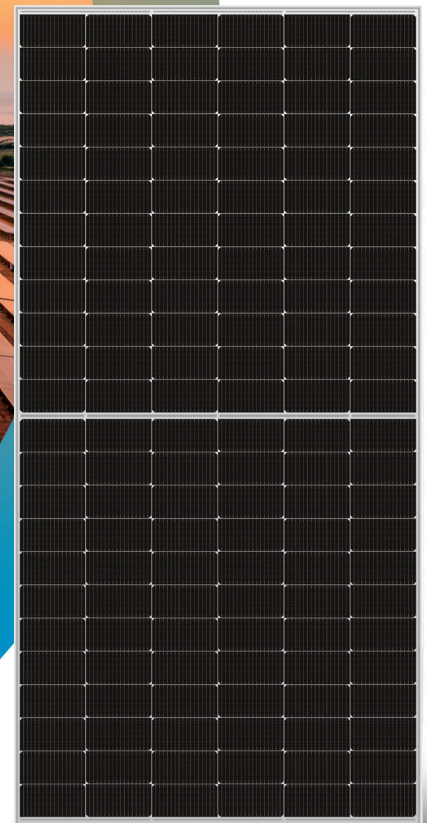




YOUR RELIABLE  
PARTNER FOR  
SOLAR ENERGY  
SINCE 1992



# EMMVEE CRAFTING SMART AND ADVANCED SOLAR ENERGY SOLUTIONS



## TITANIUM CLEAR

N-TYPE BIFACIAL GLASS TO 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.

# 144 CUT CELL N-TYPE BIFACIAL GLASS TO 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	E560HCBT144-T	E565HCBT144-T	E570HCBT144-T	E575HCBT144-T	E580HCBT144-T
Rated Power at STC	560	565	570	575	580
Power Tolerance	+5W	+5W	+5W	+5W	+5W
Module Efficiency at STC	21.68%	21.87%	22.07%	22.26%	22.45%
Open Circuit Voltage-VOC(Volts)(±10%)	50.67	50.87	51.07	51.27	51.47
Short Circuit Current-ISC (AMPS)(±10%)	14.13	14.19	14.25	14.31	14.37
Max Power Voltage-VPM(Volts)	41.95	42.14	42.29	42.44	42.59
Max Power Current-IPM (AMPS)	13.35	13.41	13.48	13.35	13.62

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

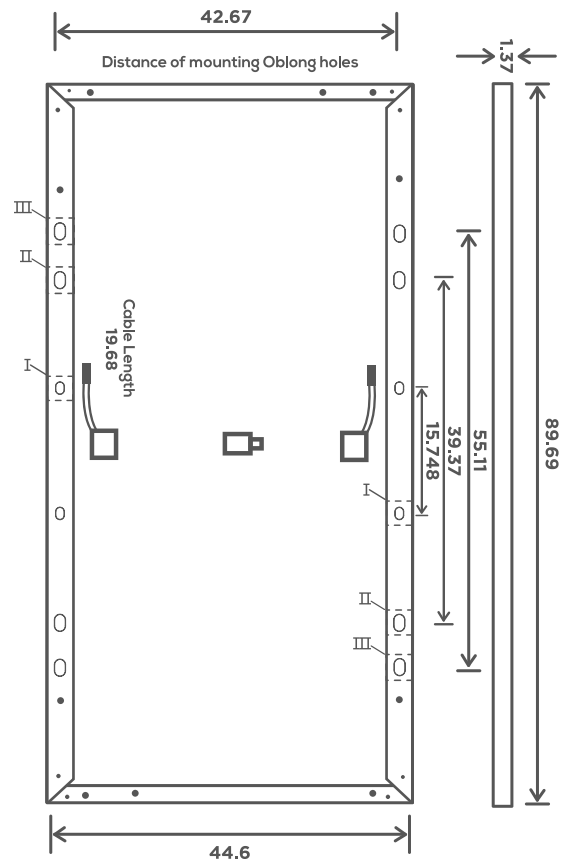
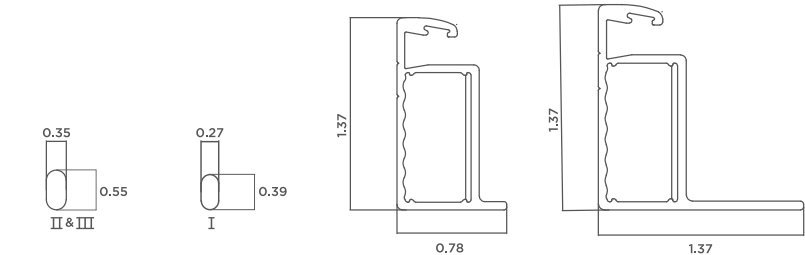
Test uncertainty for Pmax ±3%

Permissible Operating Conditions	
Operating Temperature Range	-40° C TO 85° C
Max.system Voltage	1500V DC
Maximum Snow Load Capacity	5400PA
Resistance Against Hail	MaxØ24mm With Impact Speed of 51 Mph
Protection Class Against Electrical Shock	II
Maximum Reverse Current	30A

Thermal Data	
Temp. Coefficient Open-circuit Voltage	-0.25%/°C
Temp. Coefficient Short Circuit Current	0.045%/°C
Temp. Coefficient Rated Power	-0.29%/°C
NOCT (Normal operating cell temperature)	45°C ±2°C

Mechanical Data	
Number of Cells and Cell Type	144 Topcon 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 Glass
Embedding	EVA/POE/EPE
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

Warranty	
Product Warranty	12 years
Performance Warranty	30 years



1ST YEAR DEGRADATION	1.0%	YEAR 2-30 POWER DEGRADATION	0.40%	END OF 30 YEARS	87.40%
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# 120 CUT CELL N-TYPE BIFACIAL GLASS TO 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	E465HCBT120-T	E470HCBT120-T	E475HCBT120-T	E480HCBT120-T	E485HCBT120-T
Rated Power at STC	465	470	475	480	485
Power Tolerance	+5W	+5W	+5W	+5W	+5W
Module Efficiency at STC	21.50 %	21.70 %	22.00%	22.20%	22.40%
Open Circuit Voltage-VOC(Volts)(±10%)	42.68	42.82	43.01	43.18	43.32
Short Circuit Current-ISC (AMPS)(±10%)	13.74	13.81	13.88	13.94	14.02
Max Power Voltage-VPM(Volts)	35.71	35.91	36.12	36.34	36.51
Max Power Current-IPM (AMPS)	13.02	13.09	13.15	13.21	13.12

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

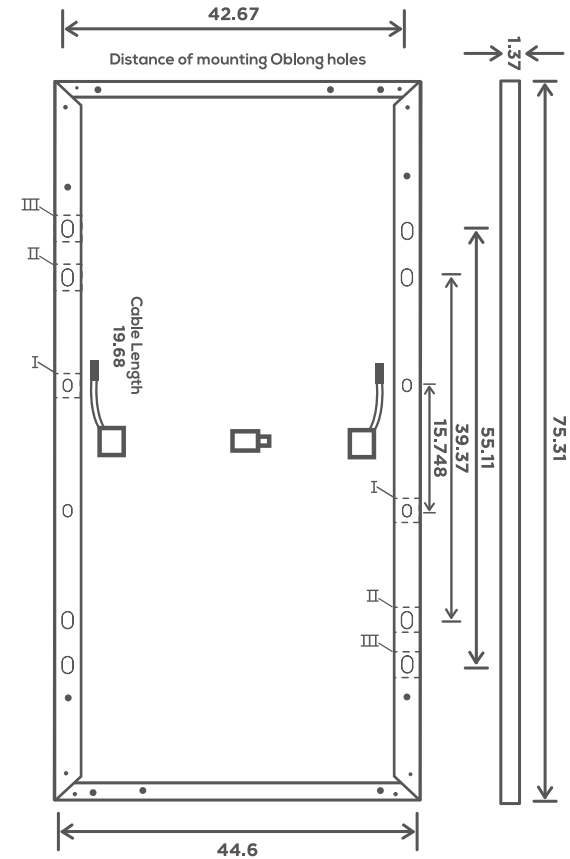
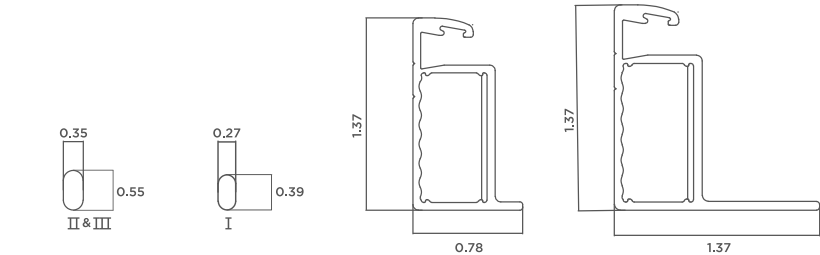
Test uncertainty for Pmax ±3%

Permissible Operating Conditions	
Operating Temperature Range	-40° C TO 85° C
Max.system Voltage	1500V DC
Maximum Snow Load Capacity	5400PA
Resistance Against Hail	MaxØ24mm With Impact Speed of 51 Mph
Protection Class Against Electrical Shock	II
Maximum Reverse Current	30A

Thermal Data	
Temp. Coefficient Open-circuit Voltage	-0.25%/°C
Temp. Coefficient Short Circuit Current	0.045%/°C
Temp. Coefficient Rated Power	-0.29%/°C
NOCT (Normal operating cell temperature)	45° C ±2°C

Mechanical Data	
Number of Cells and Cell Type	120Topcon Solar Cells (182mm X 91mm)
Dimensions: (L X W X H)	75.31 inch X 44.65 inch X 1.38 inch
Weight	52.91 Pounds
Front Glass	3.2 mm High Transmission, Solar Glass
Embedding	EVA/POE/EPE
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

Warranty	
Product Warranty	12 years
Performance Warranty	30 years



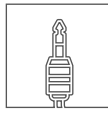
1ST YEAR DEGRADATION	1.0%	YEAR 2-30 POWER DEGRADATION	0.40%	END OF 30 YEARS	87.40%
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## FEATURES



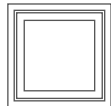
AR Coated High  
Transmission  
Glass



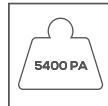
MC4  
Compatible  
Connectors



PID  
Resistance



Anodised  
Aluminium  
Frame

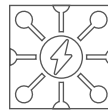


Snow Load  
Resistance  
upto 5400 Pa

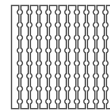
## BENEFITS



Low LCOE,  
Faster Payback  
Period



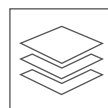
30% More Power  
Best In Class  
Efficiency upto  
23%



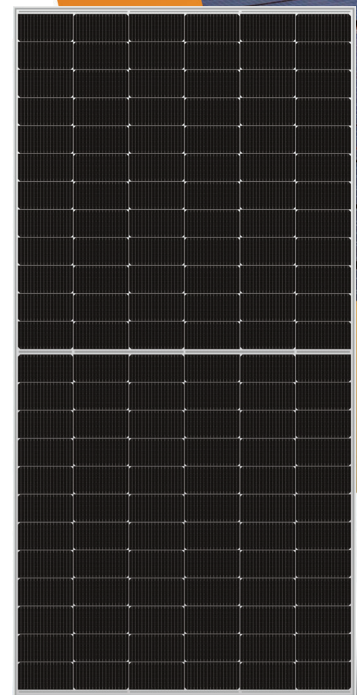
Multi-Bus Bar  
Technology for  
Better Current  
Collection



Lowest  
Guaranteed First  
Year and Annual  
Degradation



Well-Composed  
Components  
Stress to Reduce  
Micro Cracks



ISO 9001  
ISO 14001  
Regular Production  
Surveillance



Salt Mist  
Resistance  
Regular Production  
Surveillance



Ammonia  
Resistance  
Regular Production  
Surveillance



### EMMVEE PHOTOVOLTAIC POWER PRIVATE LIMITED

**Corporate Office:** No. 13/1, International Airport Road, Bettahalasur Post, Bengaluru-562 157, India

**Phone:** +91 80 2217 4328, +91 80 2217 4333 | [info@emmvee.in](mailto:info@emmvee.in) | [www.emmvee.com](http://www.emmvee.com)

(An ISO 9001:2015, ISO 14001:2015 & OHSAS 45000:2018 Certified Company)