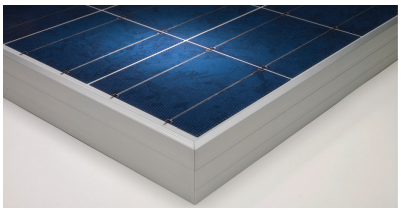
MünchenSolar
MAXIMALENERGIE



12 year product warranty

25 year power output warranty

# Ü Series

## Multicrystalline MSPxxxAS-36.EU

### ABOUT MUNCHEN SOLAR

MÜNCHEN SOLAR is one of the most innovation, reliability, quality and value focussed companies in the entire sector thanks to its focus on solar modules and technology ranging from roof systems to full-scale power plants. With markets in Germany, Japan, China, Australia and the Americas, München Solar is truly a global provider in the field of solar power.

Whether you're picking solar modules for your residential / commercial roof system or power plant, you know you can rely on the München Solar brand. Customers who choose München Solar know we will deliver maximum performance with the highest quality product at the best value.

### PERFORMANCE

Tight positive power tolerance of -0%/W to +3%/W ensures you receive modules at or above nameplate power and contributes to minimizing module mismatch losses leading to improved system yield.

Multicrystalline silicon solar cells with low-iron tempered high transmission and textured glass deliver a module efficiency of up to 15.4%, maximizing the kWh output of your system per unit area.

### QUALITY & RELIABILITY

- Assembled in EU
- Rigorous quality controls meet the highest international standards: ISO 9001: 2008, ISO 14001: 2004 and ISO 17025: 2005
- Tested for harsh environments (salt mist and ammonia corrosion testing: IEC 61701, DIN 50916:1985 T2)
- Modules independently tested to ensure conformance with certification and regulatory standards.

### WARRANTIES

12 year limited product warranty
25 year limited power output warranty
Please refer to our Warranty Terms and Conditions

IEC TÜV SÜD MCS CE ISO PV CYCLE

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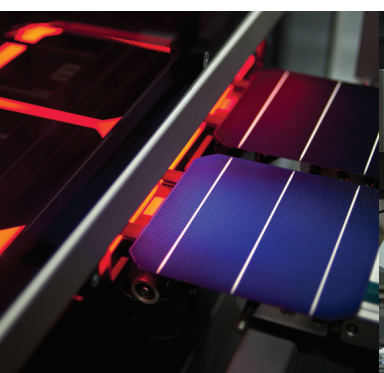



# Ü Series

## Multicrystalline MSPxxxAS-36.EU

### ELECTRICAL PERFORMANCE

Electrical parameters at Standard Test Conditions (STC)

| Module Type | | | MSPxxxAS-36.EU (xxx=$P_{max}$) | | | | |
|---|---|---|---|---|---|---|---|
| Power output | $P_{max}$ | | 280 | 285 | 290 | 295 | 300 |
| Power output tolerances | $\Delta P_{max}$ | % | 0 / +3 | | | | |
| Module efficiency | $\eta_m$ | % | 14.43 | 14.69 | 14.95 | 15.20 | 15.46 |
| Voltage at $P_{max}$ | $V_{mpp}$ | V | 36.89 | 36.92 | 37.08 | 37.25 | 37.42 |
| Current at $P_{max}$ | $I_{mpp}$ | A | 7.57 | 7.72 | 7.82 | 7.92 | 8.02 |
| Open circuit voltage | $V_{oc}$ | V | 44.31 | 44.05 | 44.32 | 44.40 | 44.48 |
| Short circuit current | $I_{sc}$ | A | 8.10 | 8.26 | 8.37 | 8.47 | 8.58 |

STC: 1000W/m² irradiance, 25°C cell temperature, AM1.5g spectrum according to EN 60904-3.
Average relative efficiency reduction of 5% at 200W/m² according to EN 60904-1.

### THERMAL CHARACTERISTICS

| | | | |
|---|---|---|---|
| Nominal operating cell temperature | NOCT | °C | 47 +/-2 |
| Temperature coefficient of $P_{max}$ | $\gamma$ | % / °C | -0.45 |
| Temperature coefficient of $V_{oc}$ | $\beta_{Voc}$ | % / °C | -0.33 |
| Temperature coefficient of $I_{sc}$ | $\alpha_{Isc}$ | % / °C | +0.04 |
| Temperature coefficient of $V_{mpp}$ | $\beta$Vmpp | % / °C | -0.35 |

NOCT: open-circuit module operation temperature at 800W/m² irradiance, 20°C ambient temperature, 1m/s wind speed.

### OPERATING CONDITIONS

| | |
|---|---|
| Max. System Voltage | 1000VDC |
| Max. series fuse rating | 15A |
| Limiting reverse current | 15A |
| Operating temperature range | -40°C to 85°C |
| Max. static load, front (e.g., snow and wind) | 5400Pa |
| Max. static load, back (e.g., wind) | 2400Pa |
| Max. hailstone impact (diameter / velocity) | 25mm / 23m/s |

### MECHANICAL CHARACTERISTICS

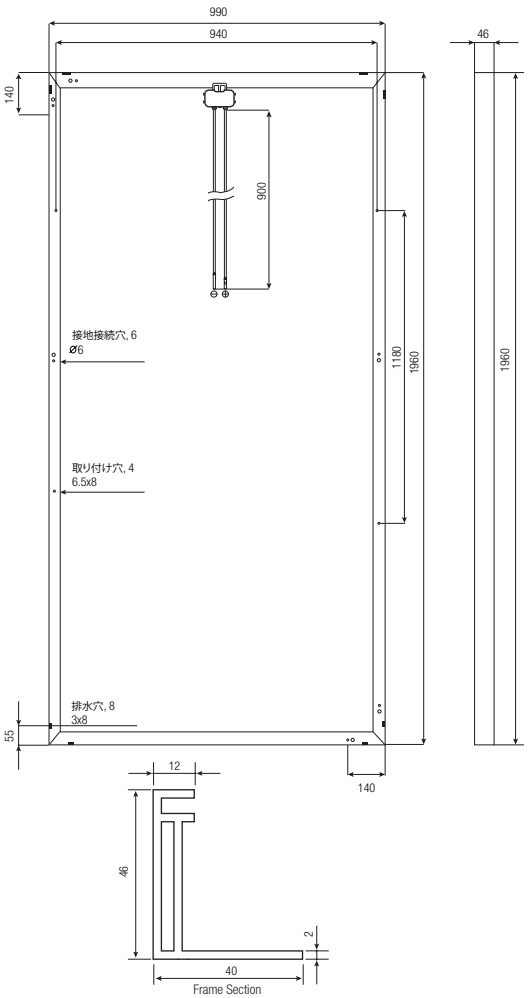
| | |
|---|---|
| Front Cover (material / thickness) | low-iron tempered glass / 3.2mm |
| Cell (quanity / material / dimensions) | 72 / multicrystalline silicon / 6" x 6" |
| Encapsulant (material) | EVA |
| Frame material | anodized aluminum alloy |
| Junction box (protection degree) | ≥ IP65 with bypass-diode |
| Cable (length / cross sectional area) | 900mm / 4mm² |
| Plug connector (type / protection degree) | MC4 / IP67 |
| Fire Safety Classification (IEC 61730) | Class C |

Specifications are subject to change without notice.

### GENERAL CHARACTERISTIC

| | |
|---|---|
| Dimensions | 1960mm / 990mm / 46mm |
| Weight | 26kg |

Unit: mm




### PARTNERS

MünchenSolar
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