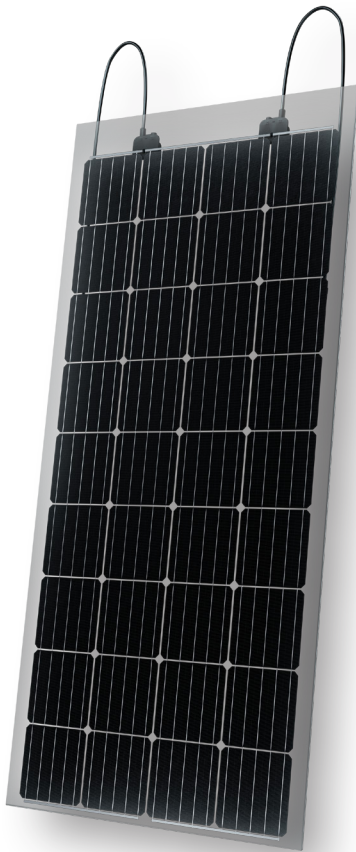


PRODUCT



Vision 36M glass

Glass-Glass module

High yield and transparent

Solarwatt glass-glass modules are robust and resilient. Thanks to their modern design, they deliver the highest long-term yields.

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.



PRODUCT QUALITY

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



SERVICE

30 Year Product Warranty

as per „Warranty conditions for SOLARWATT Panel vision“

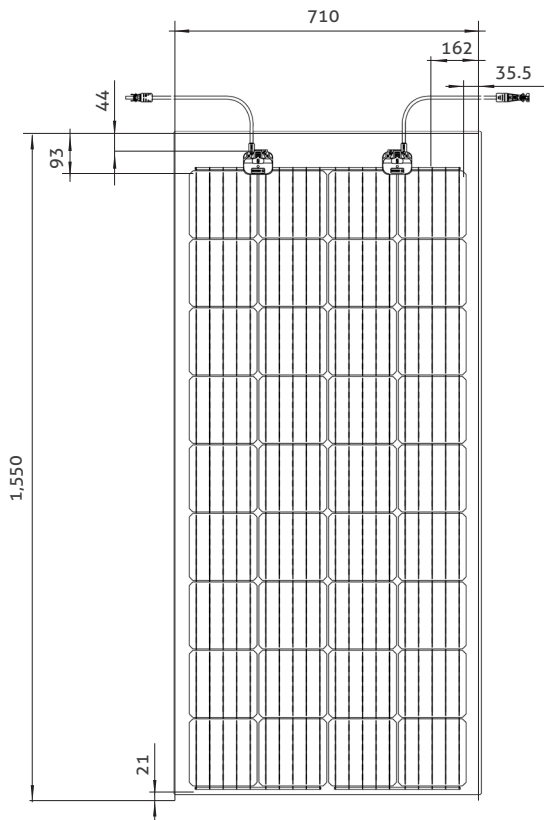
30 Year Performance Warranty

as per „Warranty conditions for SOLARWATT Panel vision“

Simple returns policy

as per „Delivery terms for Solarwatt solar modules“

DIMENSIONS



GENERAL DATA

Module technology	Glass-glass laminate
Covering material	Partially tempered high transparent float glass with anti-reflective finish, 4 mm
Encapsulation	Solar cells in polymer encapsulation, transparent
Backing material	Partially tempered float glass, 4 mm
Transparent areas	appr. 20 %
Solar cells	36 monocrystalline high power PERC-solar cells
Cell dimensions	157 x 157 mm
L x W x H / Weight	1,550 ^{±2} x 710 ^{±2} x 9 ^{±1} mm (without junction box)/ ca. 25 kg
Height of junction box	22 mm
Connection technology	Cables 2 x 0,45 m/4 mm ² Hirschmann HC4-connector
Bypass diodes	2
Max. system voltage	1,000 V
IP rating	IP67
Protection class	II (acc. to IEC 61140)
Fire class	C (acc. to IEC 61730), E (acc. to EN 13501)
Certified mechanical ratings as per IEC 61215	Suction load up to 2,400 Pa (test load 3,600 Pa) Pressure load up to 5,400 Pa (test load 8,100 Pa)
Qualifications	IEC 61215 IEC 61730 IEC 61701 IEC 62804 National technical approval (AbZ)

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}	180 Wp	185 Wp	190 Wp
Nominal voltage V_{mp}	20.0 V	20.3 V	20.6 V
Nominal current I_{mp}	9.11 A	9.19 A	9.31 A
Open circuit voltage V_{oc}	24.9 V	24.9 V	25.0 V
Short circuit current I_{sc}	9.63 A	9.69 A	9.76 A
Module efficiency	16.6 %	17.0 %	17.3 %

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

Reverse-current power rating I_r: 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 Operating 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}	134 W	137 W	141 W
Nominal power P_{max@200 W/m²}	35.9 W	36.9 W	37.9 W

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

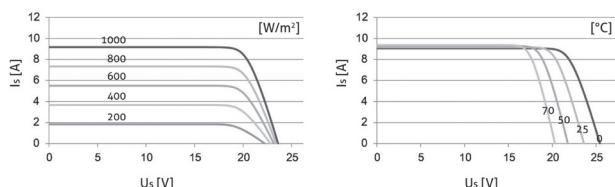
Reduction of module efficiency when irradiance is reduced from 1,000 W/m² to 200 W/m² (at 25 °C): 4 ± 2 % (relative) / -0,6 ± 0,3 % (absolute).

THERMAL FEATURES

Operating temperature range	-40 ... +85 °C
Ambient temperature range	-40 ... +45 °C
Temperature coefficient P_{max}	-0.38 %/K
Temperature coefficient V_{oc}	-0.31 %/K
Temperature coefficient I_{sc}	0.05 %/K
NMOT	44 °C

CHARACTERISTIC LINES (PERFORMANCE CLASS 180 WP)

Voltage characteristic line at different temperatures and irradiances



TRANSPORT AND PACKAGING

Modules per palette	22
Palette dimensions (gross) L x W x H	1,750 x 800 x 1,050 mm
Gross weight per palette	565 kg
Palettes per truck	22
Modules per truck	484