

# Sunmodule<sup>+</sup>™

## SW 240 mono black

Version 2.0 Frame



### 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 the highest system efficiency. Only modules that achieve the designated nominal performance or greater in performance tests are dispatched.



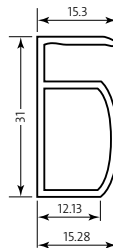
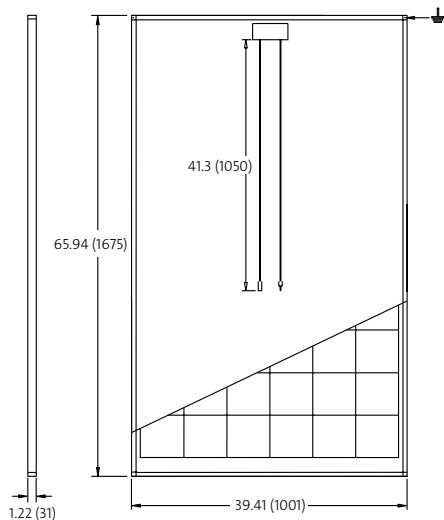
### 25 YEARS LINEAR PERFORMANCE GUARANTEE\*

SolarWorld guarantees a maximum degeneration in performance of 0.7% p.a. for more than 25 years – a clear additional benefit compared with the conventional two-stage industry guarantees. In addition there is a product workmanship warranty that covers 5 years.

## PHYSICAL CHARACTERISTICS

|                  |                                     |
|------------------|-------------------------------------|
| 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                         | 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> ) |



### VERSION 2.0 FRAME

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

\* In accordance with the applicable SolarWorld Limited Warranty at purchase. [www.solarworld-global.com/service-certificate](http://www.solarworld-global.com/service-certificate).

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

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### Version 2.0 Frame

03-2011-SW-DS-XXXX  
03-2011

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

|                             |           | SW 240 |
|-----------------------------|-----------|--------|
| Maximum power               | $P_{max}$ | 240 Wp |
| Open circuit voltage        | $U_{OC}$  | 37.6 V |
| Maximum power point voltage | $U_{MPP}$ | 30.6 V |
| Short circuit current       | $I_{SC}$  | 8.22 A |
| Maximum power point current | $I_{MPP}$ | 7.87 A |

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

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

|                             |           | SW 240   |
|-----------------------------|-----------|----------|
| Maximum power               | $P_{max}$ | 175.4 Wp |
| Open circuit voltage        | $U_{OC}$  | 34.2 V   |
| Maximum power point voltage | $U_{MPP}$ | 27.9 V   |
| Short circuit current       | $I_{SC}$  | 6.63 A   |
| Maximum power point current | $I_{MPP}$ | 6.30 A   |

Minor reduction in efficiency under partial load conditions at 25°C: at 200 W/m<sup>2</sup>, 95% (+/-3%) of the STC efficiency (1000 W/m<sup>2</sup>) is achieved.

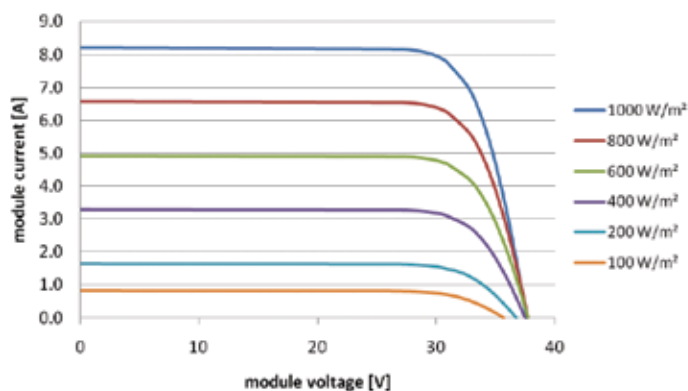
#### THERMAL CHARACTERISTICS

|                 |               |
|-----------------|---------------|
| NOCT            | 47° C         |
| TC $I_{sc}$     | 0.042 %/K     |
| TC $U_{oc}$     | -0.33 %       |
| TC $P_{mpp}$    | -0.45%        |
| Operating range | -40°C to 90°C |

#### SYSTEM INTEGRATION PARAMETERS

|                                |        |
|--------------------------------|--------|
| Maximum system voltage SC II   | 1000 V |
| Maximum system voltage USA NEC | 600 V  |
| Maximum series fuse rating     | 16 A   |
| Number of bypass diodes        | 3      |

#### I-V CURVE AT 25°C CELL TEMPERATURE



#### ADDITIONAL DATA

|                                       |                          |
|---------------------------------------|--------------------------|
| Measuring tolerance                   | +/- 3%                   |
| SolarWorld Plus-Sorting <sup>1)</sup> | $P_{Flash} \geq P_{max}$ |
| Junction box                          | IP65                     |
| Connector                             | MC4                      |
| Module efficiency                     | 14.31%                   |
| Fire rating (UL 790)                  | Class C                  |

#### GROUNDING

We recommend using the following components:

#### FRAME 2.0/2.5 (CORNERS)

| Item                  | Manufacturer/Description | Tightening torque  |
|-----------------------|--------------------------|--|
| Grounding lug         | ILsco GBL-4DBT           | 35 lbf-in, 4-6 AWG str<br>25 lbf-in, 8 AWG str<br>20 lbf-in, 10-14 AWG sol/<br>str |
| Socket head cap screw | #10-24, 5/8", SS 18-8    | 62 lbf-in (7.0 Nm)   |

Any PV grounding method and components listed to meet NEC grounding requirements are also acceptable.



- Qualified, IEC 61215
- Safety tested, IEC 61730
- Periodic Inspection

1) The output identified by SolarWorld ( $P_{Flash}$ ) is always higher than the nominal output ( $P_{max}$ ) of the module.

2) Depending on the market.

3) Temporarily 34 mm frame available through May 2011.

SolarWorld AG reserves the right to make specification changes without notice. This data sheet complies with the requirements of EN 50380.