

## BIO 160-175

BIOENERGY Solar Photovoltaic Panels stand for quality, durability and most importantly, high-performance. Our experience, capacity of research, continuing development and improvement, have turned us into a company recognized in the sector for the high value offered to our clients through our efficient rendering of services and, especially, for the high quality of our products.

Los paneles solares BIOENERGY representan calidad, durabilidad y lo más importante, alto rendimiento. Nuestra experiencia, la capacidad de investigación, el desarrollo y la mejora continua, nos han convertido en una compañía reconocida en el sector por el alto valor que ofrecemos a nuestros clientes. A través de nuestra eficiente prestación de servicios y sobre todo, por la gran calidad de nuestros productos.



### Warranties / Garantías:

Product / Producto, 10 years / 10 años

Performance / Producción:

90% during the first 10 years.

Min. 80% during the first 25 years.

10 primeros años al 90% de rendimiento.

25 primeros años al menos 80%.

### Electrical Characteristics.

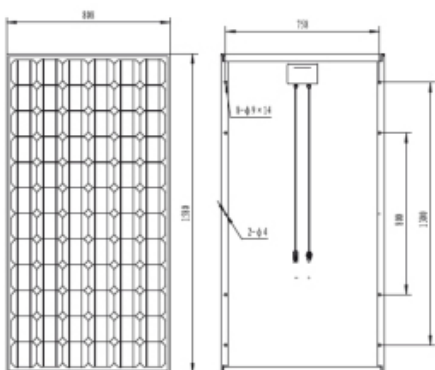
	160	165	170	175
Reference	BIO-160	BIO-165	BIO-170	BIO-175
Maximum Power (Wp)	160Wp	165Wp	170Wp	175Wp
Maximum Power (Vmax)	35.5	35.8	36.1	36.3
Maximum Power (Imax)	4.51	4.61	4.71	4.82
Open circuit voltage (Voc)	43.5	43.7	43.9	44.1
Short circuit voltage (Isc)	4.84	5.04	5.14	5.25
Module eff (%)	12.5	12.89	13.28	13.67
Operating temperature	-40°C + 80°C			
Maximum System Voltage	1000 VDC			
Power tolerance (%)	±3%			

### Mechanical Characteristics.

Solar Cells	Mono-crystalline
Dimensions	1580x808x35-45 mm
Weight	15,5 kg
N° Cells	72 cells (125 x 125 mm) configured geometrically for 6x12 matrix connected in series
Output cables lengths	900 mm
Cable cross section size	4 mm <sup>2</sup>
Construction	Front: High transmission 3.2 mm tempered glass. Rear. White back sheet; Encapsulant: EVA
Junction box	3 bypass
Connectors	MC4 compatible

## Temperature coefficients.

Nominal operating Cell Temperature (NOCT)	47 °C ± 2°C
Temperature coefficient of power	-0.9964 W/°C
Temperature coefficient of Voltage	-0.1801 V/°C
Temperature Coefficient of Current	0.0023 A/°C
Hail diameter 23m/s	Up to 25mm
Continuous wind pressure	2400 Pa

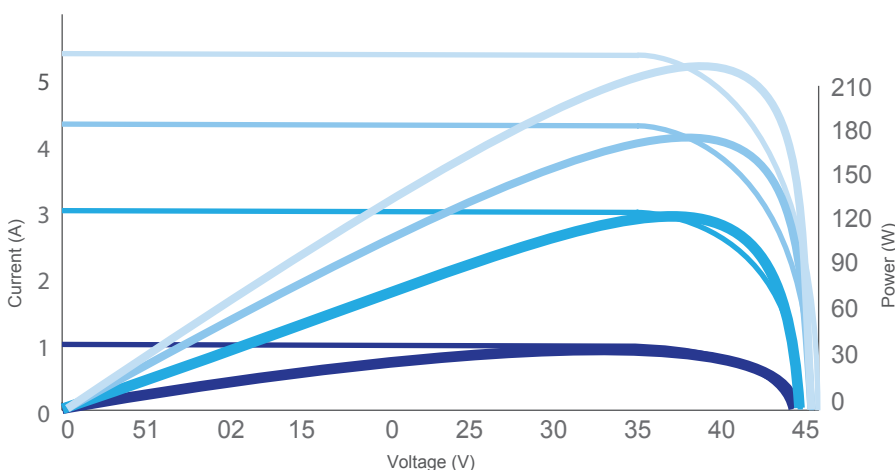


Highly transparent solar glass of 3.2 mm. and anodized aluminum frame for a perfect stability and a long duration. The lamination at constant temperature provides a perfect healing of the module avoiding the formation of bubbles. The distance between the edge of the frame and the cell circuitry is optimized to ensure both a weatherproof sealing and a maximum reduction of module size.

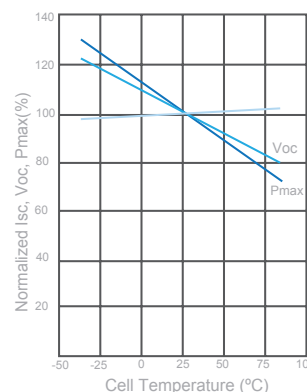
Vidrio solar altamente transparente de 3,2 mm. y marco de aluminio anodizado para una perfecta estabilidad y una larga duración. La laminación a temperatura constante (LTC) permite una perfecta curación del módulo evitando la formación de burbujas.

La distancia entre el borde del marco y la célula han sido optimizados para garantizar el sellado impermeable y la máxima reducción del tamaño del módulo.

## I- V curve under condition 1000 W/m2



## Temperature dependence of Isc, Voc, Pmax



## Certifications:



ADVANCED  
Wyoming, USA  
www.bioenergysolar.com