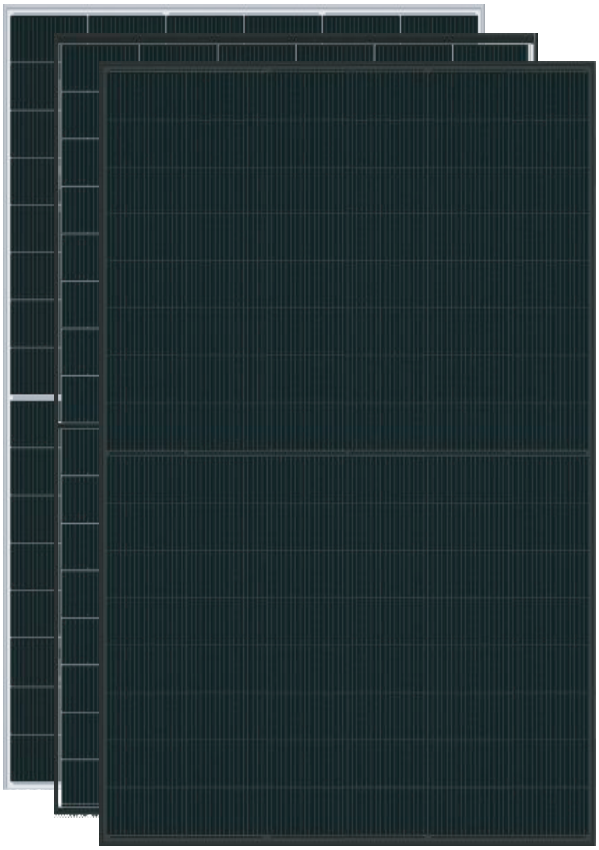
PRODUCT



SOLARWATT Panel

vision M 5.5 black
vision M 5.5 style
vision M 5.5 pure

Glass-Glass Module

Robust quality. High performance.

Engineered for durability and efficiency, Solarwatt glass-glass modules deliver outstanding long term energy yields. Their robust, resilient design is built to perform under demanding conditions.
Advanced bifacial TOPCon half-cut cells maximise power output, while the nearly indestructible glass-glass composite permanently protects the solar cells from weather influences and mechanical stress.
This uncompromising build quality enables Solarwatt to offer a 30-year warranty on both product quality and performance.

SUSTAINABILITY

Low CO_2 footprint
< 220 kg CO_2 eq per module,* a 50 % lower CO_2 footprint than standard modules

Fair working conditions
Zero use of forced- or child labour, fair pay, with regular independent audits of our supply chain

High use of recycled materials
Aluminium: 75 %, Cell silicon: 45 %
Our panels are sustainable thanks to their durability and end-of-life recyclability.

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

PRODUCT QUALITY

- performance: 465 Wp to 480 Wp
- 100 % plus-sorting
- bifacial TOPCon half-cut-cells
- LeTID tested and PID protected
- ammonia resistant
- salt mist resistant
- intensive hailstorm resistant

SERVICE

30 year product warranty
as per "Warranty conditions for SOLARWATT Panel vision"

30 year performance warranty
on 90 % of nominal power as per "Warranty conditions for SOLARWATT Panel vision"

Simple and fair returns policy
as per "Delivery terms for Solarwatt solar modules"

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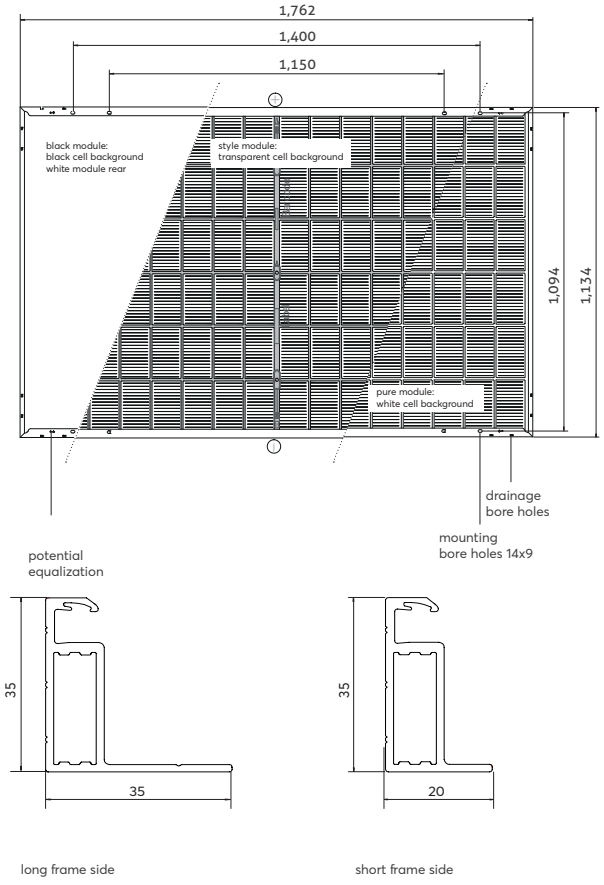
Certified acc. to DIN EN ISO 9001, 14001, 45001

Technical datasheet
SOLARWATT Panel vision M 5.5

FOR OVER 30 YEARS SINCE 1993

DIMENSIONS



GENERAL DATA

Module technology	Glass-glass laminate; aluminum frame black (style, black) or silver (pure)
Covering material **Encapsulation** **Backing material**	Tempered solar glass with anti-reflective finish, 2 mm Solar cells in polymer encapsulant black-module: black and white encapsulation (front black, back white) Tempered glass, 2mm pure-module: partially printed in white (spaces between the cells)
Solar cells	96 monocrystalline, bifacial, high power TOPCon-solar cells
Cell dimensions	182 x 106 mm
L x W x H / Weight	$1{,}762^{\pm 2}$ x $1{,}134^{\pm 2}$ x $35^{\pm 0{,}3}$ mm / 24.8 kg
Connection technology	Cables 2x 1.2 m / 4 mm² Stäubli Electrical MC4-Evo 2 connectors
Bypass diodes	3
Max. system voltage	1,500 V
IP rating	IP68
Protection class	II (acc. to IEC 61140)
Fire class	A (IEC 61730/UL 790), B-s1, d0 (EN 13501-1), B_{ROOF} (t2) (EN 13501-5)
Certified mechanical ratings as per IEC 61215	Pressure load up to 8,100 Pa (test load 12,150 Pa) Suction load up to 2,800 Pa (test load 4,200 Pa)
Qualifications	IEC 61215 (incl. LeTID) | IEC 61730 PID IEC TS 62804 | IEC 61701 | IEC 62716 hail resistance class HW 3

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	42 °C

TRANSPORT AND PACKAGING

Modules per pallet	31
Modules per container	806
Stacked pallets/pallets per truck	13/26
Gross weight per pallet	809 kg
Gross weight per stacked pallet (max. 2)	1,618 kg
Pallet dimensions (packing size)	1,800 x 1,140 x 1,250

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

Please check the performance class availability!

Nominal power P_{max}	460 Wp	465 Wp	470 Wp	475 Wp
Nominal voltage V_{mp}	31.0 V	31.2 V	31.5 V	31.7 V
Nominal current I_{mp}	14.9 A	14.9 A	15.0 A	15.0 A
Open circuit voltage V_{OC}	36.3 V	36.5 V	36.6 V	36.7 V
Short circuit current I_{SC}	15.8 A	15.9 A	15.9 A	16.0 A
Module efficiency	23.3 %	23.5 %	23.8 %	24.0 %
Power per sqm	233 Wp	235 Wp	238 Wp	240 Wp

ELECTRICAL DATA (WEAK LIGHT AND BNPI)

Weak light conditions: Irradiation intensity 200 W/m², Temperature 25 °C, Wind speed 1 m/s, load operation

BNPI: Bifacial Nameplate Irradiance G = 1000 W/m² + φ * 135 W/m²
φ = MIN (φ_{ISC}, φ_{Pmax}), φ_{ISC} = 80 %, φ_{VOC} = 100 %, φ_{Pmax} = 80 %

The values specified @BNPI apply only to style and pure.

Nominal power $P_{max@STC}$	460 W	465 W	470 W	475 W
Nominal power $P_{max\ @200\ W/m^2}$	91 W	92 W	93 W	94 W
Nominal power $P_{max@BNPI}$	514 W	519 W	525 W	530 W
Open circuit voltage $V_{OC@BNPI}$	36.0 V	36.1 V	36.2 V	36.4 V
Short circuit current $I_{SC@BNPI}$	18.1 A	18.2 A	18.3 A	18.4 A

P_{max} Nominal power: -0/+3%
All measured values are within the normal measurement tolerances of P_{max} ±5 %; V_{OC} ±3 %; I_{SC} ±3 %, I_{MP} ±10 %.
Reverse-current power rating IR: 30 A, operating modules with an external power source is only permissible if using a phase fuse with a tripping current of ≤ 30 A.

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