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Item no.	**Specifications**

SolarWorld Sunmodule Bisun SW 270 duo

Bifacial, monocrystalline glass-glass solar module, framed

Available power classes:	270 W
Manufactured in:	Germany

Structure:

Dimensions:	1675 mm x 1001 mm x 33 mm
Weight:	21.5 kg
Cell type:	Monocrystalline p-Type PERC bifacial, solid black appearance (front side), blue appearance (back side)
Cells per module:	60
Cell layout:	6 strings of 10 cells each
Cell size:	156 mm x 156 mm
Covering material:	Highly transparent, reflective, heat strengthened solar glass (EN 1863-1); 2 mm
Encapsulation:	Solar cell matrix embedded in EVA film
Back material:	Highly transparent, reflective, heat strengthened solar glass; 2 mm
Frame:	Silver aluminum frame with hollow-chamber profile, corners with drainage opening and mounting flange with grounding holes (enables rear screws to prevent slipping)
Junction box:	SolarWorld junction box with integrated 3 bypass diodes, IP65, welded contacts, fully encapsulated
Cable:	Solar cable with 1000 mm length, 4 mm² conductor cross-section
Plugs:	H4 UTX touch-proof plug connectors with polarity reversal protection

Permitted ambient conditions/system parameters:

Power sorting:	Positive, -0 Wp to +5 Wp over nominal power Pmax
Maximum system voltage:	PC II 1000 V / 1000 V according to UL 1703
Maximum reverse current:	25 A
Roof load (snow load):	8.5 kN/m² (8,500 Pa)
Dynamic load (wind load):	2.4 kN/m² (2,400 Pa)
Permitted operating temperature:	-40°C to +85°C

Certifications and approvals:

Product:

DIN EN / IEC 61215 Ed 2.:	Crystalline silicon terrestrial photovoltaic modules - design qualification and type approval
DIN EN 61730 incl. PC II:	Photovoltaic (PV) module safety qualification – Part 1: Requirements for construction Fire resistance: Fire rating class C
UL 1703:	Flat-plate photovoltaic modules and panels Fire performance: Type 3
MCS 010-1.5:	Generic Factory Production Control (FCP) Requirements
MCS 005-2.3:	Product Certification Scheme Requirements - Photovoltaic Panels
IEC 62804-1:2015:	Highly resistant to potential-induced degradation = PID
IEC 61701 ed. 2.0:	Salt mist corrosion testing of photovoltaic modules (very well suited for use near the coast)
IEC 62716 ed. 1.0:	Ammonia resistance (very well suited for use in agricultural operations)
IEC 60068-2-68 Lc2 plus:	Blowing Sand Test severity level Lc 2 (very well suited for use in dusty or sandy areas e.g. near deserts)
VKF Nr. 23544:	Hail resistance class 4 (HW4)

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Company:

ISO 9001:	Quality management system
ISO 14001:	Environmental management system
BS OHSAS 18001:	Occupational health and safety management systems
ISO 50001:	Energy management system
Power controlled:	TÜV Rheinland inspection mark for guaranteed compliance with stated nominal power of solar modules; verified externally at regular intervals
Green Brand:	Seal of quality for demonstrated environmental sustainability
Deutschlands Kundenchampions:	2015 German Customer Champions label for excellent customer-oriented management
PV+Test:	Top mark “excellent” in independent product test carried out by Solarpraxis and TÜV Rheinland for quality, durability, and performance
Ökotest:	Top mark “excellent” by consumer magazine

Warranties:

10-year product warranty

Linear 30-year performance warranty (the actual power is at least 97% of the nominal power in the first year; no more decline than 0.35% annually beginning in the second year, with power of at least 86.85% guaranteed after 30 years)

Technical data:

Data under STC:

Nominal power Pmax:	270 Wp
Module efficiency:	16.10%
Cell efficiency:	19.80 %
Open circuit voltage Uoc:	39.0 V
Rated voltage Umpp:	31.3 V
Short circuit current Isc:	9.28 A
Nominal current Impp:	8.68 A
Partial load behavior:	97% (+/- 3%) of the STC efficiency (1000 W/m²) is achieved at 200 W/m².

Temperature coefficients:

NOCT:	48°C
TC Isc:	0.044%/K
TC Uoc:	-0.31%/K
TC Pmpp:	-0.43%/K