





BIFACIALITY

Max. bifaciality thanks to highly efficient cell rear side and transparent gaps.



STABILITY

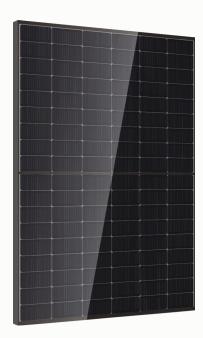
2 x 2mm heat strengthened glass with anti-reflective coating



PERFORMANCE

445 Wp module power and efficiency of 22.3 %





Discover our latest innovation!

Zeus 1.0 - our latest solar module for outstanding performance and efficiency with an improved temperature coefficient and optimized bifaciality. Our Zeus 1.0 module delivers excellent results even at weak light conditions.

A good choice - With its good price to performance ratio, the module guarantees a reliable and sustainable energy supply in the long term.

30 years warranty

ZEUS 1.0 108 M 445Wp Black Frame

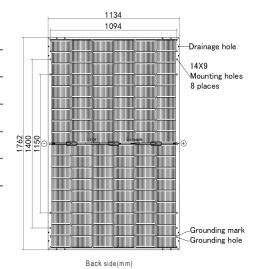
powered by Heckert Solar

Module Specification

Cell Type	M10 n-type monocrystalline, TOPCon, 108 half cut cells
Dimensions (mm)	1762 x 1134 x 30
Weight (kg)	24.5
Front Cover	2mm heat strengthened glass with anti-reflective coating
Rear Cover	2mm heat strengthened glass
Junction Box	3 diodes, IP68 according to IEC 62790
Connector Cables	cable length: 2 x 1200mm 4mm² Stäubli MC4-EVO2A connector +/- (1500V)
Frame	30mm black anodized aluminium frame

Electrical Specification¹

Module Efficiency STC (%)	2	2.3
Open-circuit Voltage Voc (V)	39.60	37.51
Short-circuit Current Isc (A)	13.97	11.25
Maximum Power Voltage V _{MPP} (V)	33.04	30.86
Maximum Power Current IMPP (A)	13.47	10.89
Rated Power PMPP (Wp)	445	335
Testing Conditions	STC ²	P@NMOT³



Operating Conditions

Maximum System Voltage (VDC)	1500
Reverse Current Feed I _R (A)	30
Power Performance Tolerance (%)	0/+3
Max. Test-Load, Push/ Pull (Pa)	5400 / 2400
Max. Design-Load, Push/Pull (Pa)	3600 / 1600

Bifacial Output

10 %	P _{Max} /Wp (STC)	490	
20 %	P _{Max} /Wp (STC)	534	
30 %	P _{Max} /Wp (STC)	579	_

Temperature Characteristics

Nominal Module Operating Temp. ³ $42 \pm 2^{\circ}$ C			
Temperature Coefficient PMPP	(%/°C)	- 0.29	
Temperature Coefficient VMPP	(%/°C)	- 0.25	
Temperature Coefficient IMPP	(%/°C)	+ 0.048	

Certifications & Warrantv

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	IEC 61215, IEC 61730	
	IEC 62716 Ammonia Corrosion	
Certifications	IEC 61701 Salt Mist Corrosion	
	PID (IEC TS 62804); LeTID (IEC TS 63342)	
	IEC 60068 Dust & Sand	
Product Warranty	30 years	
Performance Warranty	30 years	







handed out by:





NMOI-Data: Nominal Module Operating Temperature at Irradiation 800 W/ m² and an ambient temperature of 20 °C. Operating Temperature range between 40 °C and + 85 °C. All dimensions: +/-3 mm. UOC / ISC +/-10 %. Subject to technical changes. No liability is assumed for particulars. Please follow our installation instructions.



Measurements according to IEC 60904-3, measurement tolerance: ISC: ±4%,VOC: ±3%, PMPP +/- 3 %, Bifaciality: 80% ±5%.

² Standard Test Conditions STC: Irradiation 1,000 W / m² with a spectrum of AM 1.5 at a cell temperature of 25 °C. Maximum reduction in efficiency at 200 W/ m²: 2%.

3 NMOT-Data: Nominal Module Operating Temperature at irradiation 800 W/ m² and an ambient temperature of 20 °C. Operating temperature range between