

SOLAR MODULE

Sunways Solar Module SM 170U



Sunways Solar Modules SM 170U are equipped exclusively with highquality multicrystalline Sunways Solar Cells. With their staggered output classes they enable customised planning of photovoltaic systems.

Product benefits

- Integrated, high-efficiency Sunways Solar Cells ensure maximum yields
- In-house cell development for rapid implementation of innovative technologies and continuous enhancement of performance efficiency
- Top Sunways quality standard guarantees high stability and reliability; cells and modules manufactured in Germany
- Two years of product guaranty on material and treatment quality
- Output assurance: min. 90% over 12 years, 80% over 25 years according to the current warranty conditions
- Highly transparent 4 mm solar glass to minimise reflection losses. In conjunction with the robust aluminium frame suitable for high mechanical loads (5,400 Pa)
- Higher output through guaranteed OutputPlus+ grading

Product features

Category:	multicrystalline
Module size: (LxWxD)	2000 mm x 680 mm x 50 mm
Area:	1.36 m ²
Weight:	20 kg
Output classes:	175 / 170 / 165 / 160 Wp
Cells:	48 Sunways Solar Cells, multi, 3 Busbars
Cell format:	156 x 156 mm, fullsquare

Design

Front:	ESG solar glass 4 mm, highly transparent
Encapsulation:	EVA - Solar Cells - EVA
Back:	PLF-polyester laminated film
Frame:	Aluminium, bright anodised
Junction box:	Tyco Solarlok with 2 bypass diodes
Connectors and cables:	Tyco Solarlok, 2 x 0.7 m, cable cross-section 4 mm ²

Information and Sales

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Photovoltaic Technology

Technical Data SM 170U

Article No.	SM170UA13	SM170UA12	SM170UA11	SM170UA10
Output classes	175	170	165	160
Electrical data at STC ¹⁾				
Rated output P_{MPP} (W)	175	170	165	160
Voltage U_{MPP} (V)	23.3	23.0	22.7	22.5
Current I_{MPP} (A)	8.07	7.95	7.80	7.62
Open-circuit voltage V_{OC} (V)	29.6	29.4	29.3	29.1
Short-circuit current I_{SC} (A)	8.07	7.95	7.80	7.62
Reverse current capacity (A) ²⁾	16.1	15.9	15.6	15.2

1) STC- Standard Test Conditions: Air mass AM. 1.5 – Irradiance 1000 W/m² – Cell temperature 25°C; Measuring tolerance +/-5%

2) Reverse current capacity: Operation of modules with fed-in external current only admissible employing string fuse < 2 x I_{sc} (STC)

Electrical data at NOCT ³⁾				
Rated output P_{MPP} (W)	131	127	124	120
Voltage U_{MPP} (V)	22.2	21.9	21.6	21.4
Current I_{MPP} (A)	6.37	6.27	6.18	6.03
Open-circuit voltage V_{OC} (V)	28.1	28.0	27.9	27.7
Short-circuit current I_{SC} (A)	6.84	6.74	6.60	6.46
Efficiency reduction at 200 W/m ² (%) ⁴⁾	0.6	0.6	0.6	0.6

3) The NOCT values are typical values. NOCT: Nominal operating cell temperature (45°C); Measuring tolerance +/-5%

Typical cell temperature with: Irradiance 800 W/mm² – Ambient temperature 20°C – Wind speed 1m/s

4) Efficiency reduction for irradiance reduction from 1000 W/m² to 200 W/m², ambient temperature 25 °C, EN60904-1 comp.

Other electrical parameters	
Maximum system voltage (V)	1000
Temperature coefficient P_{MPP} (% / K)	-0.44
Temperature coefficient I_{SC} (% / K)	0.06
Temperature coefficient U_{OC} (% / K)	-0.36

Application	
Permissible module temperature	-40°C ... +85°C
Snow load	5,400 Pa corresponds to 550 kg/m ² , i.e. snow load zone 3
Wind load	130 km/h (800 Pa), factor 3 for wind gusts
Hail test	Ice balls: Ø 25 mm, speed: 23 m/s
Application class	A
Installation / operation	Follow the installation and operating manual.

Qualifications and Certificates	IEC 61215 Ed.2, IEC 61730, CE, Protection class II <input type="checkbox"/>
	Internal quality checks: at least twice the load specified in IEC Standard

Dimensional drawings

