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．

Highly transparent solar glass of 3.2 mm ．and anodized aluminum frame for a perfect stability and a long duration．Sheeting at constant temperature provides a perfect cure 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 waterproof sealing and maximum module size reduction．


| Electrical Characteristics |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | 210 | 215 | 220 | 225 | 230 |
| Reference | P110210 | P110215 | P110220 | P110225 | P110230 |
| Maximum power（Wp） | 210 Wp | 215 Wp | 220 Wp | 225 Wp | 230 Wp |
| Max．power voltage（Vmax） | 27.60 | 27.90 | 28.20 | 28.60 | 29.10 |
| Max．power current（Imax） | 7.60 | 7.70 | 7.80 | 7.85 | 7.90 |
| Open circuit voltage（Voc） | 33.00 | 33.30 | 33.70 | 33.90 | 34.40 |
| Short circuit voltage（lsc） | 8.48 | 8.60 | 8.70 | 8.85 | 8.90 |
| Modulle Eff．（\％） | 14.3 | 14.6 | 15.0 | 15.3 | 15.6 |
| Operating temperature | $-40^{\circ} \mathrm{C}+85^{\circ} \mathrm{C}$ |  |  |  |  |
| Maximum system voltage | 1000 V （IEC） |  |  |  |  |
| Power tolerance（\％） | 0－3\％ |  |  |  |  |

Dimensions


Temperature Coefficients

| Nominal operating cell temperature（NOCT） | $47^{\circ} \mathrm{C} \pm 2^{\circ} \mathrm{C}$ |
| :--- | :--- |
| Temperature coefficient of power（PMAX） | $-0.43 \mathrm{~W} /{ }^{\circ} \mathrm{C}$ |
| Temperature coefficient（VOC） | $-0.31 \mathrm{~V} /{ }^{\circ} \mathrm{C}$ |
| Temperature coefficient（ISC） | $0.03 \mathrm{~A} /{ }^{\circ} \mathrm{C}$ |
| Hail diameter $23 \mathrm{~m} / \mathrm{s}$ | Up to 25 mm |
| Continuous wind pressure | $<5400 \mathrm{~Pa}$ |

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

The performance warranty is for 25 years：After 10 years，modules still produce a minimumt $90 \%$ of their nominal performance．After 25 years modules still produce a minimum $80 \%$ or their nominal performance．

