



**MAGE  
POWERTEC® PLUS**  
Solar Modules

MAGE POWERTEC® Plus  
220/6PJ, 225/6PJ, 230/6PJ



### More power

MAGE POWERTEC® Plus modules use a polycrystalline cell technology with an electrical efficiency of up to 15.75%.

Allowable tolerances of up to +5 watts guarantee maximum power without compromise. The nominal power is always obtained or even exceeded.

### More quality

The 10-year product warranty far surpasses legal requirements. MAGE POWERTEC® Plus modules go far beyond competitors' standards with the added guarantee that they'll produce 90% of their nominal power for 12 years and 80% for 30 years. That is three full decades of reassurance.

Certifications according to the most rigorous North American and international standards guarantee maximum quality.

In addition, every MAGE POWERTEC® Plus module passes rigorous optical, mechanical, and electrical quality controls.

### More security

Due to their engineered hollow-section frame and 3.2 mm (0.13 in) special solar glass, MAGE POWERTEC® Plus modules meet maximum demands with regard to stability and corrosion resistance. The high-quality EVA foil allows ideal embedding of the solar cells, while the weatherproof foil on the back of the modules protects against humidity.

To avoid overheating of the individual solar cells (hot-spot effect), a junction box with bypass diodes is placed on the back of the module. In addition, the extremely robust modules resist a maximum pressure of 5,400 Pa/113 psf.

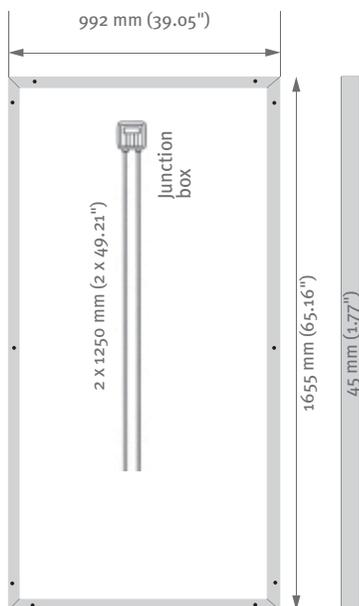
**+5** Watts  
Positive  
Tolerances

**10** Year  
Product  
Warranty

**12** Year 90%  
Power  
Guarantee

**30** Year 80%  
Power  
Guarantee

## MAGE POWERTEC® Plus 220/6PJ, 225/6PJ, 230/6PJ

Technical Facts	220/6PJ	225/6PJ	230/6PJ
Number of Cells (Matrix)	60 (6 x 10)	60 (6 x 10)	60 (6 x 10)
Solar Cell Type	polycrystalline	polycrystalline	polycrystalline
Solar Cell Size (mm)	156 x 156	156 x 156	156 x 156
Solar Cell Size (in)	6 x 6	6 x 6	6 x 6
Dimensions (L x W x D mm)	1655 x 992 x 45	1655 x 992 x 45	1655 x 992 x 45
Dimensions (L x W x D in)	65.16 x 39.05 x 1.77	65.16 x 39.05 x 1.77	65.16 x 39.05 x 1.77
Weight (kg)	22.50	22.50	22.50
Weight (lbs)	49.60	49.60	49.60
Fire Rating	C	C	C

Electrical Characteristics*		220/6PJ	225/6PJ	230/6PJ
Maximum Power Rating	$P_{max}$ [Wp]	220	225	230
Tolerance of $P_{max}$	$P$ [Wp]	-0/+5	-0/+5	-0/+5
Maximum Power Voltage of $P_{max}$	$U_{mpp}$ [V]	30.00	30.10	30.20
Maximum Power Current $P_{max}$	$I_{mpp}$ [A]	7.34	7.48	7.62
Short Circuit Current	$I_{sc}$ [A]	8.10	8.20	8.31
Open Circuit Voltage	$U_{oc}$ [V]	36.60	36.80	36.90
Module Efficiency	[%]	13.55	13.86	14.16
Cell Efficiency	[%]	15.00	15.40	15.75
Maximum System Voltage	[V]	600	600	600

\* STC @ 25°C (77°F), 1000 W/m<sup>2</sup>, AM 1.5

Thermal Characteristics		220/6PJ	225/6PJ	230/6PJ
NOCT	[°C]	+47 +/-2	+47 +/-2	+47 +/-2
NOCT	[°F]	+116.60 +/-35.60	+116.60 +/-35.60	+116.60 +/-35.60
Temperature Coefficient	$I_{sc}$ [% / K]	+0.055	+0.055	+0.055
Temperature Coefficient	$U_{oc}$ [% / K]	-0.347	-0.347	-0.347
Temperature Coefficient	$P_{max}$ [% / K]	-0.48	-0.48	-0.48

### Guarantees and Certificates

Product Warranty	10 years
Power Guarantee 90%	12 years
Power Guarantee 80%	30 years

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ISO 9001, UL 1703,  
ULC ORD 1703, IEC 61215,  
IEC 61730

FSEC listed  
CEC listed