

PRODUCT



Vision 60M style

Glass-Glass module

Eye catcher with highest yields

Solarwatt glass-glass modules are robust and resilient. Thanks to their modern design, they deliver the highest long-term yields.

The high-performance PERC-solar cells are embedded almost indestructibly in the glass-glass composite and thus optimally protected against all weather effects and mechanical stress. Solarwatt can therefore offer a 30-year warranty on performance and product quality.

The Solarwatt FullCoverage insurance is included for 5 years and free of charge. It insures almost all risks and takes effect even if the modules do not produce electricity or deliver less than expected in the event of damage.



PRODUCT QUALITY

- ammonia resistant
- intensive hailstorm resistant
- salt mist resistant
- LeTID tested
- 100 % plus-sorting
- 100 % PID protected
- snow-load warranty
- optional: non-glare



Subject to change | Errors excepted
AZ-TDB-PMS-0472 | This data sheet fulfills the requirements listed in IEC 61215-1-1 | REV 026 | 05/2021 | EN

SERVICE

FullCoverage insurance
included (up to 1,000 kWp*)

Simple returns policy
as per „Delivery terms for Solarwatt solar modules“

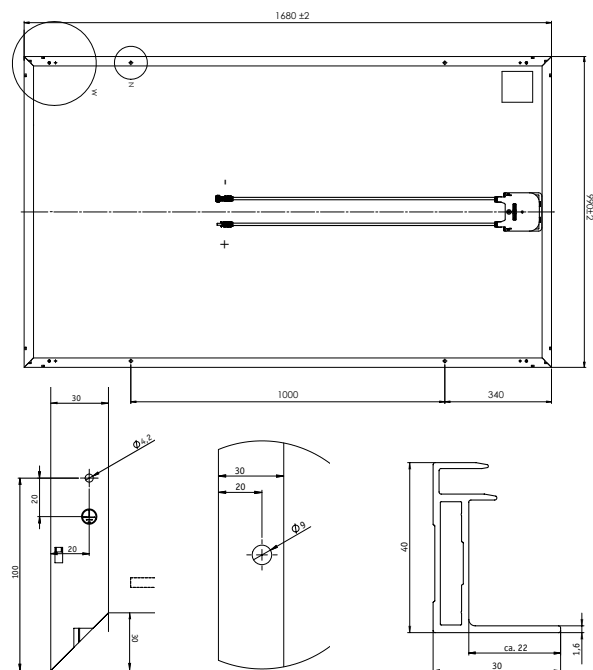
30 Year Product Warranty
as per „Warranty conditions for Solarwatt solar modules“

30 Year Performance Warranty
on 87 % of nominal power as per „Warranty conditions for Solarwatt solar modules“

* country-specific deviations apply

Solarwatt GmbH | Maria-Reiche-Str. 2a | 01109 Dresden | Germany |
T +49-351-8895-555 | F +49-351-8895-100 | solarwatt.com
Certified acc. to DIN EN ISO 9001, 14001, 45001, 50001

DIMENSIONS



Potential equalization Mounting bore hole Frame profile

Qualifications

IEC 61215 (incl. LeTID) | IEC 61730 | IEC 61701 |
IEC 62804 | IEC 62716 | MCS 005

ELECTRICAL DATA (STC)

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

Nominal power P_{max}	305 W _p	310 W _p	315 W _p	320 W _p
Nominal voltage V_{mp}	32,5 V	33,0 V	33,2 V	33,7 V
Nominal current I_{mp}	9,50 A	9,52 A	9,56 A	9,58 A
Open circuit voltage V_{oc}	40,8 V	41,0 V	41,1 V	41,2 V
Short circuit current I_{sc}	9,98 A	9,99 A	10,03 A	10,04 A
Module efficiency	18,5 %	18,8 %	19,1 %	19,4 %

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

ELECTRICAL DATA (NMOT AND WEAK LIGHT)

NMOT (Nominal Module Operating 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 1 m/s, load operation

Nominal power $P_{max @ NMOT}$	226 W	230 W	234 W	238 W
Nominal power $P_{max @ 200 W/m^2}$	60,8 W	61,8 W	62,8 W	63,8 W

Measurement tolerances: P_{max} ±5 %; V_{oc} ±10 %; I_{sc} ±10 %, I_{mp} ±10 %

Reduction of module efficiency when irradiance is reduced from 1,000 W/m² to 200 W/m² (at 25 °C): 4 ± 2 % (relative) / -0,6 ± 0,3 % (absolute).

GENERAL DATA

Module technology	Glass-glass laminate; aluminum frame, black
Covering material	Tempered solar glass with anti-reflective finish, 2 mm
Encapsulation	Solar cells in polymer encapsulation, transparent
Backing material	Tempered glass, 2 mm
Transparent areas	appr. 9,8 %
Solar cells	60 monocrystalline high power PERC-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 1,1 m / 4 mm ² Stäubli Electrical MC4-connectors
Bypass diodes	3
Max. system voltage	1,000 V
IP rating	IP67
Protection class	II (acc. to IEC 61140)
Fire class	A (acc. to IEC 61730/UL 790) E (acc. to EN 13501-1) B _{ROOF} (t1) (acc. to EN 13501-5)
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 Installation Instructions	Please refer to the specifications in the Installation Instructions and Warranty Conditions.

Non-glare option*: Reflection characteristics at low irradiation angles and full sunlight (according to BRDF): $L_{v10^\circ} = 19.000 \text{ cd/m}^2$

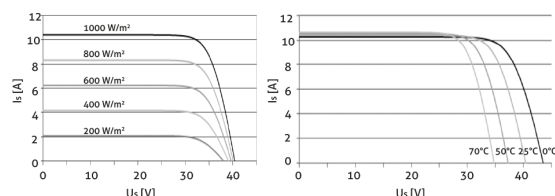
(*Available on request for locations with high demands on non-glare, prices differ)

THERMAL FEATURES

Operating temperature range	-40 ... +85 °C
Ambient temperature range	-40 ... +45 °C
Temperature coefficient P_{max}	-0,38 %/K
Temperature coefficient V_{oc}	-0,31 %/K
Temperature coefficient I_{sc}	0,05 %/K
NMOT	44 °C

CHARACTERISTIC LINES (PERFORMANCE CLASS 320 WP)

Voltage characteristic line at different temperatures and irradiances



TRANSPORT AND PACKAGING

Modules per palette	36
Palette dimensions (gross) L x W x H	1,700 x 1,010 x 1,640 mm
Gross weight per palette	859 kg
Palettes per truck	15
Modules per truck	540