## photovoltaics | plus

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 by the high value offered to our clients.

Due to their engineered hollow-section frame and its 4 mm special solar glass (standard solar module has 3.2 mm ), BIOENERGY PLUS modules meet the maximum demands with regard to stability and corrosion resistance.

Thanks to their high performance BIOENERGY PLUS modules are prepared for changes in legislation. These panels will produce 5\% more than any other of the same features.


| Electrical Characteristics |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
|  | 235 | 240 | 245 | 250 |
| Reference | P111235 | P111240 | P111245 | P111250 |
| Maximum power (Wp) | 235 Wp | 240 Wp | 245 Wp | 250 Wp |
| Max. power voltage (Vmax) | 30.80 | 31.10 | 31.40 | 31.85 |
| Max. power current (Imax) | 7.64 | 7.73 | 7.81 | 7.85 |
| Open circuit voltage (Voc) | 36.60 | 37.00 | 37.30 | 37.66 |
| Short circuit voltage (lsc) | 8.55 | 8.65 | 8.75 | 8.85 |
| Modulle Eff. (\%) | 14.3 | 14.6 | 14.9 | 15.30 |
| Operating temperature | $-40^{\circ} \mathrm{C}+85^{\circ} \mathrm{C}$ |  |  |  |
| Maximum system voltage | 1000 V (IEC) |  |  |  |
| Power tolerance (\%) | 0-3\% |  |  |  |

Mechanical Characteristics

| Solar Cells | Mono-crystalline |
| :--- | :--- |
| Dimensions | $1655 \times 992 \times 45 \mathrm{~mm}$ |
| Weight | 22.5 kg |
| Junction Box | $I P 65$ |
| No. Cells | $60 \mathrm{pcs}(156 \times 156 \mathrm{~mm})$ Poly-Crystalline $(10 \times 8 \mathrm{~mm})$ |
| Output cables length | 900 mm |
| Cable cross section size | $4 \mathrm{~mm}^{2}$ |
| Construction | High Transmission, Low Iron, Tempered Glass 4 mm |
| Bypass-Diodes | 3 bypass |
| Connectors | MC4 compatible |

## Temperature Coefficients

| Nominal operating cell temperature (NOCT) | $47{ }^{\circ} \mathrm{C} \pm 2{ }^{\circ} \mathrm{C}$ |
| :--- | :---: |
| Temperature coefficient of power (PMAX) | $-0.43 \% /{ }^{\circ} \mathrm{C}$ |
| Temperature coefficient (VOC) | $-0.31 \% /{ }^{\circ} \mathrm{C}$ |
| Temperature coefficient (ISC) | $0.03 \% /{ }^{\circ} \mathrm{C}$ |
| Continuous wind pressure | $<5400 \mathrm{~Pa}$ |

The 10 years product warranty surpasses the warranty required by law.

The performance warranty is for 30 years: after 12 years, modules still produce a minimumt $90 \%$ of their nominal performance, after 30 years modules still produce a minimum 80\% or their nominal performance.

Dimensions


