

# Sunmodule<sup>+</sup>™

## SW 235 mono black / Version 2.0

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

SolarWorld guarantees a maximum performance degradation 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. In addition, SolarWorld is offering a product warranty, which has been extended to 10 years.\*

\*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
- Periodic Inspection



We turn sunlight into power.

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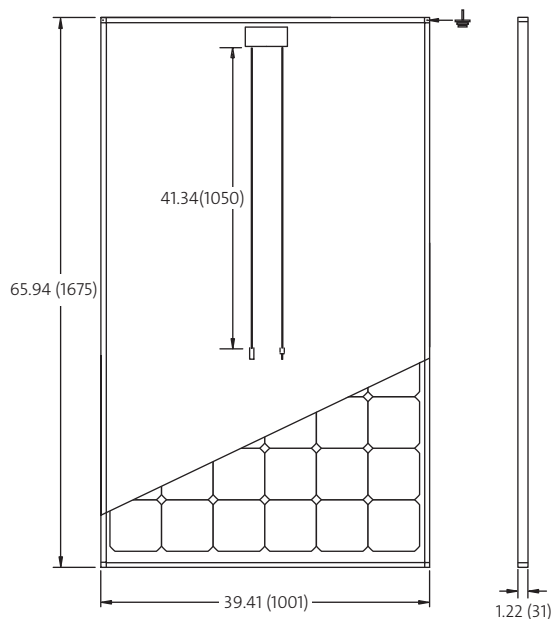
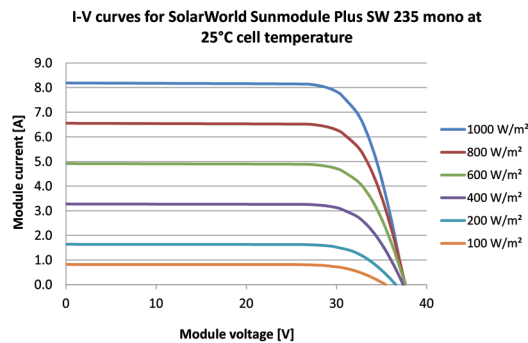
### PERFORMANCE UNDER STANDARD TEST CONDITIONS (STC)\*

		SW 235
Maximum power	$P_{max}$	235 Wp
Open circuit voltage	$V_{oc}$	37.5 V
Maximum power point voltage	$V_{mpp}$	30.3 V
Short circuit current	$I_{sc}$	8.19 A
Maximum power point current	$I_{mpp}$	7.77 A

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

### THERMAL CHARACTERISTICS

NOCT	47 °C
TC $I_{sc}$	0.042 %/K
TC $V_{oc}$	-0.33 %/K
TC $P_{mpp}$	-0.45 %/K



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

		SW 235
Maximum power	$P_{max}$	170.9 Wp
Open circuit voltage	$V_{oc}$	34.0 V
Maximum power point voltage	$V_{mpp}$	27.5 V
Short circuit current	$I_{sc}$	6.60 A
Maximum power point current	$I_{mpp}$	6.22 A

Minor reduction in efficiency under partial load conditions at 25°C: at 200W/m<sup>2</sup>, 95% (+/-3%) of the STC efficiency (1000 W/m<sup>2</sup>) 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	Clear anodized aluminum
Weight	46.7 lbs (21.2 kg)
UL Maximum Test Load**	50 psf (2.4kN/m <sup>2</sup> )
IEC Maximum Snow Test Load**	113 psf (5.4kN/m <sup>2</sup> )

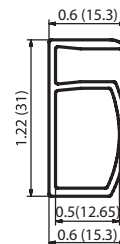
\*\*Please apply the appropriate factors of safety according to the test standard and local building code requirements when designing a PV system.

### SYSTEM INTEGRATION PARAMETERS

Maximum system voltage SC II	1000 V
Max. system voltage USA NEC	600 V
Maximum reverse current	16 A
Max. mechanical load	5.4 kN/m <sup>2</sup>
Number of bypass diodes	3

### ADDITIONAL DATA

Measuring tolerance <sup>2)</sup>	+/- 3 %
SolarWorld Plus-Sorting <sup>3)</sup>	$P_{Flash} \geq P_{max}$
Junction box	IP65
Connector	MC4
Module efficiency	14,0 %
Fire rating (UL 790)	Class C



#### VERSION 2.0 FRAME

- Compatible with "Top-Down" mounting methods
- ⚡ Grounding Locations: 4 corners of the frame

1) Sunmodules dedicated for the United States and Canada are tested to UL 1703 Standard and listed by a third party laboratory. The laboratory may vary by product and region. Check with your SolarWorld representative to confirm which laboratory has a listing for the product.

2) Measuring tolerance is used conjunctions with the SolarWorld Limited Warranty. SolarWorld AG reserves the right to make specification changes without notice.

3) The output identified by SolarWorld ( $P_{Flash}$ ) is always higher than the nominal output ( $P_{max}$ ) of the module. PFlash is the power rating flashed at a SolarWorld manufacturing facility.

4) All units provided are imperial. SI units provided in parentheses.