

# Sunmodule<sup>®</sup> Plus

## SW 275-290 MONO BLACK (33mm frame)



TUV Power controlled:  
Lowest measuring tolerance in industry



Every component is tested to meet  
3 times IEC requirements



Designed to withstand heavy  
accumulations of snow and ice



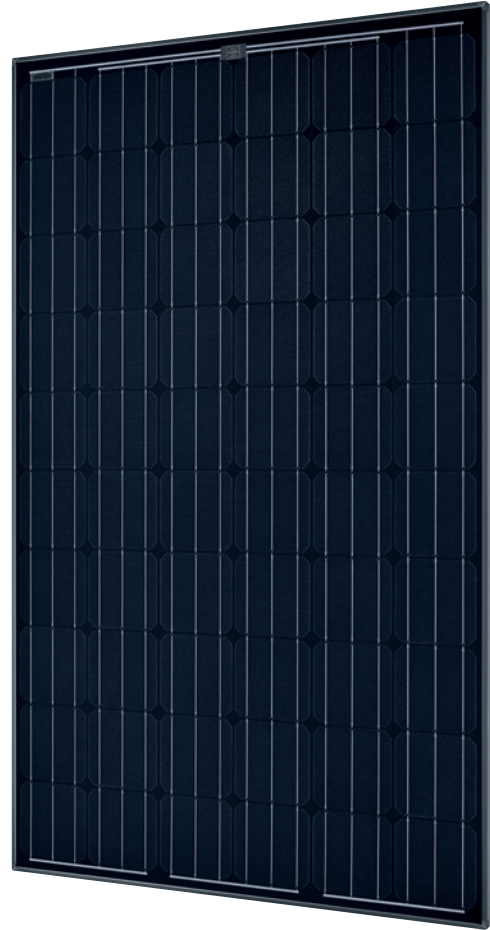
Sunmodule Plus:  
Positive performance tolerance



25-year linear performance warranty  
and 10-year product warranty



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.

### SolarWorld Plus-Sorting

Plus-Sorting guarantees highest system efficiency. SolarWorld only delivers modules that have greater than or equal to the nameplate rated power.

### 25-year linear performance guarantee and extension of product warranty to 10 years

SolarWorld guarantees a maximum performance digression of 0.7% p.a. in the course of 25 years, a significant added value compared to the two-phase warranties common in the industry, along with our industry-first 10-year product warranty.\*

\*in accordance with the applicable SolarWorld Limited Warranty at purchase.  
[www.solarworld.com/warranty](http://www.solarworld.com/warranty)



- Qualified, IEC 61215
- Safety tested, IEC 61730
- Blowing sand resistance, IEC 60068-2-68
- Ammonia resistance, IEC 62716
- Salt mist corrosion, IEC 61701
- Periodic inspection



- Periodic inspection
- Power controlled



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

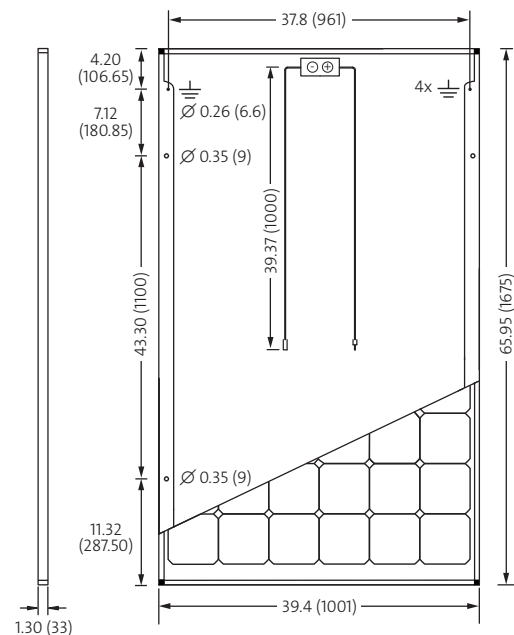
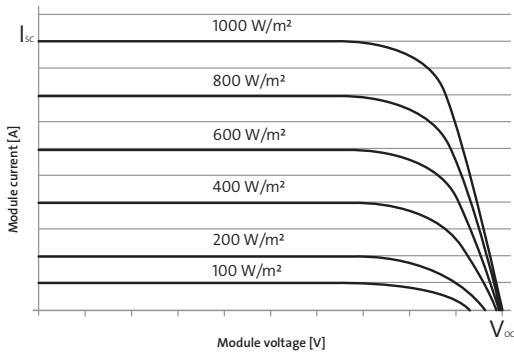
|                             |           | SW 275  | SW 280  | SW 285  | SW 290  |
|-----------------------------|-----------|---------|---------|---------|---------|
| Maximum power               | $P_{max}$ | 275 Wp  | 280 Wp  | 285 Wp  | 290 Wp  |
| Open circuit voltage        | $V_{oc}$  | 39.4 V  | 39.5 V  | 39.7 V  | 39.9 V  |
| Maximum power point voltage | $V_{mpp}$ | 31.0 V  | 31.2 V  | 31.3 V  | 31.4 V  |
| Short circuit current       | $I_{sc}$  | 9.58 A  | 9.71 A  | 9.84 A  | 9.97 A  |
| Maximum power point current | $I_{mpp}$ | 8.94 A  | 9.07 A  | 9.20 A  | 9.33 A  |
| Module efficiency           | $\eta_m$  | 16.40 % | 16.70 % | 17.00 % | 17.30 % |

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

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

|                             |           | SW 275   | SW 280   | SW 285   | SW 290 |
|-----------------------------|-----------|----------|----------|----------|--------|
| Maximum power               | $P_{max}$ | 203.1 Wp | 207.2 Wp | 211.1 Wp | 215 Wp |
| Open circuit voltage        | $V_{oc}$  | 35.7 V   | 35.8 V   | 36.0 V   | 36.2 V |
| Maximum power point voltage | $V_{mpp}$ | 28.1 V   | 28.3 V   | 28.4 V   | 28.5 V |
| Short circuit current       | $I_{sc}$  | 7.75 A   | 7.85 A   | 7.96 A   | 8.06 A |
| Maximum power point current | $I_{mpp}$ | 7.22 A   | 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>, 100% of the STC efficiency (1000 W/m<sup>2</sup>) is achieved.



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

### COMPONENT MATERIALS

|                  |  |        |  |
|------------------|--|--------|--|
| Cells per module | 60                                     | Front  | Low-iron empered glass with ARC (EN 12150) |
| Cell type        | Mono crystalline                       | Frame  | Black anodized aluminum                    |
| Cell dimensions  | 6.17 in x 6.17 in (156.75 x 156.75 mm) | Weight | 39.7 lbs (18.0 kg)                         |

### THERMAL CHARACTERISTICS

|                |                  |
|----------------|------------------|
| NOCT           | 48°C             |
| $TCI_{sc}$     | 0.044 %/K        |
| $TCV_{oc}$     | -0.31 %/K        |
| $TCP_{mpp}$    | -0.41 %/K        |
| Operating temp | -40° C to +85° C |

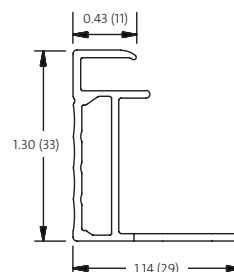
### ADDITIONAL DATA

|                         |                                       |
|-------------------------|---------------------------------------|
| Power sorting           | -0 Wp/+5 Wp                           |
| J-Box                   | IP65                                  |
| Connector               | PV wire per UL4703 with H4 connectors |
| Module fire performance | (UL 1703) Type 1                      |

### PARAMETERS FOR OPTIMAL SYSTEM INTEGRATION

|                                    |                   |                                 |
|------------------------------------|-------------------|---------------------------------|
| Maximum system voltage SC II / NEC | 1000 V            |                                 |
| Maximum reverse current            | 25 A              |                                 |
| Number of bypass diodes            | 3                 |                                 |
| Design loads*                      | Two rail system   | 113 psf downward, 64 psf upward |
| Design loads*                      | Three rail system | 178 psf downward, 64 psf upward |
| Design loads*                      | Edge mounting     | 178 psf downward, 41 psf upward |

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



- Compatible with both "Top-Down" and "Bottom" mounting methods
- Grounding Locations:
  - 4 locations along the length of the module in the extended flange.