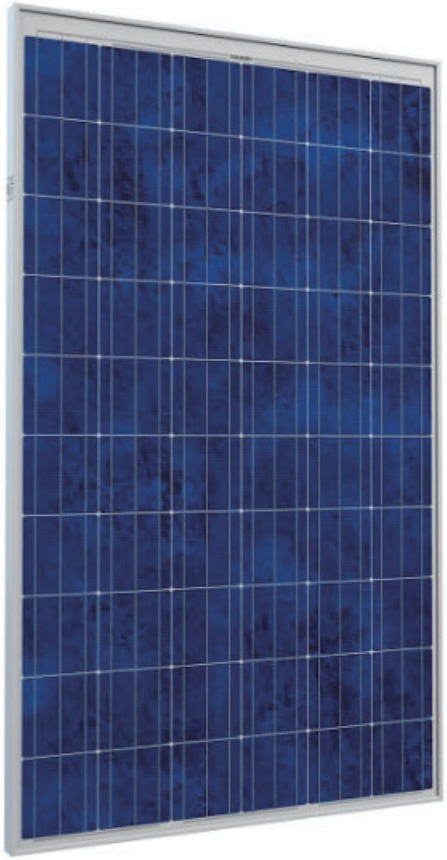
MÜNSTERLAND®
SOLAR
A SECURE INVESTMENT



We develop and manufacture high-quality photovoltaic modules with the highest quality standards directly to the global market. This allows us to make an active contribution to climate protection, as less carbon dioxide (CO_2) is emitted. But the most important aspect from our perspective is to avoid the use of non-renewable (fossil) fuels such as coal, oil, gas and uranium. Because only the 100% usage creates a more **sustainable** and **better** energy.

Quality comes first. The price certainly is a crucial factor in the construction of a plant, but what is the use of the best price, if the modules do not provide the full capacity after 10 years due to bad components . We focus on continuous monitoring of production processes to ensure long-lasting and consistent quality.

Investing in a photovoltaic system is one of the safest and easiest forms of investment for everyone. Because power is always needed, and the generated current is **100% organic**.And with photovoltaic modules from Münsterland Solar you are not only technically, you are also legally secure. In addition to our extensive product guarantees of up to 25 years.

And the best is:

You get Münsterland Solar modules for top conditions!

GERMAN PRODUCT WARRANTY

371 kWp, Germany

100 kWp, Australia

71 kWp, Germany

90 kWp, Germany

1.7 MW, Netherlands

4.2 MW, Spain

30 kWp, Germany

2014

2013

60,000 more families in Oceania are using Münsterland Solar products

2012

46MW sales in Oceania (Australia, New Zealand, etc)

2011

Start sales in Australia Martket

2008

Start Solar module production in Germany

www.muensterlandsolar.com

MLS230P-60 **MLS235P-60** **MLS240P-60**
MLS245P-60 **MLS250P-60** **MLS255P-60**

MÜNSTERLAND® SOLAR
A SECURE INVESTMENT

LONG-TERM PRODUCT
AND ACHIEVEMENT WARRANTY

25 YEAR 80% LINEAR POWER

10 YEAR 90% LINEAR POWER

10 YEAR PRODUCT

ELECTRICAL CHARACTERISTICS

MODULE TYPE	230P-60	235P-60	240P-60	245P-60	250P-60	255P-60
Optimum Operating Voltage (Vmax/V)	30.00	30.00	30.00	30.20	30.40	30.40
Optimum Operating Current (Impp/A)	7.67	7.83	8.00	8.11	8.22	8.39
Open-Circuit Voltage (Voc/V)	36.00	36.00	36.00	37.75	38.00	38.00
Short-Circuit Current (Isc/A)	8.59	8.77	8.96	9.25	9.37	9.56
Maximum Power at STC (Pmax/W)	230	235	240	245	250	255
Cell Efficency (%)	18.15%	18.35%	18.45%	18.55%	18.60%	18.65%
Module Efficency (%)	14.55%	14.75%	14.95%	15.15%	15.45%	15.75%
Operating Module Temperature (°C)	-40 °C to + 85 °C					
Maximum System Voltage (V)	1000 V DC					
Maximum Series Fuse Rating (A)	15A					
Power Tolerance (%)	0/+5%					

STC: Irradiance 1000 W/m² module temperature 25°C AM 1.5; Power measurement tolerance: 0~+5%

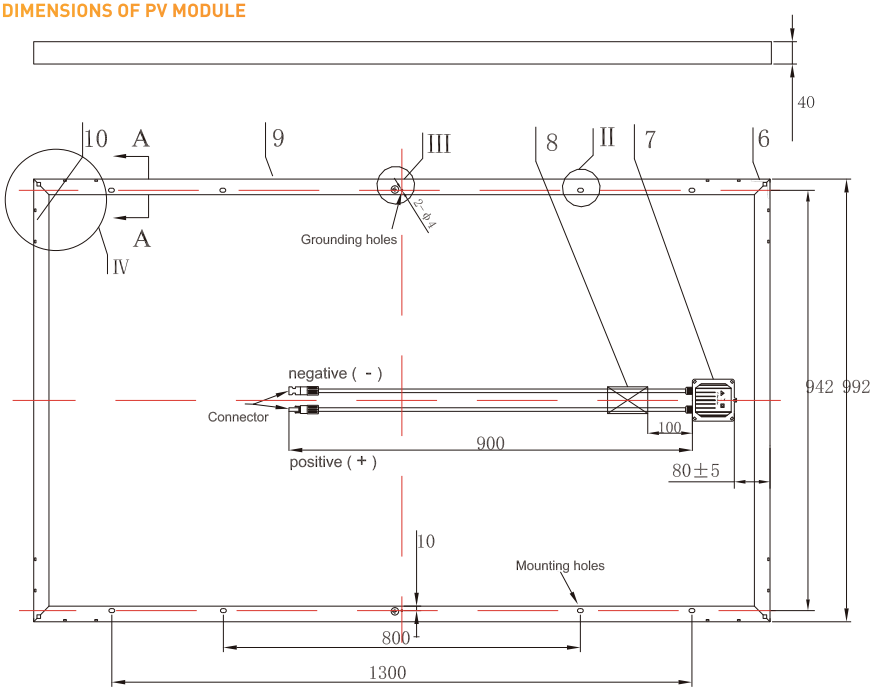
MECHANICAL CHARACTERISTICS

Solar Cell	polystalline (156 * 156 mm)
No. of Cells	60 (6*10)
Dimensions	1650 * 992 * 40 mm
Weight	19.5 kg
Front Glass	3.2 mm tempered glass
Frame	anodized aluminium alloy
Junction Box	TÜV certified / IP65 / IP 67
Output Cables (length/cross-sectional-areal)	900 mm / 4.0 mm²

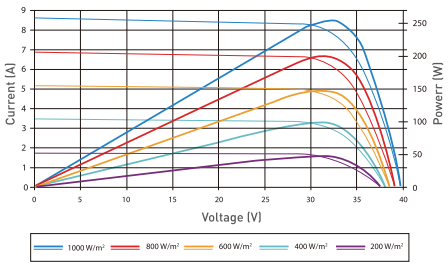
TEMPERATURE CHARACTERISTICS

Nominal Operating Cell Temperature (NOCT)	45 °C
Temperature Coefficent of Pmax	-0.44 %/°C
Temperature Coefficent of Voc	-0.33 %/°C
Temperature Coefficent of Isc	0.050 %/°C

DIMENSIONS OF PV MODULE



CURRENT-VOLTAGE & POWER-VOLTAGE CURVE



For more products infomation, please contact your local distributor.

HIGH MODULE EFFICIENCY
Solar cells efficiencies up to 18.85%
Module efficiency up to 16.35%

POSITIVE TOLERANCE
5%
Guaranteed positive tolerance from 5% ensures power output reliability

EXCELLENT WEAK PERFORMANCE
By the low cells-nominal operating temperature Münsterland Solar modules are suitable for regions with weak light.

PREMIUM QUALITY OF RAW MATERIALS
Premium quality 9-N poly-silicon as raw material, advanced process and the authorized agency test guarantees the reliability of modules

GERMAN GUARENTEE
We are your direct contact for guarantee questions. And by our enlarged product liability insurance we provide for 100% security.

GERMAN QUALITY ASSURANCE
A high product quality is guaranteed by the permanent production supervision as well as the observance of the standardised processes.

GERMAN PRODUCT WARRANTY

TÜV SÜD

Clean Energy Council

www.muensterlandsolar.com