

**SOLAR PV MODULE** 



Harnessing the Solar Power with innovative and smart future products at the affordable price range and quick returns on Investments.

LIVSOL is the leading organization in the field of renewable energy attached with some leading companies in the power sector of India and Abroad, Is proud to be among the list of 100% renewable companies with its focus On "Designing, Engineering, Supplying, Testing and Commissioning any kind of Solar Photovoltaic plants, equipments and systems that cater to both Domestic and Industrial needs".

Strong vision coupled with professional and ethical business practices have helped us to achieve good position in the global markets.



## **KEY FEATURES**

- Extra Long life
- Extra Energy/Power
- Extremely Compact Size
- Made of A Grade Solar Cells with up to 23% cells efficiency
- One of the most compact efficient 156.75x156.75 to 158.75x158.75mm
  60/72 cells module
- Module stability and reliability due to high-quality raw materials
- Positive Power Tolerance
- Snow and wind load tested
- ARC glass with UV-T & UV-C encapsulent ensure higher module efficiency
- Reliable schottky bypass diode minimizes power drop by shed
- All weather-resistance junctions box and crosslink cable
- PID resistance cells & encapsulants yield efficient performance under hot humid weather
- TUV:IEC61215, IEC61730 certified from 3W-550 W

## **TECHNICAL SPECIFICATION**

Electrical Characteristics      LS-40 WP      LS-50 WP      LS-60 WP      LS-75 WP      LS-110 WP      LS-125 WP      LS-165WP      LS-200 WP      LS-2
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Peak Power (WP)	40	50	60	75	110	125	165	200	270
Open Circuit Voltage (VOC) (V)	22.32					22.68	37.24	38.46	
Short Circuit Current (ISC) (A)	2.41	3.06	3.54	4.59	6.22	7.45	8.95	7.46	9.1
Voltage at Maximum Power (Vmp) (V)	18	18	18	18	18	18	18.3	29.62	31.52
Current at Maximum Power (Imp) (A)	2.24	2.82	3.35	4.21	5.75	6.95	8.75	7.12	8.54
Maximum System Voltage (V)		600 (VDC)							
Physical Parameters									
Solar Cell type		Poly							
Solar cell Per Module (Units)		36							
Arrangement of Cells (L*B) (nos)	9 Cell x 4 Strings								
Weight (Kg)	3.7	4.32	4.9	<b>6.58</b>	8.3	9.7	11.1	11.1	11.1
Hole to Hole Dimension (mm) (CTC)	X = 645 Y = 235	X = 645 Y = 285	X = 645 y = 330	X = 645 y = 415	X = 628 Y = 540	X = 628 Y = 647	X = 628 Y = 740	X = 945 Y = 740	x = 955 y = 825
Module Size LxWx H (mm)	665x427x35	665x597x35	778x665x35	778x665x35	1010x665x35	1255x665x35	1485x665x35 1649x		1649x990x35
Module Efficiency	≥14.3 <mark>2</mark>	≥14.2	≥15.3	≥14.7	≥15.01	≥15.01	≥16.28	≥16.24	≥16.78
Measurement Tolerance on Po\ver +/ 3%.All electrical parameter specified at :STC:25.C cell temperature;1000W/m2 Irradiance									
Other Characteristics		All Dimension in mm tolerances ±2MM							
Type of Cell	Poly Crystalline Silicon								
Front Face	Tempered (Low Iron), 3.2 mm, ARC Coated								
Cell Encapsulate	Ethylene Vinyl Acetate (PID)								
Frame	≥17µ Anodize thickness alnminum frame with twin wall profile					TIVSØL			
Junction Box	IP 65/67,3 Terminal, 2 Diodes								
Temp. Coefficients of Pmax (%/°C)	-0.45								
Temp. Coefficients of Voc (%/°C)	-0.35								
Temp. Coefficients of ISC (%/°C)	0.05								



Electrical Characteristics	LS - 335 WP	LSM - 335 WP	LSM - 400 WP	LSM - 410 WP	LSM - 430 WP	LSM - 450 WP	LSM - 550 WP
Peak Power (WP)	335	335	400	410	430	450	550
Open Circuit Volatage (VOC) (V)	45.79	40.33	49.35	49.42	49.22	50 <b>.1</b> 0	49.88
Short Circuit Current (ISC) (A)	9.01	10.14	10.3	10.44	11.21	11.48	14.11
Voltage at Maximum Power (Vmp) (A)	38.25	34.81	42.46	42.9	40.59	41.39	42.05
Current at Maximum Power (Imp) (A)	<mark>8.5</mark> 9	9.62	9.72	9.84	10.6	10.88	13.08
Module Size LxWxH (mm)	1960x990x40 mm	1660X1000x35 mm	1985x1000x35 mm		2015X1003X35 mm		2278X1134X35 mm
Module Efficiency	17.50	20.10	20.18	20.20	20.25	20.47	20.99
Solar Cell Per Module (Units)	72	60	72	72	144	144	144
Solar Cell type	POLY MONO						
Maximum System Voltage (V)	1500 (VDC)						
Arrangement of Cells (L*B) (nos)	12*6	10*6	12*6	10*6	24*6	24*6	24*6
Weight (Kg)	22.0 17.9 22.0 29.5						
Glass	3.2mm, High Transmission, AR Coated Heat Strengthened glass						
Junction Box	IP68, 4 Terminal with 3 bypass Diodes (25A)						
Tolerance of Electrical Parameters:	3% positive tolerance						
Warranty	25 Years* Linear Performance Warranty						

		Performance Guaranted
Temperature Coefficients		Power Output of 90% for
		10 Years & 80% for 25
Coefficient of Current a (% °C)	0.05 ± 0.02	

Coefficient of Current a (% °C)	$0.05 \pm 0.02$			
Coefficient of Voltage β (% °C)	0.35 ± 0.01			
Coefficient of Power λ (% °C)	0.44 ± 0.02			
Maximum System Voltage (V)	1500 (VDC)			
Temperature Range	40 °C to + 85°C			
Efficieny Reduction at 200W/m2, 25°C	<5%			
Standard Test Condition (STC)	Irradiance 1000W/m2, Temperature 25°C, AM 1.5			
Mechanical Specification:				
Cable & Connectors	4mm2, TUV Certified, 1000 mm(Optional)			
Application Class	CLASS A (Safety Class)			
Front Cover	High Transmission, Low Iron, Tempered Glass, ARC Coate			
Cell Encapsulate	Ethylene Vinyl Acetate (PID)			
Back Cover	Composite film			
Frame	≥ 17µ Anodize thickness Aluminum frame with twin wall			





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