

Glass-Foil-Module: Eco 60M

Produce Energy.

SERVICES AND WARRANTIES FROM DRESDEN ECO 60M

- Certified SOLARWATT-Quality
- 100 % plus sorting
- Monocrystalline high power solar cells
- 100 % protection against PID

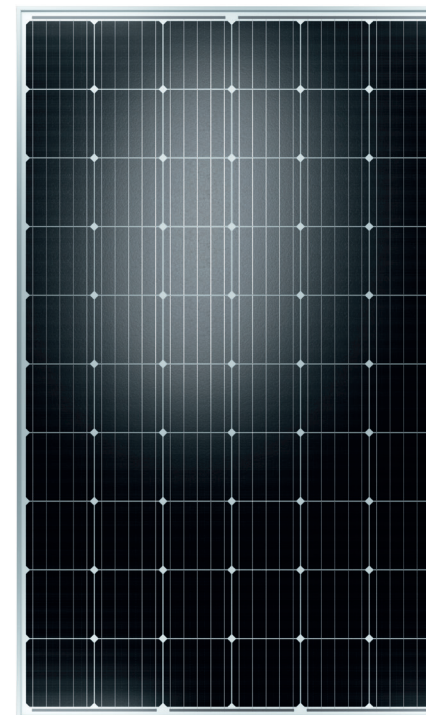
Extended warranty by purchasing SOLARWATT Full Coverage insurance:

- 12 year product warranty
- All risk insurance

According to the „Warranty conditions for SOLARWATT solar modules“

Product Quality

- low-glare
- resistant against ammonia
- resistant against hail
- resistant against salt mist



SOLARWATT Service



Full Coverage insurance
optional (up to 1000 kWp)*



Simple returns policy
as per „Delivery Terms for SOLARWATT Solar Modules“

12
years

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

25
years

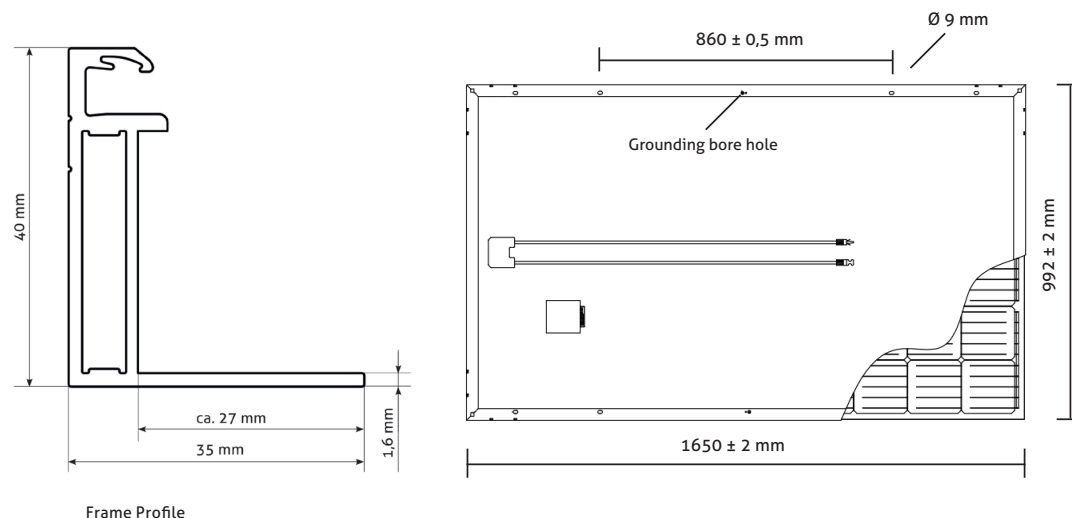
Performance-warranty
on 80 % of nominal power as per „Warranty Conditions for SOLARWATT Solar Modules“



* country-specific deviations apply

Technical Data | Eco 60M

DIMENSIONS



GENERAL DATA

Module technology	Glass-Foil laminate; aluminum frame
Covering material	Tempered solar glass with anti-reflective finish, 3,2 mm
Encapsulation	EVA-solar cells-EVA
Backing material	Multi-layer composite film, white
Solar cells	60 monocrystalline solar cells
Cell dimensions	157 x 157 mm
L x W x H / Weight	1650 ^{±2} x 992 ^{±2} x 40 ^{±0.3} mm / ca. 19 kg
Connection technology	Cables 2 x 1,0 m/4 mm ² , Multi-Contact MC4-connectors
Bypass diodes	3
Max. system voltage	1000 V
Application class	II (acc. to IEC 61730)
Fire class	C (acc. to IEC 61730)
Certified mechanical ratings as per IEC 61215	Suction load up to 2400 Pa (test load 3600 Pa) Pressure load up to 5400 Pa (test load 8100 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 1000 W/m², spectral distribution AM 1,5 | Temperature 25±2 °C, in accordance to EN 60904-3

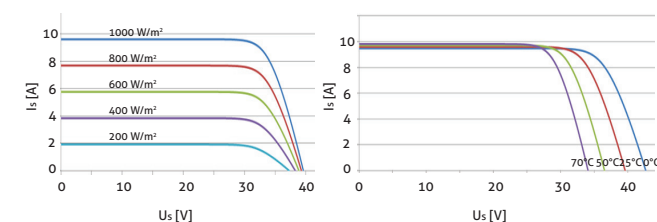
Nominal power P _{max}	280 Wp	285 Wp	290 Wp
Nominal voltage V _{mp}	31,6 V	31,9 V	32,2 V
Nominal current I _{mp}	8,87 A	8,94 A	9,02 A
Open circuit voltage V _{OC}	38,9 V	39,1 V	39,3 V
Short circuit current I _{sc}	9,32 A	9,39 A	9,46 A
Module efficiency	17,3 %	17,6 %	17,9 %

Measurement tolerances: P_{max} ± 5 %; U_{OC} ± 10 %; I_{sc} ± 10 %

Reverse-current power rating I_r: 15 A, operating modules with an external power source is only permissible if using a phase fuse with a tripping current of ≤ 15 A.

CHARACTERISTIC LINES (Performance Class 290 Wp)

Voltage characteristic line at different temperatures and irradiances



ELECTRICAL DATA (NMOT AND WEAK LIGHT)

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

Nominal power P _{max @NMOT}	206 W	210 W	213 W
Nominal power P _{max @200 W/m²}	56,0 W	56,7 W	57,7 W

Measurement tolerances: P_{max} ± 5 %; U_{OC} ± 10 %; I_{sc} ± 10 %

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).

THERMAL FEATURES

Operating temperature range	-40 ... +85 °C
Ambient temperature range	-40 ... +45 °C
Temperature coefficient P _{max}	-0,42 %/K
Temperature coefficient V _{OC}	-0,32 %/K
Temperature coefficient I _{sc}	0,04 %/K
NMOT	45 °C