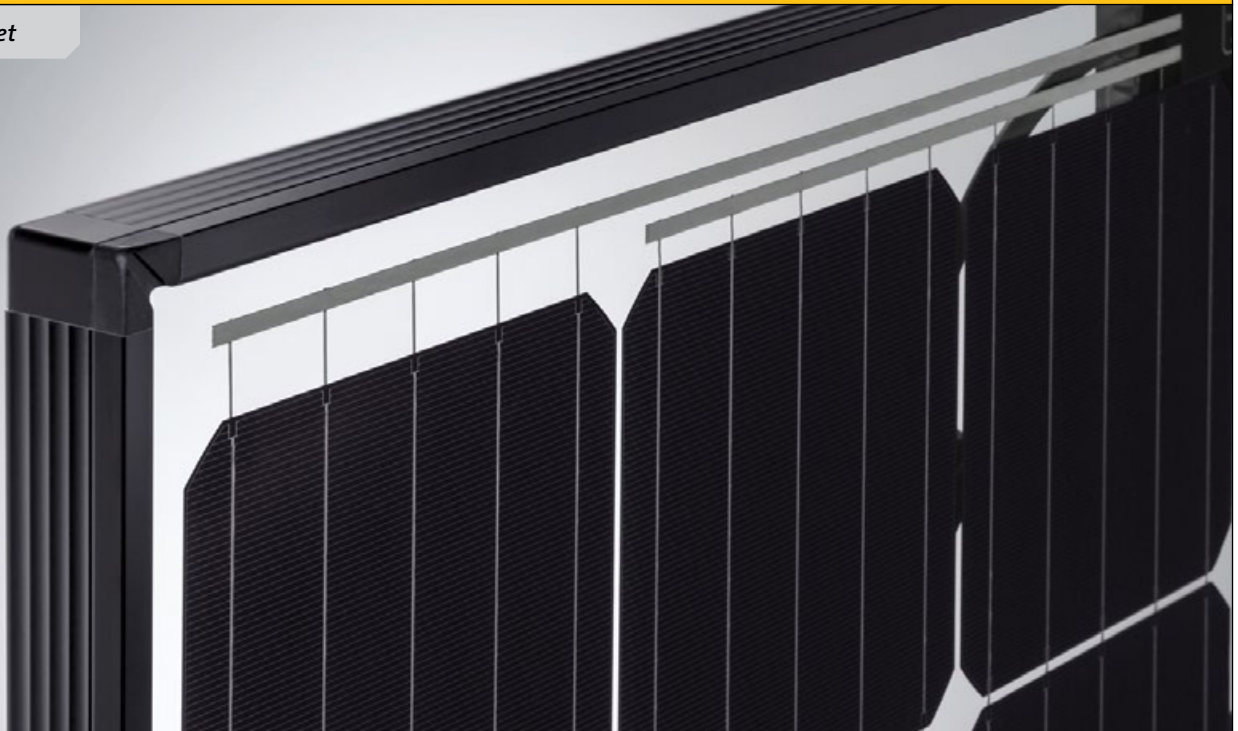


Sunmodule[®] Bisun protect 290 clear



Data sheet



HIGH QUALITY ENGINEERING BY SOLARWORLD

More than 40 years of technology expertise, ongoing innovation and continuous optimization create the foundation for the performance of SolarWorld's high-quality modules. All production steps, from silicon to module, are established at our production sites, ensuring the highest quality for our customers every step of the way. Our modules are extremely flexible when it comes to their application and provide optimal solutions for installation and non-stop performance – worldwide.

- » Up to 25 % more yield thanks to highly-efficient bifacial cell technology – light from all directions is transformed into power through the active rear side of the module
- » Extremely long service life and optimized protection from mechanical stress and environmental conditions thanks to the use of glass on the front and back of the module
- » Especially stable, despite its low weight mechanical resilience of up to 8.5 kN/m²
- » Tested in extreme weather conditions – resistance to salt spray, frost and hail-proof, resistance to ammonia, dust and sand
- » PID-resistant and proven hotspot guarantee
- » Highly-efficient cells (mono PERC) for the highest possible yields
- » Harmonized components such as mounting systems,
- » Patented corner design with integrated drainage for optimized self-cleaning.
- » High-transmissive front glass and anti-reflective coating.
- » Long-term safety and guaranteed top performance – At least 97% of nominal power in the first year – 30-year linear performance warranty 20-year product warranty.



Sunmodule[®] Bisun protect 290 clear



PERFORMANCE UNDER OPTIMIZED CONDITIONS

		6%	10%	20%	25%
Energy boost					
Maximum power	P_{max}	306 Wp	316 Wp	343 Wp	355 Wp
Open circuit voltage	U_{oc}	39.80 V	39.80 V	39.80 V	39.80 V
Maximum power point voltage	U_{mpp}	31.60 V	31.50 V	31.30 V	31.20 V
Short circuit current	I_{sc}	10.22 A	10.61 A	11.57 A	12.06 A
Maximum power point current	I_{mpp}	9.67 A	10.04 A	10.95 A	11.40 A
Module efficiency	η_m	18.24 %	18.87 %	20.43 %	21.20 %

PERFORMANCE UNDER STANDARD TEST CONDITIONS (STC)*

Maximum power	P_{max}	290 Wp
Open circuit voltage	U_{oc}	39.8 V
Maximum power point voltage	U_{mpp}	32.2 V
Short circuit current	I_{sc}	9.65 A
Maximum power point current	I_{mpp}	9.12 A
Module efficiency	η_m	17.30 %

Measuring tolerance (P_{max}) +/- 2 %

*STC: 1000 W/m², 25° C, AM 1.5

PERFORMANCE AT 800 W/m², NOCT, AM 1.5

Maximum power	P_{max}	219.5 Wp
Open circuit voltage	U_{oc}	36.8 V
Maximum power point voltage	U_{mpp}	29.8 V
Short circuit current	I_{sc}	7.90 A
Maximum power point current	I_{mpp}	7.37 A
Module efficiency	η_m	13.09 %

Minor reduction in efficiency under partial load conditions at 25°C: at 200 W/m², 97% (+/-3%) of the STC efficiency (1000 W/m²) is achieved.

PARAMETERS FOR OPTIMAL SYSTEM INTEGRATION

Power sorting	-0 Wp / +10 Wp
Maximum system voltage IEC/ NEC	1000 V / 1000 V
Maximum reverse current	25 A
Number of bypass diodes	3
Operating range	-40°C - +85°C
Maximum Design Loads (Two rail system)*	+5.4 kN/m ² / -3.1 kN/m ²
Maximum Design Loads (Three rail system)*	+8.5 kN/m ² / -3.1 kN/m ²

*Please refer to the Sunmodule Installation instructions for the details associated with these load cases.



COMPONENT MATERIALS

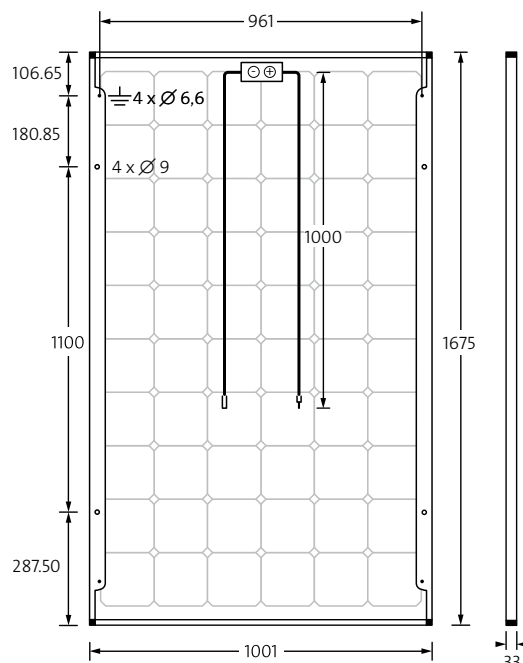
Cells per module	60
Cell type	bifacial duo
Cell dimensions	156 mm x 156 mm
Front	Heat strengthened glass (EN 1863-1)
Back	Heat strengthened glass (EN 1863-1)
Frame	Black anodized aluminum
J-Box	IP65
Connector	Amphenol H4 UTX

DIMENSIONS / WEIGHT

Length	1675 mm
Width	1001 mm
Height	33 mm
Weight	21.5 kg

THERMAL CHARACTERISTICS

NOCT	46 °C
TK I_{sc}	0.060 %/K
TK U_{oc}	-0.29 %/K
TK P_{mpp}	-0.40 %/K



ORDERING INFORMATION

Order number	Description
82000730	Sunmodule Bisun protect 290 clear

CERTIFICATES AND WARRANTIES

Certificates	IEC 61730	IEC 61215	UL 1703
	IEC 62716	IEC 60068-2-68	IEC 61701
Warranties	Product Warranty	20 years	
	Linear Performance Guarantee	30 years	