

PRODUCT



SOLARWATT Panel vision GM 3.0 construct

Glass-Glass module

Solid quality with high performance

Thanks to their modern design Solarwatt glass-glass modules deliver the highest long-term yields. The solar cells are embedded almost indestructibly in the glass-glass composite and thus optimally protected against all weather effects and mechanical stress.

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.

For higher module loads and to visually conceal the connection technology, Solarwatt offers the option of installing a crossbar (SOLARWATT Panel vision crossbar) on the Panel vision GM 3.0 construct (see details on the backside).



The National technical approval (Allgemeine bauaufsichtliche Zulassung = AbZ) attests the applicability of the module according to the requirements of the German Federal State Building Orders. The national building regulations of your country must be observed.

PRODUCT QUALITY

- bifacial PERC half-cut-cells
- transparent embedding of the cells
- optional crossbar for higher loads
- National technical approval = AbZ
- LeTID tested
- ammonia resistant
- intensive hailstorm resistant
- salt mist resistant
- 100 % plus-sorting
- PID protected
- snow-load warranty
- max. 12,150/ 5,400 Pa



SERVICE

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

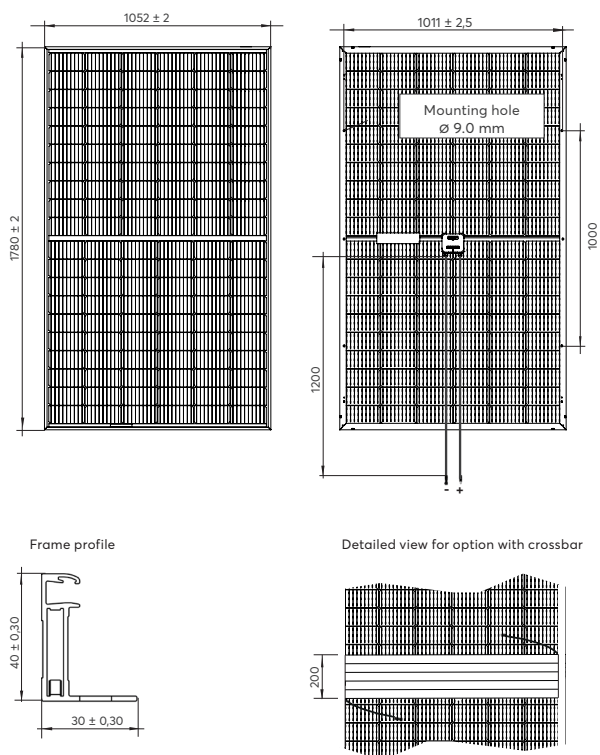
Simple returns policy
as per „Delivery terms for Solarwatt solar modules“

30 Year Product Warranty
as per „Warranty conditions for SOLARWATT Panel vision“

30 Year Performance Warranty
on 90 % of nominal power as per „Warranty conditions for SOLARWATT Panel vision“

* country-specific deviations apply

DIMENSIONS



GENERAL DATA

Module technology	Glass-glass laminate, aluminum frame, black
Covering material	Tempered solar glass with anti-reflective finish, 2 mm
Encapsulation	Solar cells in polymer encapsulation, transparent
Backing material	Tempered glass, 2 mm
Transparent areas	appr. 7.4 %
Solar cells	120 monocrystalline, bifacial, high power PERC-solar cells
Cell dimensions	166 x 83 mm
L x W x H / Weight	1,780 ^{±2} x 1,052 ^{±2} x 40 ^{±0.3} mm / appr. 25 kg
Connection technology	Cables 2 x 1,2 m/ 4 mm ² Stäubli Electrical MC4 or MC4-type connectors
Bypass diodes	3
Max. system voltage	1,000 V
IP rating	IP67
Protection class	II (acc. to IEC 61140)
Fire class	A (acc. to IEC 61730/UL 790), B (acc. to EN 13501-1), B _{ROOF} (t1) (acc. to EN13501-5)
Certified mechanical ratings as per IEC 61215	Pressure load up to 8,100 Pa (test load 12,150 Pa) Suction load up to 3,600 Pa (test load 5,400 Pa)
Recommended stress load as per Installation Instructions	Please refer to the specifications in the Installation Instructions and Warranty Conditions.
Qualifications	IEC 61215 IEC 61730 LeTID IEC 61701 IEC 62804 IEC 62716 MCS 005 AbZ: National technical approval Z-70.3-199

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}	360 W _p	365 W _p	370 W _p
Nominal voltage V_{mp}	34.5 V	35.0 V	35.5 V
Nominal current I_{mp}	10.5 A	10.5 A	10.5 A
Open circuit voltage V_{oc}	41.3 V	41.4 V	41.5 V
Short circuit current I_{sc}	11.1 A	11.1 A	11.1 A
Module efficiency	19.4 %	19.6 %	19.9 %

ELECTRICAL DATA (WEAK LIGHT)

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

Nominal power P_{max}	360 W _p	365 W _p	370 W _p
Nominal power P_{max@200 W/m²}	70.3 W	71.3 W	72.3 W

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).

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

Reverse-current power rating I_{rc}: 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 (BNPI)

BNPI: Bifacial Nameplate Irradiance G = 1000 W/m² + φ * 135 W/m²

φ = MIN (φ_{ISC}, φ_{Pmax})

P_{max@+100 (200) W/m²}: Nominal power with irradiance 1.000 W/m² and additional rear irradiance of 100 (200) W/m²

	no crossbar			crossbar		
P_{max@STC}	360 W _p	365 W _p	370 W _p	360 W _p	365 W _p	370 W _p
P_{max@BNPI}	395 W _p	400 W _p	406 W _p	370 W _p	375 W _p	380 W _p
V_{oc@BNPI}	41.7 V	41.8 V	41.9 V	41.3 V	41.4 V	41.5 V
I_{sc@BNPI}	12.1 A	12.1 A	12.1 A	11.4 A	11.4 A	11.4 A

	no crossbar			crossbar		
P_{max@+100 W/m²}	385 W	390 W	395 W	367 W	372 W	377 W
P_{max@+200 W/m²}	410 W	415 W	420 W	375 W	380 W	385 W

φ_{ISC}	72 %	20 %
φ_{VOC}	99 %	98 %
φ_{Pmax}	70 %	20 %

THERMAL FEATURES

Operating temperature range	-40 ... +85 °C
Ambient temperature range	-40 ... +45 °C
Temperature coefficient P_{max}	-0,34 %/K
Temperature coefficient V_{oc}	-0,27 %/K
Temperature coefficient I_{sc}	0,04 %/K
NMOT	44 °C

TRANSPORT AND PACKAGING

Modules per pallet	32
Pallet dimensions (gross) L x W x H	1,800 x 1,070 x 1,550 mm
Gross weight per pallet	847 kg
Pallets per truck	14
Modules per truck	448