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## Semprius High Concentration Utility Module **SM-U01 Series**



**33.9%**

World Record  
Module Efficiency\*

Semprius SM-U01 Series modules represent the next generation in solar module technology. Based upon the world's smallest solar cells, Semprius designs and manufactures the highest efficiency solar modules in the world. Using patented cell technology and state-of-the-art manufacturing processes, Semprius is redefining the path to cost-competitive, sustainable generation of solar electricity.

### **Cost-competitive, sustainable solar electricity**

#### **World record efficiency**

- 2-3x higher than conventional modules

#### **Superior energy yield**

- Up to 30% higher than silicon modules

#### **Outstanding performance in hot climates**

- Industry-leading temperature response

#### **Consistent daily energy production**

- Best option for peak load demands

#### **High energy density**

- 25-50% higher capacity per land area

#### **Low environmental impact**

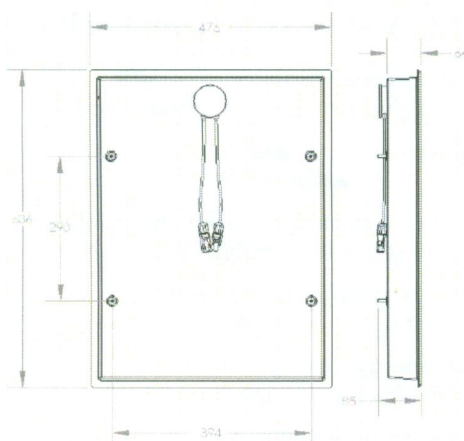
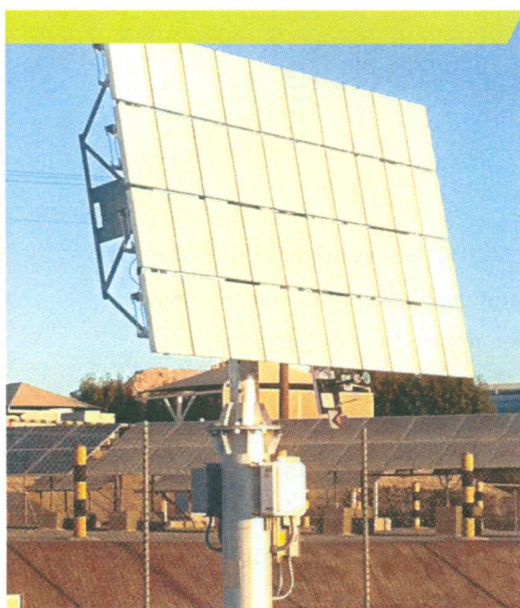
- No grading or permanent shading
- Dual land use potential
- Low water requirements

\* Active area module efficiency tested indoors (at 850 W/m<sup>2</sup>, AM1.5D, 25°C cell temperature) by the Instituto de Energía Solar at the Universidad Politécnica de Madrid.



# SM-U01

## Series



### Electrical Specifications

Nominal Performance at STC (1000 W/m<sup>2</sup> DNI, AM1.5D, 25°C cell)

|   |                      |                |
|---|----------------------|----------------|
| Nominal Power (+/-5%)                       | P <sub>MPP</sub> (W) | 87.5           |
| Voltage at P <sub>MPP</sub>                 | V <sub>MPP</sub> (V) | 86.6           |
| Current at P <sub>MPP</sub>                 | I <sub>MPP</sub> (A) | 1.01           |
| Open Circuit Voltage                        | V <sub>OC</sub> (V)  | 101.6          |
| Short Circuit Current                       | I <sub>SC</sub> (A)  | 1.06           |
| Temperature Coefficient of P <sub>MPP</sub> | %/°C                 | -0.14          |
| Temperature Coefficient of V <sub>OC</sub>  | %/°C                 | -0.14          |
| Maximum System Voltage                      | V <sub>SYS</sub> (V) | 1,000 (UL 600) |

Nominal Performance at PTC (850 W/m<sup>2</sup> DNI, AM1.5D, 20°C ambient)

|                             |                      |      |
|-----------------------------|----------------------|------|
| Nominal Power (+/-5%)       | P <sub>MPP</sub> (W) | 70   |
| Voltage at P <sub>MPP</sub> | V <sub>MPP</sub> (V) | 81   |
| Current at P <sub>MPP</sub> | I <sub>MPP</sub> (A) | 0.86 |
| Open Circuit Voltage        | V <sub>OC</sub> (V)  | 95   |
| Short Circuit Current       | I <sub>SC</sub> (A)  | 0.9  |

### Certifications

CE Mark, UL (8703), IEC (62108) - scheduled 2013

### Mechanical Specifications

|                      |                              |
|----------------------|------------------------------|
| Length x Width       | 636 mm x 476 mm              |
| Thickness            | 66 mm                        |
| Weight               | 6.8 kg                       |
| Enclosure            | Steel                        |
| Primary lens         | Silicone on glass (tempered) |
| Concentration ratio  | 1,111                        |
| Cell type            | Triple-junction              |
| Cell size            | 0.6 mm x 0.6 mm              |
| Connectors           | MC4 compatible               |
| Bypass diodes        | Integrated in module         |
| Mounting Orientation | Portrait                     |



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All electrical specifications are +/-10%, unless otherwise specified. Specifications are subject to change without notice. No rights can be derived from this product datasheet, and Semprius, Inc. assumes no liability resulting from the use of any information contained herein.

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