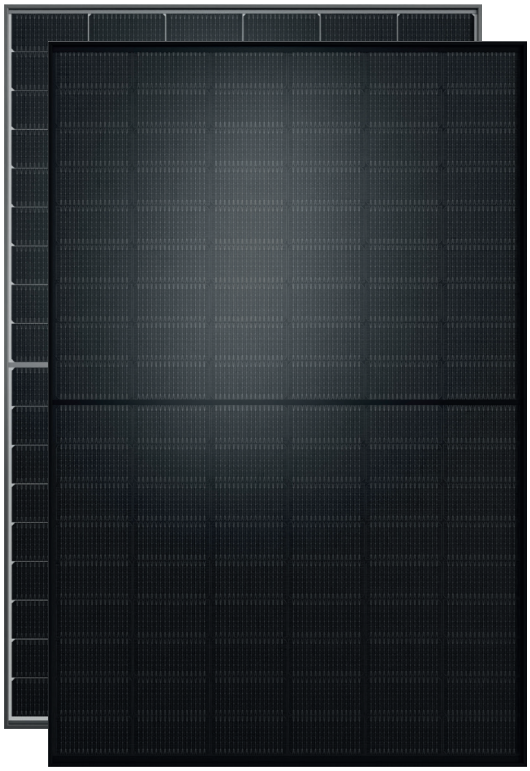
PRODUCT



SOLARWATT Panel

classic M 3.0 pure
classic M 3.0 black

Glass-Foil-Module

Best price-performance ratio

With the classic models, Solarwatt offers affordable, robust, high-performance solar modules of proven quality. They are durable and high-yielding as well as resistant to weather effects and environmental influences.

The classic-modules are produced on state-of-the-art production lines and meet the high Solarwatt quality standards. They will therefore generate solar power well beyond their warranty period.

The modules come with a solid 20-year product guarantee.

SUSTAINABILITY

low CO_2 footprint
< 220 kg eq CO_2 / Modul*, 50 % less CO_2 than standard modules and certified according to PPE2 criteria

fair production conditions
no forced or child labour, fair pay and regular audits by independent auditors

high recycling rate in raw materials
aluminum: 75 %, cell silicium: 45 %
sustainable use through long durability and recycling at the end of the product life cycle

* Specification without frame, with frame: < 240 kg eq CO_2/module

PRODUCT QUALITY

- performance: 440 Wp to 455 Wp
- bifacial TOPCon half-cut-cells
- LeTID tested and PID protected
- ammonia resistant
- salt mist resistant

SERVICE

simple returns policy
as per „Delivery terms for Solarwatt solar modules"

20 year product warranty
as per „Warranty conditions for SOLARWATT Panel classic"

25 year performance warranty
on 89,4 % of nominal power as per „Warranty conditions for SOLARWATT Panel classic"

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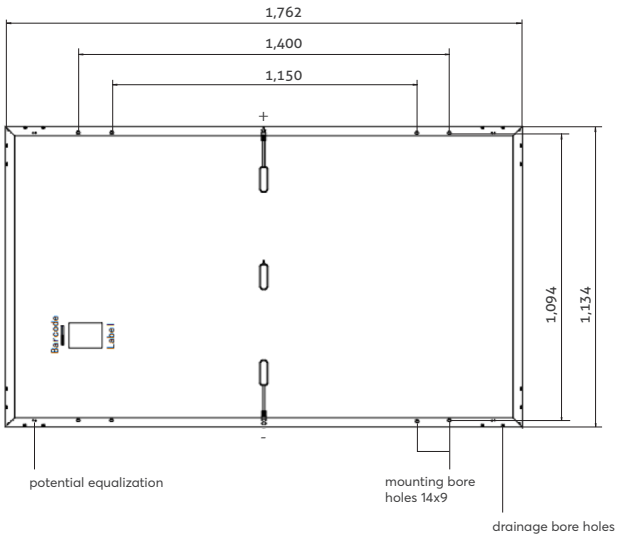
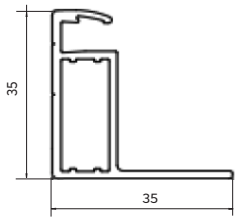
Certified acc. to DIN EN ISO 9001, 14001, 45001, 50001

Technical datasheet
SOLARWATT Panel classic M 3.0

FOR OVER 30 YEARS GERMAN QUALITY SINCE 1993

DIMENSIONS





GENERAL DATA

Module technology	Glass-foil laminate; aluminum frame black (black) or silver (pure)
Covering material **Encapsulation** **Backing material**	Tempered solar glass with anti-reflective finish, 3.2 mm Solar cells in POE encapsulation Multi-layer composite film, black (black) or white (pure)
Solar cells	108 monocrystalline high power TOPCon solar cells
Cell dimensions	182 x 93 mm
L x W x H / Weight	$1{,}762^{\pm 2}$ x $1{,}134^{\pm 2}$ x $35^{\pm 0.3}$ mm / 21.0 kg
Connection technology	Cables 2x 1.2 m / 4 mm², Sunter PV-ZH202B or MC4-type connectors
Bypass diodes	3
Max. system voltage	1,000 V
IP rating	IP68
Protection class	II (acc. to IEC 61140)
Fire class	C (acc. to IEC 61730)
Certified mechanical ratings as per IEC 61215	Pressure load up to 3,600 Pa (test load 5,400 Pa) Suction load up to 1,600 Pa (test load 2,400 Pa)
Recommended stress load as per Installation Instructions	Please refer to the specifications in the Installation Instructions and Warranty Conditions.
Qualifications	IEC 61215 (incl. LeTID) | IEC 61730 PID IEC TS 62804 IEC 61701 | 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 accordancjae to EN 60904-3

Please check specific power class availability with your Solarwatt sales team

Nominal power P_{max}	440 Wp	445 Wp	450 Wp	455 Wp
Nominal voltage V_{mp}	32.8 V	33.0 V	33.2 V	33.4 V
Nominal current I_{mp}	13.4 A	13.5 A	13.5 A	13.6 A
Open circuit voltage V_{oc}	39.4 V	39.6 V	39.8 V	40.0 V
Short circuit current I_{sc}	13.9 A	14.0 A	14.0 A	14.1 A
Module efficiency	22.0 %	22.3 %	22.5 %	22.8 %

Measurement tolerances: P_{max} ±5 %; V_{OC} ±3 %; I_{SC} ±3 %, I_{MP} ±10 %

Reverse-current power rating I_R: 25 A, operating modules with an external power source is only permissible if using a phase fuse with a tripping current of ≤ 25 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}	440 W	445 W	450 W	455 W
Nominal power $P_{max\ @NMOT}$	350 W	354 W	358 W	362 W
Nominal power $P_{max\ @200\ W/m^2}$	86.2 W	87.2 W	88.2 W	89.2 W

Measurement tolerances: P_{max} ±5 %; V_{OC} ±3 %; I_{SC} ±3 %, 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).

THERMAL FEATURES

Operating temperature range	-40 … +85 °C
Ambient temperature range	-40 … +45 °C
Temperature coefficient P_{max}	-0.29 %/K
Temperature coefficient V_{oc}	-0.25 %/K
Temperature coefficient I_{sc}	0.05 %/K
NMOT	45 °C

TRANSPORT AND PACKAGING

Modules per pallet	31
Pallets per container	26
Stacked pallets/pallets per truck	14/28
Gross weight per pallet	688 kg
Gross weight per stacked pallet (max. 2)	1,376 kg
Pallet dimensions (packing size)	1,800 x 1,140 x 1,250

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