

Glass-Glass-Module: Vision 60M high power

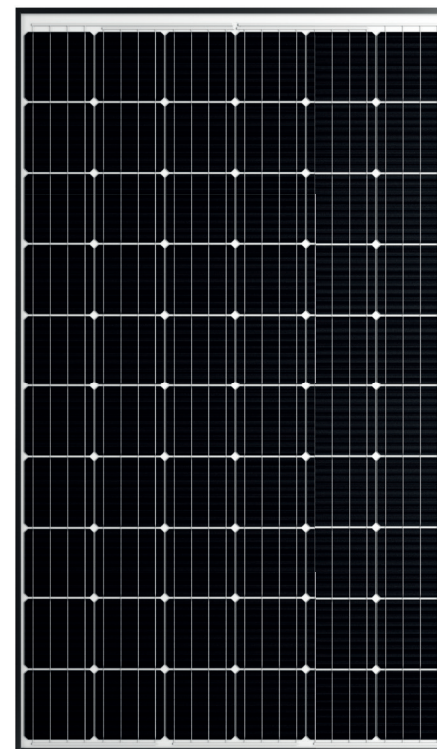
SOLARWATT Solar Modules

THE INNOVATIVE GLASS-GLASS GENERATION VISION 60M HIGH POWER

- Super lightweight thanks to glass just 2 mm thick
- Exceptionally reliable yield rates
- 100 % protection against PID
- Increased fire protection
- Monocrystalline high power solar cells
- 300 Wp–310 Wp (100% plus sorting)

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 1000 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“

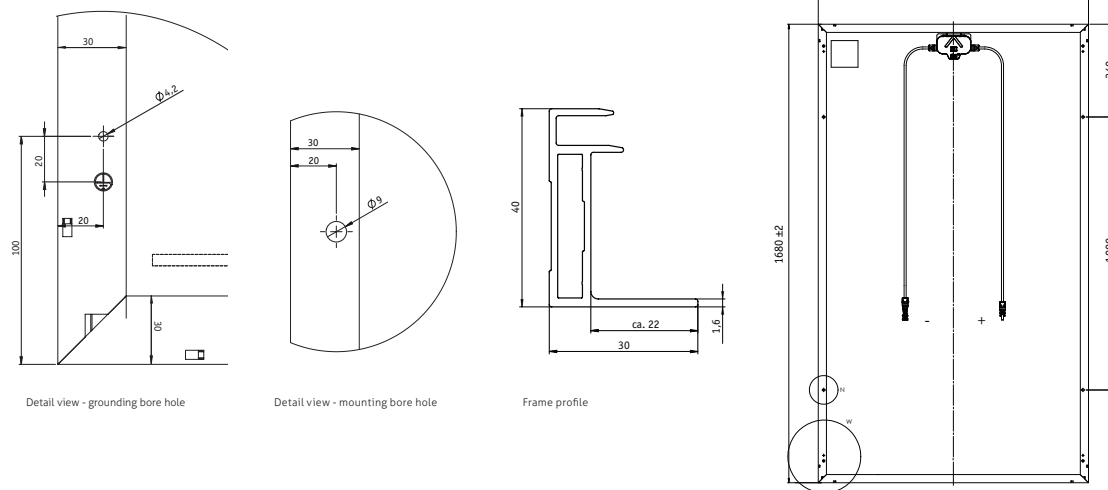


Country of origin
Quality made in Germany

* FullCoverage insurance is available only
in selected countries

Technical Data | Vision 60M high power

DIMENSIONS



GENERAL DATA

Module technology	Glass-glass laminate; aluminum frame, black anodized
Covering material	Tempered solar glass with anti-reflective finish, 2 mm
Encapsulation	EVA-solar cells-EVA, white
Backing material	Tempered solar glass, 2 mm
Solar cells	60 monocrystalline high power solar cells
Cell dimensions	156 x 156 mm
L x W x H / Weight	1680 ^{±2} x 990 ^{±2} x 40 ^{±0,3} mm / appr. 22,8 kg
Connection technology	Cables 2 x 1,0 m/4 mm ² , Hirschmann HC4-connector
Bypass diodes	3
Application class	A (acc. to IEC 61730)
Max. system voltage	1000 V
Mechanical Ratings as per IEC 61215	Suction load up to 2400 Pa Applied load up to 5400 Pa
Approved stress load as per SOLARWATT Installation Instructions	Applied load up to 3500 Pa (when installed crosswise ¹⁾) Test condition: sliding load of 5400 Pa (conditions take into account safety factors for snow overhang and ice load per Eurocode 1.) 1) Please refer to the specifications in the installation instructions.
Qualifications	IEC 61215 IEC 61730 (including Protection Class II)

ELECTRICAL DATA (STC)

STC: Standard Test Conditions: Irradiation intensity 1000 W/m², spectral distribution AM 1,5 | Temperature 25 ± 2 °C, in accordance to EN 60904-3

	300 Wp	305 Wp	310 Wp
Nominal power P_N	300 Wp	305 Wp	310 Wp
Nominal voltage U_{MPP}	31,9 V	32,1 V	32,3 V
Nominal current I_{MPP}	9,50 A	9,60 A	9,70 A
Open circuit voltage U_{OC}	39,8 V	40,0 V	40,2 V
Short circuit current I_{SC}	9,97 A	10,09 A	10,21 A
Module efficiency	18,2 %	18,5 %	18,8 %

Measurement tolerance in reference to P_{max} ± 5%;
 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).
 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.

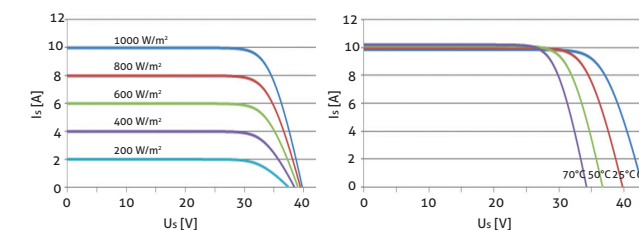
ELECTRICAL DATA (NOCT)

NOCT: Normal Operation Cell Temperature: Irradiation intensity 800 W/m², AM 1,5 | Temperature 20 °C, Wind speed 1m/s, open circuit operation

	221 W	225 W	229 W
Nominal power P_N	221 W	225 W	229 W
Nominal voltage U_{MPP}	29,4 V	29,6 V	29,8 V
Open circuit voltage U_{OC}	37,3 V	37,5 V	37,7 V
Short circuit current I_{SC}	8,06 A	8,15 A	8,25 A

CHARACTERISTIC LINES (Performance Class 300 Wp)

Voltage characteristic line at different temperatures and irradiances



THERMAL FEATURES

Operating temperature range	-40 ... +85 °C
Ambient temperature range	-40 ... +45 °C
Temperature coefficient P_N	-0,39 %/K
Temperature coefficient U_{OC}	-0,31 %/K
Temperature coefficient I_{SC}	0,05 %/K
NOCT	45 °C