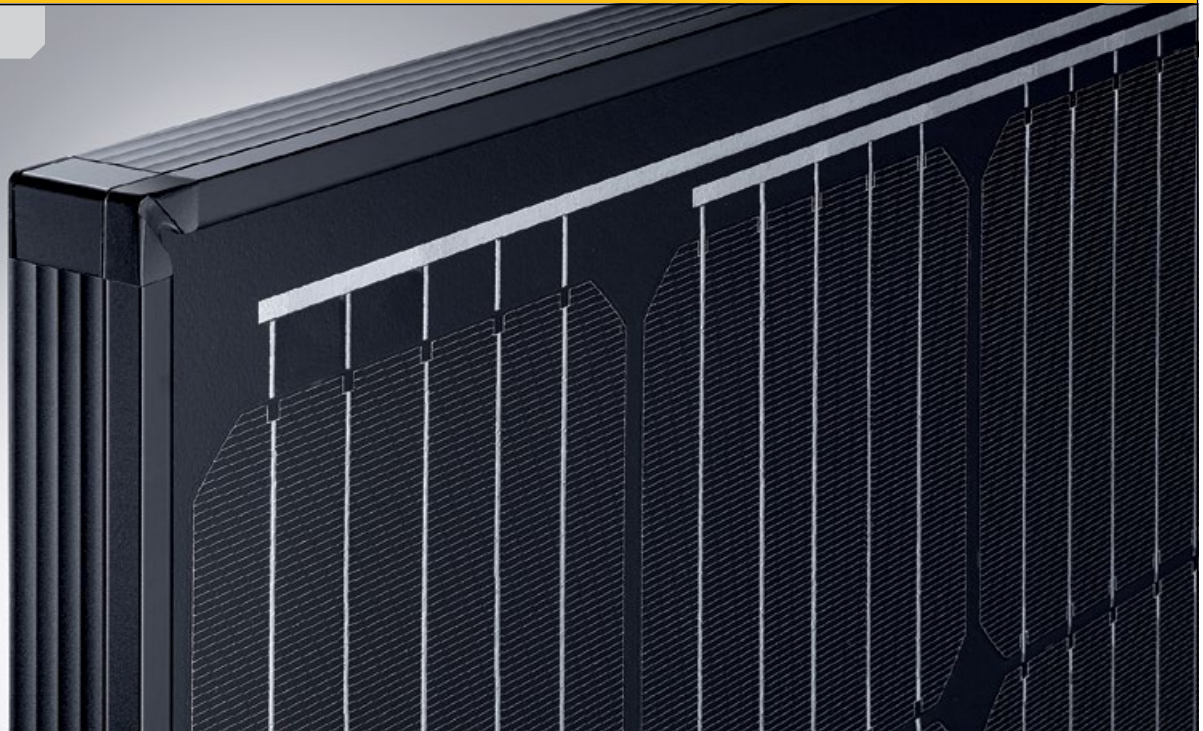


Sunmodule® Plus

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. We guarantee our customers the highest quality during all steps of production. Our modules are extremely flexible when it comes to their application and provide optimal solutions for installation and non-stop performance – worldwide.

- » Elegant aesthetic design – entirely black solar module, from the cells and the frame to the module corners
- » Extremely tough and stable, despite its light weight – able to handle loads up to 8.5 kN/m².
- » Tested in extreme weather conditions – hail impact tested and resistant to salt spray, frost, ammonia, dust and sand.
- » Proven guarantee against hotspots and PID- free to IEC 62804-1.
- » Highly-efficient cells (mono PERC) for the highest possible yields.
- » 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 – 25-year linear performance warranty – 20-year product warranty.



Sunmodule[®] Plus

SW 280 / 290 MONO BLACK



PERFORMANCE UNDER STANDARD TEST CONDITIONS (STC)*

| | | SW 280 | SW 290 |
|-----------------------------|-----------|---------|---------|
| Maximum power | P_{max} | 280 Wp | 290 Wp |
| Open circuit voltage | U_{oc} | 39.0 V | 39.5 V |
| Maximum power point voltage | U_{mpp} | 31.8 V | 32.2 V |
| Short circuit current | I_{sc} | 9.45 A | 9.60 A |
| Maximum power point current | I_{mpp} | 8.93 A | 9.12 A |
| Module efficiency | η_m | 16.70 % | 17.30 % |

*STC: 1000W/m², 25°C, AM 1.5

PERFORMANCE AT 800 W/m², NOCT, AM 1.5

| | | SW 280 | SW 290 |
|-----------------------------|-----------|----------|----------|
| Maximum power | P_{max} | 211.9 Wp | 220.0 Wp |
| Open circuit voltage | U_{oc} | 36.0 V | 36.6 V |
| Maximum power point voltage | U_{mpp} | 29.4 V | 29.9 V |
| Short circuit current | I_{sc} | 7.74 A | 7.86 A |
| Maximum power point current | I_{mpp} | 7.22 A | 7.37 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/ 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 | 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 | Amphenol H4 UTX |

DIMENSIONS / WEIGHT

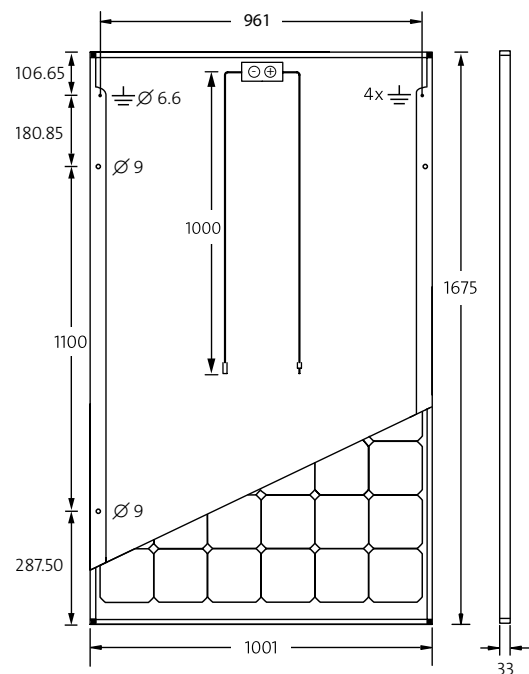
| | |
|--------|---------|
| Length | 1675 mm |
| Width | 1001 mm |
| Height | 33 mm |
| Weight | 18.0 kg |

THERMAL CHARACTERISTICS

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

ORDERING INFORMATION

| Order number | Description |
|--------------|----------------------------------|
| 82000246 | Sunmodule Plus SW 280 mono black |
| 82000260 | 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 | 20 years | |
| | Linear Performance Guarantee | 25 years | |