



Switch to SOLAR for
a Brighter Tomorrow

ORION SERIES

Mono-Perc 120

430Wp-455Wp

Warranty



Product Warranty: 12 Years: Materials & Workmanship
Linear Performance Warranty: 27 Years
First Year Degradation: Up to 2.0%
Annual Degradation: 0.55% till 27 Years

KEY FEATURES



M10 cells for enhanced power generation.



Multi-busbar technology to minimize electrical losses.



Round ribbon connectors for improved light utilization.



Non-destructive cell cutting for improved reliability and lower chances of micro-cracks.



Half-cut cell technology for superior low-light performance.



PID Free

CERTIFICATIONS



CERTIFIED
IEC

IS 14286:2010 | IEC 61215: 2005 IS | IEC 61730-2:2004 IS
| IEC 61730-1:2004 | IEC 62804 | IEC 61853 | IEC 61701



Performance under standard test conditions (1000w/m², AM 1.5, 25 °C)

ORION SERIES 120

Pm (Wp)	430	435	440	445	450	455
Voc (V)	41.16	41.20	41.37	41.60	41.85	42.10
Vm (V)	35	35.21	35.39	35.52	35.64	35.78
Isc (A)	12.94	13.08	13.16	13.23	13.31	13.37
Im (A)	12.31	12.37	12.45	12.55	12.65	12.74
Efficiency (%)	19.84	20.10	20.34	20.57	20.80	21.03

ELECTRICAL DATA PERFORMANCE

NOCT (Wp) at 45 ± 2 °C @800 W/m ²	430	435	440	445	450	455
Nominal Maximum Power (Pmax)	321.00	324.50	328.27	332.12	355.89	339.61
Optimum Operating Voltage (Vmp)	32.02	32.21	32.37	32.49	32.60	32.73
Optimum Operating Current (Imp)	10.02	10.07	10.13	10.21	10.30	10.37
Open Circuit Voltage (Voc)	38.28	38.32	38.48	38.69	38.93	39.16
Short Circuit Current (Isc)	10.58	10.69	10.76	10.81	10.88	10.93

Cell Temperature Coefficient

Open Circuit Voltage(α)	0.05 %/°C
Short Circuit Current(β)	-0.252 %/°C
Peak Power(δ)	-0.341 %/°C

Operating Conditions

Maximum System Voltage	DC1500V (IEC/UL)
Power Tolerance	0~+5%
Operating Temperature	-40°C~+85°C
Maximum Series Fuse Rating	30A
Mechanical Load Front Rear	5400Pa
Mechanical Load Back Rear	2400Pa

• Test uncertainty for Pmax ± 3%

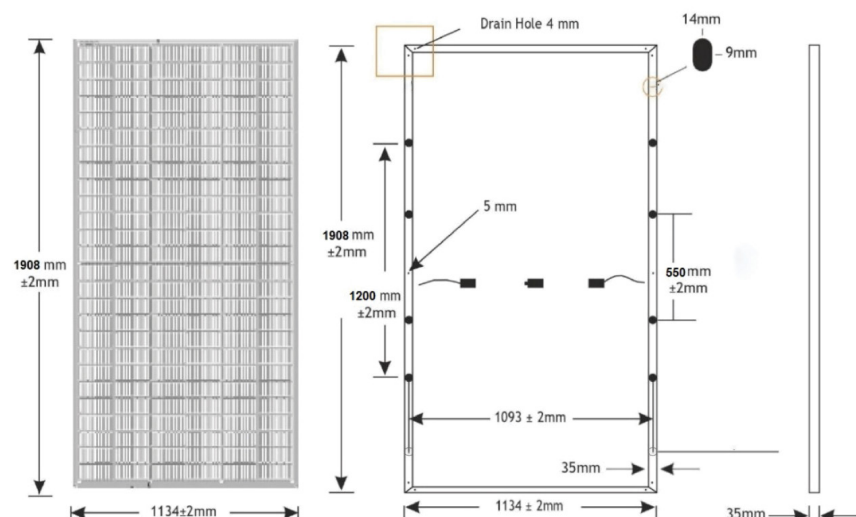
MODULE MECHANICAL DATA

SPECIFICATION DATA

Cell Type	Mono-Perc , 120 Cells
Dimensions	1908x1134x35 mm
Weight	22.5 Kgs
Front Cover	3.2mm Low Iron and Tempered Glass with ARC Coating
Rear Cover	Transparent Backsheet
Frame Material	"Anodized Aluminium Alloy,
J-Box	IP68, Split JB
Cable	4mm ² (IEC) - 0.3 meter (Length)
Connectors	Mc4 Compatible Connector

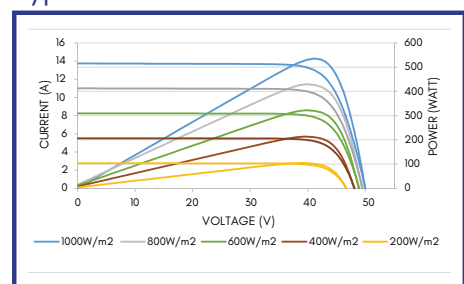
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Engineering Design



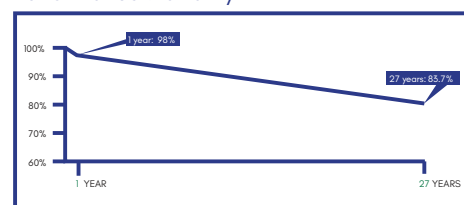
Characteristics

Typical I-V Curves



4) Average relative efficiency reduction of 5% at 200 W/m² according to EN 60904-1.

Performance Warranty





Switch to SOLAR for
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ORION SERIES

Mono-Perc Bifacial 120

430Wp-455Wp

Warranty



Product Warranty: 12 Years: Materials & Workmanship
Linear Performance Warranty: 27 Years
First Year Degradation: Up to 2.0%
Annual Degradation: 0.55% till 27 Years

KEY FEATURES



M10 cells for enhanced power generation.



Multi-busbar technology to minimize electrical losses.



Round ribbon connectors for improved light utilization.



Non-destructive cell cutting for improved reliability and lower chances of micro-cracks.



Half-cut cell technology for superior low-light performance.



Also available in Bifacial technology enabling power generation from both the sides.

CERTIFICATIONS



CERTIFIED
IEC

IS 14286:2010 | IEC 61215: 2005 IS | IEC 61730-2:2004 IS
| IEC 61730-1:2004 | IEC 62804 | IEC 61853 | IEC 61701



Performance under standard test conditions (1000w/m², AM 1.5, 25 °C)

ORION SERIES 120 Bi-Facial Gain @Different Albedo (%)																				
	Pm (Wp)	Voc (V)	Vm (V)	Isc (A)	Im (A)	Efficiency (%)		Pm (Wp)	Voc (V)	Vm (V)	Isc (A)	Im (A)	Efficiency (%)		Pm (Wp)	Voc (V)	Vm (V)	Isc (A)	Im (A)	Efficiency (%)
Front @STC	430	41.16	35	12.94	12.31	19.84		435	41.20	35.21	13.08	12.37	20.10		440	41.37	35.39	13.16	12.45	20.34
5%	452.39	41.16	35	13.59	12.93	20.91		457.33	49.21	35.21	13.73	12.99	21.14		462.64	41.37	35.39	13.82	13.07	21.38
10%	473.94	41.16	35	14.23	13.54	21.90		479.10	49.21	35.21	14.39	13.61	22.14		484.67	41.37	35.39	14.48	13.70	22.40
20%	517.02	41.16	35	15.53	14.77	23.90		522.66	49.21	35.21	15.70	14.84	24.16		528.73	41.37	35.39	15.79	14.94	24.44
Front @STC	445	41.60	35.52	13.23	12.55	20.57		450	41.85	35.64	13.31	12.65	20.80		455	42.10	35.78	13.37	12.74	21.03
5%	468.06	41.60	35.52	13.89	13.18	21.63		473.39	41.85	35.64	13.98	13.28	21.88		479.63	42.10	35.78	14.04	13.38	22.12
10%	490.35	41.60	35.52	14.55	13.81	22.66		495.93	41.85	35.64	14.64	13.92	22.92		501.42	42.10	35.78	14.71	14.01	23.17
20%	534.93	41.60	35.52	15.88	15.06	24.72		541.02	41.85	35.64	15.97	15.18	25.00		547.00	42.10	35.78	16.04	15.29	25.28

ELECTRICAL DATA PERFORMANCE

NOCT (Wp) at 45 ± 2 °C @800 W/m ²	430	435	440	445	450	455
Nominal Maximum Power (Pmax)	321.00	324.50	328.27	332.12	355.89	339.61
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Operating Conditions

Maximum System Voltage	DC1500V (IEC/UL)
Power Tolerance	0~+5%
Operating Temperature	-40°C~+85°C
Maximum Series Fuse Rating	30A
Mechanical Load Front Rear	5400Pa
Mechanical Load Back Rear	2400Pa
Bifaciality	75±5%

- Test uncertainty for Pmax ± 3%
- Bi-facial gain subject to mounting structure specifications and albedo % of ground

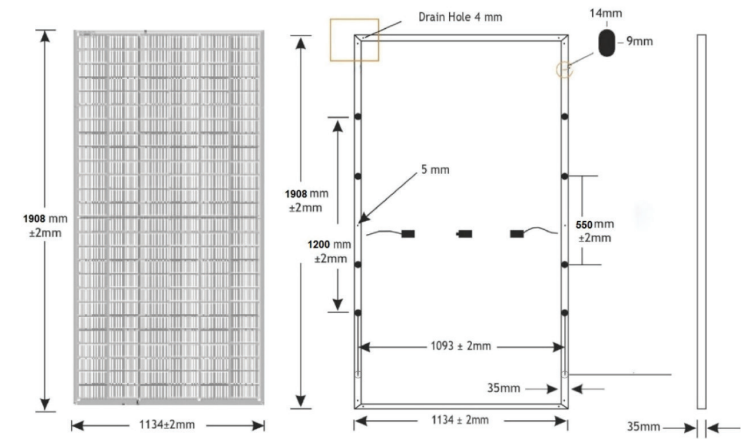
MODULE MECHANICAL DATA

SPECIFICATION DATA

Cell Type	Bifacial Mono-Perc , 120 Cells
Dimensions	1908x1134x35 mm
Weight	22.5 Kgs
Front Cover	3.2mm Low Iron and Tempered Glass with ARC Coating
Rear Cover	Transparent Backsheet
Frame Material	"Anodized Aluminium Alloy,
J-Box	IP68, Split JB
Cable	4mm ² (IEC) - 0.3 meter (Length)
Connectors	Mc4 Compatible Connector

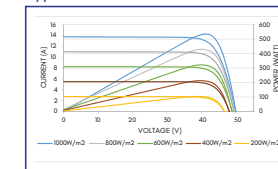
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Performance Warranty

