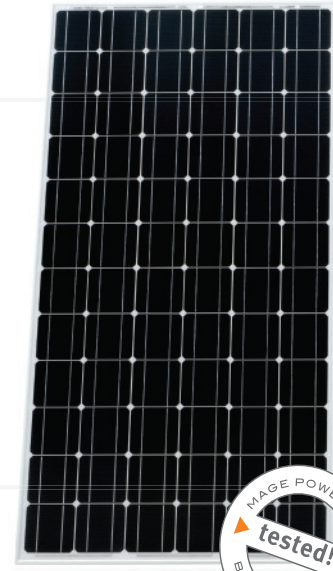




PHOTOVOLTAIC MODULES MAGE POWERTEC® PLUS 190 / 5 MH-US



Number of Cells: 72
Solar Cell Type: monocrystalline
Power class: 190 Wp
Cell Efficiency: 17.80 %



MAGE POWERTEC® PLUS

More Power

MAGE POWERTEC® PLUS modules use a monocrystalline cell technology with a module efficiency of up to 15.27%.

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 industry standards. 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	10	12	30
WATTS POSITIVE TOLERANCES	YEAR PRODUCT WARRANTY	YEAR 90% POWER GUARANTEE	YEAR 80% POWER GUARANTEE

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PHOTOVOLTAIC MODULES

MAGE POWERTEC® PLUS 190 / 5 MH-US

Electrical Characteristics*		190 / 5 MH-US
Maximum Power Rating	P_{max} [Wp]	190
Tolerance of P_{max}	P [Wp]	-0/+5
Maximum Power Voltage of P_{max}	U_{mpp} [V]	36.50
Maximum Power Current P_{max}	I_{mpp} [A]	5.21
Short Circuit Current	I_{sc} [A]	5.53
Open Circuit Voltage	U_{oc} [V]	45.20
Maximum System Voltage	[V]	600
Maximum Series Fuse		10 A

* STC @ 25° C, 1000 W/m², AM 1.5

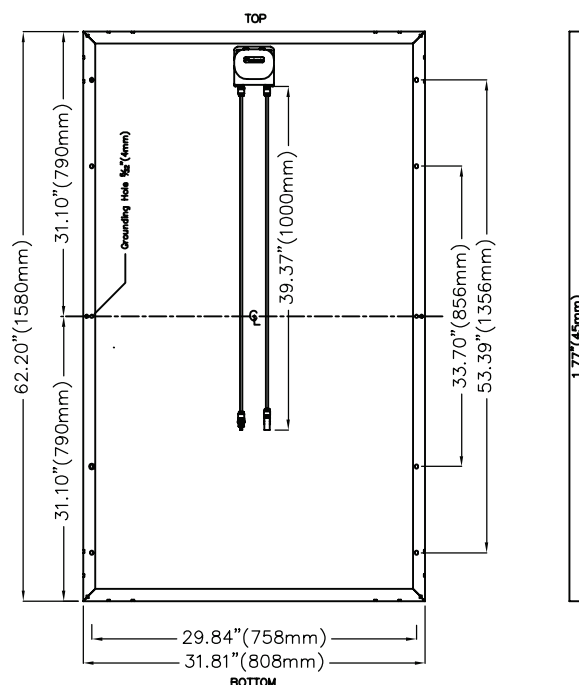
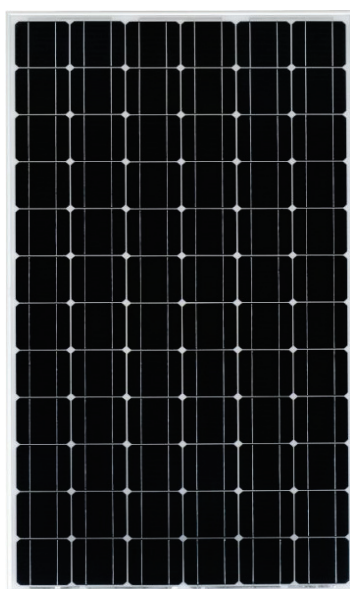
Efficiency		190 / 5 MH-US
Cell [%]		17.80
Module [%]		15.27

Technical Facts		190 / 5 MH-US
Number of Cells (Matrix)		72 (6 x 12)
Solar Cell Type		monocrystalline
Solar Cell Size (mm)		125 x 125
Solar Cell Size (in)		5 x 5
Dimensions [L x W x D mm]		1580 x 808 x 45
Dimensions [L x W x D in]		62.20 x 31.81 x 1.77
Weight [kg]		15.50
Weight [lbs]		34.20

Thermal Characteristics

190 / 5 MH-US

NOCT	[°C]	+ 48 +/- 2
Temperature Coefficient	I_{sc} [% / K]	+ 0.09
Temperature Coefficient	U_{oc} [% / K]	- 0.34
Temperature Coefficient	P_{max} [% / K]	- 0.37



Designed in Germany – Assembled in USA*

*Dependent on market and/or product



IEC 61215, IEC 61730,
CEC, FSEC