Glass-glass module
High yield and transparent

Thanks to their modern design SOLARWATT glass-glass modules deliver the highest long-term yields. They are robust and resilient, yet just as light as their glass-foil predecessors.

The high-performance solar cells are embedded almost indestructibly in the glass-glass composite and thus optimally protected against all weather effects and mechanical stress. SOLARWATT can therefore offer a 30-year warranty on performance and product quality.

The SOLARWATT FullCoverage insurance is included for 5 years and free of charge. It insures almost all risks and takes effect even if the modules do not produce electricity or deliver less than expected in the event of damage.

Product Quality

- National technical approval (AbZ)
- ammonia resistant
- intensive hailstorm resistant
- salt mist resistant
- 100 % plus-sorting
- 100 % PID protected

Service

FullCoverage insurance included (up to 1,000 kWp*)

Simple returns policy as per „Delivery terms for SOLARWATT solar modules”

30 Year Product Warranty as per „Warranty conditions for SOLARWATT solar modules”

30 Year Performance Warranty on 87 % of nominal power as per „Warranty conditions for SOLARWATT solar modules”

* country-specific deviations apply
**Technical data sheet**

**Vision 36M glass**

### Dimensions

![Dimensions Diagram]

- **Height of junction box:** 22 mm
- **Weight:** ca. 25 kg
- **Connection technology:** TE Connectivity PV4-S
  - 2 x junction box with connector face (+/-)
  - 1 x jumper cable 0.5 m, 4 mm²

### General data

<table>
<thead>
<tr>
<th><strong>Module technology</strong></th>
<th>Glass-glass laminate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Covering material</strong></td>
<td>Partially tempered high transparent float glass with anti-reflective finish, 4 mm</td>
</tr>
<tr>
<td><strong>Encapsulation</strong></td>
<td>EVA-solar cells-EVA, transparent</td>
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<tr>
<td><strong>Racking material</strong></td>
<td>Partially tempered float glass, 4 mm</td>
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</tbody>
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<tr>
<th><strong>Transparent areas</strong></th>
<th>appr. 20 %</th>
</tr>
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<tbody>
<tr>
<td><strong>Solar cells</strong></td>
<td>36 monocrystalline high power PERC solar cells</td>
</tr>
<tr>
<td><strong>Cell dimensions</strong></td>
<td>157 x 157 mm</td>
</tr>
<tr>
<td><strong>L x W x H</strong></td>
<td>1550 x 710 x 9 mm (without junction box)</td>
</tr>
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<td><strong>Height of junction box</strong></td>
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| **Bypass diodes**     | 2 |

### Electrical data (STC)

**STC (Standard Test Conditions):** Irradiation intensity 1,000 W/m², spectral distribution AM 1.5 | Temperature 25±2 °C, in accordance to EN 60904-3

- **Nominal power P_{max}** | 175 Wp |
- **Nominal voltage V_{mp}** | 19.4 V |
- **Nominal current I_{mp}** | 9.09 A |
- **Open circuit voltage V_{oc}** | 23.8 V |
- **Short circuit current I_{sc}** | 9.32 A |
- **Module efficiency** | 16.1 % |

Measurement tolerances: $P_{max} \pm 5 \%$; $V_{oc} \pm 10 \%$; $I_{sc} \pm 10 \%$, $I_{mp} \pm 10 \%$

Reverse-power rating Ir: 20 A, operating modules with an external power source is only permissible if using a phase fuse with a tripping current of ≤ 20 A.

### Electrical data (NMOT and weak light)

**NMOT (Nominal Module Operation Temperature):** Irradiation intensity 800 W/m², spectral distribution AM 1.5, Temperature 20°C

**Weak light conditions:** Irradiation intensity 200 W/m², Temperature 25°C, Wind speed 1 m/s, load operation

- **Nominal power P_{max,NMOT}** | 130 W |
- **Nominal power P_{max,NMOT}** | 34.9 W |

Measurement tolerances: $P_{max} \pm 5 \%$; $V_{oc} \pm 10 \%$; $I_{sc} \pm 10 \%$, $I_{mp} \pm 10 \%$

Reduction of module efficiency when irradiance is reduced from 1000 W/m² to 200 W/m² (at 25°C): 4 ± 2 % (relative) / –0.6 ± 0.3 % (absolute).

### Characteristic lines (Performance Class 175 Wp)

**Voltage characteristic line at different temperatures and irradiances**

- **Operating temperature range:** -40 ... +85 °C
- **Ambient temperature range:** -40 ... +65 °C
- **Temperature coefficient $P_{max}$:** -0.39%/K
- **Temperature coefficient $V_{oc}$:** -0.31%/K
- **Temperature coefficient $I_{sc}$:** 0.05%/K
- **NMOT:** 44°C

### Thermal Features

- **Suction load up to:** 2,400 Pa (test load 3,600 Pa)
- **Pressure load up to:** 5,400 Pa (test load 8,100 Pa)