

YGE 235 SERIES

YL245P-29b
YL240P-29b
YL235P-29b
YL230P-29b
YL225P-29b



ABOUT YINGLI GREEN ENERGY

Yingli Green Energy Holding Company Limited (NYSE: YGE) is one of the world's largest fully vertically integrated PV manufacturers, which markets its products under the brand "Yingli Solar". With over 2GW of modules installed globally, we are a leading solar energy company built upon proven product reliability and sustainable performance. We are the first renewable energy company and the first Chinese company to sponsor the FIFA World Cup™.

PERFORMANCE

- High efficiency, multicrystalline solar cells with high transmission and textured glass deliver a module efficiency of up to 15.0%, minimizing installation costs and maximizing the kWh output of your system per unit area.
- Power tolerance of +/-3% minimising PV system mismatch losses.

QUALITY & RELIABILITY

- Robust, corrosion resistant aluminum frames independently tested to withstand wind loads of up to 2.4kPa and snow loads of up to 5.4kPa ensuring a stable mechanical life for your modules.
- Module packaging optimized to protect product during transportation and minimize on-site waste.
- Modules independently tested to ensure conformance with certification and regulatory standards.
- Manufacturing facility certified by TÜV Rheinland to ISO 9001:2008, ISO 14001:2004 and BS OHSAS 18001:2007.

WARRANTIES

- 5-year limited product warranty¹.
- Limited power warranty¹: 10 years at 90% of the minimal rated power output, 25 years at 80% of the minimal rated power output.

¹ In compliance with our Warranty Terms and Conditions.

QUALIFICATIONS & CERTIFICATES

IEC 61215, IEC 61730, CE, ISO 9001:2008, ISO 14001:2004, BS OHSAS 18001:2007, SA 8000, PV Cycle



YINGLISOLAR.COM



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YGE 235 SERIES

ELECTRICAL PERFORMANCE

Electrical parameters at Standard Test Conditions (STC)

| Module name | | | YGE 245 | YGE 240 | YGE 235 | YGE 230 | YGE 225 |
|-------------------------|------------------|---|------------|------------|------------|------------|------------|
| Module type | | | YL245P-29b | YL240P-29b | YL235P-29b | YL230P-29b | YL225P-29b |
| Power output | P_{max} | W | 245 | 240 | 235 | 230 | 225 |
| Power output tolerances | ΔP_{max} | % | +/- 3 | | | | |
| Module efficiency | η_m | % | 15.0 | 14.7 | 14.4 | 14.1 | 13.8 |
| Voltage at P_{max} | V_{mpp} | V | 30.2 | 29.5 | 29.5 | 29.5 | 29.5 |
| Current at P_{max} | I_{mpp} | A | 8.11 | 8.14 | 7.97 | 7.80 | 7.63 |
| Open-circuit voltage | V_{oc} | V | 37.8 | 37.5 | 37.0 | 37.0 | 36.5 |
| Short-circuit current | I_{sc} | A | 8.63 | 8.65 | 8.54 | 8.40 | 8.28 |

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

Electrical parameters at Nominal Operating Cell Temperature (NOCT)

| Power output | P_{max} | W | 177.9 | 174.3 | 170.7 | 167.0 | 163.4 |
|-----------------------|-----------|---|-------|-------|-------|-------|-------|
| Voltage at P_{max} | V_{mpp} | V | 27.2 | 26.6 | 26.6 | 26.6 | 26.6 |
| Current at P_{max} | I_{mpp} | A | 6.54 | 6.56 | 6.42 | 6.29 | 6.15 |
| Open-circuit voltage | V_{oc} | V | 34.5 | 34.2 | 33.8 | 33.8 | 33.3 |
| Short-circuit current | I_{sc} | A | 6.99 | 7.01 | 6.92 | 6.81 | 6.71 |

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

THERMAL CHARACTERISTICS

| Nominal operating cell temperature | NOCT | °C | 46 +/- 2 |
|--------------------------------------|----------------|------|----------|
| Temperature coefficient of P_{max} | γ | %/°C | -0.45 |
| Temperature coefficient of V_{oc} | β_{Voc} | %/°C | -0.37 |
| Temperature coefficient of I_{sc} | α_{Isc} | %/°C | 0.06 |

OPERATING CONDITIONS

| | |
|---|--|
| Max. system voltage | 1000V _{DC} |
| Max. series fuse rating | 15A |
| Limiting reverse current | Do not apply external voltages larger than V_{oc} of the module. |
| Operating temperature range | -40 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 |

CONSTRUCTION MATERIALS

| | |
|--|--|
| Front cover (material / type / thickness) | low-iron tempered glass / 3.2mm |
| Cell (quantity / material / type / dimensions) | 60 / multicrystalline / 156mm x 156mm |
| Encapsulant (material) | ethylene vinyl acetate (EVA) |
| Frame (material / color / anodization color) | anodized aluminum alloy / silver / clear |
| Junction box (protection degree) | IP65 |
| Cable (length / cross-sectional area) | 1200mm / 4mm ² |
| Plug connector (type / protection degree) | MC4 / IP67 or Amphenol H4 / IP68 |

- Due to continuous innovation, research and product improvement, the specifications in this product information sheet are subject to change without prior notice. The specifications may deviate slightly and are not guaranteed.
- The data do not refer to a single module and they are not part of the offer, they only serve for comparison to different module types.

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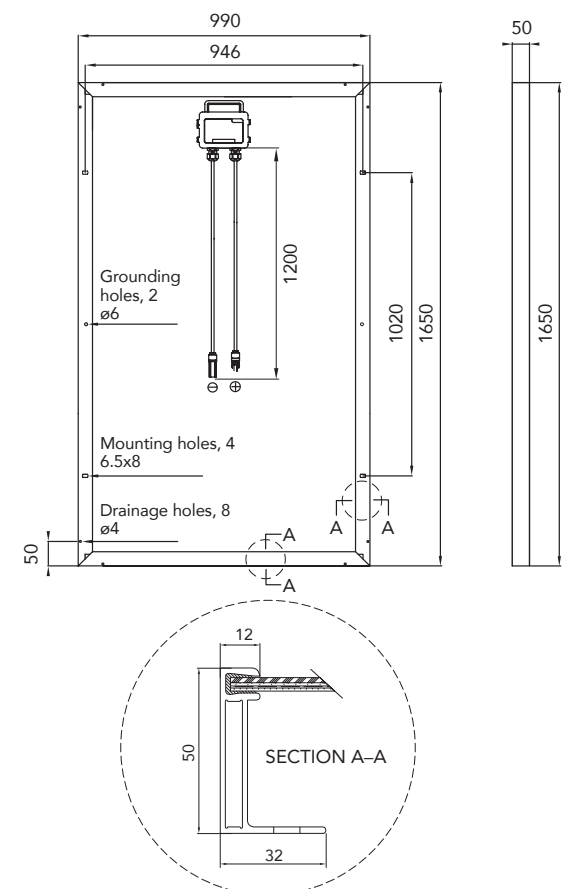
GENERAL CHARACTERISTICS

| | |
|------------------------|-----------------------|
| Dimensions (L / W / H) | 1650mm / 990mm / 50mm |
| Weight | 19.5kg |

PACKAGING SPECIFICATIONS

| | |
|--------------------------------------|--------------------------|
| Number of modules per pallet | 20 |
| Number of pallets per 40' container | 28 |
| Packaging box dimensions (L / W / H) | 1700mm / 1150mm / 1190mm |
| Box weight | 427kg |

Unit: mm



Warning: Read the instruction manual in its entirety before handling, installing, and operating Yingli Solar modules.

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