

# Monocrystalline Photovoltaic Modules

## 200-220Wp (54 cells)



### Characteristics

#### ■ Modules Quality

BlueSun® Solar Energy modules are mounting in Portugal and ensure the highest system efficiency and the quality of our modules.

#### ■ Highest efficiency and performance

The panel's reduced voltage-temperature coefficient, anti-reflective glass and exceptional low-light performance attributes provide outstanding energy delivery per peak power watt.

#### ■ Guaranteed power output

Positive Tolerance + 3% ensure reliable energy production.

#### ■ Module can bear snow loads up to 5600 Pa and wind loads up to 3800 Pa

#### ■ High performance under low light conditions (Cloudy days, mornings and evenings)

#### ■ High Transmission Glass

Anti-reflective coated glass delivers up to 4% more energy than standard glass.

#### ■ Enhanced cell protection

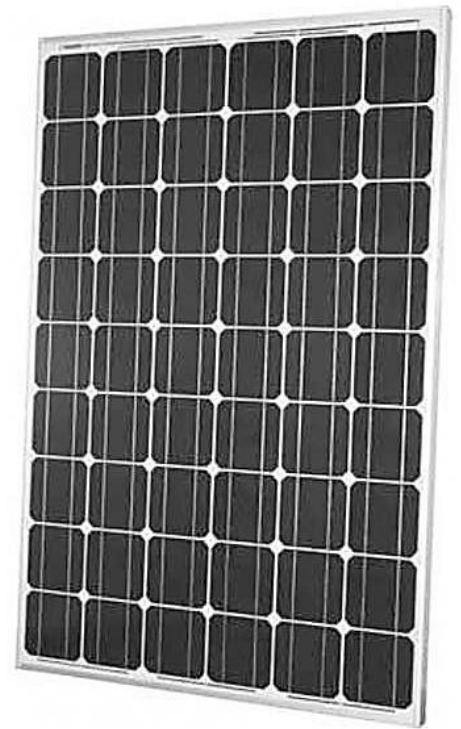
Better cell protection thanks to robust frame and durable materials.

#### ■ Reliable and Robust Design

Proven materials, tempered front glass, and a sturdy anodized frame allow panel to operate reliably in multiple mounting configurations.

#### ■ TUV "Power controlled"

With the new TUV Rheinland test "Power controlled" it is guaranteed that the performance indicated for a BlueSun® solar panel is being met and that it is regularly monitored by the independent test service provider, TUV Rheinland.



### Warranties and Certifications

- Warranties: 25 year limited power warranty  
10 year limited product warranty

- Certifications:  
IEC 61215, IEC 61730-1, IEC 61730-2, IEC 61730-3, EN 61000-6-1:2007, EN 61000-6-3:2007, IEC 5600 Pa.



# Monocrystalline Photovoltaic Modules

## 200-220Wp (54 cells)



### Electrical Data

Designation		BSM200M-54	BSM205M-54	BSM210M-54	BSM215M-54	BSM220M-54
Peak Power	P	200 W	205 W	210 W	215 W	220 W
Positive Tolerance		+ 3 %	+ 3 %	+ 3 %	+ 3 %	+ 3 %
Efficiency	$\eta$	14,30 %	14,60 %	15,00 %	15,30 %	15,60 %
Rated Current	$V_m$ (V)	27,60	27,90	28,20	28,60	29,10
Rated Voltage	$I_m$ (A)	7,60	7,70	7,80	7,85	7,90
Maximum System Voltage	VDC (V)			1000		
Open Circuit Voltage	VOC (V)	33,00	33,30	33,70	33,90	34,40
Short Circuit Current	ISC (A)	8,48	8,60	8,70	8,85	8,90
Working Temperature		$-40 \pm 85^\circ\text{C}$				
Temperature Coefficients	Power	$\eta$ (P <sub>MAX</sub> )	$-0,45\%/^\circ\text{C}$			
	Voltage	$\beta$ (VOC)	$-0,35\%/^\circ\text{C}$			
	Current	$\alpha$ (ISC)	$0,05\%/^\circ\text{C}$			

(STC: irradiance of 1000W/m<sup>2</sup>, AM 1.5, and cell temperature 25°C)

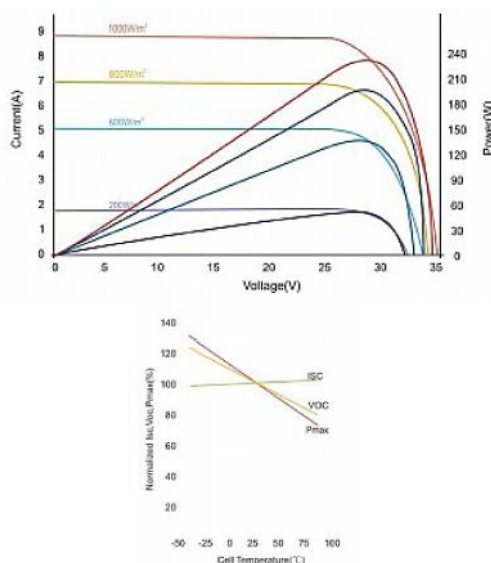
### Mechanical Data

Output Cables	100 cm length cables 4 mm <sup>2</sup> MultiContact MC4 connectors
Front Glass	High transmission tempered glass with anti-reflective (AR) coating
Caixilho	Silver or black anodized aluminum
Junction Box	IP-65 rated with 3 bypass diodes

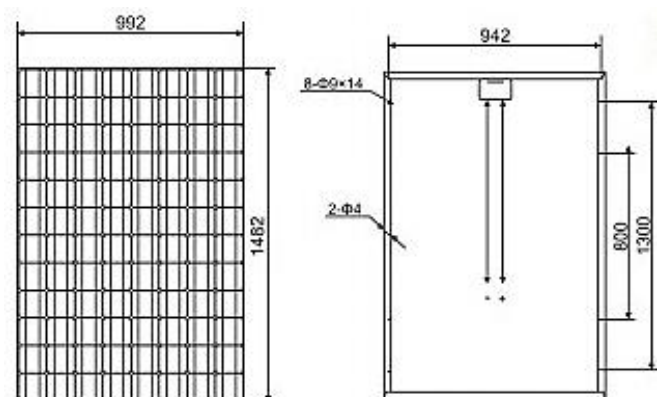
### Mechanical Data

Dimensions	1482x992x40 (mm)
Weight	17,00 (Kg)
Cells	156x156 (mm)
Solar Cells	54 (6x9)

### I-V Curve



### Dimensions



PLURIGÁS SOLAR ENERGIAS Lda. - End: Urb. António Aleixo -1, 4820-358 Fafe, Portugal  
Tel : +351 253700060 - Fax : +351 253700065 - Site: [www.plugassolar.pt](http://www.plugassolar.pt) - Email: [geral@plurigassolar.pt](mailto:geral@plurigassolar.pt)