FEATURES

- AR Coated High Transmission Glass
- MC4 Compatible Connectors
- PID Resistance
- Anodised Aluminium Frame
- Snow Load Resistance upto 5400 Pa

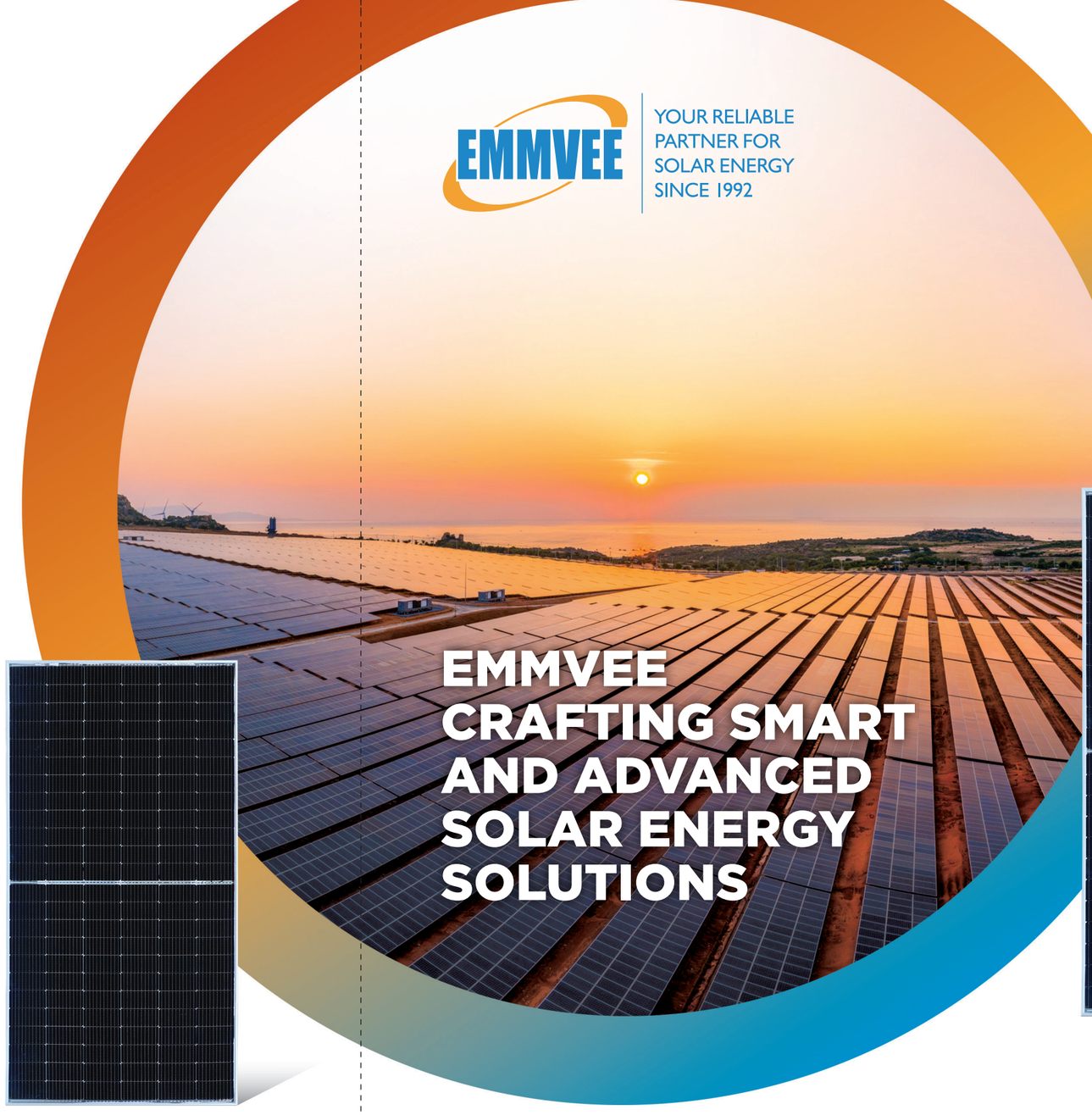
BENEFITS

- Low LCOE, Faster Payback Period
- 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

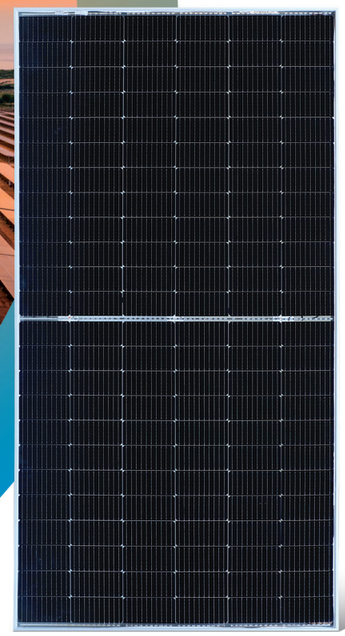
EMMVEE

YOUR RELIABLE PARTNER FOR SOLAR ENERGY SINCE 1992

30 YEARS. POWER FOR GOOD.



EMMVEE CRAFTING SMART AND ADVANCED SOLAR ENERGY SOLUTIONS



QUARTZ

Transparent Back Sheet 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.

PTL US CERTIFIED UL 61730

EMMVEE PHOTOVOLTAIC POWER PRIVATE LIMITED

Global Headquarters: No. 13/1, International Airport Road, Bettahalasur Post, Bengaluru-562 157, India
USA Office: 1055 Howell Mill Road, Suite 800, Atlanta, GA 30318, United States.
Phone: +1 (844) 366-8331 | info@emmvee.in | www.emmvee.com
(An ISO 9001:2015, ISO 14001:2015 & OHSAS 45000:2018 Certified Company)

120 CUT CELL TRANSPARENT BACK SHEET MODULE
TECHNICAL SPECIFICATION

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

Model Name	E440HCBT120	E445HCBT120	E450HCBT 120
Rated Power at STC	440	445	450
Power Tolerance	+5W	+5W	+5W
Model Efficience at STC	20.28%	20.51%	20.74%
Open Circuit Voltage – VOC (Volts) (±10%)	41.44	41.46	41.56
Short Circuit Current – ISC (Amps) (±10%)	13.55	13.75	13.81
Max Power Voltage – VPM (Volts)	34.21	34.28	34.31
Max Power Current – IPM (Amps)	12.87	12.99	13.12

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

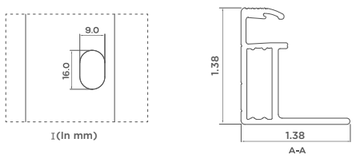
Test uncertainty for Pmax ±3%

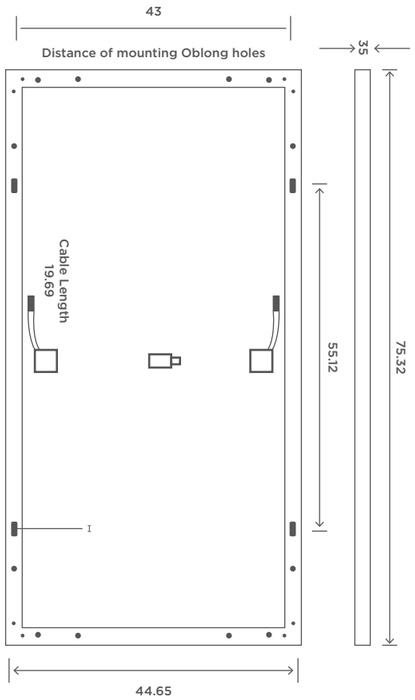
Permissible Operating Conditions	
Operating Temperature Range	-40° C TO 85° C
Max.system Voltage	1500V DC
Maximum Snow Load Capacity	5400PA
Resistance Against Hail	Max Ø24mm with Impact Speed of 83km/h
Protection Class Against Electrical Shock	II
Maximum Reverse Current	25 A

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	120 Monoperc Solar Cells (182mm X 91mm)
Dimensions: (L X W X H)	75.32 inch X 44.65 inch X 1.38 inch
Weight	52.91 Pounds
Front Glass	3.2 mm High Transmission, Solar Galss
Embedding	EVA
Back Sheet	Transparent Back Sheet
Junction Box	3 Split Junction Box IP68
Number of Bypass Diodes	3
Cables	4mm² Solar Cables, Length 500±10mm
Connectors	MC4 Compatible (Staubli Option Available)
Safety Class	Class II
Fire Type	Type 4
Wind Load	2400 pa

Warranty	
Product Warranty	12 years
Performance Warranty	25 years





1ST YEAR DEGRADATION <2.0% **YEAR 2-25 POWER DEGRADATION** <0.55% **END OF 25 YEARS** <84.8%

144 CUT CELL TRANSPARENT BACK SHEET MODULE
TECHNICAL SPECIFICATION

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

Model Name	E530HCBT144	E535HCBT144	E540HCBT144	E545HCBT144
Rated Power at STC	530	535	540	545
Power Tolerance	+5W	+5W	+5W	+5W
Module Efficience at STC	20.52%	20.71%	20.90%	21.10%
Open Circuit Voltage-VOC(Volts)(±10%)	49.2	49.35	49.5	49.75
Short Circuit Current-ISC (AMPS)(±10%)	13.56	13.59	13.62	13.88
Max Power Voltage-VPM(Volts)	41.1	41.32	41.54	41.61
Max Power Current-IPM (AMPS)	12.9	12.95	13	13.1

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

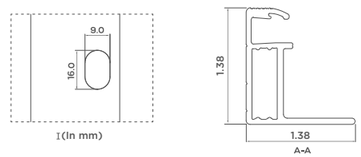
Test uncertainty for Pmax ±3%

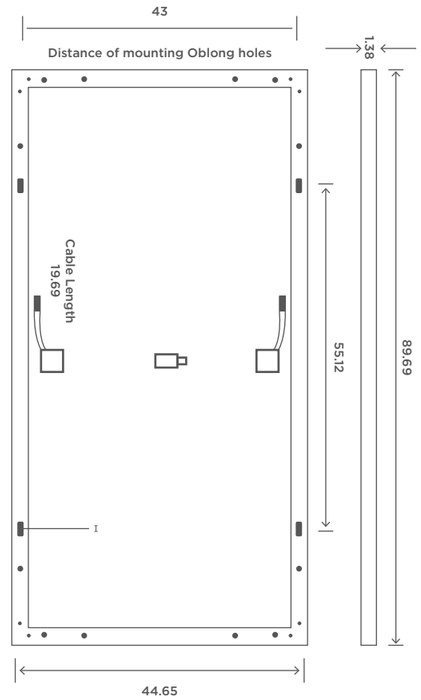
Permissible Operating Conditions	
Operating Temperature Range	-40° C TO 85° C
Max.system Voltage	1500V DC
Maximum Snow Load Capacity	5400PA
Resistance Against Hail	Max Ø24mm with Impact Speed of 83km/h
Protection Class Against Electrical Shock	II
Maximum Reverse Current	25 A

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	144 Monoperc Solar Cells (182mm X 91mm)
Dimensions: (L X W X H)	89.69 inch X 44.65 inch X 1.38 inch
Weight	57.32 Pounds
Front Glass	3.2 mm High Transmission, Solar Galss
Embedding	EVA
Back Sheet	Transparent Back Sheet
Junction Box	3 Split Junction Box IP68
Number of Bypass Diodes	3
Cables	4mm² Solar Cables, Length 500±10mm
Connectors	MC4 Compatible (Staubli Option Available)
Safety Class	Class II
Fire Type	Type 4
Wind Load	2400 pa

Warranty	
Product Warranty	12 years
Performance Warranty	25 years





1ST YEAR DEGRADATION <2.0% **YEAR 2-25 POWER DEGRADATION** <0.55% **END OF 25 YEARS** <84.8%