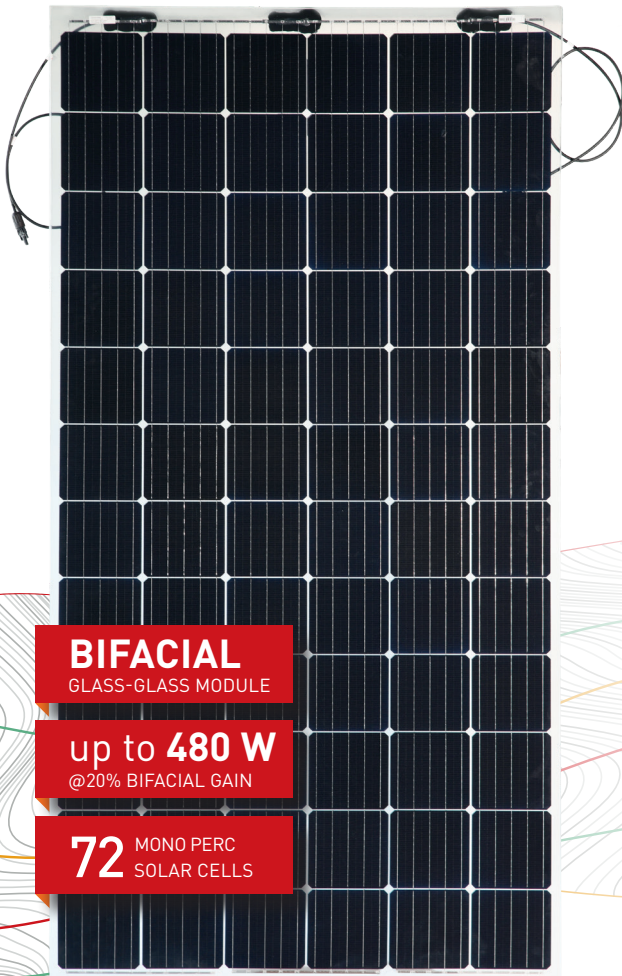


SOMERA P-DUPLEX

72 FRAMELESS,
P-TYPE BIFACIAL MODULE

PRELIMINARY
DATASHEET
Product
Available from
January 2020



BIFACIAL
GLASS-GLASS MODULE

up to 480 W
@ 20% BIFACIAL GAIN

72 MONO PERC
SOLAR CELLS



UP TO 20% POWER GAIN from ground facing side



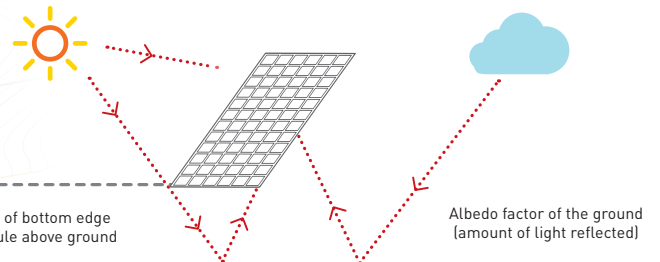
UP TO 30 YEARS linear power warranty



NEAR ZERO PID due to **HIGHLY RESISTIVE ENCAPSULANT** & frameless design



MAXIMUM SYSTEM VOLTAGE INCREASED TO 1500VDC (IEC & UL), increased string length, low BOS cost



QUALITY AND SAFETY

- ◆ 30 years of linear power output warranty **
- ◆ Rigorous quality control meeting the highest international standards
- ◆ 100% EL tested to minimise micro crack
- ◆ Certified for salt mist corrosion resistance – severity VI
- ◆ Excellent anti-PID performance

APPLICATIONS

- ◆ Utility scale applications
- ◆ Greenhouse applications
- ◆ Agricultural industry applications
- ◆ Sound barrier by Vertical Installation

TECHNICAL DATA

SOMERA P-DUPLEX

72 FRAMELESS, P-TYPE BIFACIAL MODULE

THE DATASHEET IS APPLICABLE FOR: SOMERA VSMD.72.AAA.05 (AAA=375-400)

Electrical Data (Front Side)^{1,2}

Peak Power- P_{max} (Wp)	375	380	385	390	395	400
Maximum Voltage V_{mpp} (V)	40.2	40.4	40.5	40.7	40.9	41.1
Maximum Current I_{mpp} (A)	9.33	9.41	9.51	9.59	9.66	9.74
Open Circuit Voltage V_{oc} (V)	48.4	48.6	48.8	49.0	49.2	49.4
Short Circuit Current I_{sc} (A)	9.92	10.03	10.11	10.19	10.28	10.36
Module Efficiency η (%)	18.67	18.91	19.16	19.41	19.66	19.91

1) STC:1000 W/m² irradiance, 25°C Cell Temperature, AM1.5g spectrum | 2) power measurement uncertainty is within +/- 3%

Electrical Parameters at NOCT³

Power (W)	263.4	266.9	270.4	273.9	277.5	281
Isc (A)	7.77	7.85	7.92	7.98	8.05	8.11
Voc (V)	43.1	43.3	43.4	43.6	43.8	44.0
I@Pmax (A)	7.35	7.41	7.49	7.57	7.61	7.66
V@Pmax (V)	35.8	36.0	36.1	36.2	36.5	36.7

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

Equivalent Bifacial Output

Bifacial Gain	Overall Power output (W)					
5%	394	399	404	410	415	420
10%	413	418	424	429	435	440
15%	431	437	443	449	454	460
20%	450	456	462	468	474	480

Temperature Coefficients (Tc) and permissible operating conditions

Tc of Open Circuit Voltage (β)	-0.27%/°C
Tc of Short Circuit Current (α)	0.065%/°C
Tc of Power (γ)	-0.35%/°C
Maximum System Voltage	1500 V (IEC & UL)
NOCT	46°C ± 2°C
Temperature Range	-40°C to + 85°C

Mechanical Data

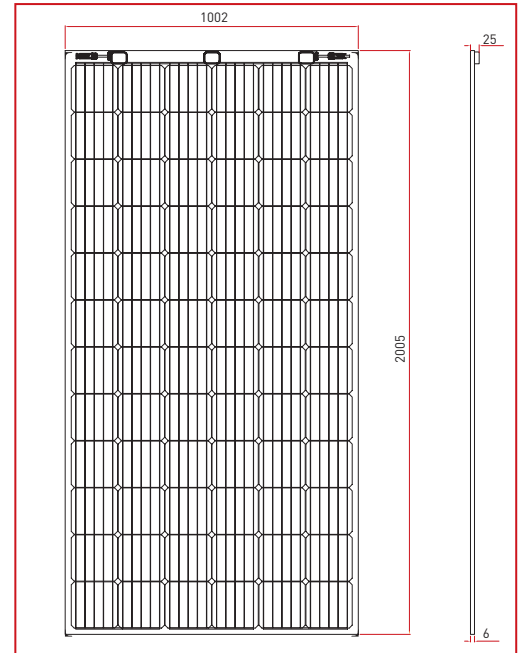
Length × Width × Height	2005 × 1002 × 6 mm (78.94 × 39.45 × 0.23 inches)
Weight	27.7 kg (61.1 lbs)
Junction Box	IP68/IP67, Split Junction Box with individual bypass diodes
Cable & Connectors	400 mm (15.74 inches) [#] length cables MC4/MC4 Compatible Connectors
Application Class	Class A (Safety class II)
Superstrate	2.5 mm (0.098 inches) high transmission, AR coated
Cells	72 Mono PERC P-type bifacial solar cells
Substrate	2.5 mm (0.098 inches) high transmission float glass
Cell Encapsulant	Polyolefin (POE)
Mechanical Load Test	2400 Pa (Snow load), 2400 Pa (Wind load)
Maximum Series Fuse Rating	20A

Warranty

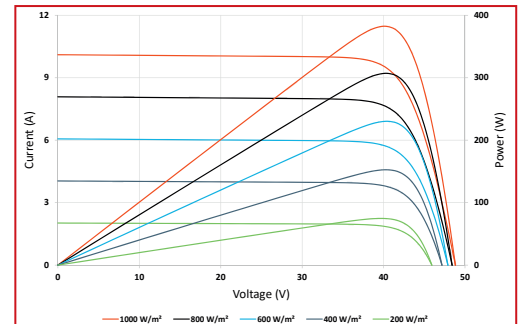
Product Warranty**	10 years
Performance Warranty**	Linear Power Warranty for 30 years with 3% for 1st year degradation and 0.50% from year 2 to year 30
Approvals and Certificates [^]	IEC 61215:2016, IEC 61730:2016, IEC61701, UL1703, CE, IEC 62804, IS 14286, IS/IEC 61730

[^] All (*) certifications under progress. | ** Refer to Vikram Solar's warranty document for terms and conditions. | [#] 1200mm (47.24 inches) cable length is also available

Dimensions in mm

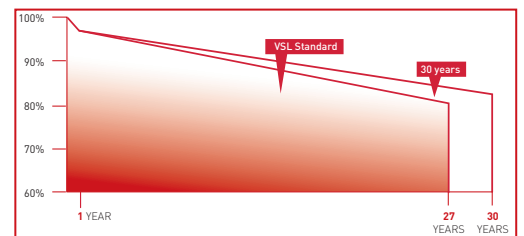


Typical IV Curve⁴



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

Linear Performance Warranty



Packaging Information

Quantity/Pallet	30
Pallets/Container (40'HC)	20
Quantity/Container (40'HC)	600

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.

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