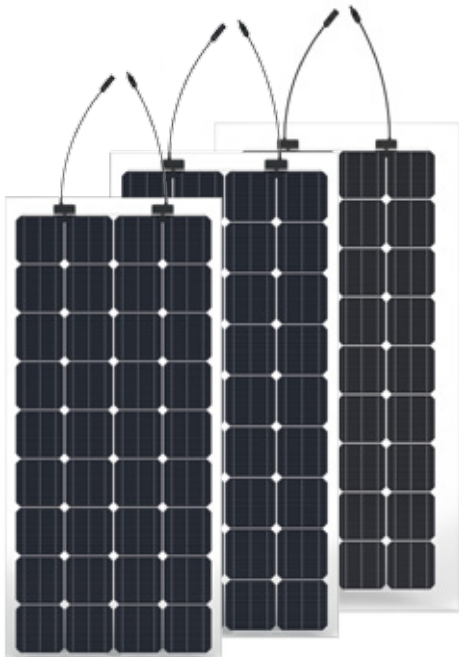


Glass-Glass-Module: SOLARWATT 36M glass / L glass / XL glass



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Certified acc. to DIN EN ISO 9001 and 14001 | BS OHSAS 18001:2007

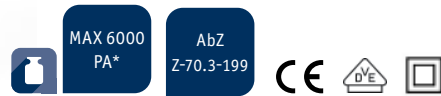


The innovative glass-glass generation

- 19 - 32 % transparency
- National technical approval (AbZ)
- Exceptionally reliable yield rates
- Improved mechanical strength
- 100 % protection against PID
- Increased fire protection

SOLARWATT 36M glass / L glass / XL glass

- Monocrystalline solar cells
- 150 - 165 Wp (100 % plus sorting)



*Test requirements: see rear of data sheet

SOLARWATT Service



SOLARWATT Full Coverage
included (up to 1000 kWp)



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



Country of origin
Quality made in Germany



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



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

Product Quality



long-lasting



resistant against ammonia



innovative



resilient



resistant against hail



safe



high-yield



resistant against salt mist

SOLARWATT Expert Installer

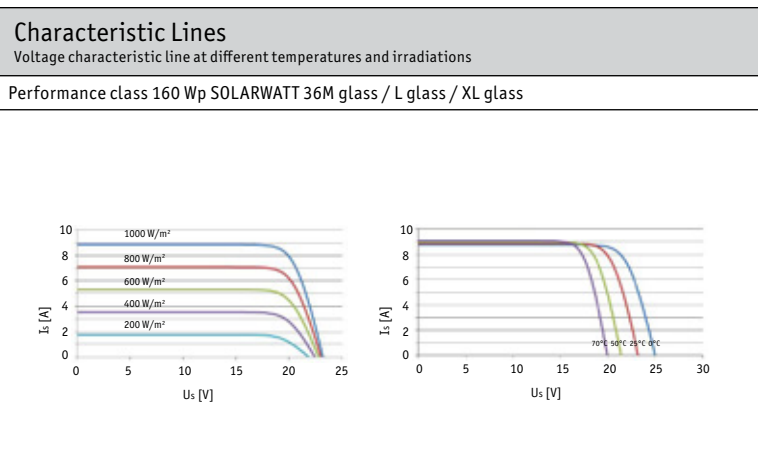
Technical Data Glass-Glass-Module: SOLARWATT 36M glass / L glass / XL glass

Dimensions			
	36M glass	36M L glass	36M XL glass
L	1520 mm	1550 mm	1600 mm
B	710 mm	710 mm	800 mm
a	23 mm	21 mm	73 mm
b	61 mm	93 mm	91 mm
c	35,5 mm	35,5 mm	80,5 mm
d	159 mm	159 mm	203 mm
e	22 mm	54 mm	52 mm
Type of built	SOLARWATT 36M glass	SOLARWATT 36M L glass	SOLARWATT 36M XL glass
Transparency	19 %	20 %	32 %
L x W x H	1520 ^{±2} x 710 ^{±2} x 9 ^{±1} mm	1550 ^{±2} x 710 ^{±2} x 9 ^{±1} mm	1600 ^{±2} x 800 ^{±2} x 9 ^{±1} mm
Weight	appr. 25 kg	appr. 25 kg	appr. 29 kg

Electrical Data (STC)				
STC: Standard Test Conditions: Irradiation intensity 1000W/m ² , spectral distribution AM 1,5 Temperature 25±2 °C, in accordance to EN 60904-3				
	SOLARWATT 36M glass / L glass / XL glass			
Nominal power P_N	150 Wp	155 Wp	160 Wp	165 Wp
Nominal voltage U_{MPP}	18,8 V	18,9 V	19,1 V	19,2 V
Nominal current I_{MPP}	8,12 A	8,33 A	8,52 A	8,71 A
Open circuit voltage U_{OC}	22,8 V	23,0 V	23,2 V	23,4 V
Short circuit current I_{SC}	8,49 A	8,66 A	8,87 A	9,02 A
I_R*	20 A			
Measurement tolerance in reference to P _{max} ±5 %;				
Reduction of module efficiency when irradiance is reduced from 1000 W/m ² to 200 W/m ² (at 25 °C): 4 ± 2 % (relative) / -0,6 ± 0,3 % (absolute).				
* Reverse-current power rating: 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/m ² , AM 1,5 Temperature 20 °C, Wind speed 1 m/s, open circuit operation				
	SOLARWATT 36M glass / L glass / XL glass			
Nominal power P_N	111 W	114 W	118 W	122 W
Nominal voltage U_{MPP}	17,4 V	17,5 V	17,7 V	17,7 V
Nominal circuit voltage U_{OC}	21,4 V	21,6 V	21,8 V	21,9 V
Short circuit current I_{SC}	6,86 A	7,00 A	7,17 A	7,29 A

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
Solar cells	36 monocrystalline solar cells
Cell dimensions	156 x 156 mm
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
Connection technology	Cables 2 x 0,4 m / 4 mm ² , MC4-Connector
Qualifications	IEC 61215 Ed.2 IEC 61730 (including Protection Class II), AbZ



Thermal Properties	
	SOLARWATT 36M glass / L glass / XL glass
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