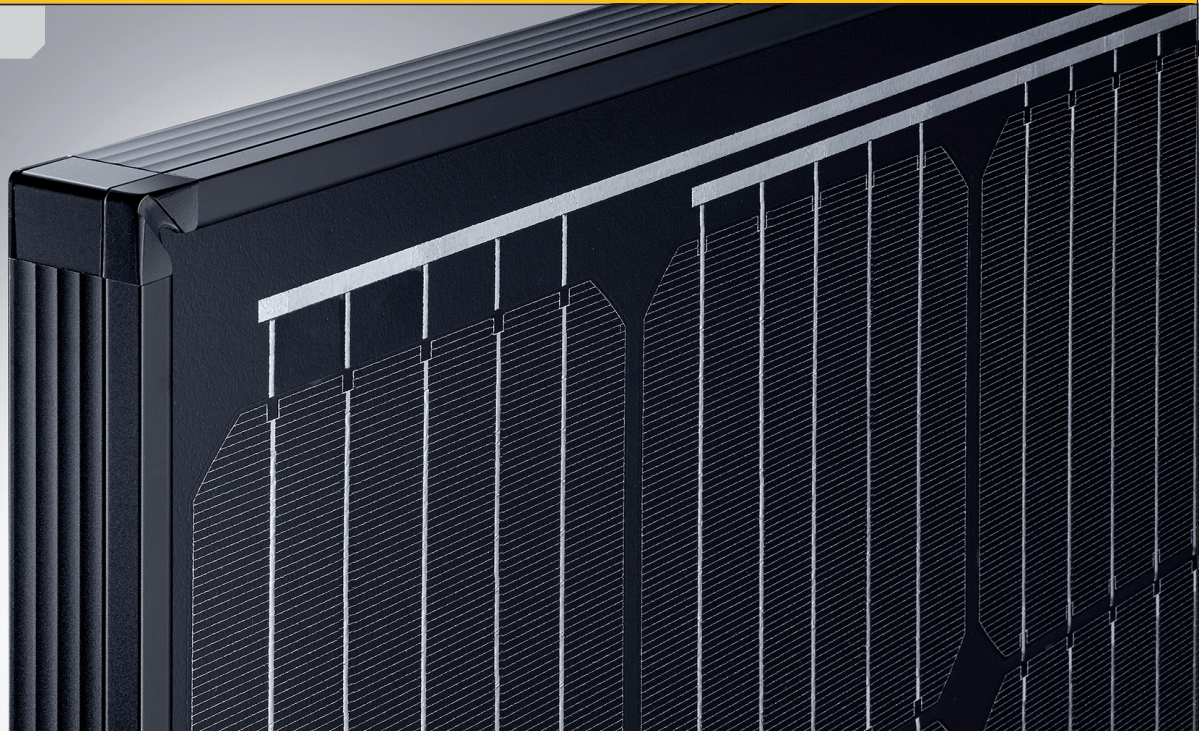


# Sunmodule® Plus

## SW 280 - 290 MONO BLACK



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.

- » Elegant design for aesthetic roof integration – entirely black solar module, from the cells and the frame to the module corners
- » Especially stable, despite its low weight mechanical resilience of up to 8.5 kN/m<sup>2</sup>
- » 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, 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 – 25-year linear performance warranty 10-year product warranty



# Sunmodule<sup>®</sup> Plus

## SW 280 - 290 MONO BLACK



### PERFORMANCE UNDER STANDARD TEST CONDITIONS (STC)\*

		SW 280	SW 285	SW 290
Maximum power	$P_{max}$	280 Wp	285 Wp	290 Wp
Open circuit voltage	$U_{oc}$	39.5 V	39.7 V	39.9 V
Maximum power point voltage	$U_{mpp}$	31.2 V	31.3 V	31.4 V
Short circuit current	$I_{sc}$	9.71 A	9.84 A	9.97 A
Maximum power point current	$I_{mpp}$	9.07 A	9.2 A	9.33 A
Module efficiency	$\eta_m$	16.7 %	17.0 %	17.3 %

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

\*STC: 1000W/m<sup>2</sup>, 25°C, AM 1.5

### PERFORMANCE AT 800 W/m<sup>2</sup>, NOCT, AM 1.5

		SW 280	SW 285	SW 290
Maximum power	$P_{max}$	207.2 Wp	211.1 Wp	215.0 Wp
Open circuit voltage	$U_{oc}$	35.8 V	36 V	36.2 V
Maximum power point voltage	$U_{mpp}$	28.3 V	28.4 V	28.5 V
Short circuit current	$I_{sc}$	7.85 A	7.96 A	8.06 A
Maximum power point current	$I_{mpp}$	7.33 A	7.43 A	7.54 A

Minor reduction in efficiency under partial load conditions at 25°C: at 200 W/m<sup>2</sup>, 97% (+/-3%) of the STC efficiency (1000 W/m<sup>2</sup>) is achieved.

### PARAMETERS FOR OPTIMAL SYSTEM INTEGRATION

Power sorting	-0 Wp / +5 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/m <sup>2</sup> / -3.1 kN/m <sup>2</sup>
Maximum Design Loads (Three rail system)*	+8.5 kN/m <sup>2</sup> / -3.1 kN/m <sup>2</sup>

\*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	Tempered safety glass (EN 12150)
Back	Black film
Frame	Black anodized aluminum
J-Box	IP65
Connector	H4

### DIMENSIONS / WEIGHT

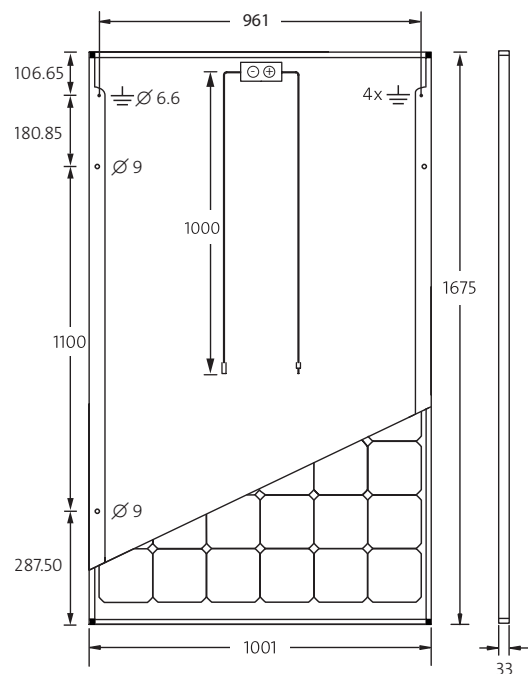
Length	1675 mm
Width	1001 mm
Height	33 mm
Weight	18.0 kg

### THERMAL CHARACTERISTICS

NOCT	48 °C
TK $I_{sc}$	0.044 %/K
TK $U_{oc}$	-0.31 %/K
TK $P_{mpp}$	-0.43 %/K

### ORDERING INFORMATION

Order number	Description
82000048	Sunmodule Plus SW 280 mono black
82000050	Sunmodule Plus SW 285 mono black
82000052	Sunmodule Plus SW 290 mono black



### CERTIFICATES AND WARRANTIES

Certificates	IEC 61730	IEC 61215	UL 1703
	IEC 62716	IEC 60068-2-68	IEC 61701
Warranties	Product Warranty	10 years	
	Linear Performance Guarantee	25 years	