

**Glass-Glass-Module: Vision 60M high power**

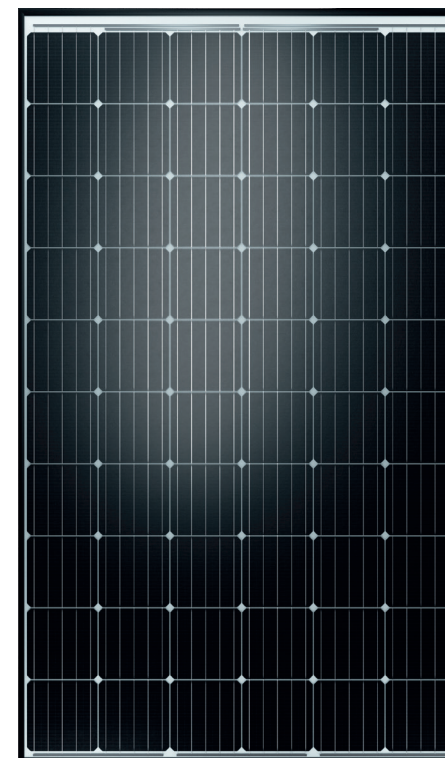
**Produce Energy.**

## THE INNOVATIVE GLASS-GLASS GENERATION VISION 60M HIGH POWER

- Super lightweight thanks to glass just 2 mm thick
- 100% plus sorting
- Monocrystalline high power PERC 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“

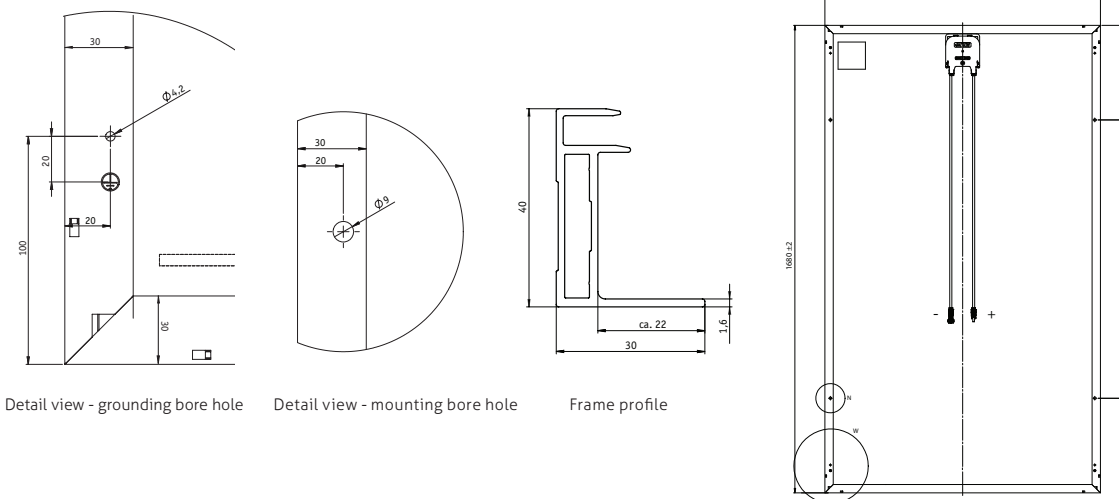


**Country of origin**  
Quality made in Germany

\* country-specific deviations apply

## Technical Data | Vision 60M high power

### DIMENSIONS



Detail view - grounding bore hole

Detail view - mounting bore hole

Frame profile

### GENERAL DATA

Module technology	Glass-glass laminate; aluminum frame, black anodized
Covering material Encapsulation Backing material	Tempered solar glass with anti-reflective finish, 2 mm EVA-solar cells-EVA, white Tempered glass, 2 mm
Solar cells	60 monocrystalline high power PERC solar cells
Cell dimensions	157 x 157 mm
L x W x H / Weight	1,680 <sup>±2</sup> x 990 <sup>±2</sup> x 40 <sup>±0.3</sup> mm / appr. 22,8 kg
Connection technology	Cables 2 x 1,0 m/4 mm <sup>2</sup> , TE Connectivity PV4-S-connector
Bypass diodes	3
Max. system voltage	1,000 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/m<sup>2</sup>, spectral distribution AM 1,5 | Temperature 25±2°C, in accordance to EN 60904-3

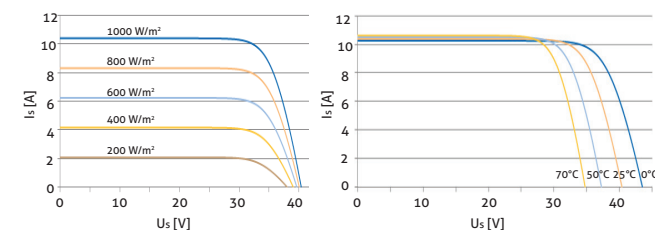
	305 Wp	310 Wp	315 Wp	320 Wp
Nominal power P <sub>max</sub>	305 Wp	310 Wp	315 Wp	320 Wp
Nominal voltage V <sub>MP</sub>	32,1 V	32,3 V	32,5 V	32,7 V
Nominal current I <sub>MP</sub>	9,60 A	9,70 A	9,78 A	9,87 A
Open circuit voltage V <sub>OC</sub>	40,0 V	40,2 V	40,3 V	40,4 V
Short circuit current I <sub>SC</sub>	10,09 A	10,21 A	10,31 A	10,4 A
Module efficiency	18,5 %	18,8 %	19,1 %	19,4 %

Measurement tolerances: P<sub>max</sub> ±5 %; U<sub>OC</sub> ±10 %; I<sub>SC</sub> ±10 %

Reverse-current power rating I<sub>R</sub>: 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 320 Wp)

Voltage characteristic line at different temperatures and irradiances



### ELECTRICAL DATA (NMOT AND WEAK LIGHT)

NMOT (Nominal Module Operation Temperature): Irradiation intensity 800 W/m<sup>2</sup>, spectral distribution AM 1,5, Temperature 20°C  
 Weak light conditions: Irradiation intensity 200 W/m<sup>2</sup>, Temperature 25°C, Wind speed 1m/s, load operation

	226 W	230 W	233 W	237 W
Nominal power P <sub>max @NMOT</sub>	226 W	230 W	233 W	237 W
Nominal power P <sub>max @200 W/m²</sub>	60,8 W	61,8 W	62,8 W	63,8 W

Measurement tolerances: P<sub>max</sub> ±5 %; U<sub>OC</sub> ±10 %; I<sub>SC</sub> ±10 %

Reduction of module efficiency when irradiance is reduced from 1000W/m<sup>2</sup> to 200W/m<sup>2</sup> (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 <sub>max</sub>	-0,39%/K
Temperature coefficient V <sub>OC</sub>	-0,31%/K
Temperature coefficient I <sub>SC</sub>	0,05%/K
NMOT	44 °C