

Sunmodule® Protect SW 270 mono black



TUV Power controlled:
Lowest measuring tolerance in industry



Exceptional weather resistance
and robustness



Designed to withstand heavy
accumulations of snow and ice



Sunmodule Protect:
Positive performance tolerance



Glass with anti-reflective coating



World-class quality

Fully-automated production lines and seamless monitoring of the process and material ensure the quality that the company sets as its benchmark for its sites worldwide.

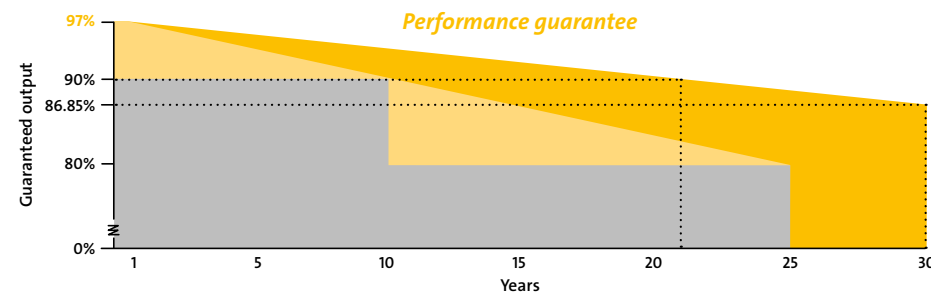
Innovative glass technologies make extremely weather-resistant and robust solar modules possible. The Sunmodule Protect offers higher mechanical resilience and a longer service life, and still weighs the same as the Sunmodule Plus.

The positive power tolerance guarantees utmost system efficiency. Only modules achieving or exceeding the designated nominal power in performance tests are dispatched. The power tolerance ranges between -0 Wp and +5 Wp.

SolarWorld is setting new standards with the ground-breaking 30-year linear performance guarantee: a maximum degradation of just 0.35% p.a. provides guaranteed module performance of 90% after 21 years, and 86.85% after 30 years.

Linear performance guarantee

- Linear performance guarantee for SolarWorld Sunmodule Protect
- Linear performance guarantee for SolarWorld Sunmodule Plus
- Competitor's tiered performance guarantee



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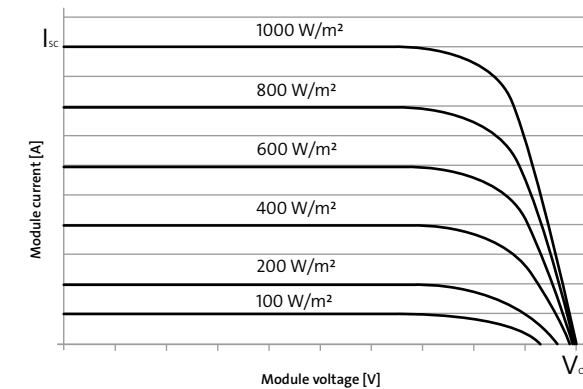
PERFORMANCE UNDER STANDARD TEST CONDITIONS (STC)*

Maximum power	P_{max}	270 Wp
Open circuit voltage	V_{oc}	39.2 V
Maximum power point voltage	V_{mpp}	30.9 V
Short circuit current	I_{sc}	9.44 A
Maximum power point current	I_{mpp}	8.81 A

*STC: 1000 W/m², 25°C, AM 1.5.
1) Measuring tolerance (P_{max}) traceable to TUV Rheinland: +/-2% (TUV Power Controlled)

THERMAL CHARACTERISTICS

NOCT	48 °C
TC I_{sc}	0.04 %/°C
TC V_{oc}	-0.30 %/°C
TC P_{mpp}	-0.45 %/°C
Operating temperature	-40°C to 85°C



PERFORMANCE AT 800 W/m², NOCT, AM 1.5

Maximum power	P_{max}	199.4 Wp
Open circuit voltage	V_{oc}	35.5 V
Maximum power point voltage	V_{mpp}	28.0 V
Short circuit current	I_{sc}	7.63 A
Maximum power point current	I_{mpp}	7.12 A

Minor reduction in efficiency under partial load conditions at 25°C: at 200 W/m², 100% (+/-2%) of the STC efficiency (1000 W/m²) is achieved.

COMPONENT MATERIALS

Cells per module	60
Cell type	Mono crystalline
Cell dimensions	6.14 in x 6.14 in (156 mm x 156 mm)
Front	Tempered glass (EN 12150)
Frame	Black anodized aluminum
Weight	46.7 lbs (21.2 kg)

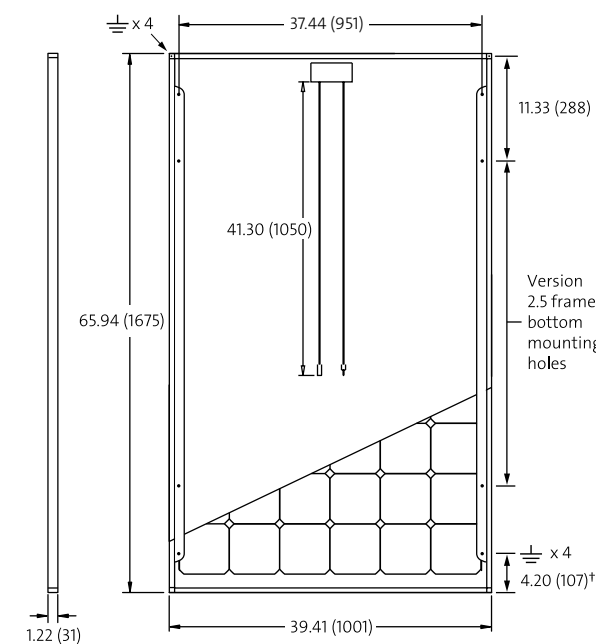
SYSTEM INTEGRATION PARAMETERS

Maximum system voltage IEC	SC II	1000 V
Maximum system voltage UL		1000 V
Maximum reverse current		16 A
Number of bypass diodes		3
UL Design Loads*	Two rail system	113 psf downward 64 psf upward
UL Design Loads*	Three rail system	170 psf downward 64 psf upward
IEC Design Loads*	Two rail system	113 psf downward 50 psf upward

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

ADDITIONAL DATA

Power sorting ¹	-0 Wp / +5 Wp
J-Box	IP65
Module leads	PV wire per UL4703 with H4 connectors
Module efficiency	16.10 %
Fire rating (UL 790)	Class C
Glass	Low iron tempered with ARC



¹All units provided are imperial. SI units provided in parentheses.
SolarWorld AG reserves the right to make specification changes without notice.

*in accordance with the applicable SolarWorld Limited Warranty at purchase.
www.solarworld.com/warranty

