bp solar

20W Photovoltaic module

SX 420M

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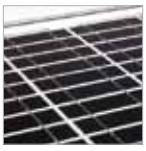
BP Solar has been pioneering photovoltaic (PV) solar for almost 40 years. This experience shows that the best way to optimize module life and electrical energy production is to attend to every detail in the design and manufacture of our products, our process controls and testing methods. BP Solar's off-grid module line offers the following benefits:

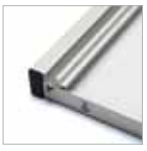
Guaranteed to last

Our technology has been proven in the harshest environments – on satellites in space, on weather stations in the bitter cold of Antarctica, and on telephone signal repeaters in the Australian outback.



Multiple mounting possibilities

Multimount frame allows even greater flexibility in mounting. Positioned parallel to the edge and back of the module, its dual channels accept either M8 or 5/16" hex-head bolts, allowing the module to be mounted from the side or back.



Easier bolt management

Bolts may be located anywhere along the channels; the channel groove is specially designed to prevent the bolt from rotating when tightening, allowing installation with just one wrench.

Long cable for easier battery connections

A 4.6 meter PVC-jacketed AWG 18-2 polarized cable is potted into the fully sealed junction box located on the module back. The module's electrical connections are sealed, preventing corrosion and moisture penetration.

Module appearance may vary. Cells are rectangular with either square or rounded corners.
Electrical data for modules with either cell type remains the same.

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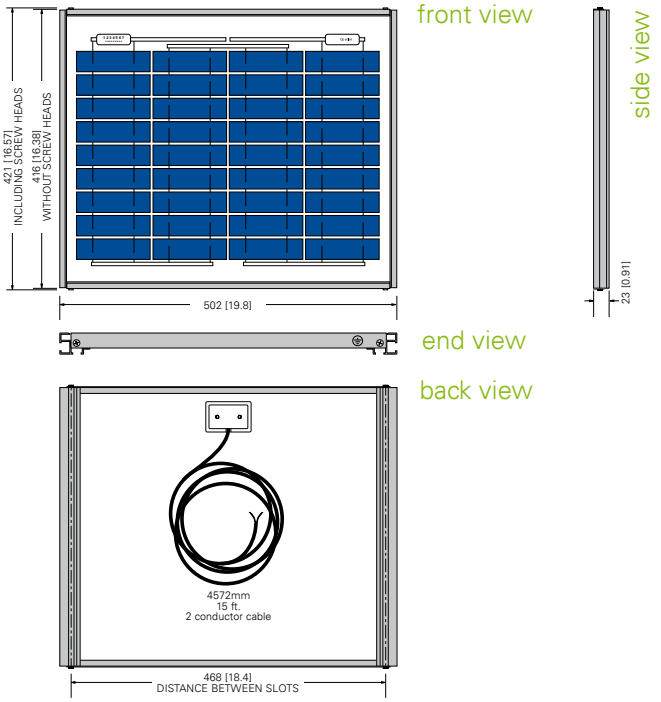
Electrical characteristics

	(1) STC 1000W/m²	(2) NOCT 800W/m²
Maximum power (P_{max})	20W	14.4W
Voltage at P_{max} (V_{mpp})	16.8V	15.0V
Current at P_{max} (I_{mpp})	1.19A	0.95A
Short circuit current (I_{sc})	1.29A	1.04A
Open circuit voltage (V_{oc})	21.0V	19.1V
Module efficiency	9.5%	
Tolerance P_{max}	±10%	
Nominal voltage	12V	
Efficiency reduction at 200W/m²	<5% reduction (efficiency 9.0%)	
Limiting reverse current	1.29A	
Temperature coefficient of I_{sc}	0.105%/ °C	
Temperature coefficient of V_{oc}	-0.360%/ °C	
Temperature coefficient of P_{max}	-0.45%/ °C	
(3) NOCT	47±2°C	
Maximum series fuse rating	3A	
Maximum system voltage	50V	

1: Values at Standard Test Conditions (STC): 1000W/m² irradiance, AM1.5 solar spectrum and 25ºC module temperature
2: Values at 800W/m² irradiance, Nominal Operation Cell Temperature (NOCT) and AM1.5 solar spectrum
3: Nominal Operation Cell Temperature: Module operation temperature at 800W/m² irradiance, 20ºC air temperature, 1m/s wind speed

During the stabilization process that occurs during the first few months of deployment, module power may decrease by aprox. 3% from typical P_{max}.



Dimensions in mm [in].
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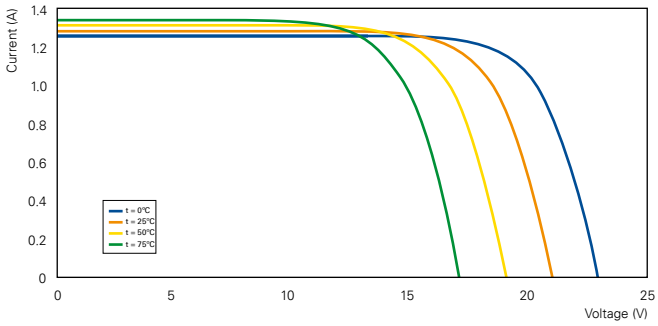
Mechanical characteristics

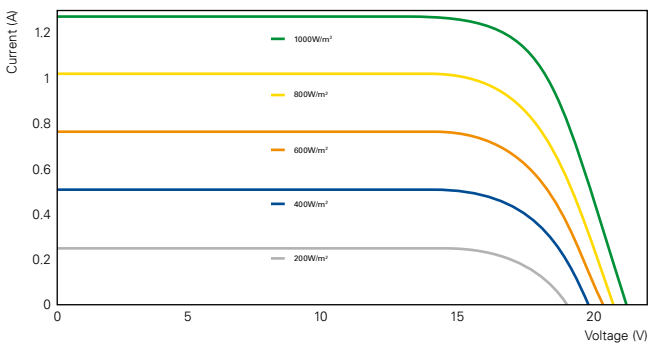
Solar cells	36 monocrystalline silicon cut cells connected in series
Front cover	High transmission 3.2mm (1/8th in) glass
Encapsulant	EVA
Back cover	White polyester
Frame	Silver anodized aluminum (Multimount)
Junction box	Lo-Pro junction box
Output cables	RHW AWG#18 (0.75mm²) 2 core, ITC/PLTC Lenghts 4572mm / 15 ft. ("+" red; "-" black)
Dimensions	421x501x23mm / 16.6x19.7x0.9in
Weight	2.5kg / 5.5lbs

All dimensional tolerances within ±1% unless otherwise stated.

Dependence of the temperature



Dependence of the irradiance



Warranty

- Free from defects in materials and workmanship for 2 years
- 90% min. power output over 12 years

* Refer to BP Solar's warranty document for terms and conditions.

Certification

Listed to UL 1703 & ULC ORD-C1703 Standard for Safety by Intertek ETL

Approved by Intertek ETL according to FM 3611, Dec 2004, and according to CAN/CSA C22.2 No. 213-M1987, 1st Edition, Reaffirmed 2004, for use in a Class I, Division 2, Group A, B, C, D Hazardous (Classified) Location.

Contact:

Your BP Solar partner

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