



SOLAR MODULE

SM-160

SOLAR23 – SOLAR MODULE PRODUCT LINE

The **SOLAR23** solar module line with more than 100Wp is especially design for large scale PV off grid systems and village power supplies including grid connected applications.

- 72 solar cells per module ensure standard battery charging by MPP trackers, series and shunt controllers with nominal voltages of 24 V, 48 V DC or higher even in high ambient temperature regions.
- Poly crystalline solar cells are made in state of the art technology with textured surface and anti reflection coating to deliver maximum energy throughout the day. The cells are embedded in a EVA between a reinforced glass, EVA foil and backside tedlar foil.
- The laminate is set in a sturdy aluminium frame and protected by a UV resistant rubber strap. The aluminium frame is held together by stainless steel head sunk screws which top off the elegant design.
- When it comes to reliable and environmentally friendly generation of electrical power from light, solar modules from **SOLAR23** provide the perfect solution.

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Connection box

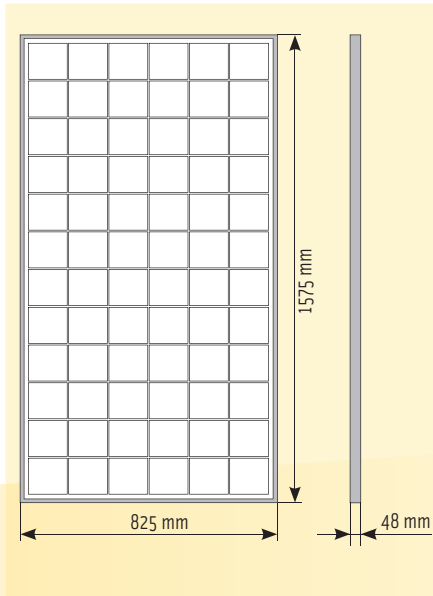


Mechanical details



The accurate cutting of the aluminium profiles and stainless steel screws guarantee a long lifetime of the solar modules. Head sunk screws prevent injuries during installation and give an elegant design to the modules.

Dimensions



Electrical Performance

Electrical parameters		solar module SM 100
Rated power	[Wp]	160
Tolerance	[+/- %]	+/-5 %
Nominal voltage	[V]	24
Rated current I_{mpp}	[A]	4.5
Rated voltage U_{mpp}	[V]	36.0
Short circuit current I_{sc}	[A]	4.9
Open circuit voltage U_{oc}	[V]	44.0
Thermal parameters		
NOCT	[°C]	45.3
Temp. Coefficient of short circuit current	[A/°C]	3.25
Temp. Coefficient of open circuit voltage	[V/°C]	-2.21
Limit values / qualifications		
Max. permitted module temperature	[°C]	-40 to +85
Max. permitted ambient temperature	[°C]	-40 to +85
Module under solar irradiation	[°C]	-40 to +50
Module shaded (storage temperature)	[°C]	-40 to +85
Maximum permitted system voltage	[V]	1000
Surface pressure	[N/m ²]	2400
Maximum distortion	[°]	1.2
Humidity at 85 °C	[%]	85 relative
Hailstorm / hailstones	[mm]	Ø 25
Velocity of hailstones	[m/s]	V = 23
Weight	[kg]	17
General information		
Number of cells per module	[qty]	72
Solar cell efficiency	[%]	> 14
Warranty	[years]	2
Performance guarantee	[years]	20
Certificates		
TÜV, ROHS, ISO 9001		YES
CE mark 73/23/EEC		YES
IEC 61215		pending

Electrical Characteristics

