



Solar Panels & Systems

www.levantsolar.com





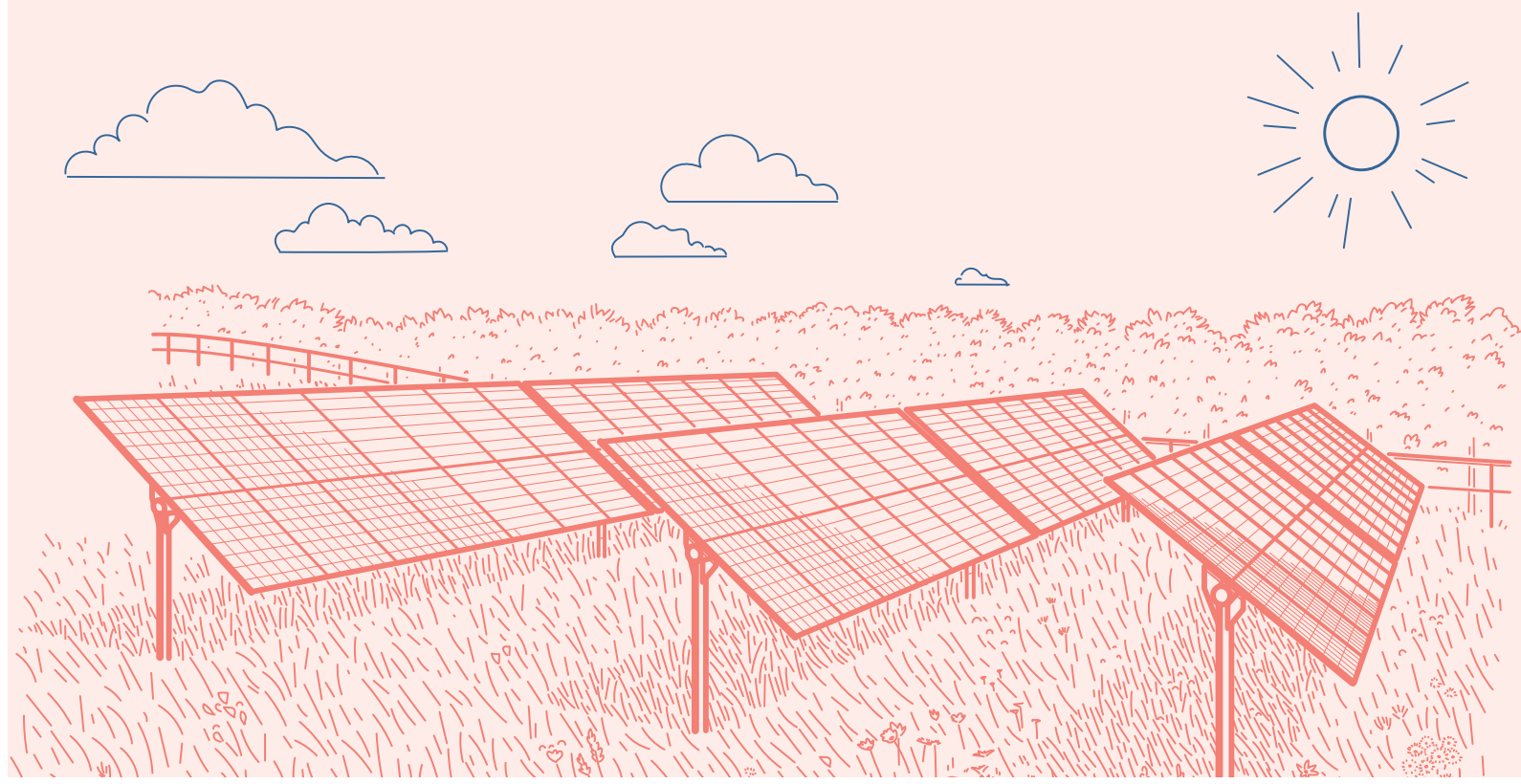
Levant Solar is a state of the art solar module manufacturing company dedicated to provide end-to-end solar solutions. We manufacture highly efficient products with cutting edge technology and offer our customers the best solar solution for Domestic, Commercial and Industrial applications.

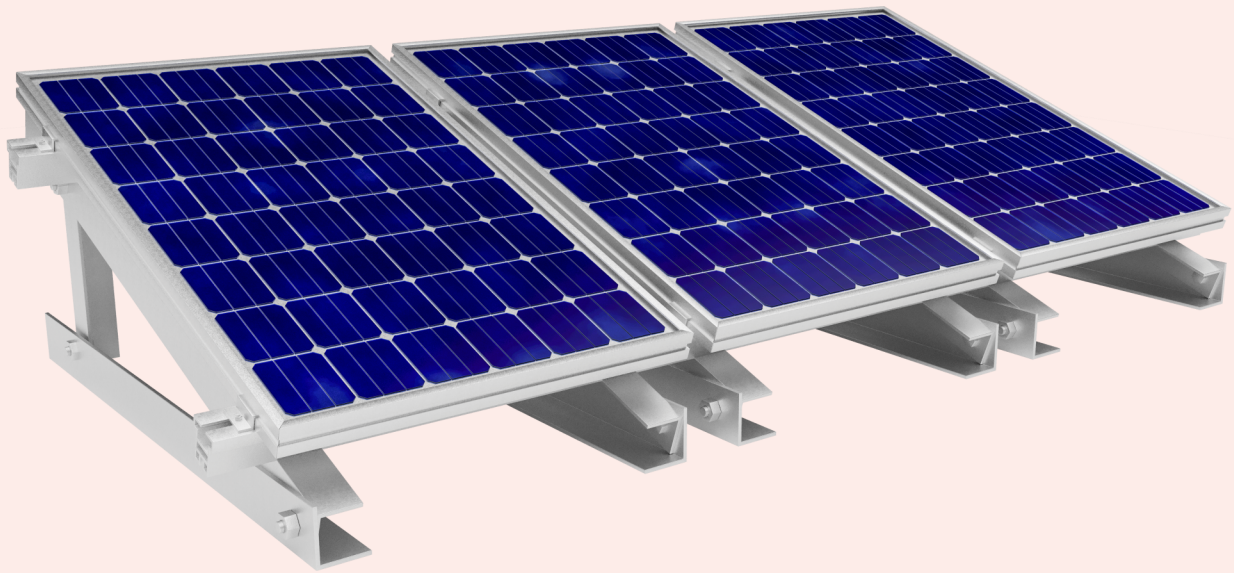
VISION

To be amongst the leading service provider of clean, cost-effective and state-of-the-art Solar energy solutions.

MISSION

A global player committed to provide creative & efficient solutions towards energy conversion and storage for dynamic applicability in residential, commercial and industrial usage.





Our Manufacturing Facility

Located in Raipur, India with a state of art technology adhering to global quality standards.

Testing Facilities

- ▶ Sun Simulator Test
- ▶ EL Test
- ▶ Gel Test
- ▶ Mechanical Load Test
- ▶ Junction Box Pull Test
- ▶ HV-High Voltage Test
- ▶ Wet Leakage Test
- ▶ Adhesive Test
- ▶ Tab Pull test
- ▶ PID Test

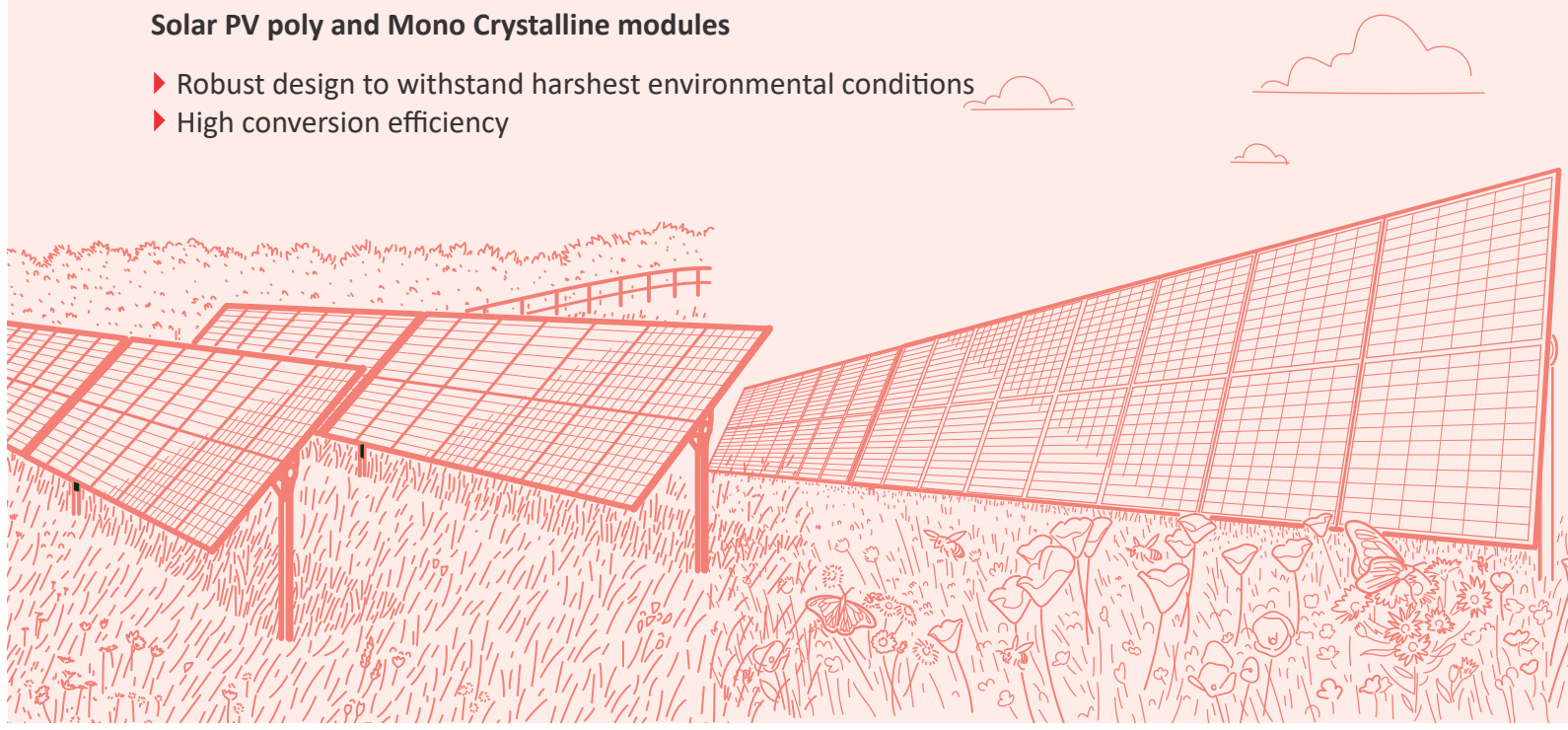
Salient Features

- ▶ 100% Online EL Inspecon System
- ▶ Positive Oriented Power Tolerance [0 to +4.99 Wp]
- ▶ Italian Stringing Process
- ▶ Guaranteed Performance as per Best Industry Standards
- ▶ High Fill factor and less series
- ▶ Resistance Solar Modules
- ▶ Low Temp Coefficient
- ▶ Solar PV Modules Suitable for Indian and European
- ▶ Climates PID Resistance

Our Products

Solar PV poly and Mono Crystalline modules

- ▶ Robust design to withstand harshest environmental conditions
- ▶ High conversion efficiency



Solar Module 525w-550w

Maximum Efficiency %

21.33

Positive Power Tolerance WP

0~+4.99

Cells

M10 144

Module Technology

Half Cut & Micro Gap Design
With improved shade tolerance

- ▶ Implementation of bypass diodes in split JB series-parallel connections enable the module to perform in **PARTIAL SHADOW CONDITIONS** with respect to full-cell module
- ▶ **HIGHER NUMBER OF BUSBARS** make the PV modules less prone to loss in efficiency and increases tolerance to micro cracks
- ▶ **CYLINDRICAL TABBING WIRE** increases cell absorption by enhancing scattering effects
- ▶ **FIELD RELIABILITY** is improved due to multiple contact points on the cell which lowers the cell stress during module fabrication
- ▶ **LOWER INTERNAL RESISTANCE** boosts module power helping to achieve minimal power loss with respect to previous variant modules

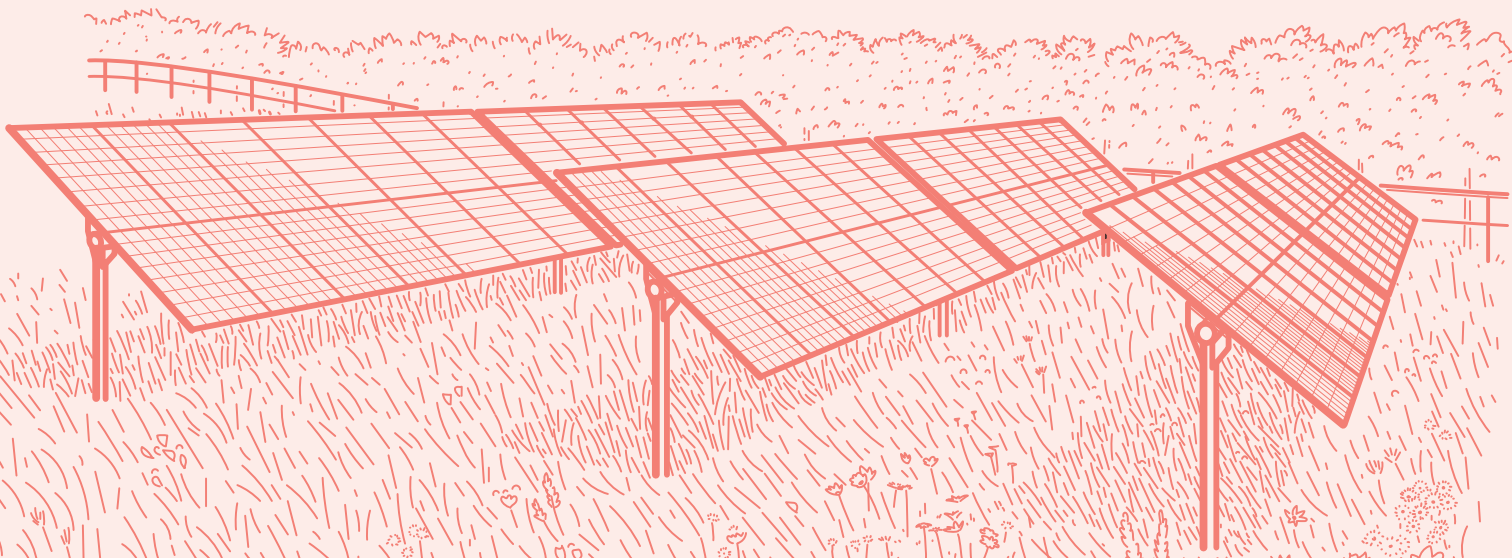


WITH
M10
CELLS

MONOFACIAL
MODULE

UP TO 550 W

144 MONO PERC
SOLAR CELLS



Technical Data

Solar Module 525w-550w

Electrical Data^{1,2}

All data refers to STC (AM 1.5, 1000 W/m², 25° C)

Peak Power P _{max} (Wp)	525	530	535	540	545	550
Maximum Voltage V _{mpp} (V)	41.4	41.5	41.6	41.7	41.8	41.9
Maximum Current I _{mpp} (A)	12.69	12.78	12.87	12.95	13.04	13.13
Open Circuit Voltage V _{oc} (v)	49.2	49.3	49.4	49.5	49.6	49.7
Short Circuit Current I _{sc} (A)	13.4	13.48	13.56	13.64	13.73	13.82
Module Efficiency (%)	20.36	20.55	20.75	20.94	21.13	21.33

1) STC:1000 W/m² irradiance, 25° C Cell temperature, AM1.5g spectrum according to EN 60904-3. I 2)Power measurement uncertainty is within +/- 2%.

Electrical Parameters at NOCT³

Power (W)	391.4	393	397	399	402	407
V@P _{max} (V)	38.2	38.3	38.4	38.5	38.6	38.7
I@P _{max} (A)	10.25	10.29	10.34	10.37	10.43	10.52
V _{oc} (V)	45.8	45.9	46	46.1	46.2	46.3
I _{sc} (A)	10.83	10.89	10.96	11.03	11.09	11.15

3) NOCT irradiance 800 W/m², ambient temperature 20° C, wind speed 1 m/sec

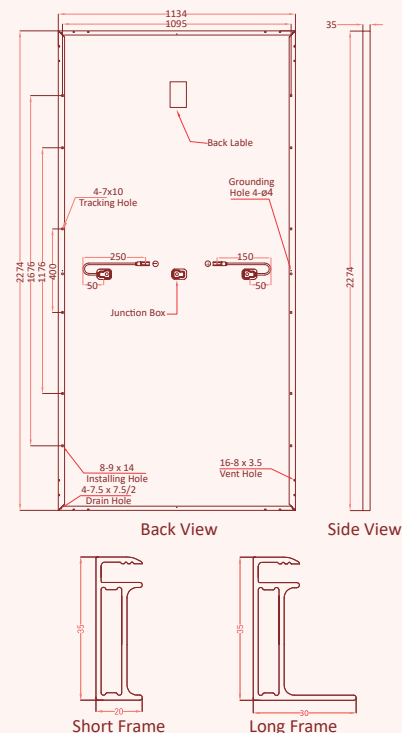
Temperature Coefficients (Tc) permissible operating conditions

Tc of Open Circuit Voltage ()	-0.27%/°C
Tc of Short Circuit Voltage ()	0.050%/°C
Tc of Power ()	-0.35%/°C
Maximum System Voltage	1500V
NOCT	45° C ± 2° C
Temperature Range	-40° C to + 85° C

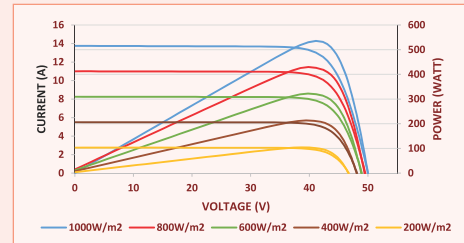
Mechanical Data

Length x Width x Height	2274 X 1134 x 35mm (89.53 x 44.65 x 1.38 Inches)
Weight	28.2 Kg (62.17 Lbs)
Junction Box	Ip68, Split Junction Box with individual bypass diodes
Cable & Connectors"	200mm (+ve terminal) and 300 mm (-ve terminal) length Cables, Mc4 Compatible/MC4 Connectors
Application Class	Class A (Safety class II)
Superstrate##	3.2 mm (0.125 inches) high transmission low iron tempered glass , AR coated
Cells	72 Mono PERC (144 half-cells) P-Type Solar cells
Back Sheet	Composite film
Frame	Anodized aluminium frame with twin wall profile
Mechanical Load Test	5400 Pa (Snow Load), 2400 Pa (Wind Load)
Maximum Series Fuse Rating	25A

Dimension in mm

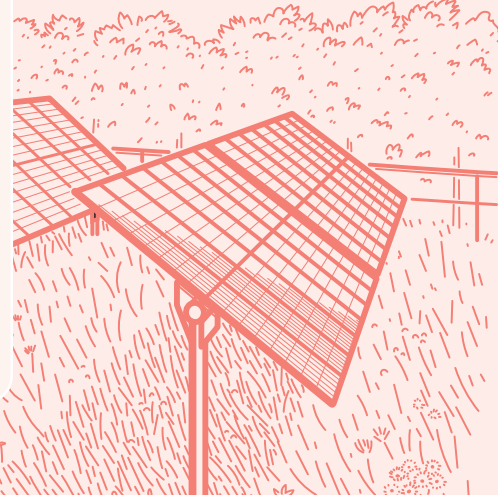
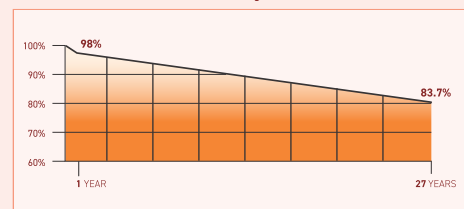


Typical I-V Curves⁴



4) Average relative efficiency reduction of 5% at 200 W/m² according to EN 60904-1

Performance Warranty



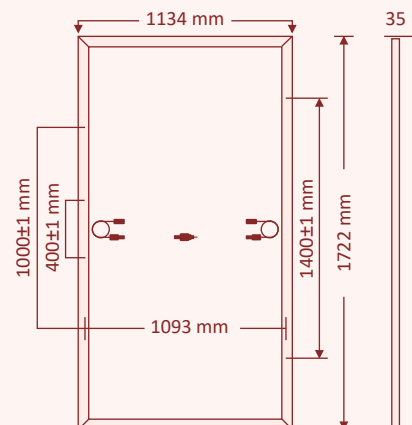
Multi Busbar Mono PERC Module - M10 (Models & Specification)

Specification at STC

PRODUCT PORTFOLIO

108 Half Cell (182x91 mm Mono PERC

Module Wp	380 Wp	390 Wp	400 Wp	410 Wp
Voltage at Maximum Power (Vm)	30.56 V	30.88 V	31.20 V	31.52 V
Current at Maximum Power (Im)	12.43 A	12.63 A	12.82 A	13.01 A
Open Circuit Voltage (Voc)	36.31 V	36.61 V	36.91 V	37.21 V
Short Circuit Current (ISC)	13.40 A	13.54 A	13.68 A	13.82 A
Module Eff.	19.46%	19.97%	20.50%	21.00%
Fuse Rating	25 A			
Module Size	1722 X 1134 X 35 mm			

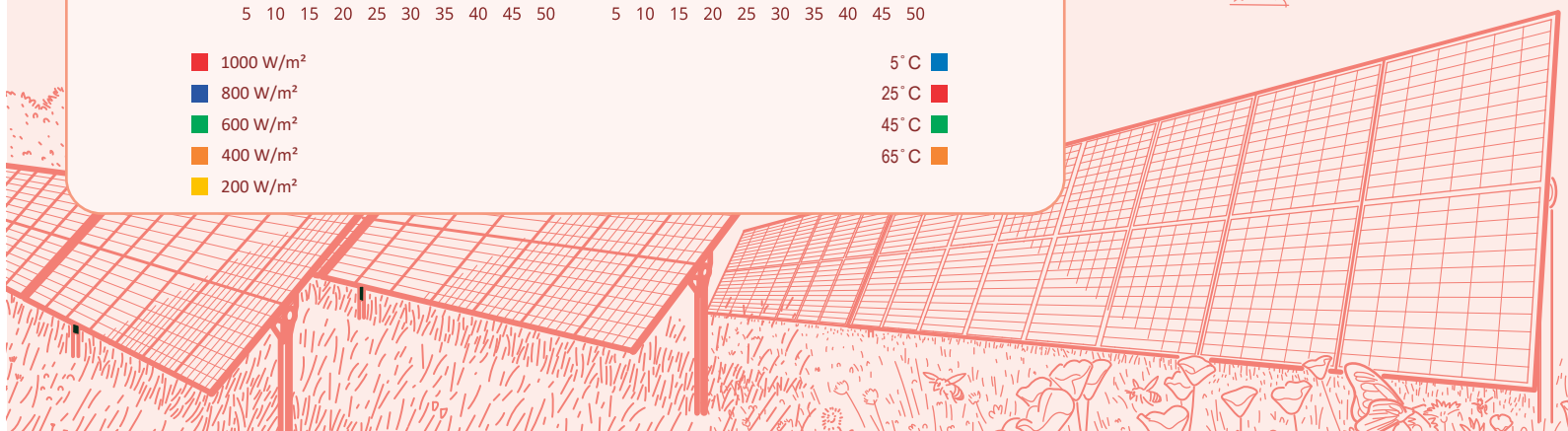
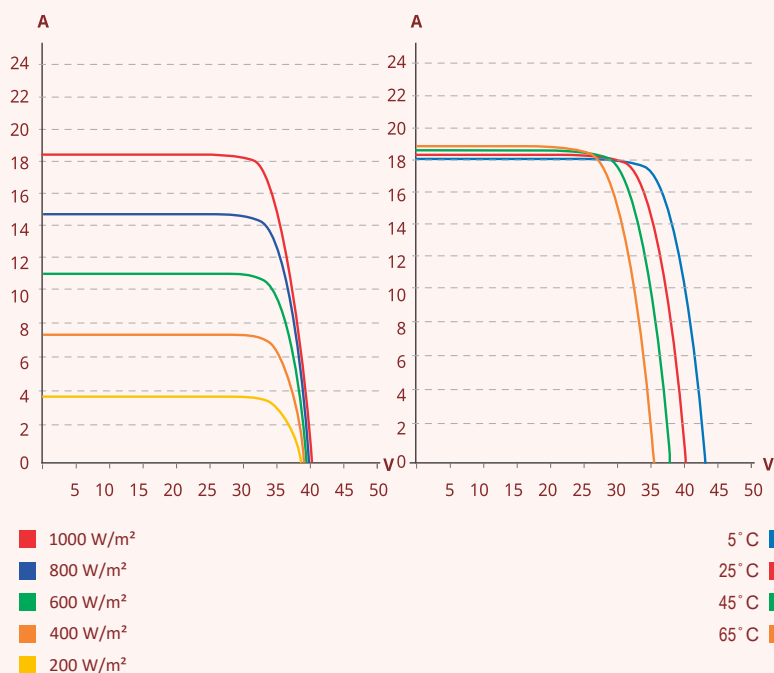
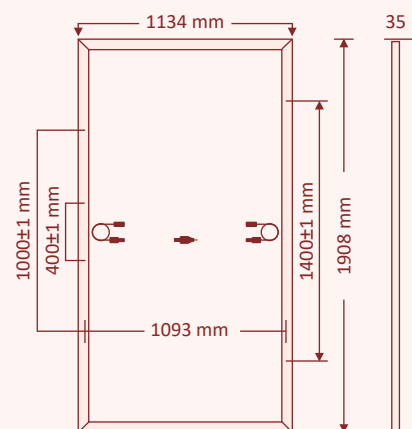


Specification at STC

PRODUCT PORTFOLIO

120 Half Cell (182x91 mm Mono PERC

Module Wp	440 Wp	450 Wp	455 Wp	460 Wp
Voltage at Maximum Power (Vm)	33.72 V	33.91 V	34.06 V	34.0 V
Current at Maximum Power (Im)	13.05 A	13.27 A	13.45 A	13.55 A
Open Circuit Voltage (Voc)	41.02 V	41.18 V	41.33 V	41.48 V
Short Circuit Current (ISC)	13.73 A	13.85 A	13.93 A	14.01 A
Module Eff.	20.40%	20.90%	21.10%	21.30%
Fuse Rating	25 A			
Module Size	1908 X 1134 X 35 mm			



Polycrystalline solar modules - Technical Data

Electrical Parameters

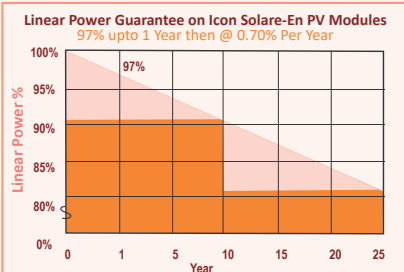
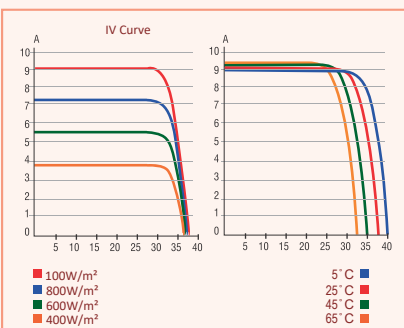
Model	LS40VA	LS75VA	LS100VA	LS150VA
No of Cells (Multi crystalline)	36	36	36	36
Power (Wp)	40	75	100	150
Open Circuit Voltage (Voc)	22.18	22.18	22.2	22.23
Short Circuit Current (Isc)	2.36	4.34	5.86	8.74
Voltage at Max Power (Vmax)	18.02	18.07	18.09	18.11
Current at Max Power (Imax)	2.24	4.16	5.56	8.31
Module Efficiency (η)%	13.93%	14.44%	15.52%	14.94%
Fill Factor (%)	77.1%	78.1%	77.3%	77.5%

ALL ELECTRICAL DATA MEASURED AT STC (STANDARD TEST CONDITION) IRRADIANCE 1000W/M²
SPECTRUM AM 1.5, TEMP. 25°C, NOCT=50°C $\pm$ 2°C AT 800 W/M², AM 1.5, WIND 1M/S, AMBIENT TEMP. 20°C

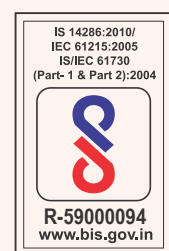
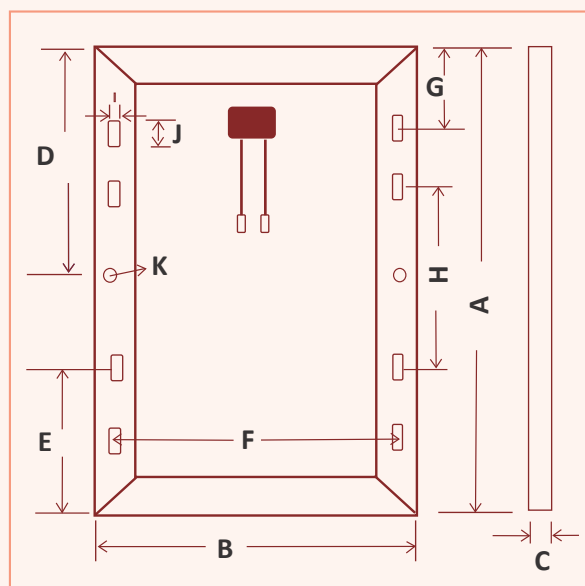
Mechanical Parameters (All Dimensions in mm)

Length (A)	432	776	966	1501
Width (B)	671	671	671	671
Thickness (C)	30	30	30	30
Edge to Centre Hole Distance (D)	216	388	483	751
Edge to Mounting Hole Distance (E)	108	194	225	379
Mounting CTC Distance Horizontal (F)	635	635	635	635
Edge to Optional Mounting Hole Distance (G)	NA	NA	NA	NA
Mounting CTC Distance Vertical (H)	216	388	517	743
Mounting Hole (I x J)	7x12	7x12	7x12	7x12
Centre Hole Dia (K)	5	5	5	5

Operating Conditions - 40°C to +85°C & 85% RH Temperature Co-efficient for Voc/°C (β)= -0.2994%, Isc/°C (α) = 0.0268%,
power/°C (γ) = -0.3914% NOCT = 50°C $\pm$ 2°C at 800 W/m², AM 1.5, wind 1 m/s, ambient temp. 20°C



Mechanical Drawing



Polycrystalline solar modules - Technical Data

Electrical Parameters

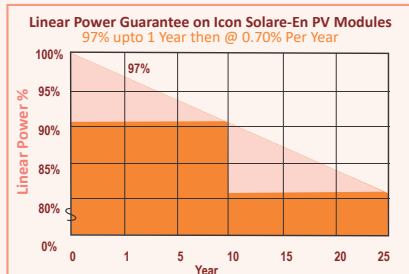
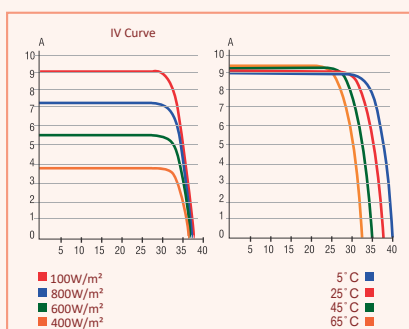
Model	LS200VA	LS300VAF6	LS300VA	LS310VA	LS320VA
No of Cells (Multi crystalline)	48	66	72	72	72
Power (Wp)	200	300	300	310	320
Open Circuit Voltage (Voc)	29.64	41.43	44.45	44.7	45
Short Circuit Current (Isc)	8.74	9.26	8.75	8.93	9.12
Voltage at Max Power (Vmax)	24.14	33.67	36.18	36.43	36.59
Current at Max Power (Imax)	8.31	8.92	8.3	8.51	8.75
Module Efficiency (η)%	15.08%	16.51%	15.18%	15.67%	16.19%
Fill Factor (%)	77.4%	78.3%	77.2%	77.7%	78.0%

ALL ELECTRICAL DATA MEASURED AT STC (STANDARD TEST CONDITION) IRRADIANCE 1000W/M²
SPECTRUM AM 1.5, TEMP. 25°C, NOCT=50°C ± 2°C AT 800 W/M², AM 1.5, WIND 1M/S, AMBIENT TEMP. 20°C

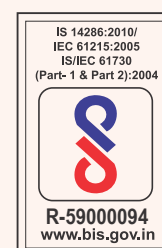
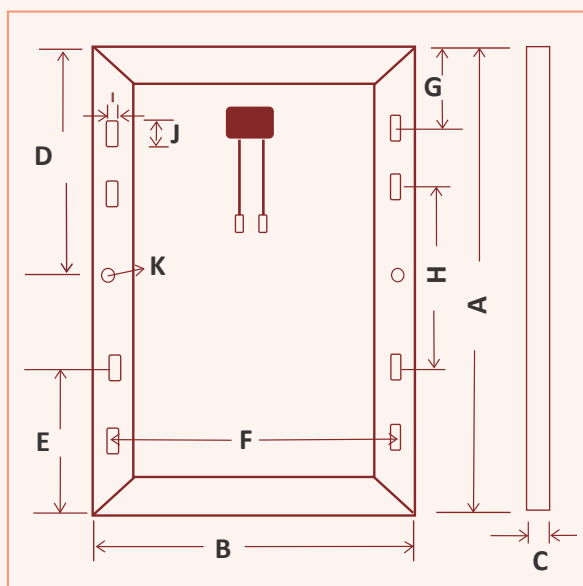
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Edge to Optional Mounting Hole Distance (G)	NA	NA	NA	NA	NA
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Mechanical Drawing





Solar Panels & Systems

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