

Glass-Glass-Module: Vision 60P

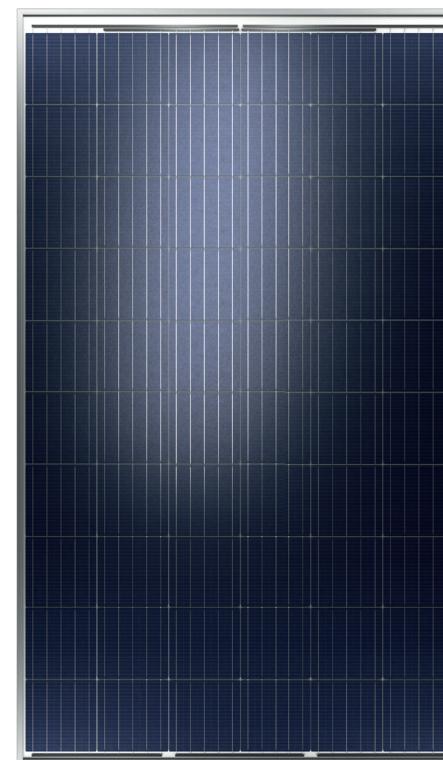
Produce Energy.

THE INNOVATIVE GLASS-GLASS GENERATION VISION 60P

- Super lightweight thanks to glass just 2 mm thick
- 100% plus sorting
- Polycrystalline high power solar cells
- Exceptionally reliable yield rates
- Increased fire protection
- 100% protection against PID

Product Quality

- long-lasting
- resilient
- high-yield
- innovative
- safe
- low-glare
- ammonia resistant
- large hailstone resistant
- salt mist resistant



SOLARWATT Service



Full Coverage
included (up to 1,000 kWp)*



Simple returns policy
as per „Delivery Terms for SOLARWATT Solar Modules“



Product-warranty
as per „Special Warranty Conditions for SOLARWATT Solar Modules“



Performance-warranty
on 87% of nominal power as per „Warranty Conditions for SOLARWATT Solar Modules“

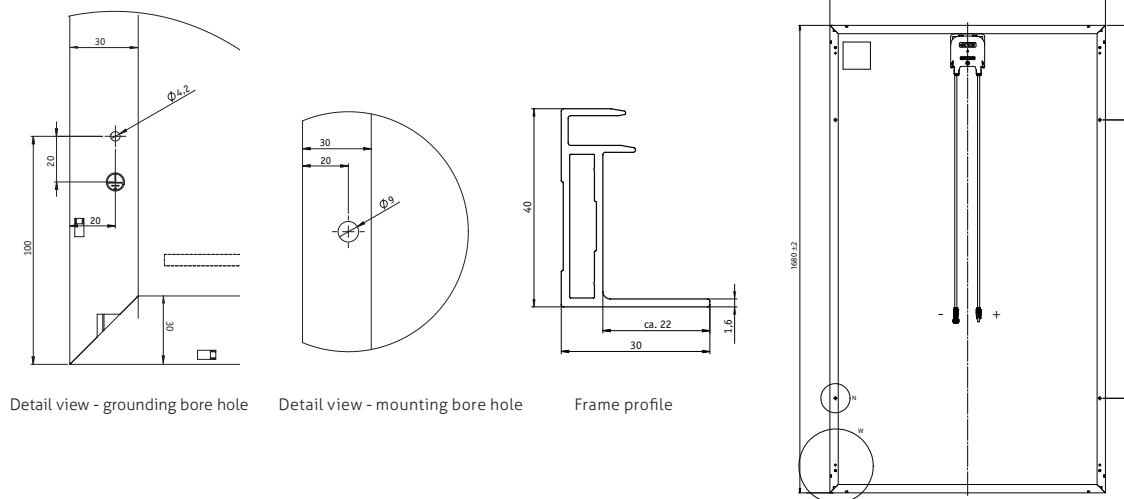


Country of origin
Quality made in Germany

* country-specific deviations apply

Technical Data | Vision 60P

DIMENSIONS



Detail view - grounding bore hole

Detail view - mounting bore hole

Frame profile

GENERAL DATA

Module technology	Glass-glass laminate; aluminum frame
Covering material	Tempered solar glass with anti-reflective finish, 2 mm
Encapsulation	EVA-solar cells-EVA, white
Backing material	Tempered glass, 2 mm
Solar cells	60 polycrystalline high power solar cells
Cell dimensions	157 x 157 mm
L x W x H / Weight	1,680 ^{±2} x 990 ^{±2} x 40 ^{±0.3} mm / appr. 22,8 kg
Connection technology	Cables 2 x 1,0 m/4 mm ² , TE Connectivity PV4-S-connector
Bypass diodes	3
Max. system voltage	1000 V
Application class	II (acc. to IEC 61730)
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)
Recommended stress load as per SOLARWATT Installation Instructions	Please refer to the specifications in the Installation Instructions and Warranty Conditions.
Qualifications	IEC 61215 IEC 61730 (including Protection Class II)

ELECTRICAL DATA (STC)

STC (Standard Test Conditions): Irradiation intensity 1,000W/m², spectral distribution AM 1,5 | Temperature 25±2°C, in accordance to EN 60904-3

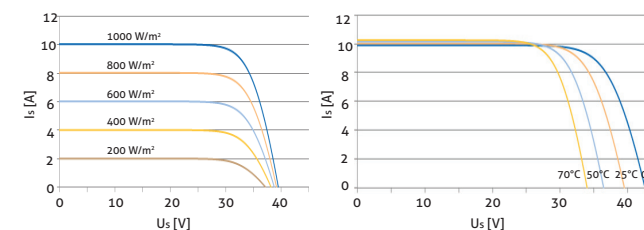
Nominal power P _{max}	275 Wp	280 Wp	285 Wp	290 Wp	295 Wp
Nominal voltage V _{MP}	31,2 V	31,3 V	31,4 V	31,5 V	31,6 V
Nominal current I _{MP}	8,89 A	9,02 A	9,15 A	9,28 A	9,41 A
Open circuit voltage V _{OC}	38,7 V	38,9 V	39,1 V	39,3 V	39,5 V
Short circuit current I _{SC}	9,56 A	9,68 A	9,80 A	9,92 A	10,04 A
Module efficiency	16,7 %	17,0 %	17,3 %	17,6 %	17,9 %

Measurement tolerances: P_{max} ±5 %; U_{oc} ±10 %; I_{sc} ±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.

CHARACTERISTIC LINES (Performance Class 295 Wp)

Voltage characteristic line at different temperatures and irradiances



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 1m/s, load operation

Nominal power P _{max @NMOT}	203 W	207 W	210 W	214 W	218 W
Nominal power P _{max @200 W/m²}	55,1 W	56,0 W	57,1 W	57,7 W	58,8 W

Measurement tolerances: P_{max} ±5 %; U_{oc} ±10 %; I_{sc} ±10 %

Reduction of module efficiency when irradiance is reduced from 1000W/m² to 200W/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}	-0,41 %/K
Temperature coefficient V _{OC}	-0,31 %/K
Temperature coefficient I _{SC}	0,05 %/K
NMOT	44 °C