Sunmodule® Protect
SW 280 MONO BLACK

SOLARWORLD
REAL VALUE

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.

- 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
- Expanded range of application thanks to the light permeability 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) facilitate the highest possible yields
- Harmonized components such as mounting systems, connector cables, inverters and energy storage systems can be delivered as complete system
- Patented drainage corners for optimized self-cleaning
- Front glass with an anti-reflective coating
- Long-term safety and guaranteed top performance – 30-year linear performance warranty 20-year product warranty

High Quality Engineering by SolarWorld

VDE
10/2016
Quality Tested
high reliability
low degradation
optimized durability
continuous line monitoring
ID. 40045046

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PERFORMANCE UNDER STANDARD TEST CONDITIONS (STC)*

		SW 280
Maximum power	P_{max}	280 Wp
Open circuit voltage	U_{oc}	39.0 V
Maximum power point voltage	U_{mpp}	31.8 V
Short circuit current	I_{sc}	9.45 A
Maximum power point current	I_{mpp}	8.93 A
Module efficiency	η_m	16.70 %

Measuring tolerance (P_{max}) traceable to TUV Rheinland: +/- 2% (TUV Power controlled, ID 0000039351)

*STC: 1000W/m², 25°C, AM 1.5

PERFORMANCE AT 800 W/m², NOCT, AM 1.5

		SW 280
Maximum power	P_{max}	211.90 Wp
Open circuit voltage	U_{oc}	36.0 V
Maximum power point voltage	U_{mpp}	29.4 V
Short circuit current	I_{sc}	7.74 A
Maximum power point current	I_{mpp}	7.22 A

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	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/m² / -3.1 kN/m²
*Maximum Design Loads (Three rail system)**	+8.5 kN/m² / -3.1 kN/m²

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

COMPONENT MATERIALS

Cells per module	60
Cell type	Mono crystalline PERC
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

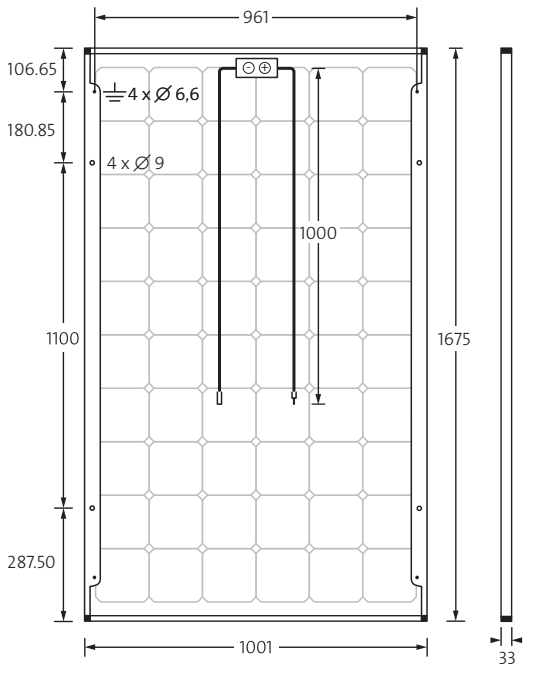
DIMENSIONS / WEIGHT

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

THERMAL CHARACTERISTICS

NOCT	46 °C
TK I_{sc}	0.070 %/K
TK U_{oc}	-0.29 %/K
TK P_{mpp}	-0.39 %/K

ISO 9001
ISO 14001
Certified



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

ORDERING INFORMATION

Order number	*Description*
82000348	Sunmodule Protect SW 280 mono black

SolarWorld AG reserves the right to make specification changes without notice. This data sheet complies with the requirements of EN 50380.

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