 phase, 3 wire	
Output waveform		sinewave	
Nominal frequency	Hz	50.0	
Output Load Current	A	13.5	18
Voltage regulation (No load to full load)	%	<2	
Output voltage distortion with 100% linear load	%	<3	
Overload Capacity (IT LOAD ENABLE)		100-110 :10 min   110-120 : 2 min   120-150 : 30 sec	
Overload Capacity (IT LOAD DISABLE)	%	100-120(2Time auto Reset): 60sec	
	%	120-150(2Time auto Reset): 30sec	
Peak Efficiency	%	>88	
Noise @ 1meter	dB	50	
Cooling		Temp Controlled, Fan	
Protections		Overload, Battery low, Battery high, Output low, Output high, Output Short Circuit, 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, Grid Frequency, Output Voltage, Output Current, Output Frequency, IT Load En/Dn Grid Charger En/Dn, Operating Mode PCU/SMT/HYD	
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	
<b>Environment</b>			
Operating Temperature	°C	0-50	
Max Relative Humidity @25°C (non condensing)	%	95	
Dimension (L X W X H)	Inch	11.7 x 11 x 23.2	
Weight	Kg.	38	42

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

\*\*Once Battery Get Full Charged then Batt Low cut as per specification otherwise battery low buzzer 11.55V Per Batt. & Batt low cut 11.50V Per Batt.

## “Most Featureful rMPPT Solar PCU”

Available in  
7.5kVA - 15kVA



### FEATURES

- DSPic based Pure Sine Wave Design.
- Inbuilt rMPPT Solar charge controller (30% more efficient).
- Maximum preference to Solar Power.
- USB based communication, 30 days data logs inbuilt and AC & DC energy meter inbuilt.
- GSM/GPRS based remote monitoring & controlling (Optional).
- Comply with IEC 61683 and IEC 60068-2-(1,2,14,30) standards.
- Robust design-20 yrs product life, 2-5 yrs of warranty.
- Reverse AC Voltage Protection.
- User friendly & Easily accessible LCD Display with all AC & DC Parameter
- Configurable by Display Switches & Digital LCD (20X4).
- User Friendly Control :- Output Voltage, Chg. Voltage - SPV/
- Grid, Chg. Current - SPV/Grid, Grid Reconnect, Batt. Low.
- Priority based working modes - Smart/PCU/Hybrid (for saving energy & money).
- NLSD, Grid Charging, IT Load - Enable/Disable by LCD.

# TECHNICAL SPECIFICATION

## DHRUVA SOLAR PCU (1Ph in 1Ph out)

Parameters	Units	Rating		
System Rating	KVA	7.5	10	15
Operating DC Voltage	V	96	120	240
<b>Photovoltaic Input</b>				
Input Voltage Range (Min-Max)	VDC	160-400	200-400	400-650
Maximum PV Power Recom.	KW	7.5	10	15
Solar Charge Controller Rating	A	75	80	60
<b>MPPT Based Charging Controller</b>				
Switching Element			IGBT	
Controller			DSP	
Type of Charger			MPPT	
Efficiency	%		95	
<b>Parameter</b>		<b>Configurable</b>		<b>Default Value</b>
Battery Low Buzzer	V	Batt. Low Cut +0.2		11.2
Battery Low Cut**	V	10-11.7		11.0
Battery High Cut (INV.)	V	SPV Present-SPV CHG. REF +1.3V for 15Sec, SPV CHG. REF +1.8V for 2Sec		16
		SPV Absent-SPV CHG. REF +0.5V for 15Sec, SPV CHG. REF +1.2V for 2Sec		14.7
Battery Charging Voltage by SPV	V	12.8-16		14.5
Battery Charging Current by SPV	A	12-60		18
Battery Charging Voltage by Grid	V	12.5-15.5		14
Battery Charging Current by Grid	A	6-15		10
Grid Low Cut Voltage	(IT Mode/Normal)	NA/120-200		175/120
Grid High Cut Voltage	(IT Mode/Normal)	NA/245-280		260/280
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		255
No Load Shut Down		Enable/Disable		Disable
Input Source		Grid/Genset		Grid
<b>Battery</b>				
Grid Disconnect (Solar Available) PCU/SMART		@14.5/Battery for 2minutes or 13.5/Battery-100% Current		
Grid Reconnect (PCU Mode/Smart Mode)	V	11-12		11.5
Temp. Compensation		@3mV/cell/°C ; 18mV/Battery/°C		
<b>Inverter</b>				
Switching Element		IGBT		
Control		PWM		
Nominal Output Voltage	VAC	220		
Output Supply Phase		1Phase, 3Wire		
Output Waveform		Pure Sine Wave		
Nominal Frequency	Hz	50.0		
Load Current	A	27	36	54
Voltage Regulation	%	1		
Output Voltage Distortion with 100% Linear Load	%	<3		
Overload Capacity (IT LOAD DISABLE)		100-120(2time auto reset) : 60sec		200-300 : 1sec
		120-150(2time 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	%	>88		
Noise @ 1meter	dB	50		
Cooling		Temp Controlled, Fan		
Protections		Overload, Battery Low, Battery High, Output Low, Output High, Output 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, Grid Frequency, Output Voltage, Output Current, Output Frequency, IT Load En/Dn Grid Charger En/Dn, Operating Mode PCU/SMT/HYD		
Switches		Reset for System ON/OFF, UP, DOWN, BACK, ENTER (for LCD Configuration)		
Indications		System ON, Inverter ON, SPV Charging, Grid Charging, Battery Low/High, Overload, Overheat, Mains Low, Mains High, Under Frequency, Over Frequency, Fault		
<b>Environment</b>				
Operating Temperature	C	0-50		
Max Relative Humidity @25°C(non condensing)	%	95		
Degree of Protection		IP21		
Data Loggin		30 Day Data Storage		
Dimension (LxWxH)	Inch	24 X 13 X 23	24 X 13 X 26	24 X 13 X 26
Weight (Approx)	Kg.	65	103	120

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

\*\*Once Battery Get Full Charged then Batt Low cut as per specification otherwise battery low buzzer 11.55V Per Batt. & Batt low cut 11.50V Per Batt.

# GARUDA Solar PCU

**“A Smart PCU - Which Stores as well as Exports Electricity”**

**Available in  
10kVA - 50kVA**



## FEATURES

- ▶ **DSPic based Pure Sine Wave Design.**
- ▶ **Inbuilt in rMPPT charge controller (upto 30% more efficient\*).**
- ▶ **Grid Interactive.**
- ▶ **Maximum Preference to Solar Power.**
- ▶ **USB based communication, 31 days data logs inbuilt and AC& DC energy meter inbuilt.**
- ▶ **RS485 based monitoring.**
- ▶ **Process to Certificaion - IEC 61683, 61727, 60529, 60068-2 (1,2,14,30) & 62116 standards.**
- ▶ **Robust Design-20 years product life, 2-5 yrs of warranty\*\*.**
- ▶ **User Friendly & Easily accessible LCD Display with all AC and DC Parameter Configurable by Display Switches & Digital LCD (20X4).**
- ▶ **User Friendly Control :- Output Voltage, Chg. Voltage - SPV/Grid, Chg. Current - Grid Reconnect, Batt. Low.**
- ▶ **Reverse AC Voltage Protection.**
- ▶ **Priority based working modes - Smart/PCU/Hybrid (for saving energy & money).**
- ▶ **Grid Export Mode, Grid Charging & IT Load - Enable/ Disable by Display Switch.**

# TECHNICAL SPECIFICATION

## GARUDA SOLAR PCU (3Ph in 3Ph out)

Parameters		Units	Rating		
Model Name			GARUDA 1020	GARUDA 1580	GARUDA 2040
System Rating		KVA	10	15	20
Operating DC Voltage		VDC	120	180	240
<b>Photovoltaic Input</b>					
Input open circuit voltage range(Min-Max)		Voc	200-360	300- 540	400-720
Maximum PV Power Recommended / No. of Charge Controller			10KW / 1	15KW / 1	20KW / 1
Switching Element / Type of Charger / Solar Charge Controller Rating			IGBT / MPPT / 80A		
Peak Efficiency (DC to DC)		%	95		
Panel configuration			335W-6 Panel in series X 5 string, 390W and 400W -5 or 6 Panel in series X 5 string	335W-9 Panel in series X 5 string, 390W and 400W-8 or 7 Panel in series X 5 string	335W-12 Panel in series X 5 string, 390W and 400W-10 or 11 Panel in series X 5 string
<b>Grid parameter</b>			<b>Configurable</b>		<b>Default</b>
Input Voltage (R,Y,B w.r.t.. N) Nominal		VAC	220V/ Phase		
Frequency Range (R,Y,B w.r.t.. N)		Hz	50 ±3		
Supply Phase & Connection			3Phase / 4Wire		
Switching Element / Bypass Element / Grid charger Efficiency (AC-DC)			IGBT/ SCR / >85%		
Grid Low Cut Voltage R-Y-B w.r.t N (IT Mode-Enable/Disable)	Grid Export Mode Disable	VAC	NA/120-200		175/120
Grid High Cut Voltage R-Y-B w.r.t N (IT Mode-Enable/Disable)		VAC	NA/245-280		260/280
Grid Charger			Enable/Disable		Enable
IT Load			Enable/Disable		Disable
Input Source			Grid/Genset(for Genset, Grid Export Mode must be Disable)		Grid
<b>Grid Export Mode Enable Parameter</b>			<b>Configurable</b>		<b>Default</b>
Grid Low Cut/Recover Voltage R-Y-B w.r.t N		VAC	185/195		
Grid High Cut/Recover Voltage R-Y-B w.r.t N		VAC	280/275		
Synchronization voltage range		VAC	185-280		
Synchronization frequency range		Hz	50±3		
<b>Battery Parameter</b>			<b>Configurable</b>		<b>Default</b>
Battery Low Buzzer		VDC	Batt.Low Cut+0.2		11.2
Battery Low Cut		VDC	10-11.7		11
Battery High Cut(Inverter)		VDC	SPV Present- SPV Chg. Ref.+ 1.0V for 15Sec., SPV Chg. Ref.+1.5V for 2Sec		16
			SPV Absent- SPV Chg. Ref for 15Sec, SPV Chg. Ref + 0.2V for 2Sec		14.7
Battery Charging Voltage with SPV		VDC	12.8-16		14.5
Battery Charging Current with SPV		A	12-60		18
Battery Charging Voltage with Grid		VDC	12.5-15.5		14.2
Battery Charging Current with Grid		A	6-15		10
Operation Mode			Smart/Hybrid/PCU		Smart
Grid Disconnect (Solar Available) PCU/SMART		VDC	@14.5V/Battery for 2 minutes or 13.5V/Battery with 100% Charging Current		
Grid Reconnect (PCU Mode/SMART Mode)		VDC	11-12		11.5
Temperature Compensation			@3mV/cell/°C		
<b>Inverter Parameter</b>			<b>Configurable</b>		<b>Default</b>
Switching Element / Control		VAC	IGBT/ PWM		
Nominal Output Voltage (R,Y,B w.r.t.. N)		VAC	230V/ Phase		
Output Voltage Low Cut (R,Y,B w.r.t.. N) (Inv. Mode)		VAC	170-190		185
Output Voltage High Cut (R,Y,B w.r.t.. N)(Inv. Mode)		VAC	250-260		255
Output Supply Phase / Output Waveform		Hz	3Phase / 4Wire / Pure Sine Wave		
Frequency		A	50± 0.05		
Output Current Per Phase (R,Y,B)		%	11.6	17.4	23
Voltage Regulation		%	±1		
THDv		%	Less than 3% Linear load		
Overload Capacity (IT LOAD DISABLE)		%	100 - 120 % @ 60 Sec ( 2 Times Retry ), 120 - 150 % @ 30 Sec( 2 Times Retry ), 150 - 200 % @ 2 Sec		
Overload Capacity (IT LOAD ENABLE)		%	100 - 110 % @ 10 Min, 110 - 120 % @ 2Min, 120 - 150 % @ 30 Sec		
Overload Capacity (Grid Tie ON)		%	200 - 300 % @ 10 Min, 300 - 400 % @ 1Min, >400% @250ms		
Peak Efficiency			>85		
Manual Bypass			Rotary Switch		
Cooling			Temperature Controlled Fan		
Protections			Overload, Battery Low, Battery High, Output AC Low, Output AC High, Input AC Low, Input AC High, SPV High, SPV Low, Output AC Short Circuit, Input AC Short Circuit, Over temperature, Under Frequency, Over Frequency, Grid/Solar Charger Open Circuit, NTC Open, Solar Panel Reverse, Anti-islanding, Surge Protection		
Display Parameters			Input R Y B Voltage/Current/Frequency/Import Power/Export Power/Import Energy/Export Energy, Output R Y B Voltage/Current/Frequency/Power/Energy, Solar Voltage/Current/Power/Energy, Battery Voltage/Charg. Current/ Discharging Current/Charging KWh/Discharging Kwh, Inverter Status , Grid Charger Status, Solar Charger Status		
Switches			Reset Switch for System ON/OFF, UP, DOWN, BACK, ENTER(for LCD Configuration)		
LED Indications			System ON, Inverter ON, Grid Charger ON, Grid Tie ON, SPV Charger ON, Grid High/Low R Y B, Grid Frequency under and over R Y B, Output High/Low R Y B, Battery Low/High ,SPV Low/ High, Inverter/Grid charger Overheat, MPPT Overheat, Fault, Overload R Y B, HOE R Y B		
<b>Environment</b>					
Operating Temperature		°C	0 - 50		
Max. Relative Humidity @25°C (non condensing)		%	95		
Noise at 1 Meter / Degree of Protection			60 dBA / IP20		
Dimension (L X W X H)		cm	85x41x70		
Weight		Kg	105	125	145

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

# TECHNICAL SPECIFICATION

## GARUDA SOLAR PCU (3Ph in 3Ph out)

Parameters	Units	Rating		
System Rating	KVA	30	40	50
Operating DC Voltage	VDC	240		
<b>Photovoltaic Input</b>				
Input open circuit voltage range(Min-Max)	Voc	400-720		
Maximum PV Power Recommended / No. of Charge Controller		30KW / 1	40KW / 1	50KW / 1
Switching Element / Type of Charger / Solar Charge Controller Rating		IGBT / MPPT / 125A	IGBT / MPPT / 160A	IGBT / MPPT / 200A
Peak Efficiency (DC to DC)	%	95		
Panel configuration		335W-13 Panel in Series X 7 String, 440W-10 Panel in series x 7 string 540W-11 Panel in series x 5 string	335W-12 Panel in Series x 10 String, 440W-10 Panel in series x 9 string 540W-11 Panel in series x 7 string	335W-12 Panel in Series X 12 String, 440W-10 Panel in series x 11 string 540W-10 Panel in series x 9 string
<b>Grid parameter</b>				<b>Default</b>
Input Voltage (R,Y,B w.r.t.. N) Nominal	VAC	220V/ Phase		
Frequency Range (R,Y,B w.r.t.. N)	Hz	50 ±3		
Supply Phase & Connection		3Phase / 4Wire		
Switching Element / Bypass Element / Grid charger Efficiency (AC-DC)		IGBT/ SCR / >85%		
Grid Low Cut Volt. Range R-Y-B w.r.t N (IT Mode-Enable/Disable)	VAC	NA/120-200		175/120
GridHigh Cut Volt. Range R-Y-B w.r.t N (IT Mode-Enable/Disable)	VAC	NA/245-280		260/280
Grid Charger		Enable/Disable		Enable
Grid Export Mode		Enable/Disable		Disable
IT Load		Enable/Disable		Disable
Input Source		Grid/Genset(for Genset, Grid Export Mode must be Disable)		Grid
<b>Grid Export Mode Enable Parameter</b>				
Grid Low Cut/Recover Voltage R-Y-B w.r.t N	AC	185/195		
Grid High Cut/Recover Voltage R-Y-B w.r.t N	VAC	280/275		
Synchronization voltage range	VAC	185-280		
Synchronization frequency range	Hz	50±3		
<b>Battery Parameter</b>				<b>Default</b>
Battery Low Buzzer	VDC	Batt.Low Cut+0.2		
Battery Low Cut	VDC	10-11.7		
Battery High Cut(Inverter)	VDC	SPV Present- SPV Chg. Ref.+ 1.0V for 15Sec., SPV Chg. Ref.+1.5V for 2Sec		16
		SPV Absent- SPV Chg. Ref for 15Sec, SPV Chg. Ref + 0.2V for 2Sec		14.7
Battery Charging Voltage Range with SPV	VDC	12.8-16		
Battery Charging Current Range with SPV	A	12-60		
Battery Charging Voltage Range with Grid	VDC	12.5-15.5		
Battery Charging Current Range with Grid	A	6-15		
Operation Mode		Smart/Hybrid/PCU		
Grid Disconnect (Solar Available) PCU/SMART	VDC	@14.5V/Battery for 2 minutes or 13.5V/Battery with 100% Charging Current		
Grid Reconnect Range (PCU Mode   Smart Mode)	VDC	11-12		11.5
Temperature Compensation		@3mV/cell/°C		
<b>Inverter Parameter</b>				<b>Default</b>
Switching Element / Control		IGBT/ PWM		
Nominal Output Voltage (R,Y,B w.r.t.. N)	VAC	230V/ Phase		
Output Volt. Range Low Cut R-Y-B w.r.t N (Inv. Mode)	VAC	170-190		185
Output Volt. Range High Cut R-Y-B w.r.t N (Inv. Mode)	VAC	250-260		255
Output Supply Phase / Output Waveform		3Phase / 4Wire / Pure Sine Wave		
Frequency	Hz	50± 0.05		
Output Current Per Phase (R,Y,B)	A	34.7	46.3	57.9
Voltage Regulation	%	±1		
THDv	%	Less than 3% Linear load		
Overload Capacity (IT LOAD DISABLE)	%	100 - 120 % @ 60 Sec ( 2 Times Retry ), 120 - 150 % @ 30 Sec( 2 Times Retry ),150 - 200 % @ 2 Sec		
Overload Capacity (IT LOAD ENABLE)	%	100 - 110 % @ 10 Min,110 - 120 % @ 2Min, 120 - 150 % @ 30 Sec		
Overload Capacity (Grid Tie ON)	%	200 - 300 % @ 10 Min,300 - 400 % @ 1Min,>400% @250ms		
Peak Efficiency	%	>85		
Manual Bypass		Rotary Switch		
Cooling		Temperature Controlled Fan		
Protections		Overload, Battery Low, Battery High, Output AC Low, Output AC High, Input AC Low, Input AC High, SPV High, SPV Low, Output AC Short Circuit, Input AC Short Circuit, Over temperature, Under Frequency, Over Frequency, Grid/Solar Charger Open Circuit, NTC Open, Solar Panel Reverse, Anti-islanding, Surge Protection		
Display Parameters		Input R Y B Voltage/Current/Frequency/Import Power/Export Power/Import Energy/Export Energy, Output R Y B Voltage/Current/Frequency/Power/Energy, Solar Voltage/Current/Power/Energy, Battery Voltage/Charg. Current/ Discharging Current/Charging KWh/Discharging Kwh, Inverter Status , Grid Charger Status, Solar Charger Status		
Switches		Reset Switch for System ON/OFF, UP, DOWN, BACK, ENTER(for LCD Configuration)		
LED Indications		System ON, Inverter ON, Grid Charger ON, Grid Tie ON, SPV Charger ON, Grid High/Low R Y B, Grid Frequency under and over R Y B, Output High/Low R Y B, Battery Low/High ,SPV Low/ High, Inverter/Grid charger Overheat, MPPT Overheat, Fault, Overload R Y B, HOE R Y B		
<b>Environment</b>				
Operating Temperature	°C	0 - 50		
Max. Relative Humidity @25°C (non condensing)	%	95		
Noise at 1 Meter / Degree of Protection		60 dBA / IP20		
Dimension (L X W X H)	cm	696.3X693X1538		
Weight	Kg	180	350	400

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

# PWM (Solar Charge Controller)



Available in  
12V/24V-10A/20A

## FEATURES

- ▶ **Controller Based PWM Technology.**
- ▶ **Works Efficiently.**
- ▶ **LED/LCD Indication.**
- ▶ **Over Charging Current Protection.**
- ▶ **Over Charging Voltage Protection.**
- ▶ **Battery Reverse Protection.**
- ▶ **Overload Protection.**
- ▶ **SPV Reverse Polarity Protection.**
- ▶ **Reverse current flow from Battery Solar Array Protection.**

# TECHNICAL SPECIFICATION

## PWM (Solar Charge Controller)

General				
Model	CC1224 /10A LED		CC1224/20A LCD	
DC Voltage	12V	24V	12V	24V
Precise	Micro controller			
Operating Temperature	0-50°C			
Storage Temperature	-20° to 70°C			
Battery Type	Tubular			
Battery Capacity	200 AH Max.			
Battery Charging Regulation Mode	PWM			
Operating Solar Input Voltage (Voc) Max	25V	49.5V	25V	49.5V
Solar Module Size(Max)	165W*1	390W*1	165W*2 (Parallel)	390W*2 (Parallel)
Electrical				
Nominal Battery voltage	12/24V DC (Auto Sensing)			
SPV Chg. Voltage Boost	14.5V	29V	15.5V	31V
Charging Current (max)	10A		20A	
Load Current Max.	10A		20A	
Charge Controller Efficiency	>95%			
Idle Consumption	<30mA			
Min. Solar Input Voltage(Voc) @ Startup	17V±2V	30V±2V	17V±2V	30V±2V
Load Condition				
USB Port	5V / 2A			
Battery Low Voltage Load Disconnect	10.8V±0.2V	21.6V±0.4V	10.8V±0.2V	21.6V±0.4V
Battery Low Voltage Load Recovery	12.6V±0.2V	25.2V±0.4V	12.6V±0.2V	25.2V±0.4V
Battery High Voltage Load Disconnect	15.0V±0.2V	30.0V±0.4V	16.0V±0.2V	32.0V±0.4V
Battery High Voltage Load Recovery	14.0V±0.2V	28.0V±0.4V	15.5V±0.2V	31.0V±0.4V
LED Indication				
Solar ON	Green		NA	
Solar Over Load	Red		NA	
Batt. High	Green		NA	
Batt. Low	Red		NA	
Load ON	Green		NA	
Over Load	Red		NA	
Display Parameter				
Batt. Voltage, Batt. Current	NA		Yes	
Solar Status: Absent, Charging OFF, Overload	NA		Yes	
Load Current	NA		Yes	
Charger ON	NA		Yes	
Overload				
100%	Continues			
101%-120%	10 Min ON/1 Min OFF		30 Sec. ON/1 Min OFF	
121%-150%	30 Sec. ON/1 Min. OFF		1 Sec. ON/1 Min. OFF	
150%-200%	2 Sec. ON/1Min. OFF		250mSec. ON/1Min. OFF	
>200%	250mSec. ON 1 Min. OFF			
Protections				
Battery Voltage (High/Low)	Available			
Battery Reverse	Available			
SPV Reverse	Available			
SPV Current (High/Low)	Available			
Reverse Current Flow from Battery to Solar Panel Array	Available			
Load short Circuit through DC Fuce	Available			
Physical				
Weight	130gm		300gm	
Dimension (LXWXH) MM	75x132x36 mm		100x161x50 mm	

Protect Solar Charge Controller from direct Sunlight & Water.

Panel open circuit voltage should not to do be more than specified voltage.

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

# SMU (PWM) Solar Management Unit

**Convert your Home Inverter  
into Solar Inverter**



## FEATURES

- ▶ **High speed and high performance micro-controller.**
- ▶ **High reliability with longer operational life.**
- ▶ **Inbuilt protection to avoid battery undercharge and over-charge.**
- ▶ **Inbuilt PWM Technology Charge Controller.**
- ▶ **Automatic voltage selection for 12V or 24V.**
- ▶ **Solar Prioritization.**
- ▶ **Compact design with wall mounting.**
- ▶ **Eco friendly.**

# TECHNICAL SPECIFICATION

## SOLAR MANAGEMENT UNIT

General	
Model	SOL1224-50A
Operating Temperature	0°C to 50°C
Storage Temperature	-10°C to 60°C
System Operating Voltage	12V/24V DC
Battery Type	Tubular/SMF
Battery Capacity Max.	200AH
Battery Charging Regulation Method	4 Stage PWM (Bulk/Absorption/Float/Equalize)
Maximum Solar Power	12V : 800W, 24V : 1700W
Max. Solar Panels Recommended	12V, 25A:150W/165W *3 (Parallel)
	24V, 25A:250W/315W/325W*3 ( Parallel)
	12V, 50A:150W/165W *5 (Parallel)
	24V, 50A : 250W*6 , 315W/325W*5, 390W/400W/425W*4 ( Parallel)
Electrical	
Nominal Grid Voltage	230V AC 1Φ
Grid Low Cut	90V ± 10V
Grid High Cut	290V ± 10V
Charging Current (Solar)	50A/25A
Charge Controller Efficiency	>95%
Idle Consumption	<20mA
Max. Solar input Voltage (Voc)	17V-25V (12V Batt.)
	31V-49.5V (24V Batt.)
Min. Solar input voltage (Voc) @ Start-up	15V/30V ± 2%
Solar Panel Recovery Voltage	17V/34V ± 2%
Max. Solar Current	50A By Default
Efficiency	>95%
Battery Set Points @ 25°C	
Bulk Voltage Tubular Battery	14.6V/29.2V ± 2%
Absorption Voltage Tubular Battery	14.2V/28.4V ± 2%
Float Voltage Tubular Battery	14V/28V ± 2%
Bulk Voltage SMF Battery	13.7V/27.4V ± 2%
Float Voltage SMF Battery	13.5V/27.0V ± 2%
Absorption Duration	3Hr
Equalize Voltage	14.9V/29.8V ± 2%
Equalize Duration	3Hr
Equalize calender	28 days
Mains reconnect when Solar not present	At any Batt. Voltage
Mains reconnect when insufficient Solar Power	<11.8V/ 23.6V ± 2%
Mains disconnect when sufficient Solar Power For Tubular	>13.8V/27.6V ± 2%
Mains disconnect when sufficient Solar Power For SMF	13.7V/27.4V ± 2%
Display Parameters	Protections
1. Batt. Voltage, Batt. Current, Batt. Type	1. Battery Reverse Polarity
2. Solar Voltage, Solar Current	2. Batt. Reverse Current
3. Mode Selection	3. Over Current of SPV : >56A/28A
4. Solar Status: High, Low, Overload, Overheat	4. Solar High Voltage
5. Saving- KWh	5. SPV Reverse Polarity
6. Mains Present, Low, High, Absent	6. Load Short Circuit through AC Fuse
7. Max. PV Current	7. Solar Low Voltage
	8. Over Temperature
Physical	
Ingress Protection	IP-20
Fixing	Wall Mounted
Weight (Kg)	2.33
Dimension (LxWxH) Inch	9.6 X 6.9 X 4.9

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

# SMU (rMPPT) Solar Management Unit

**Convert your Home Inverter  
into Solar Inverter**



Available in

12V/24V-40A

## FEATURES

- **Inbuilt rMPPT Technology Charge Controller.**
- **High reliability with longer operational life.**
- **Compact design with Wall Mounting.**
- **3 Stage Charging BLK, ABS, FLT.**
- **Transient and Surge Protection.**
- **Over Temperature Protection.**
- **Automatic Voltage selection for 12V or 24V.**
- **Inbuilt protection to avoid battery undercharge & over-charge.**
- **High speed and high performance micro-controller.**
- **Solar Prioritization.**
- **Eco friendly.**

# TECHNICAL SPECIFICATION

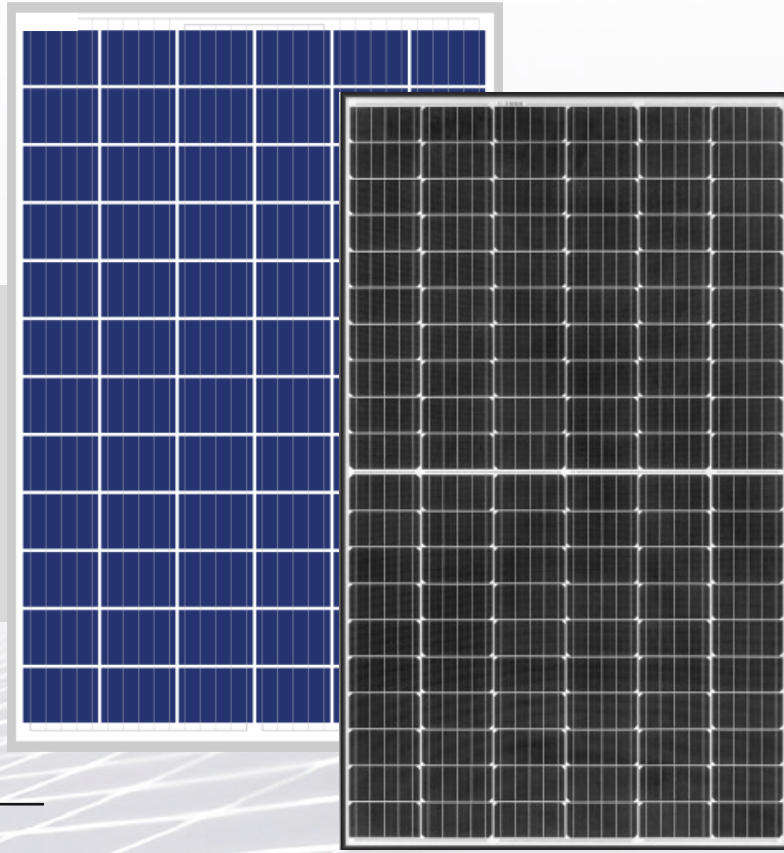
## SOLAR MANAGEMENT UNIT

General		
Model	SOL1224-40A-MPPT	
Nominal System Voltage	12V DC	24V DC
Battery Capacity Max.	200AH	
Battery Type	Tubular/SMF	
Battery Charging Regulation Method	3 Stage (Bulk/Absorption/Float)	
Solar Charger Type	MPPT	
Solar Power (Max.)	600W	1200W
Max. Solar Panel (Recommended)	150W/165W X2 (Series) X 2 (Parallel) 315W/325W/330W/335W X 2 (Parallel) 390WX1	315W/325W/330W/335WX4 (Parallel) 390W/425WX3. 540WX2 (Parallel) 315W/325W/330W/335WX 2 (Series) X 2 (Parallel)
Max. Solar input Voltage(Voc)	15V-49.5V	30V-99V
Idle Consumption	<20mA	
Efficiency	>95%	
Battery set points		
Tubular	Boost Voltage :- 14.5V $\pm$ 0.2V	Boost Voltage :- 29.0V $\pm$ 0.2V
	Float voltage :- 14V $\pm$ 0.2V	Float voltage :- 28V $\pm$ 0.2V
	Bulk Absorption :14.8V $\pm$ 0.2V	Bulk Absorption :29.6V $\pm$ 0.2V
SMF	Boost/Float Voltage : 13.8V $\pm$ 0.2V	Boost/Float Voltage : 27.6V $\pm$ 0.2V
	Bulk Absorption : 14.1V $\pm$ 0.2V	Bulk Absorption : 28.2V $\pm$ 0.2V
Battery Current Max.	40A	
Grid		
Mains Low cut /Recovery	90V/100V $\pm$ 10V	
Mains high cut /Recovery	290V/280V $\pm$ 10V	
Mains reconnect when Solar not present	At any Batt. Voltage	
Mains Disconnect	If Battery reaches boost level then after <5 min. Mains will be disconnected.	
Mains Reconnect	Battery volt. : 11.8V	Battery volt. : 23.6V
Display Parameters		
Display Type	LCD	
Display Parameters	Batt. Voltage, Batt. Current, Batt. Type(TUB/SMF), Solar Voltage, Solar Current, Solar Saving- KWh, Mode Selection (Auto/Manual), Mains Present, Absent	
Protections		
Protections	Battery Reverse Polarity (Fuse blown), Batt. Reverse Current, SPV Over Current, Solar High Voltage, SPV Reverse Polarity, Over Temperature, Mains High Cut, Mains Low Cut	
Operating Temperature	0°C to 50°C	
Storage Temperature	0°C to 60°C	
Ingress Protection	IP-20	
Fixing	Wall Mounted	
Weight (Kg)	2.6	
Dimension (LXWXH) Inch	9.25 x 9 x 4.15	

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

# SOLAR PANEL

**Polycrystalline &  
Mono-Perc**



Available in

40W - 540W

## FEATURES

- **Reliable for all type of Environmental Conditions.**
- **More Efficient with 5 Bus Bar in Poly**
- **More Efficient with 9 Bus Bar in Mono.**
- **High Power Output using High Efficiency Cell.**
- **Designed for Roof Top Application.**
- **Low Sun Light Performance.**
- **Durable for 25 Years for Poly & 27 Years for Mono**
- **Special Aluminum Frame Design.**

# SOLAR TUBULAR POWER

HEAVY DUTY  
BATTERY



## SOLAR BATTERY RANGE (JWALA)

Model	Nominal Voltage	Capacity @ C20 at 27°C	Warranty	Dimensions L x W x H	Container	Plate Combination	Dry Weight <sup>#</sup> ± 3%	Gross Weight <sup>#</sup> ± 3%
	V	AH	Months	MM			Kg	Kg
JWALA 15030	12	150	30 + 30*	503 x 190 x 410	IT 500	2+3	26.8	53.2
JWALA 15536	12	155	36 + 24*	503 x 190 x 410	IT 500	2+3	28.5	57.1
JWALA 20536	12	205	36 + 24*	503 x 190 x 410	IT 500	3+4	35.0	62.3
JWALA 23536	12	235	36 + 24*	503 x 190 x 410	IT 500	3+4	38.0	64.3

## SOLAR BATTERY RANGE (BHIM)

Model	Nominal Voltage	Capacity @ C10 at 27°C	Warranty	Dimensions L x W x H	Container	Plate Combination	Dry Weight <sup>#</sup> ± 3%	Gross Weight <sup>#</sup> ± 3%
	V	AH	Months	MM			Kg	Kg
BHIM 16036	12	160	36	503 x 190 x 410	IT 500	3+4	35.5	57.5
BHIM 1560	12	150	60	503 x 190 x 410	IT 500	3+4	36.2	60.2
BHIM 2060	12	200	60	503 x 190 x 410	IT 500	3+4	45.2	69.2

# Specification are subject to change without prior notice due to constant improvements in design & technology.

\* 24 Months Pro-Rata Warranty.

# FUJIIYAMA SOLAR

India's own wide range Energy Solution



## FUJIYAMA POWER SYSTEMS PVT. LTD.

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Unit 2 : Plot No51-52, Sector - Ecotech 1 Extension 1,  
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