

# SOMERA P-DUPLEX

72 P-TYPE BIFACIAL MODULE

PRELIMINARY DATASHEET  
Product Available from January 2020



**BIFACIAL**  
MODULE

**up to 480 W**  
@20% BIFACIAL GAIN

**72** MONO PERC  
SOLAR CELLS



**UP TO 30 YEARS** linear power warranty



**HIGHER LIFETIME YIELD** by using transparent Dupont® backsheet



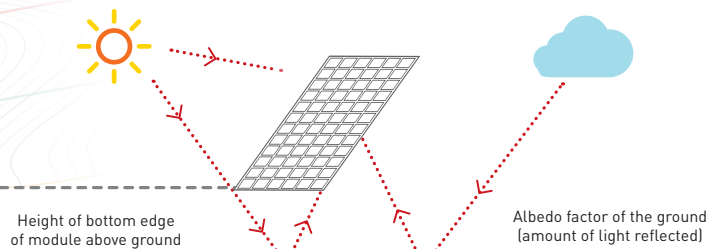
**UP TO 20% POWER GAIN** from ground facing side



**LIGHT WEIGHT** easy to install bifacial module



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



## 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

# TECHNICAL DATA

## SOMERA P-DUPLEX 72 P-TYPE BIFACIAL MODULE

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

### Electrical Data (Front Side)<sup>1,2</sup>

Peak Power- $P_{max}$	375	380	385	390	395	400
Maximum Voltage $V_{mpp}$ (V)	40.1	40.2	40.4	40.5	40.6	40.7
Maximum Current $I_{mpp}$ (A)	9.36	9.45	9.53	9.62	9.73	9.83
Open Circuit Voltage $V_{oc}$ (V)	47.0	47.1	47.3	47.4	47.5	47.6
Short Circuit Current $I_{sc}$ (A)	9.99	10.09	10.19	10.28	10.39	10.51
Module Efficiency $\eta$ (%)	18.53	18.77	19.02	19.27	19.52	19.76

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

### Electrical Parameters at NOCT<sup>3</sup>

Power (W)	277.5	281.2	284.9	288.6	292.3	296.0
$V@P_{max}$ (V)	36.9	37.0	37.2	37.3	37.4	37.4
$I@P_{max}$ (A)	7.51	7.58	7.65	7.72	7.81	7.89
$V_{oc}$ (V)	43.4	43.6	43.7	43.8	44.0	44.0
$I_{sc}$ (A)	8.00	8.07	8.15	8.23	8.31	8.40

3) NOCT irradiance 800 W/m<sup>2</sup>, 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 ( $\beta$ )	-0.27%/°C
Tc of Short Circuit Current ( $\alpha$ )	0.065%/°C
Tc of Power ( $\gamma$ )	-0.35%/°C
Maximum System Voltage	1500V (IEC & UL)
NOCT	45 °C ± 2°C
Temperature Range	-40°C to + 85°C

### Mechanical Data

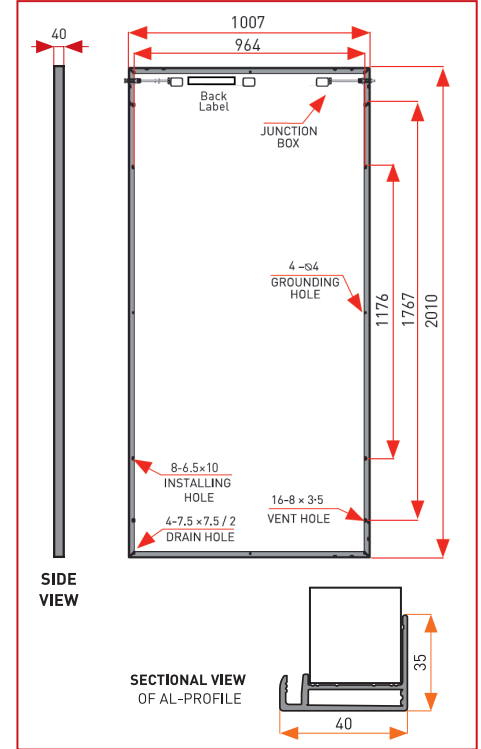
Length × Width × Height	2010 × 1007 × 40 mm (79.13 × 39.64 × 1.57 inches)
Weight	22.3 kg (44.7 lbs)
Junction Box	IP68/IP67, Split Junction Box with individual bypass diodes
Cable & Connectors <sup>#</sup>	400 mm length cables, MC4 Compatible/MC4 Connectors
Application Class	Class A (Safety class II)
Superstrate	3.2 mm (0.125 inches) high transmission low iron tempered glass, AR coated
Cells	72 Mono PERC P-type bifacial solar cells
Back Sheet	High Transmittance Composite film with Clear Tedlar <sup>®</sup> from Dupont <sup>®</sup>
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

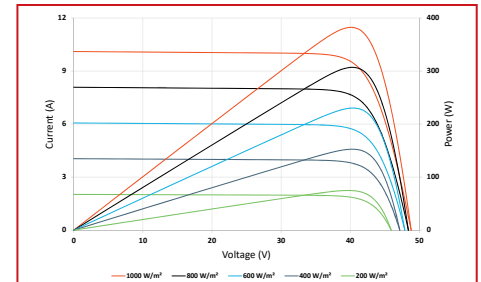
Product Warranty**	10 years
Performance Warranty**	Linear Power Warranty for 30 years with 3% for 1st year degradation and 0.50% from year 2 to year 30
Approvals and Certificates <sup>^</sup>	IEC 61215 Ed2, IEC 61730, IEC 61701, IEC 62716, IEC 60068-2-68, IEC 62804, CE, CEC (California), UL 1703

<sup>^</sup> 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

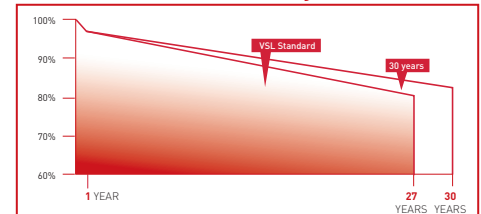


### Typical I-V Curves<sup>4</sup>



4) Average relative efficiency reduction of 5% at 200 W/m<sup>2</sup> according to EN 60904-1.

### Performance Warranty



### Packaging Information

Quantity /Pallet	26
Pallets/Container (40' HC)	22
Quantity/Container (40' HC)	572

**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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