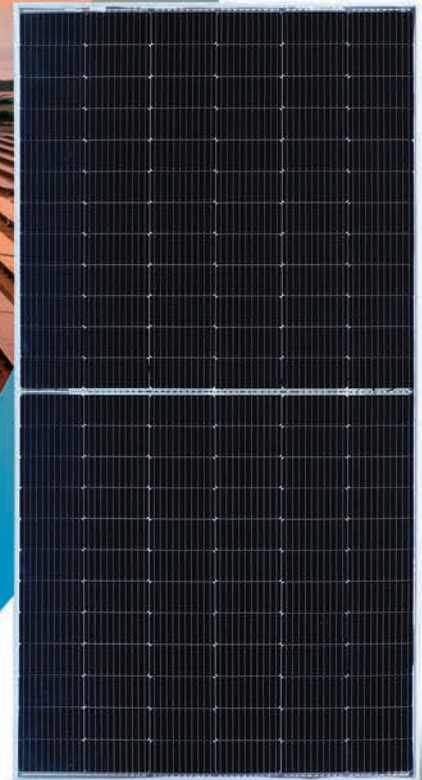




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EMMVEE CRAFTING SMART AND ADVANCED SOLAR ENERGY SOLUTIONS



SAPPHIRE

Monoperc Bifacial Glass to Glass Module



Committed to Quality, Punctuality, and Customer Support since 1992.



Over 15 Years of Sustainable Power with Photovoltaic Modules, New High WP Modules United with Quality and Efficiency



With presence in Green Energy Projects Across the Globe.



Our Mission: Delivering Clean, Reliable Energy while Reducing Carbon Footprint through wide range of Residential and Commercial Solar Offerings.

132 HALF CUT CELL MONOPERC BI-FACIAL GLASS TO GLASS MODULE

TECHNICAL SPECIFICATION

Electrical data at 1000W/m², 25°C and A.M1.5 (STC in accordance with IEC 60904-3)

| Model Name | E485HCBG132 | E490HCBG132 | E495HCBG132 | E500HCBG132 |
|---|-------------|-------------|-------------|-------------|
| Rated Power at STC | 485 | 490 | 495 | 500 |
| Power Tolerance | +5W | +5W | +5W | +5W |
| Model Efficiency at STC | 20.40% | 20.61% | 20.82% | 21.03% |
| Open Circuit Voltage - VOC (Volts) (±10%) | 44.43 | 44.65 | 44.79 | 44.92 |
| Short Circuit Current - ISC (Amps) (±10%) | 13.00 | 13.09 | 13.15 | 13.24 |
| Max Power Voltage - VPM (Volts) | 38.81 | 38.94 | 39.14 | 39.27 |
| Max Power Current - IPM (Amps) | 12.50 | 12.59 | 12.65 | 12.74 |

At low irradiance (200W/M², 25°C and AM1.5) the module yields at least 95% of the STC efficiency.

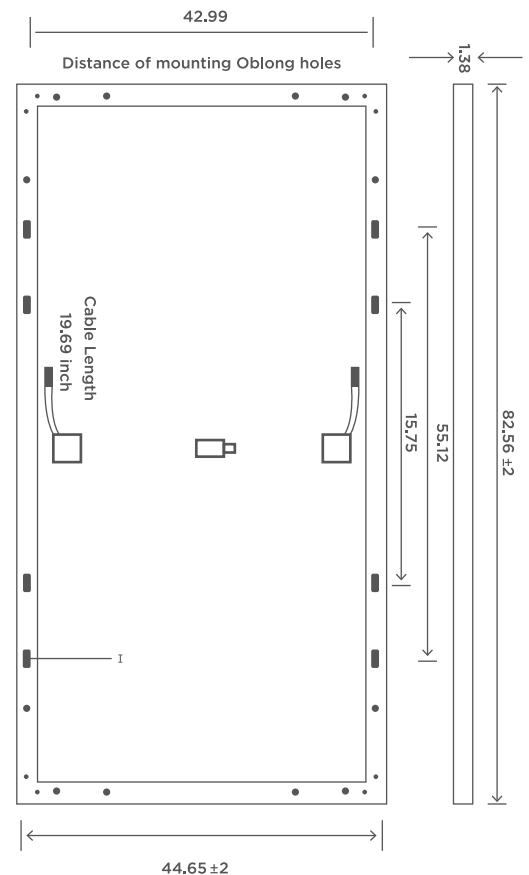
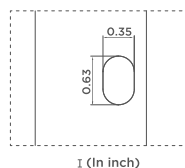
Test uncertainty for Pmax ±3%

| Permissible Operating Conditions | |
|---|---------------------------------------|
| Operating Temperature Range | -40° C TO 85° C |
| Max.system Voltage | 1500V DC |
| Maximum Snow Load Capacity | 5400PA |
| Resistance Against Hail | Max Ø24mm with Impact Speed of 51 Mph |
| Protection Class Against Electrical Shock | II |
| Maximum Reverse Current | 30 A |
| Bifaciality | 70±5% |

| Thermal Data | |
|--|------------|
| Temp. Coefficient Open-circuit Voltage | -0.28%/°C |
| Temp. Coefficient Short Circuit Current | 0.05%/°C |
| Temp. Coefficient Rated Power | -0.35%/°C |
| NOCT (Normal operating cell temperature) | 45° C ±2°C |

| Mechanical Data | |
|-------------------------------|--|
| Number of Cells and Cell Type | 132 Monoperc Bi-Facial Solar Cells(182mm X 91mm) |
| Dimensions: (L X W X H) | 82.56 inch X 44.65 inch X 1.38 inch |
| Weight | 61.73 pounds |
| Front Glass | 2 mm High Transmission, Solar Glass |
| Embedding | Top EVA, Bottom POE |
| Back Glass | 2 mm High Transmission, Solar Glass |
| Junction Box | 3 Split Junction Box IP68 |
| Number of Bypass Diodes | 3 |
| Cables | 4mm ² Solar Cables, Length 19.69±10inch |
| Connectors | MC4 Compatible /Staubli Option Available |
| Application Class | A |

| Warranty | |
|----------------------|----------|
| Product Warranty | 12 years |
| Performance Warranty | 30 years |

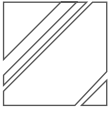


1ST YEAR DEGRADATION <2.0%

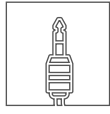
YEAR 2-30 POWER DEGRADATION <0.45%

END OF 30 YEARS <84.95%

FEATURES



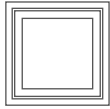
AR Coated High Transmission Glass



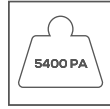
MC4 Compatible Connectors



PID Resistance



Anodised Aluminium Frame

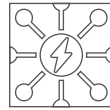


Snow Load Resistance upto 5400 Pa

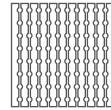
BENEFITS



Low LCOE, Faster Payback Period



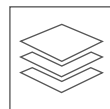
30% More Power Best In Class Efficiency upto 21.5%



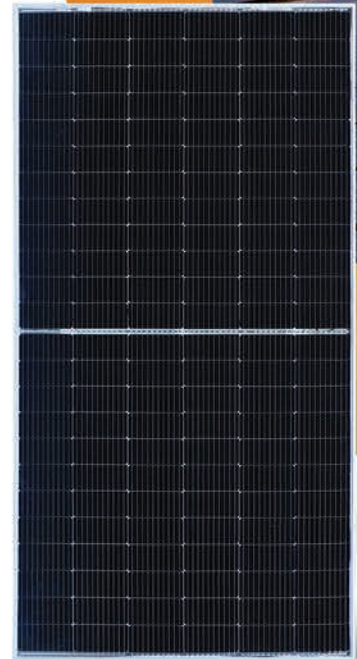
Multi-Bus Bar Technology for Better Current Collection



Lowest Guaranteed First Year and Annual Degradation



Well-Composed Components Stress to Reduce Micro Cracks



*Product under testing at TUV for IEC standards.



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