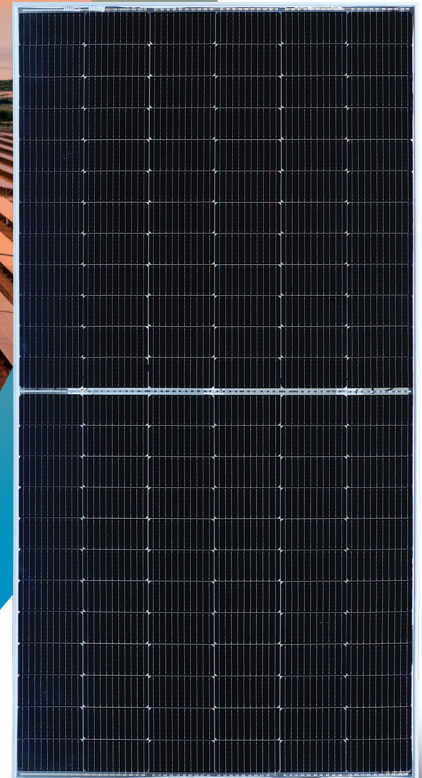




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SOLAR ENERGY
SINCE 1992



EMMVEE CRAFTING SMART AND ADVANCED SOLAR ENERGY SOLUTIONS



PEARL

Monoperc Half Cut 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 HALF CUT CELL MONOPERC MONO-FACIAL MODULE

TECHNICAL SPECIFICATION

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

Model Name	E535HCMW144	E540HCMW144	E545HCMW144	E550HCMW144
Rated Power at STC	535	540	545	550
Power Tolerance	+5W	+5W	+5W	+5W
Module Efficiency at STC	20.71%	20.90%	21.10%	21.29%
Open Circuit Voltage-VOC(Volts)(±10%)	49.35	49.5	49.75	49.9
Short Circuit Current-ISC (AMPS)(±10%)	13.59	13.62	13.88	14.01
Max Power Voltage-VPM(Volts)	41.32	41.54	41.61	41.62
Max Power Current-IPM (AMPS)	12.95	13	13.1	13.22

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

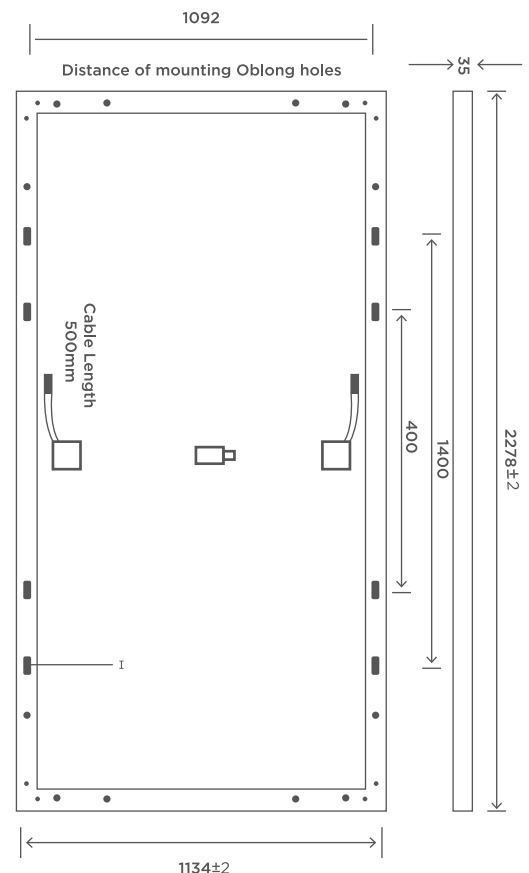
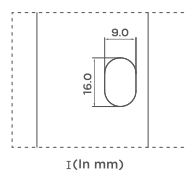
Test uncertainty for Pmax ±3%

Permissible Operating Conditions	
Operating Temperature Range	-40° C TO 85° C
Max.system Voltage	1500V DC
Maximum Snow Load Capacity	5400PA
Maximum wind load capacity	2400PA
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 Monofacial Solar Cells (182mm X 91mm)
Dimensions: (L X W X H)	2278 mm X 1134 mm X 35 mm
Weight	26 Kg
Front Glass	3.2 mm High Transmission, Solar Glass
Embedding	EVA
Back Sheet	Composite Film, White
Junction Box	3 Split Junction Box IP68
Number of Bypass Diodes	3
Cables	4mm ² Solar Cables, Length 500±10mm
Connectors	MC4 Compatible
Application Class	A
Fire Class	C

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%

132 HALF CUT CELL MONOPERC MONO-FACIAL MODULE

TECHNICAL SPECIFICATION

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

Model Name	E485HCMW132	E490HCMW132	E495HCMW132	E500HCMW132
Rated Power at STC	485	490	495	500
Power Tolerance	+5W	+5W	+5W	+5W
Module 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.

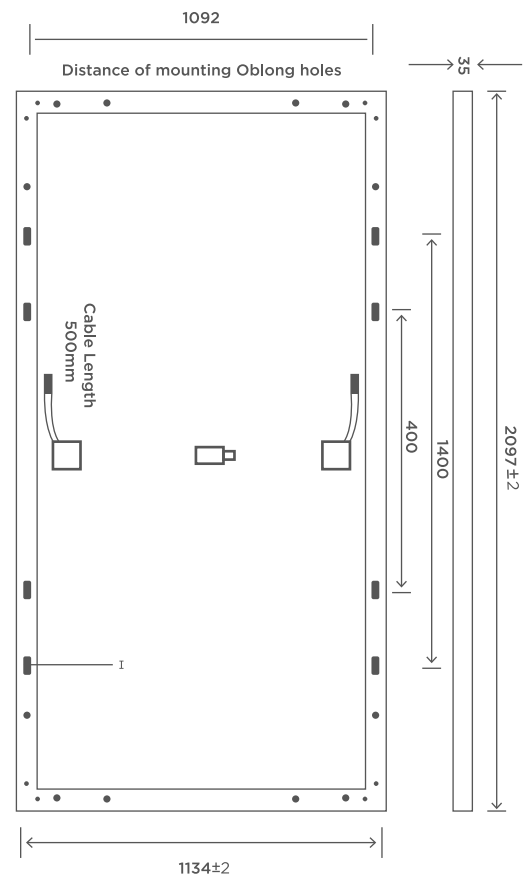
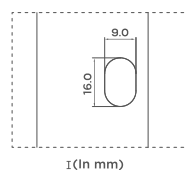
Test uncertainty for Pmax ±3%

Permissible Operating Conditions	
Operating Temperature Range	-40° C TO 85° C
Max.system Voltage	1500V DC
Maximum Snow Load Capacity	5400PA
Maximum wind load capacity	2400PA
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	132 Monoperc Monofacial Solar Cells (182mm X 91mm)
Dimensions: (L X W X H)	2097 mm X 1134 mm X 35 mm
Weight	25 Kg
Front Glass	3.2 mm High Transmission, Solar Glass
Embedding	EVA
Back Sheet	Composite Film, White
Junction Box	3 Split Junction Box IP68
Number of Bypass Diodes	3
Cables	4mm ² Solar Cables, Length 500±10mm
Connectors	MC4 Compatible
Application Class	A
Fire Class	C

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%

120 HALF CUT CELL MONOPERC MONO-FACIAL MODULE

TECHNICAL SPECIFICATION

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

Model Name	E440HCMW120	E445HCMW120	E450HCMW120
Rated Power at STC	440	445	450
Power Tolerance	+5W	+5W	+5W
Model Efficiency 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.

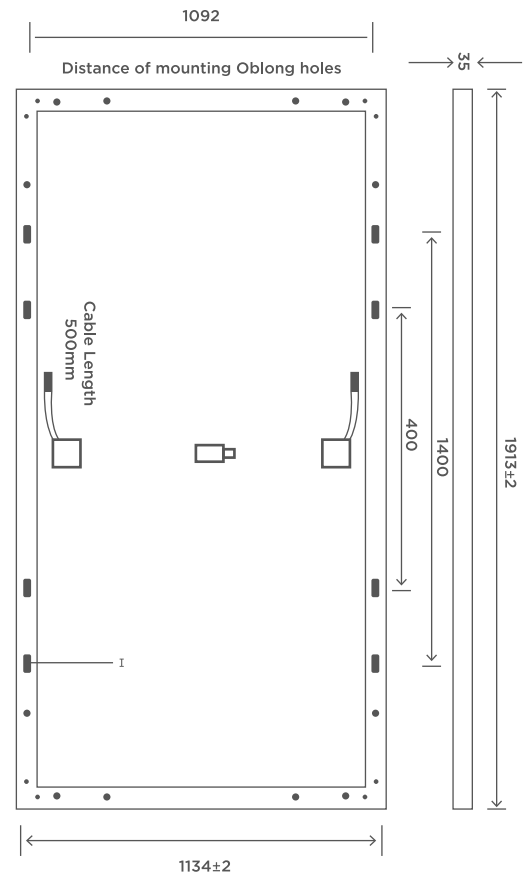
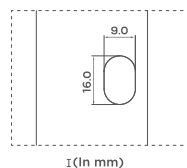
Test uncertainty for Pmax ±3%

Permissible Operating Conditions	
Operating Temperature Range	-40° C TO 85° C
Max.system Voltage	1500V DC
Maximum Snow Load Capacity	5400PA
Maximum wind load capacity	2400PA
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 Monofacial Solar Cells (182mm X 91mm)
Dimensions: (L X W X H)	1913 mm X 1134 mm X 35 mm
Weight	24 Kg
Front Glass	3.2 mm High Transmission, Solar Glass
Embedding	EVA
Back Sheet	Composite Film, White
Junction Box	3 Split Junction Box IP68
Number of Bypass Diodes	3
Cables	4mm ² Solar Cables, Length 500±10mm
Connectors	MC4 Compatible
Application Class	A
Fire Class	C

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%

108 HALF CUT CELL MONOPERC MONO-FACIAL MODULE

TECHNICAL SPECIFICATION

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

Model Name	E395HCMW108	E400HCMW108	E405HCMW108
Rated Power at STC	395	400	405
Power Tolerance	+5W	+5W	+5W
Module Efficiency at STC	20.25 %	20.51%	20.76%
Open Circuit Voltage-VOC(Volts)(±10%)	36.34	36.61	36.77
Short Circuit Current-ISC (AMPS)(±10%)	13.15	13.21	13.24
Max Power Voltage-VPM(Volts)	31.54	31.81	32.13
Max Power Current-IPM (AMPS)	12.53	12.58	12.61

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

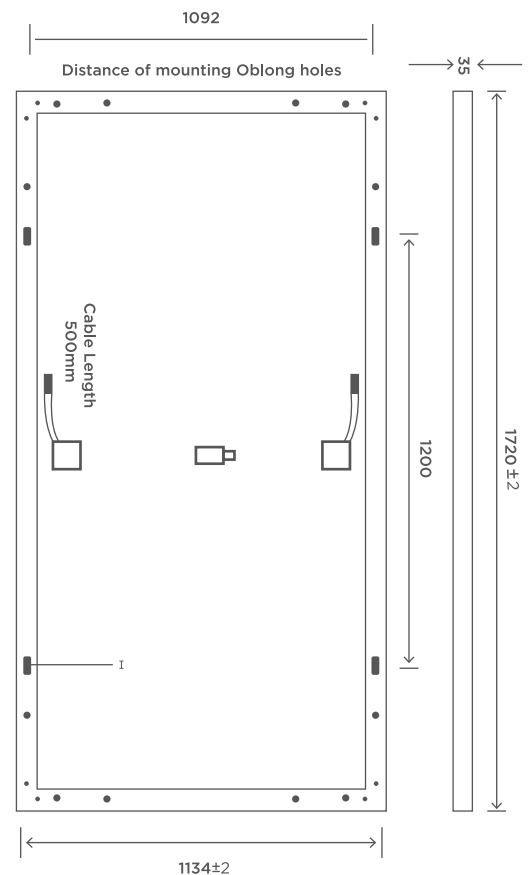
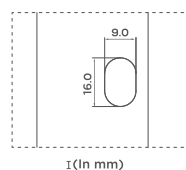
Test uncertainty for Pmax ±3%

Permissible Operating Conditions	
Operating Temperature Range	-40° C TO 85° C
Max.system Voltage	1500V DC
Maximum Snow Load Capacity	5400PA
Maximum wind load capacity	2400PA
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	108 Monoperc Monofacial Solar Cells (182mm X 91mm)
Dimensions: (L X W X H)	1720mm X 1134 mm X 35 mm
Weight	20 Kg
Front Glass	3.2 mm High Transmission, Solar Glass
Embedding	EVA
Back Sheet	Composite Film, White
Junction Box	3 Split Junction Box IP68
Number of Bypass Diodes	3
Cables	4mm ² Solar Cables, Length 500±10mm
Connectors	MC4 Compatible
Application Class	A
Fire Class	C

Warranty	
Product Warranty	12 years
Performance Warranty	25 years

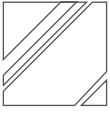


1ST YEAR DEGRADATION <2.0%

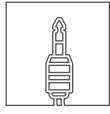
YEAR 2-25 POWER DEGRADATION <0.55%

END OF 25 YEARS <84.8%

FEATURES



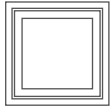
AR Coated High Transmission Glass



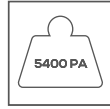
MC4 Compatible Connectors



PID Resistance



Anodised Aluminium Frame

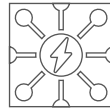


Snow Load Resistance upto 5400 Pa

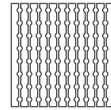
BENEFITS



Low LCOE, Faster Payback Period



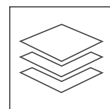
Best In Class Efficiency upto 21.5%



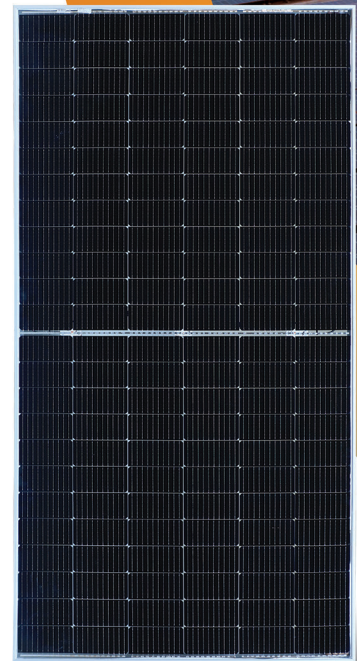
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Well-Composed Components Stress to Reduce Micro Cracks



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