

High-efficiency photovoltaic module using silicon nitride monocrystalline cells.

### Performance

|                           |          |
|---------------------------|----------|
| Rated power ( $P_{max}$ ) | 240W     |
| Power tolerance           | ± 3%     |
| Nominal voltage           | 24V      |
| Limited Warranty          | 25 years |

### Configuration

SM-240MH0 Bronze frame with output cables



### Electrical Characteristics

#### SM-240MH0

|   |           |
|---|-----------|
| Maximum power ( $P_{max}$ )                           | 240W      |
| Open-circuit voltage ( $V_{oc}$ )                     | 37.6V     |
| Short-circuit current ( $I_{sc}$ )                    | 8.73A     |
| Warranted minimum $P_{max}$                           | 232W      |
| Voltage at $P_{max}$ ( $V_{mp}$ )                     | 29.8V     |
| Current at $P_{max}$ ( $I_{mp}$ )                     | 8.06A     |
| Temperature coefficient of $I_{sc}$                   | 0.05%/°C  |
| Temperature coefficient of $V_{oc}$                   | -0.40%/°C |
| Temperature coefficient of power                      | -0.49%/°C |
| NOCT (Air 20°C; Sun 0.8kW/m <sup>2</sup> ; Wind 1m/s) | 47±2°C    |
| Maximum Series fuse rating                            | 10A       |
| Maximum system voltage                                | 1000V     |

### Mechanical Characteristics

|               |   |               |              |
|---------------|---|---------------|--------------|
| Dimensions    | Length : 1620mm   | Width : 980mm | Depth : 50mm |
| Weight        | 19 kg   |               |              |
| Solar Cells   | 60 cells (156mm x 156mm) in a 6 x 10 matrix connected in series                               |               |              |
| Output Cables | Cable with polarized weatherproof DC rated<br>Cable length-1000mm (+ -)                       |               |              |
| Construction  | Front : High-transmission 3.2mm low iron tempered glass; White back sheet<br>Encapsulant; EVA |               |              |
| Frame         | Anodized aluminum frame; Color: silver  |               |              |

1. Warrant : Power output for 25 years (10% of minimum output power per 10 years, 20% of minimum output power per 25 years).  
Freedom from defects in materials and workmanship for 5 years.
2. These data represent the performance of typical SM-240MH0 products, and are based on measurements made in accordance with ASTM E1038 corrected to SRC (STC)
3. During the stabilization process that occurs during the first few months of deployments, module power may decrease by up to 3% from typical  $P_{max}$

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## Quality Assurance

S-Energy photovoltaic modules have passed the following tests.

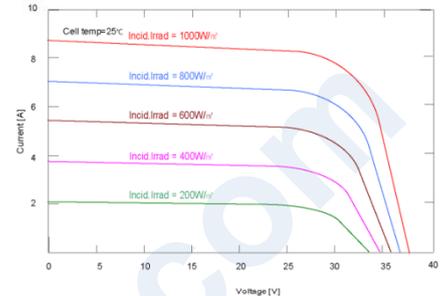
|                              |                         |
|------------------------------|-------------------------|
| Thermal shock / cycling test | Mechanical loading test |
| UV preconditioning test      | Hot-spot endurance test |
| Humidity – Freeze test       | Water proof test        |
| Electrical insulation test   | Outdoor exposure test   |
| Damp-heat test               | Hail impact test        |

## Qualification Test Parameters

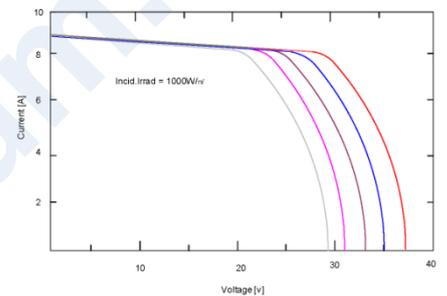
Tests are proceeded by IEC 61215 standard.

|                            |                                      |
|----------------------------|--------------------------------------|
| Thermal cycling Range      | -40°C to +85°C                       |
| Humidity Freeze, damp heat | 85% RH                               |
| Static load front and back | 540kg/m <sup>2</sup>                 |
| Hailstone impact           | 25mm at 23 m/s                       |
| STC                        | 1000W/m <sup>2</sup> ; 25°C ; AM 1.5 |

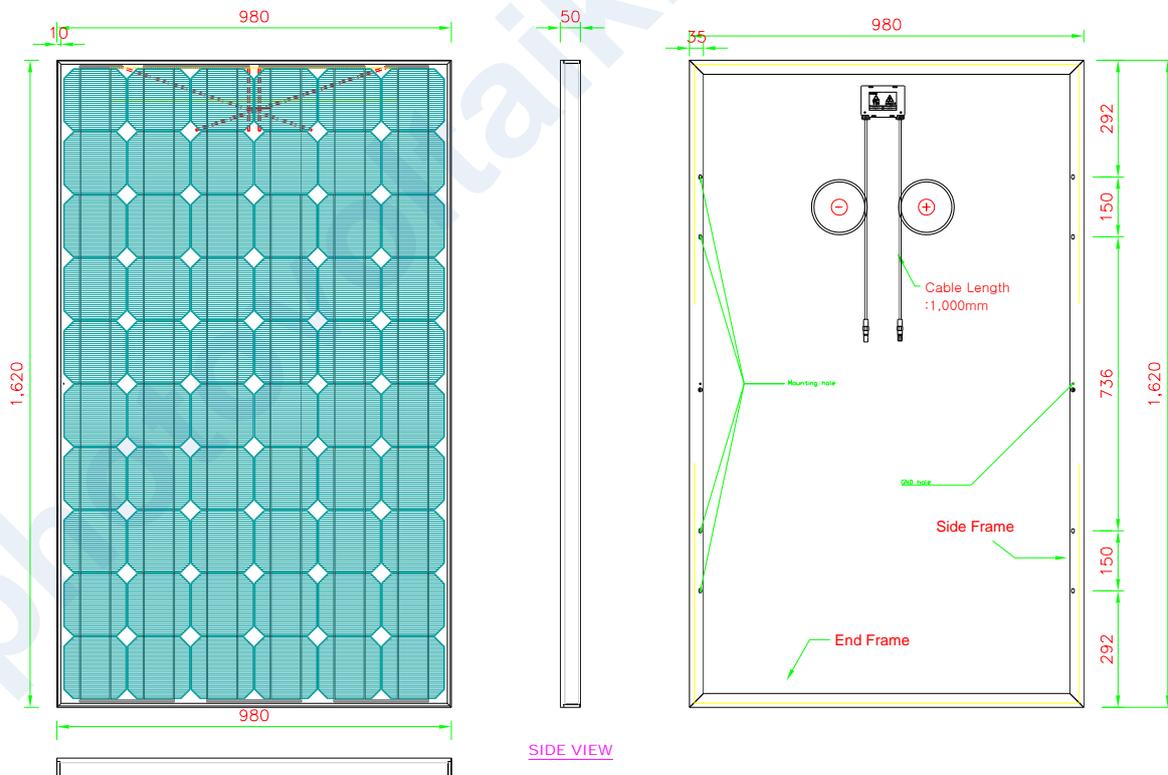
Irradiance coefficient



Temperature coefficient



## Module Diagram



SIDE VIEW

**NOTE :** This publication summarizes product warranty and specification, which are subject to change without notice