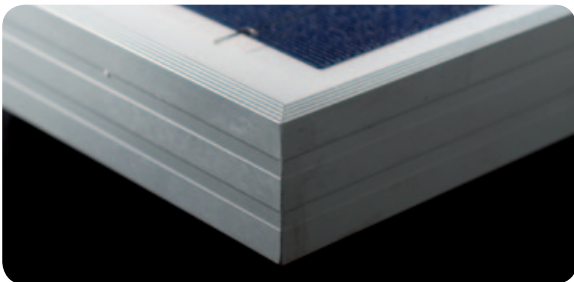
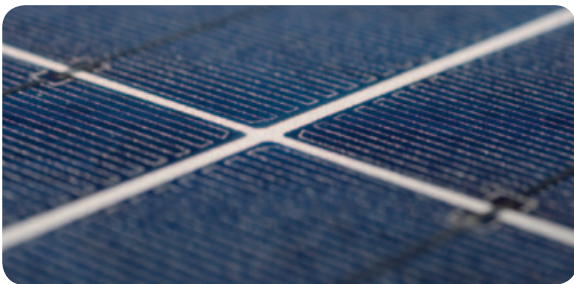
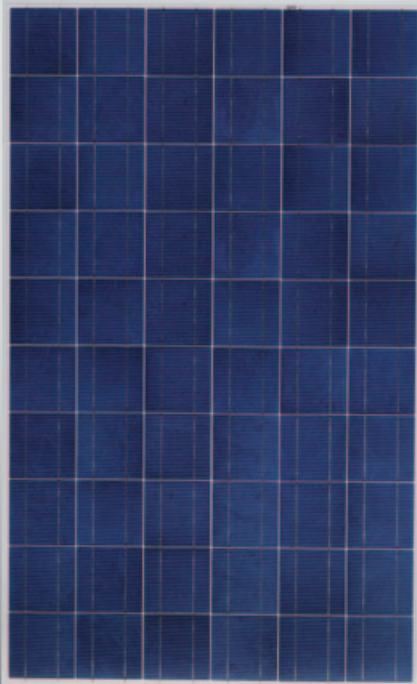


YL 235 P-29b / 1650x990 SERIES

YL 210 P-29b . YL 215 P-29b . YL 220 P-29b
YL 225 P-29b . YL 230 P-29b . YL 235 P-29b



ABOUT YINGLI SOLAR

Yingli Solar is a vertically integrated manufacturer of solar photovoltaic modules. Under one roof we manufacture our ingots, wafers, cells and modules. This ensures that we can tightly control our material and production quality, offering our customers leading product durability and sustainable performance backed by our 25 year limited power warranty*.

PERFORMANCE

- >> High efficiency, polycrystalline solar cells with high transmission and textured glass delivering a module series efficiency of up to 14.4%, minimising installation costs and maximising the kWh output of your system per unit area.
- >> Power tolerance of +/-3% minimising PV system mismatch losses.

QUALITY & RELIABILITY

- >> Robust, corrosion resistant aluminium frame independently tested to withstand wind loads of 2.4KPa and snow loads of 5.4KPa ensuring a stable mechanical life for your modules.
- >> Take confidence in our modules with a 5 year limited product warranty and a 25 year limited power warranty*.
- >> Modules protected by box during transportation and with 20 modules in a box on-site waste is minimised.
- >> Modules independently tested to ensure conformance with certification and regulatory standards.
- >> Manufacturing facility certified to ISO 9001 Quality Management System standards.

WARRANTIES

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

QUALIFICATIONS AND CERTIFICATES

IEC 61215 Edition 2, IEC 61730 Class A, CE, ISO 9001



- Qualified, IEC 61215
- Safety tested, IEC 61730
- Periodic Inspection



* In compliance with our Warranty Terms and Conditions

YL 235 P-29b / 1650x990 SERIES

ELECTRICAL PARAMETERS

Electrical parameters at STC (1,000 W/m², 25°C, AM 1.5 according to EN 60904-3)

| Module type | YL 210 P-29b | YL 215 P-29b | YL 220 P-29b | YL 225 P-29b | YL 230 P-29b | YL 235 P-29b |
|--|--------------|--------------|--------------|--------------|--------------|--------------|
| Power output [W] | 210.0 | 215.0 | 220.0 | 225.0 | 230.0 | 235.0 |
| Power output tolerances [%] | +/- 3 | +/- 3 | +/- 3 | +/- 3 | +/- 3 | +/- 3 |
| Module Efficiency [%] | 12.9 | 13.2 | 13.5 | 13.8 | 14.1 | 14.4 |
| Voltage at P _{max} , V _{mpp} [V] | 28.5 | 29.0 | 29.0 | 29.5 | 29.5 | 29.5 |
| Current at P _{max} , I _{mpp} [A] | 7.37 | 7.41 | 7.59 | 7.63 | 7.80 | 7.97 |
| Open circuit voltage V _{oc} [V] | 36.0 | 36.0 | 36.5 | 36.5 | 37.0 | 37.0 |
| Short circuit current I _{sc} [A] | 7.95 | 8.10 | 8.15 | 8.28 | 8.40 | 8.54 |
| Max. system Voltage [V] | 1,000 VDC | | | | | |

Parameters of the thermal characteristics

| | |
|---|----------|
| NOCT (Nominal Operating Cell Temperature) [°C] | 46 +/- 2 |
| Temperature coefficient beta of I _{sc} [1/K] | + 0.0006 |
| Temperature coefficient alpha of V _{oc} [1/K] | - 0.0037 |
| Temperature coefficient gamma of P _{mpp} [1/K] | - 0.0045 |

MECHANICAL PARAMETERS

| | |
|---|---|
| Dimensions (length [mm] / width [mm] / thickness [mm]) | 1,650 / 990 / 50 |
| Thickness with junction box [mm] | 50 |
| Weight [kg] | 19.8 |
| Junction box (manufacturer / protection degree / number of diodes) | CIXI / IP65 / 6 |
| Junction box dimensions (length / width / thickness [mm]) | 151 / 122 / 25 |
| Positive cable & negative cable (manufacturer / length [mm] / cable cross-section [mm ²]) | CIXI / 1,200 (900) / 4.0 |
| Plug connector (manufacturer / type / protection degree) | MC4 / UV resistance and self-locking / IP67 |
| Front cover (material / thickness [mm]) | Tempered Glass, 3.6mm |
| Cell type (quantity / technology) | 60 / polycrystalline / 156 x 156 |
| Encapsulation materials | Ethylene Vinyl Acetate (EVA) |
| Rear cover (material / thickness [mm]) | Le - PET - PVDF / 0.287 |
| Frame (material) | robust anodized aluminum alloy |

OPERATING CONDITIONS

| | |
|--------------------------------------|--------------|
| Operating temperature [°C] | - 40 to + 85 |
| Max. wind load / Max. snow load [Pa] | 2.4K / 5.4K |

PACKAGING

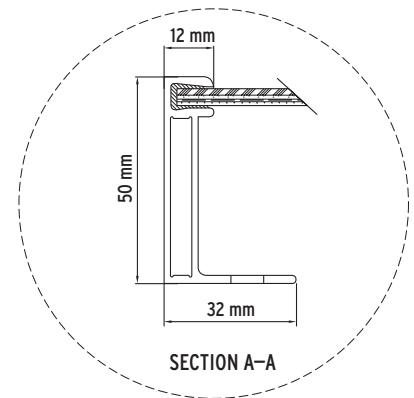
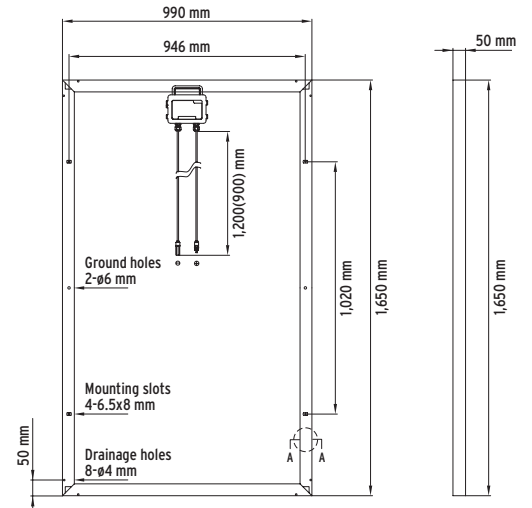
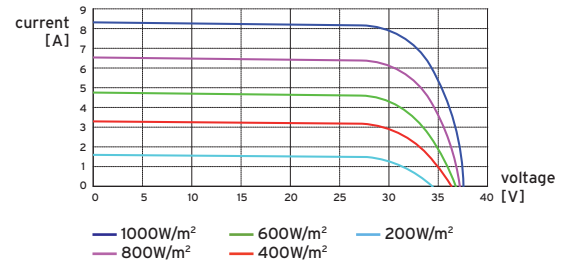
| | |
|--|-----------------------|
| Number of modules per box | 20 |
| Box size (length [mm] / width [mm] / depth [mm]) | 1,700 / 1,140 / 1,165 |
| Box Gross weight in kg | 450 |
| Boxes per pallet | 1 |

* The data does not refer to a single module and they are not part of the offer, they serve for comparison only to different module types.

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Subject to modifications and errors

IV CURVES



Electrical equipment, check with your installer

