

PHOTOVOLTAIC MODULES

MAGE POWERTEC PLUS Mono Black

MAGE POWERTEC PLUS convinces by:

1. Flexible Planning

- › Modules for all installation sizes
- › Maximum efficiency
- › Suitable for use in coastal and agricultural areas

2. Easy Installation

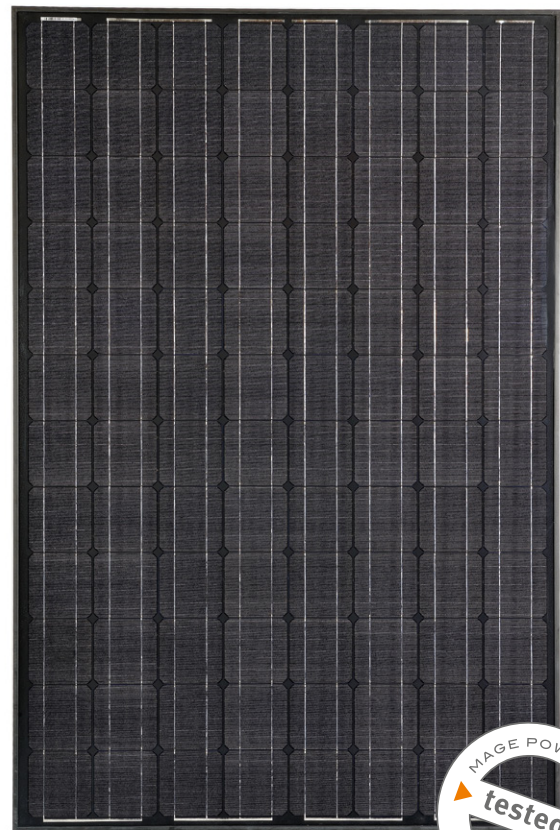
- › Low weight, convenient format
- › Horizontal and vertical installation possible
- › Optimal utilisation of the roof surface

3. Maximum Yield

- › Top annual result in the PHOTON yield test
- › Only positive tolerances of up to 5 Wp
- › Only the best performance

4. Long Lifetime

- › Product warranty: 10 years
- › Performance guarantee: 12 years at 90% and 30 years at 80%*
- › Certified according to the strictest German and international standards



*according to our warranty conditions valid at the time of purchase, available from your MAGE SOLAR qualified partner or from MAGE SOLAR AG.

+ 5

WATTS
POSITIVE
TOLERANCE

10

YEAR
PRODUCT-
WARRANTY*

12

YEAR
PERFORMANCE
GUARANTEE 90%*

30

YEAR
PERFORMANCE
GUARANTEE 80%*

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Electrical characteristics at STC*		255	260	265	270
Nominal power	P_{nom} [Wp]	255	260	265	270
Tolerance of P_{nom}	P [Wp]	-0/+5	-0/+5	-0/+5	-0/+5
Voltage at P_{nom}	U_{nom} [V]	49.30	49.40	49.50	49.60
Current at P_{nom}	I_{nom} [A]	5.18	5.27	5.36	5.45
Short circuit current	I_{sc} [A]	5.70	5.80	5.90	6.00
Open circuit voltage	U_{oc} [V]	59.30	59.40	59.60	59.90
Maximum system voltage	U_{syst} [V]	1000	1000	1000	1000
Reverse current	I_r [A]	10	10	10	10

*Typical parameters at standard test conditions (STC): 1,000 W/m² irradiation on the module surface, 25°C module temperature, 1.5 AM spectral diffusion of irradiation simulating Air-Mass.

Electrical characteristics at NOCT**		255	260	265	270
Nominal power	P_{noct} [Wp]	184.45	187.96	191.71	195.33
Voltage at P_{noct}	U_{noct} [V]	44.77	44.86	44.95	45.05
Current at P_{noct}	I_{noct} [A]	4.12	4.19	4.26	4.33
Short circuit current	I_{sc} [A]	4.55	4.63	4.71	4.79
Open circuit voltage	U_{oc} [V]	53.46	53.55	53.73	54.00

**Typical parameters at nominal operating cell temperature (NOCT): 800 W/m² irradiation, 20°C ambient temperature, 1 m/s wind speed.

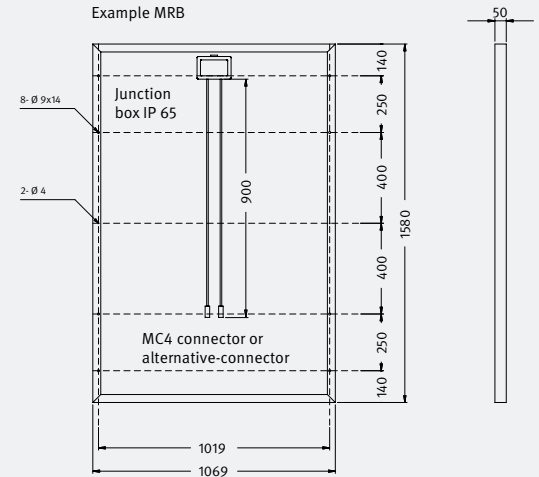
Efficiency		255	260	265	270
Cell efficiency up to [%]		17.80	18.10	18.30	18.33
Module efficiency up to [%]		15.49	15.79	16.09	16.38

Minimal efficiency reduction in low irradiation at 25°C: at 200 W/m² irradiation a minimal efficiency reduction occurs, this leads to a functionality of 96% of the STC efficiency.

Technical characteristics***	
Number of cells (Matrix)	96 (8 x 12)
Solar cell type	Monocrystalline silicon, 125 x 125 mm, 5"
Front cover	3.2 mm solar glass
Frame material	Aluminium
Dimensions [L x W x D]	1580 x 1069 x 50 mm / 1580 x 1062 x 40 mm
Weight up to	19.5 kg
Maximum mechanical load	5400 Pa (IEC 61215)
Number of bypass diodes	4

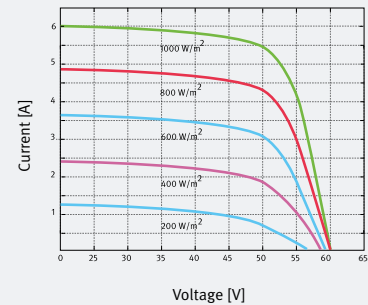
***Typical technical specifications

Thermal characteristics		
NOCT	[°C]	+45 +/-3
Temperature coefficient	I_{sc} [%/K]	+0.05
Temperature coefficient	U_{oc} [%/K]	-0.32
Temperature coefficient	P_{nom} [%/K]	-0.42

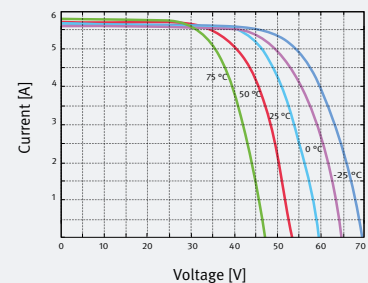


All lengths in mm
MRB: 1580 x 1069 x 50 mm
MOB: 1580 x 1062 x 40 mm

Module characteristics at constant module temperatures (25°C) and differing levels of irradiance.



Module characteristics at different temperatures and constant module irradiance (1.000 W/m²).



IEC 61215, IEC 61730, ISO 9001
Dependent on market and/or product