

SOMERA ULTIMA PLUS

ALL BLACK

PRELIMINARY DATASHEET

Product Available from January 2020



up to **19.32%**
EFFICIENCY

310-330 W
RANGE

120 Monocrystalline
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 reliability

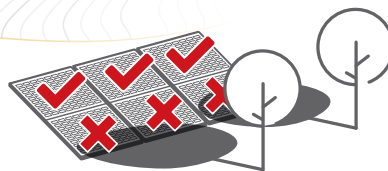


Low interconnect resistance between the cells **REDUCES POWER LOSS**, increases overall power output



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 shading



QUALITY AND SAFETY

- ◆ 27 years of linear power output warranty **
- ◆ Rigorous quality control meeting the highest standards
- ◆ 100% EL tested to minimise micro crack
- ◆ Excellent anti-PID performance
- ◆ 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 ULTIMA PLUS ALL BLACK

THIS DATASHEET IS APPLICABLE FOR: SOMERA VSMHBB.60.AAA.03.04 (AAA=310-330)

Electrical Data^{1,2} All data refers to STC (AM 1.5, 1000 W/m², 25°C)

Peak Power P _{max} (Wp)	310	315	320	325	330
Maximum Voltage V _{mpp} (V)	34.7	34.9	35.0	35.0	35.2
Maximum Current I _{mpp} (A)	8.94	9.04	9.16	9.30	9.38
Open Circuit Voltage V _{oc} (V)	40.3	40.4	40.5	40.6	40.7
Short Circuit Current I _{sc} (A)	10.10	10.11	10.12	10.13	10.16
Module Efficiency η(%)	18.15	18.44	18.74	19.03	19.32

1) STC:1000 W/m² irradiance, 25°C cell temperature, AM1.5g spectrum according to EN 60904-3. 1.2) Power measurement uncertainty is within +/- 3%.

Electrical Parameters at NOCT³

Power (W)	217.8	221.3	224.8	228.3	231.8
V@P _{max} (V)	31.0	31.1	31.2	31.3	31.5
I@P _{max} (A)	7.03	7.11	7.20	7.31	7.38
V _{oc} (V)	36.3	36.3	36.4	36.5	36.6
I _{sc} (A)	7.91	7.91	7.92	7.93	7.96

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	1000 V
NOCT	45°C ± 2°C
Temperature Range	-40°C to + 85°C

Mechanical Data

Length × Width × Height	1696 × 1007 × 40mm (66.77× 39.64 × 1.57 inches)
Weight	19.2 kg (42.32 lbs)
Junction Box	IP68/IP67, Split Junction Box with individual bypass diodes
Cable & Connectors	400/1200 mm 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 PERC (120 half-cells), 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	15A (IEC)/ 20A (UL)

Also available in anti-soil and anti-glare

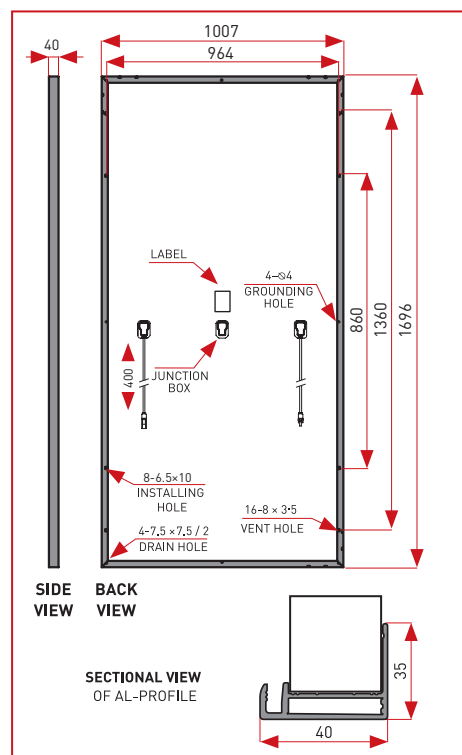
Warranty and Certifications

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 60068-2-68 [^] , IEC 62804 [^] , CE, UL1703, CAN/CSA 61730, MCS, IEC 61701

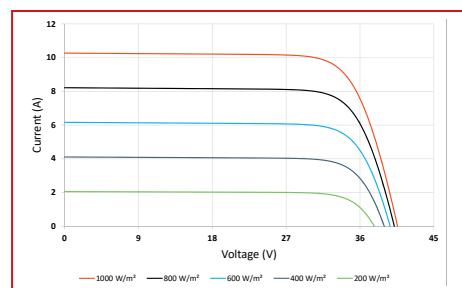
Packaging Information

Quantity /Pallet: 26	Pallets/Container (40'HC): 26	Quantity/Container (40'HC): 676
----------------------	-------------------------------	---------------------------------

Dimensions in mm

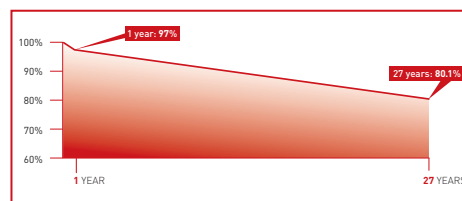


Typical Electrical Curves⁴



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.

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.

*Vikram Solar & Somera are Trademarks of Vikram Solar Limited registered in India