

Glass-Glass-Module: Vision 36M glass

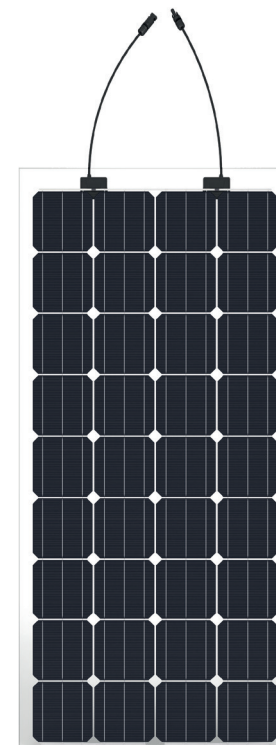
SOLARWATT Solar Modules

THE INNOVATIVE GLASS-GLASS GENERATION VISION 36M GLASS

- 20 % transparency
- National technical approval (AbZ)
- Exceptionally reliable yield rates
- Improved mechanical strength
- 100 % protection against PID
- Increased fire protection
- Monocrystalline high power solar cells
- 160 and 165 Wp (100 % plus sorting)

Product Quality

- long-lasting
- resilient
- high-yield
- innovative
- safe
- resistant against ammonia
- resistant against hail
- resistant against salt mist



SOLARWATT Service



SOLARWATT Full Coverage
included (up to 1000 kWp*)



Take-back service
as per „Delivery Terms for
SOLARWATT Solar Modules“

30
years

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

30
years

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

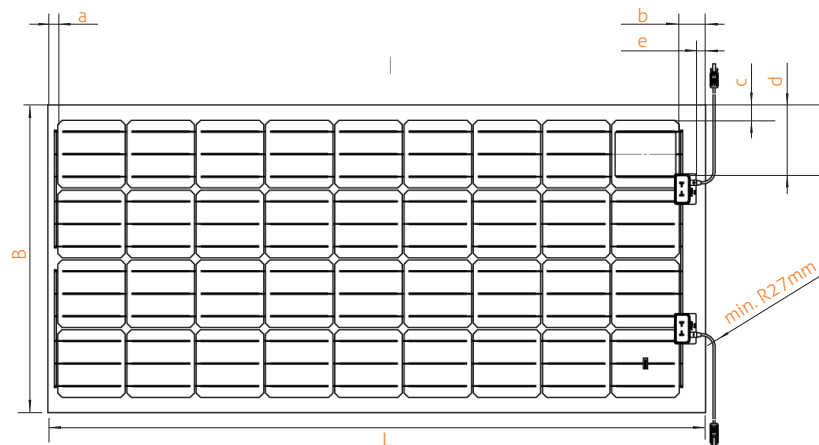
**Made in
Germany**

Country of origin
Quality made in Germany

* in Italy up to 50 kWp

Technical Data | Vision 36M glass

DIMENSIONS



	36M glass
L	1550 mm
B	710 mm
a	21 mm
b	93 mm
c	35,5 mm
d	159 mm
e	54 mm

GENERAL DATA

Module technology	Glass-Glass Laminate
Covering material	Partially tempered high transparent float glass, 4 mm
Encapsulation	EVA-solar cells-EVA
Backing material	Partially tempered float glass, 4mm
Transparency	20 %
Solar cells	36 monocrystalline high power solar cells
Cell dimensions	156 x 156 mm
L x W x H / Weight	1550 ⁺² x 710 ⁺² x 9 ⁺¹ mm / appr. 25 kg
Connection technology	Cables 2 x 0,4 m/4 mm ² Stäubli Electrical Connectors MC4-connector
Bypass diodes	2
Application class	A (acc. to IEC 61730)
Max. system voltage	1000 V
Mechanical Ratings as per IEC 61215 Ed.2	Suction load up to 2400 Pa Applied load up to 6000 Pa
Qualifications	IEC 61215 Ed.2 IEC 61730 (including Protection Class II) National technical approval (AbZ)

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

Nominal power P _N	160 Wp	165 Wp
Nominal voltage U _{MPP}	19,1 V	19,2 V
Nominal current I _{MPP}	8,52 A	8,71 A
Open circuit voltage U _{OC}	23,2 V	23,4 V
Short circuit current I _{SC}	8,87 A	9,02 A

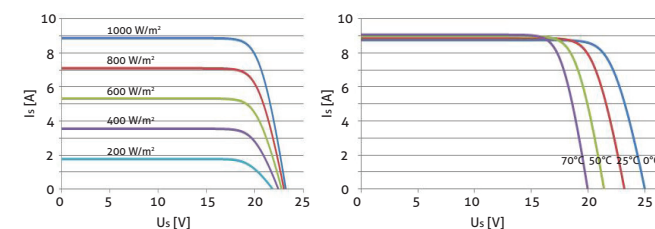
Measurement tolerance in reference to Pmax ±5%;

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.

CHARACTERISTIC LINES (Performance Class 160 Wp)

Voltage characteristic line at different temperatures and irradiances



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

Nominal power P _N	118 W	122 W
Nominal voltage U _{MPP}	17,7 V	17,7 V
Open circuit voltage U _{OC}	21,8 V	21,9 V
Short circuit current I _{SC}	7,17 A	7,29 A

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