

# Hybrid Solar Solution - 1 to 10 kW

Single Phase Output



## Special Features

- High efficiency, Inverter, Solar Panel
- True Bi-directional Solar Inverter
- Higher Array voltage capacity



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## SOLAR PANEL | POLYCRYSTALLINE | 330-345 WATT



Designed for very HIGH AREA EFFICIENCY ideally suited for roof-top and ground-mounted applications



Up to +5 Wp POSITIVE POWER OUTPUT TOLERANCE GUARANTEED ensuring faster ROI



Extremely RELIABLE PRODUCT suiting all environment conditions



Extremely RELIABLE PRODUCT suiting all environment conditions; Certifications : IEC 61215 / IEC61730

<b>Peak Power (0-4.99Wp) Pmax (Wp)</b>	330	335	340	345
<b>Maximum Voltage Vmpp (V)</b>	38.61	38.71	38.8	38.9
<b>Maximum Current Impp (A)</b>	8.56	8.66	8.77	8.87
<b>Open Circuit Voltage Voc (V)</b>	46.4	46.5	46.6	46.7
<b>Short Circuit Current Isc (A) Module</b>	9.14	9.22	9.32	9.42
<b>Efficiency (%)</b>	17.01	17.26	17.52	17.78

### Hybrid Inverter-










1. On Grid Solar Power: - The generated solar power is exported to grid, through on-grid inverter.
2. Hybrid Solar Power: -
  - a. OFF Grid: - The generated power is stored in battery and the same is inverted through inverter for domestic and industrial use.

Inbuilt MPPT charge controller Selectable source feature – Grid / Battery DC/ Solar (Automatic changeover between solar & AC mains provided )  
 Inbuilt isolation transformer for galvanic isolation

Photovoltaic Input			
System Rating (KW)	1-2kW	3-5kW	7.5/10kVA
KSG Series Model	KSG-1K-SM/KSG-2K-SM	KSG-3K-SM/KSG-5K-SM	KSG-7.5K-SM/KSG-10K-SM
PWM with MPPT Range	33-55VDC	65 – 110 V DC	135 – 192 V DC
Maximum PV power recommended (KW)	1-2kW	3-5kW	7.5/10kVA
MPPT base Charge Controller	Yes		
Switching Element	MOSFET / IGBT		
Controller	DSP Controlled PWM with MPPT		
Charging Stages	Boost Absorption, Float		
Grid Input			
Input Supply	230V AC, 50 Hz (-20%, +15%), 1 Phase 3 Wire		
Battery			
Battery Voltage	24/48V	48/96/120V DC Upto 10kVA	
Grid through Battery charging capacity (% KW Rating)	0 - 50%		
Inverter			
Switching Element	MOSFET/ IGBT		
Control	16 Bit DSP Controlled		
Nominal Output Voltage, Frequency (Hz)	230V AC L-N, 50Hz, 1 Phase 2 Wire		
Output Waveform	Sine Wave		
Load Power Factor	0.6 lag to 1 (within KVA and KW rating)		
Voltage regulation	± 2%		
Voltage Stability in dynamic condition	Complies with IEC/EN 62040-3, Class 1		
"Output voltage distortion with 100% linear load", Over load	< 3%, Over load 125%10min,150%1min		
"Inverter peak efficiency (Ref. STD IEC 61683)"	Up to 90%		
Protection degree with open doors	IP21		
Colour	RAL 7016 Texture		
Cooling	Forced Air		
Galvanic Isolation	Inbuilt isolation transformer at inverter output		
Protection	Under/Over voltage for Array & Battery, reverse polarity Output overload, Short circuit, Over temperature, Surge protection at Input, Output, Array & Battery path, MCB at Battery & Output		
Display Parameter	1. Array – Voltage, Power, 2. Battery – Voltage, 3. Output – Voltage		
Indications	MPPT Charger ON/OFF, Inverter ON, Inverter OFF, CV Mode ON, PV Array OFF, Battery low trip, Battery low alarm, Over Load, Over Temperature, Short Circuit		
Max. Relative humidity @ 25°C (non condensing)	Up to 95%		
Max. Altitude above sea level without de-rating	1000 m (For higher altitude complies with IEC/EN 62040-3)		
Standard Compliance			
Testing	IEC 61683 / IEC 60068		
Operating Ambient Temp.	0 – 50°C		

# Solar Tubular Battery

## FEATURES :

-  Batteries are made of time tested **Exide Torr Tubular Positive Plates**
-  Available in **12V, 6V & 2V** range
-  **Ultra Low Maintenance**
-  Suitable for **frequent cyclic duty**
-  Superior **Cycle life**
-  Supplied in **factory charged condition** - ensures optimal quality and ready to use
-  Service life **comparable with the best of the international brands.**
-  Batteries meet **IS 13369 specification** with latest amendments
-  Acid level indicator



## TECHNICAL SPECIFICATIONS :

Type of Battery	Nominal Voltage (V)	Capacity @C10 upto 1.80 v.p.c at 27°C (Ah)	Battery Weight with Acid ± 5% (kg)	Overall Dimension		
				Length ± 5 mm	Width ± 5 mm	Height ± 5 mm
WPS75	12	75	32.0	410	176	292
WPS75L	12	75	42.5	530	220	294
WPS100L	12	100	55.0	500	187	421
WPS120L	12	120	48.5	530	220	294
WPS150L	12	150	63.0	500	187	421
WPS200L	12	200	75.0	500	187	421

## OTHER BATTERY SOLUTIONS



# Module Mounting Structure

## Specifications

Material : Stainless Steel

Weather Proof Accessories: Available

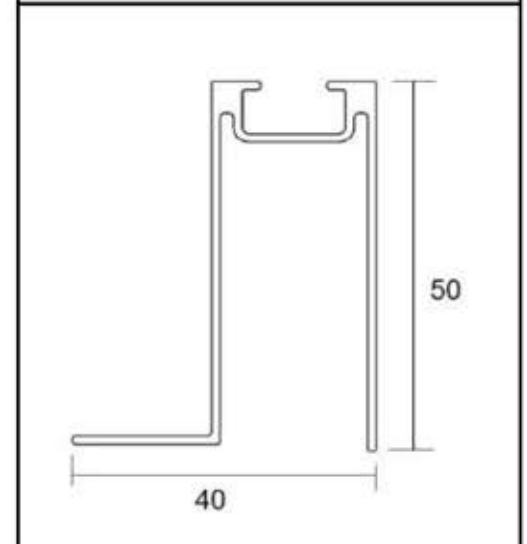
Module Adjustment : Across the Profile

Designed Wind Speed:>200KMPH

Type: Galvanised MMS

Thickness : >80 micron

## Profile Drawing



## Key Features:

1. Anti-Corrosive Property against harsh environment
2. Easy to handle and install
3. Layman installation techniques

## Side View - Assembly Drawing

