

580-605W

SUBSTRATE
 GLASS ●
MESH GLASS ●

FRAME TYPE
ALUMINIUM ●
 STEEL ●

FRAME VARIANT
SILVER ●
 BLACK ●

MAXIMUM EFFICIENCY %

23.42

CELL TYPE

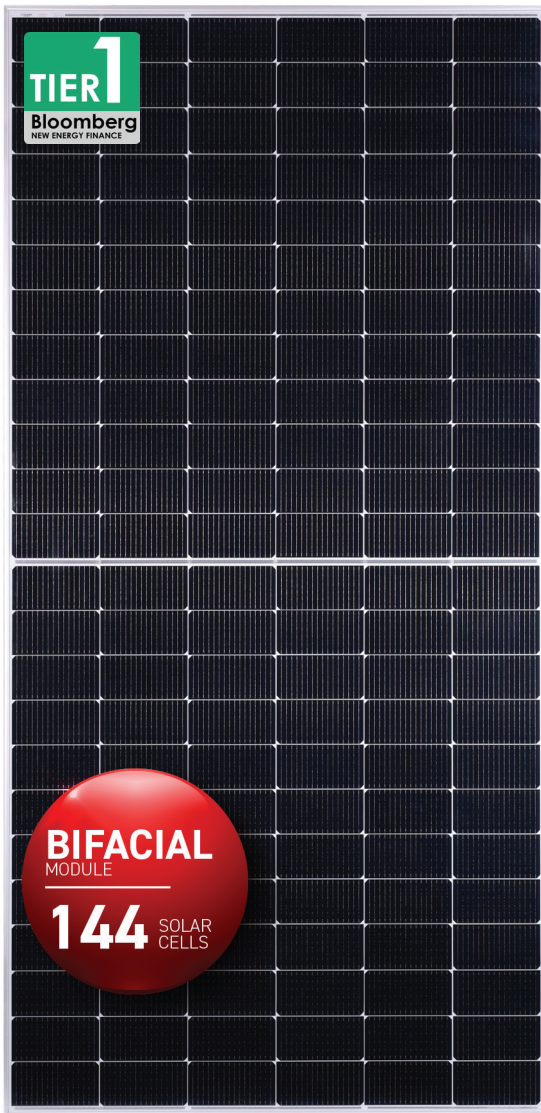
M10R HALF CUT

PRODUCT WARRANTY

12 YEARS

PERFORMANCE WARRANTY

30 YEARS



0% NEGATIVE POWER TOLERANCE

- Positive power tolerance of upto 0 ~ 4.99Wp
- Module I_{mp} binning radically reduces string mismatch losses



IMPROVED LONGEVITY

- Excellent anti-PID performance via optimized process and materials control
- Lower susceptibility to LID & LeTID



LOWER LCOE

- Lower balance of systems cost
- Improves value proposition of the product with competitive ROI



HIGHLY AUTOMATED PRODUCTION LINE

- Multi stage EL and digitalised visual inspection results lower defect rates
- Implemented engineering excellence ensures top notch quality



SUPERIOR HAIL TEST PERFORMANCE

- ø 45mm hail test passed from third party laboratory with impact velocity up to 27m/s

PRODUCT CERTIFICATES



SYSTEM CERTIFICATES

IEC 61215 : 2021, IEC 61730, UL 61215, UL 61730, IS 14286, IS/IEC 61730, IEC 61701, IEC 62716, IEC 60068-2-68, CAN-CSA

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION:

- ISO 9001:2015/ Quality Management System
- ISO 14001:2015/ Environmental Management System
- ISO 45001:2018/ Occupational Health and Safety Management System
- SA 8000 :2014/ Social Accountability International

THIS DATASHEET IS APPLICABLE FOR: HYPERSOL VSM DH.72.AAA.05 (AAA=580-605)

ELECTRICAL PARAMETERS | STC^{1,2}

| Parameter | 580 | 585 | 590 | 595 | 600 | 605 |
|------------------------------------|-------|-------|-------|-------|-------|-------|
| Peak Power P_{max} (Wp) | 580 | 585 | 590 | 595 | 600 | 605 |
| Maximum Voltage V_{mpp} (V) | 43.6 | 43.8 | 44 | 44.2 | 44.4 | 44.6 |
| Maximum Current I_{mpp} (A) | 13.31 | 13.37 | 13.43 | 13.48 | 13.54 | 13.6 |
| Open Circuit Voltage V_{oc} (V) | 52 | 52.2 | 52.4 | 52.6 | 52.8 | 53 |
| Short Circuit Current I_{sc} (A) | 14.2 | 14.26 | 14.32 | 14.38 | 14.44 | 14.5 |
| Module Efficiency (%) | 22.45 | 22.65 | 22.84 | 23.03 | 23.23 | 23.42 |

1) STC: 1000W/M² IRRADIANCE, 25°C CELL TEMPERATURE, AM1.5G SPECTRUM ACCORDING TO EN 60904-3 | 2) TOLERANCE OF RATING AT STC ($P_{max} / I_{sc} / V_{oc}$) [%]: 0-3/+5/+5 | ELECTRICAL MEASUREMENT UNCERTAINTY IS WITHIN ± 2%

ELECTRICAL PARAMETERS | NOCT³

| Parameter | 437.9 | 441.8 | 445.7 | 449.4 | 453.6 | 457.38 |
|------------------------------------|-------|-------|-------|-------|-------|--------|
| Peak Power P_{max} (Wp) | 437.9 | 441.8 | 445.7 | 449.4 | 453.6 | 457.38 |
| Maximum Voltage V_{mpp} (V) | 40.4 | 40.7 | 40.8 | 41 | 41.2 | 41.39 |
| Maximum Current I_{mpp} (A) | 10.83 | 10.86 | 10.92 | 10.97 | 11.01 | 11.06 |
| Open Circuit Voltage V_{oc} (V) | 49 | 49.1 | 49.3 | 49.5 | 49.7 | 49.86 |
| Short Circuit Current I_{sc} (A) | 11.46 | 11.51 | 11.56 | 11.6 | 11.65 | 11.7 |

3) NOCT IRRADIANCE 800 W/M², AMBIENT TEMPERATURE 20°C, WIND SPEED 1 M/SEC

ELECTRICAL PARAMETERS | BNPI^{4,5}

| Parameter | 643 | 648 | 654 | 659 | 665 | 670 |
|------------------------------------|-------|-------|-------|-------|------|-------|
| Peak Power P_{max} (Wp) | 643 | 648 | 654 | 659 | 665 | 670 |
| Maximum Voltage V_{mpp} (V) | 43.6 | 43.8 | 44 | 44.2 | 44.4 | 44.6 |
| Maximum Current I_{mpp} (A) | 14.75 | 14.81 | 14.88 | 14.94 | 15 | 15.07 |
| Open Circuit Voltage V_{oc} (V) | 52 | 52.2 | 52.4 | 52.6 | 52.8 | 53 |
| Short Circuit Current I_{sc} (A) | 15.73 | 15.8 | 15.87 | 15.93 | 16 | 16.07 |

4) BNPI: 1000W/M² ± 0.135, BIFACILITY COEFF. (β) AT BNPI P_{max} , I_{sc} IS 75±5% & FOR V_{oc} IS 99±10%, AM 1.5, 25°C | 5) TOLERANCE OF RATING AT BNPI ($P_{max} / I_{sc} / V_{oc}$) [%]: 0-3/+10/±10

TEMPERATURE COEFFICIENTS (Tc) PERMISSIBLE OPERATING CONDITIONS

| | |
|---------------------------------|-----------------|
| Tc of Open Circuit Voltage (β) | -0.26%/°C |
| Tc of Short Circuit Current (α) | 0.046%/°C |
| Tc of Power (γ) | -0.30%/°C |
| Maximum System Voltage | 1500V |
| NOCT | 45°C ± 2°C |
| Temperature Range | -40°C to + 85°C |

MECHANICAL DATA

| | |
|---------------------------------|--|
| Length × Width × Height | 2278 X 1134 X 30 mm (89.68 x 44.65 x 1.18 inches) |
| Weight | 31.6 ± 5% Kg (69.67 lbs) |
| Junction Box | IP 68, Split Junction Box with individual bypass diodes |
| Cable & Connectors [#] | 1200 mm (+ve terminal) and 1200 mm (-ve terminal) length cables, Staubli EVO Connectors |
| Application Class | Class A (Safety class II) |
| Superstrate ^{**} | 2.0 mm (0.098 inches) high transmission ARC Semi-tempered glass (low iron content) |
| Cells | 72 (144 half-cells) N-TYPE bifacial solar cells |
| Substrate | 2.0 mm (0.098 inches) high transmission heat strengthened glass/ mesh glass ^{**} (low iron content) |
| Frame | Anodized aluminium/Alloy steel frame ^{**} |
| Mechanical Load Test | 5400 Pa (Snow load), 2400 Pa (Wind load) |
| Cell Encapsulant | EPE/ EVA |
| Maximum Series Fuse Rating | 30A |
| Hail Test [*] | Ø 45mm Impact Velocity up to 27m/s |

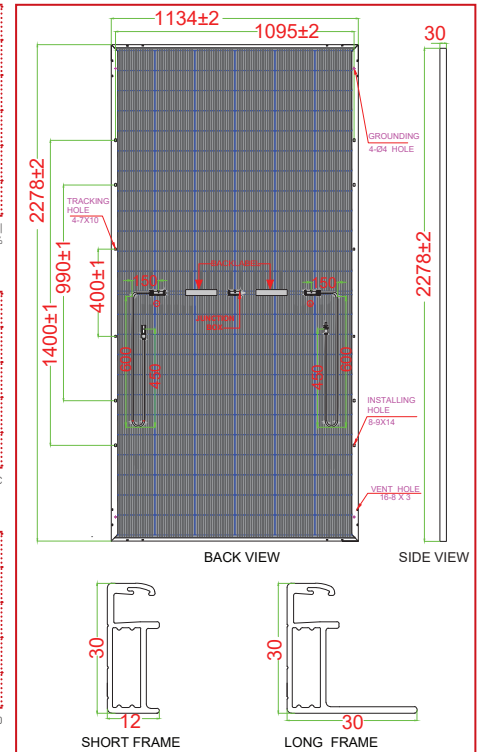
WARRANTY

| | |
|------------------------------------|---|
| Product Warranty ^{**} | 12 years |
| Performance Warranty ^{**} | Linear Power Warranty for 30 years with 1% for 1 st year degradation and 0.4% from year 2 to year 30 |

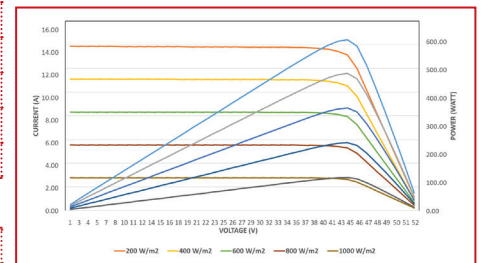
CAUTION: READ SAFETY AND INSTALLATION MANUAL BEFORE USING THE PRODUCT.

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DIMENSIONS IN MM

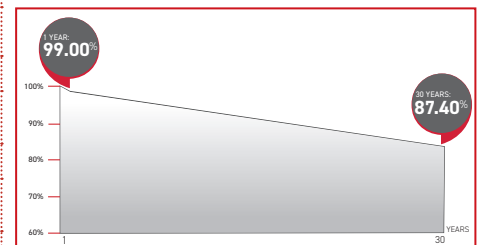


TYPICAL I-V CURVES⁶



6) AVERAGE RELATIVE EFFICIENCY REDUCTION OF 5% AT 200 W/M² ACCORDING TO EN 60904-1

PERFORMANCE WARRANTY



PACKAGING INFORMATION

| | |
|----------------------------|-----|
| Quantity /Pallet | 36 |
| Pallets/Container (40'HC) | 20 |
| Quantity/Container (40'HC) | 720 |

All () certifications under progress. | **Refer to Vikram Solar's warranty document for terms and conditions. | *1000mm(39.37 inches), 1300mm(51.12 inches), 1400mm (55.12 inches) cable lengths are also available | *Anti-glare Glass is also available | *As per applicable product | *With additional Cost & Lead Time subject to availability | STC - Standard Testing Condition | BNPI - Bifacial Nameplate Irradiance | NOCT - Nominal Operating Cell Temperature