somera

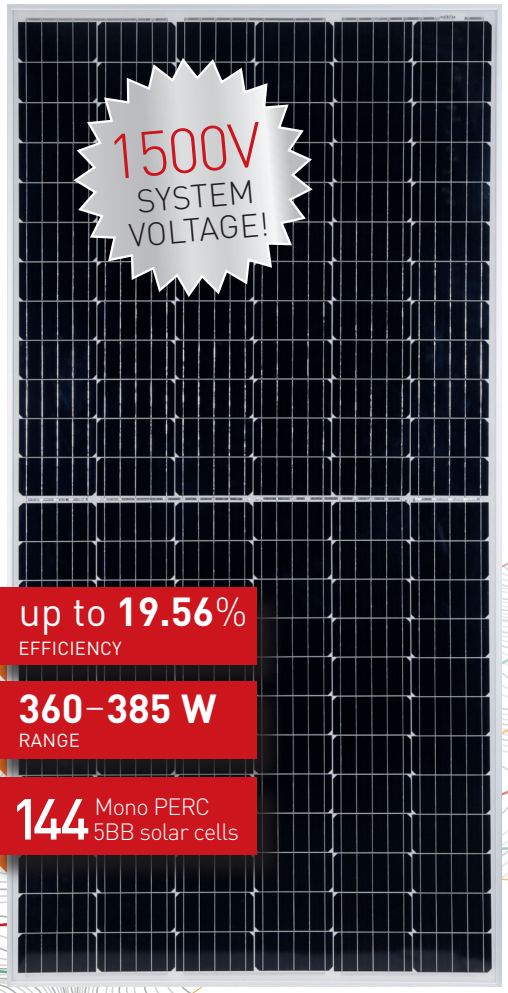
HIGH EFFICIENCY MONO-Si PV MODULES

vikramsolar

CREATING CLIMATE FOR CHANGE

SOMERA VSMH.72.AAA.05 | MONOCRYSTALLINE SOLAR PV MODULES | 144 CELLS | 360-385 WATT

ALL NEW 144 CELLS MONO PERC SOMERA HALF-CELL SERIES



up to **19.56**% EFFICIENCY

360–385 W RANGE

144 Mono PERC 5BB solar cells

SUPERIOR PRICE PERFORMANCE of half-cell improves module output without adding much to the cost

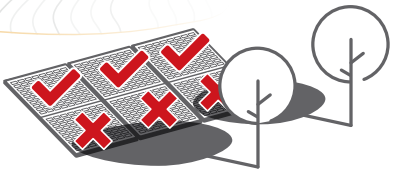
Bypass diodes and innovative series-parallel connections enable the module to perform better in **PARTIAL SHADOW CONDITIONS**

Half-cell generates only half the current, lowering heat production and **LESS HOT SPOT**, increasing module longevity

Low resistance between the cells **REDUCES POWER LOSS,** increass overall power output

Three separate junction boxes reduce internal resistance and **IMPROVE HEAT DISSIPATION**

INCREASED SHADE TOLERANCE



HALF-CELL MODULE

It functions like two modules joined parallel, enabling half-cell string still work during partial shadowing

CE PTL US CERTIFIED

QUALITY AND SAFETY

- 27 years of linear power output warranty **
- Rigorous quality control meeting the highest standards
- 100% EL tested to ensure micro crack free modules
- Certified for salt mist corrosion resistance – severity VI
- Certified for ammonia resistance^
- Certified for sand and dust test^

APPLICATIONS

- On-grid large scale utility systems
- On-grid rooftop industrial and commercial systems
- Rooftop residential systems

TECHNICAL DATA

SOMERA HALF-CELL SERIES

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THIS DATASHEET IS APPLICABLE FOR: SOMERA VSMH.72.AAA.05 (AAA=360-385)

Electrical Data[1,2]

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

Peak Power P_{max} (Wp)	360	365	370	375	380	385
Maximum Voltage V_{mpp} (V)	40.1	40.2	40.4	40.5	40.7	40.9
Maximum Current I_{mpp} (A)	8.99	9.08	9.17	9.26	9.34	9.44
Open Circuit Voltage V_{oc} (V)	48.2	48.3	48.4	48.5	48.6	48.7
Short Circuit Current I_{sc} (A)	9.44	9.54	9.64	9.75	9.85	9.95
Module Efficiency η(%)	18.29	18.55	18.80	19.05	19.31	19.56

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

Electrical Parameters at NOCT[3]

Power (W)	266.5	270.2	273.9	277.6	281.3	285.0
V@P_{max} (V)	37.0	37.2	37.3	37.4	37.6	37.7
I@P_{max} (A)	7.20	7.26	7.34	7.42	7.48	7.56
V_{oc} (V)	44.6	44.7	44.8	44.9	45.0	45.1
I_{sc} (A)	7.64	7.72	7.80	7.89	7.97	8.05

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 (β)	- 0.28%/°C
Tc of Short Circuit Current (α)	0.057%/°C
Tc of Power (γ)	-0.39%/°C
Maximum System Voltage	1500 V
NOCT	45°C ± 2°C
Temperature Range	-40°C to + 85°C

Mechanical Data

Length × Width × Height	1986 × 991 × 40 mm (78.18 × 39.01 × 1.57 inches)
Weight	22 kg (48.50 lbs)
Junction Box	IP68/IP67, 3 Bypass diode
Cable & Connectors	1200 mm (47.24 inches) 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), 5BB solar cells
Cell Encapsulant	EVA (Ethylene Vinyl Acetate)
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	20 A

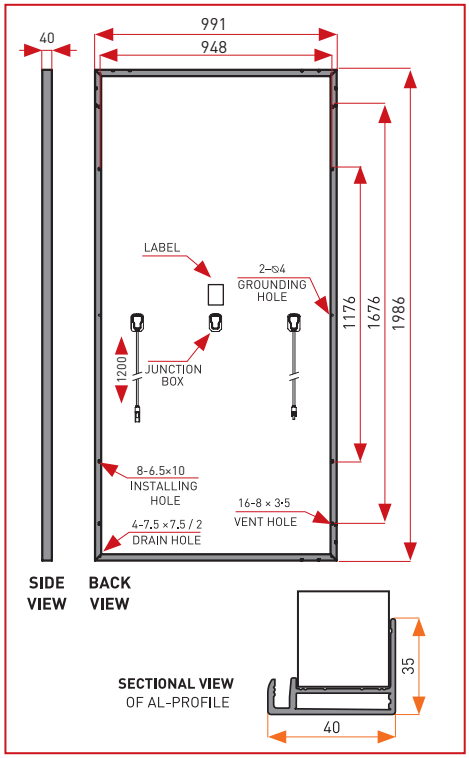
Warranty and Certifications

Product Warranty**	10 years
Performance Warranty**	Linear Power Warranty for 27 years with 3% for 1st year degradation and 0.65% from year 2 to year 27
Approvals and Certificates	IEC 61215 Ed2^, IEC 61730^, IEC 61701, IEC 62716^, IEC 60068-2-68^, IEC 62804, CE, CEC (California)^, UL 1703

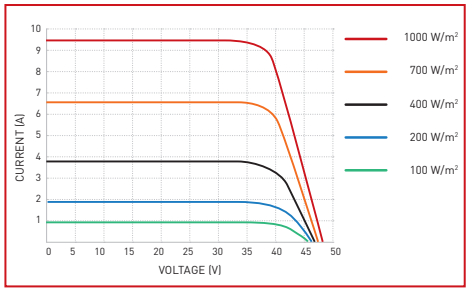
Packaging Information

Quantity /Pallet: 25	**Pallets/Container (40'HC):** 22	**Quantity/Container (40'HC):** 550

Dimensions in mm

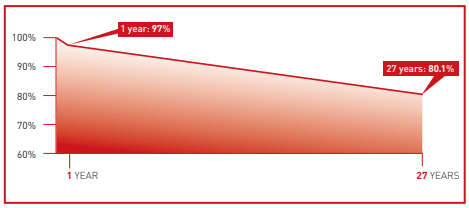


Typical I-V Curves[4]



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

Performance Warranty



^ All (^) certifications under progress.
** Refer to Vikram Solar's warranty document for terms and conditions.

CAUTION: READ SAFETY AND INSTALLATION MANUAL BEFORE USING THE PRODUCT.