somera

HIGH EFFICIENCY MONO-Si PV MODULES

vikramsolar

CREATING CLIMATE FOR CHANGE

SOMERA VSM.60.AAA.05 | MONOCRYSTALLINE SOLAR PV MODULES | 60 CELLS | 285-315 WATT

ALL NEW 60 CELLS MONO
SOMERA ULTIMA
SILVER 1500V SERIES

- Extremely **NARROW POWER BINNING TOLERANCE** of +2.5 Wp to reduce current mismatch loss in single string
- Engineered to provide **EXCELLENT LOW LIGHT** and **LONGER WAVELENGTH RESPONSE**
- **EXTREMELY RELIABLE PRODUCT** suiting harsh environment conditions withstanding 2400Pa Wind load, 5400Pa Snow load and Dynamic Wind load
- Using highly efficient **PASSIVATED EMITTER REAR CONTACT TECHNOLOGY** (PERC) cells
- **MAXIMUM SYSTEM VOLTAGE INCREASED TO 1500VDC** (IEC & UL), increased string length, low BOS cost

PRODUCT UNDER CERTIFICATION

QUALITY AND SAFETY

- 27 years of linear power output warranty **
- Rigorous quality control meeting the highest international standards
- 100% EL tested to ensure micro crack free modules
- Certified for PID resistance
- Certified for salt mist corrosion resistance – severity VI
- Certified for ammonia resistance
- 3rd Party validated PAN file

APPLICATIONS

- On-grid large scale utility systems
- On-grid rooftop residential and commercial systems
- Off-grid residential systems

TECHNICAL DATA

SOMERA ULTIMA SILVER 1500V SERIES

vikramsolar
CREATING CLIMATE FOR CHANGE

THIS DATASHEET IS APPLICABLE FOR: SOMERA VSM.60.AAA.05 (AAA=285-315)

Electrical Data[1] All data refers to STC

Peak Power P_{max} (Wp)	285.0	287.5	290.0	292.5	295.0	297.5	300.0	302.5	305.0	307.5	310.0	312.5	315.0
Maximum Voltage V_{mpp} (V)	32.1	32.2	32.3	32.4	32.5	32.6	32.7	32.8	32.9	33.0	33.1	33.2	33.3
Maximum Current I_{mpp} (A)	8.87	8.93	8.97	9.03	9.08	9.13	9.18	9.23	9.27	9.32	9.37	9.42	9.47
Open Circuit Voltage V_{oc} (V)	39.7	39.8	39.9	40.0	40.1	40.2	40.3	40.4	40.5	40.6	40.7	40.8	40.9
Short Circuit Current I_{sc} (A)	9.35	9.41	9.46	9.52	9.58	9.64	9.68	9.74	9.80	9.86	9.91	9.97	10.02
Module Efficiency η(%)	17.52	17.67	17.83	17.98	18.13	18.29	18.44	18.59	18.75	18.90	19.05	19.21	19.36

1) STC:1000 W/m² irradiance, 25°C cell temperature, AM1.5g spectrum according to EN 60904-3.
Average relative efficiency reduction of 5% at 200 W/m² according to EN 60904-1.

Electrical Parameters at NOCT[2]

Power (W)	211.0	213.0	215.0	216.0	218.0	220.0	222.0	224.0	226.0	227.0	229.0	231.0	233.0
V@P_{max} (V)	30.5	30.6	30.7	30.8	30.9	31.0	31.1	31.2	31.3	31.4	31.5	31.6	31.7
I@P_{max} (A)	6.95	7.00	7.03	7.08	7.12	7.15	7.20	7.23	7.27	7.31	7.35	7.39	7.43
V_{oc} (V)	38.4	38.4	38.6	38.6	38.8	38.8	38.9	39.0	39.1	39.2	39.3	39.4	39.5
I_{sc} (A)	7.42	7.46	7.50	7.55	7.60	7.65	7.68	7.73	7.77	7.82	7.86	7.91	7.95

2) 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

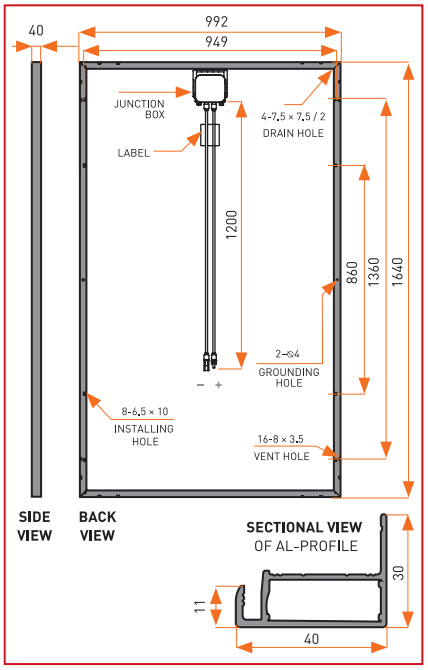
Length × Width × Height	1640 × 992× 40 mm (64.57 × 39.05 × 1.57 inches)
Weight	18.50 kg (40.79 lbs)
Junction Box	IP68/IP67, 3 Bypass diodes
Cable & Connectors	1200 mm (47.24 inches) length cables, MC4 Compatible/MC4 Connectors
Application Class	Class A (Safety class II)
Superstrate	3.2 mm (0.13 inches) high transmission low iron tempered glass, AR coated
Cells	60 Monocrystalline 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
Maximum Series Fuse Rating	15 A

Warranty and Certifications

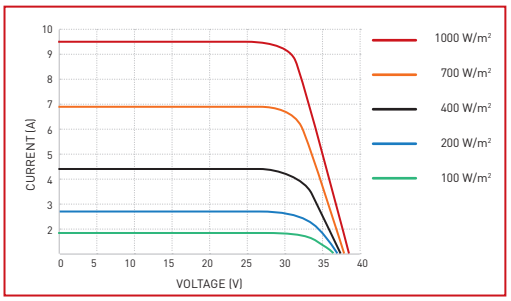
Product Warranty**	12 years
Performance Warranty**	Linear Power Warranty for 27 years with 3% for 1st year degradation and 0.65% from year 2 to year 27
Approvals and Certificates	IEC 61215 Ed2*, IEC 61730*, IEC 61701, IEC 62716, UL 1703*, CE*, MCS*, CEC*, PV Cycle*, CEC (Australia)*, JET*, IEC 62804*, CAN/CSA 61730*

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

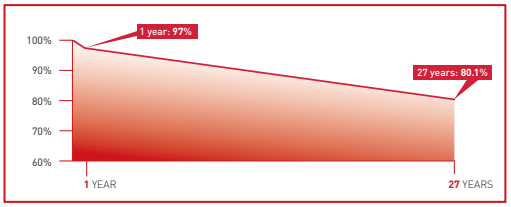
Dimensions in mm



Typical I-V Curves



Performance Warranty



Packaging Information

Container	40'HC
Pallets/Container	28
Pieces/Container	700

CAUTION: READ SAFETY AND INSTALLATION MANUAL BEFORE USING THE PRODUCT.
Specifications included in this datasheet are subject to change without notice. Electrical data without guarantee. Please confirm your exact requirement with the company representative while placing your order.