



High Efficiency Polycrystalline  
Photovoltaic Module



### Overview

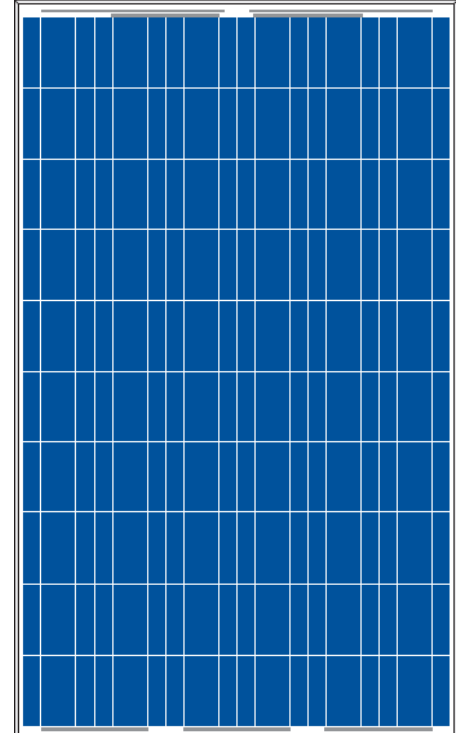
- High cell efficiency with quality silicon material for long term output stability and reliability.
- Rigorous quality control to meet highest international standards.
- High transmittance, low iron tempered glass with enhanced stiffness and impact resistance.
- Unique frame design with high mechanical strength for easy installation.
- Advanced encapsulation material with multilayer sheet lamination to provide long-life and enhanced cell performance.
- Outstanding electrical performance under high temperature and low irradiance conditions.
- 60 polycrystalline high-efficiency solar cells (approx. 16.5%).

### Applications

- Any large or small on-grid /off-grid solar power stations.
- Commercial/industrial building roof-top systems.
- Residential roof-top systems.
- Any commercial/industrial ground mount systems.
- Other industrial and commercial applications.

### Warranty

- 10 year limited product warranty on materials and workmanship.
- 25 years limited power warranty on power output.
- ≥90% power output assurance for 10 years and ≥80% power output assurance for 25 years.
- Refer to warranty certificate for detailed warranty conditions.



### Certifications

- UL1703 ISO 9000:2000
- CE TUV IEC61215 IEC61730



### Mechanical Specifications

Characteristic	Details
Cell Size	156mm x 156mm (6.14" x 6.14")
Module Dimension (L x W x T)	1650mm x 990mm x 40mm (64.9" x 39.0" x 1.57")
No. of Cells	6 x 10 = 60
Weight	19.5 kg (43.3 lbs)
Cable Length	1000mm (39.37") for positive (+) and negative (-)
Type of Connector	MC IV
Junction Box (IP65)	Tonglin, type: TL-BOX005B (E181720)
No. of Holes in Frame	4 draining holes, 4 installation holes, 2 ground line holes, 16 air outlet holes

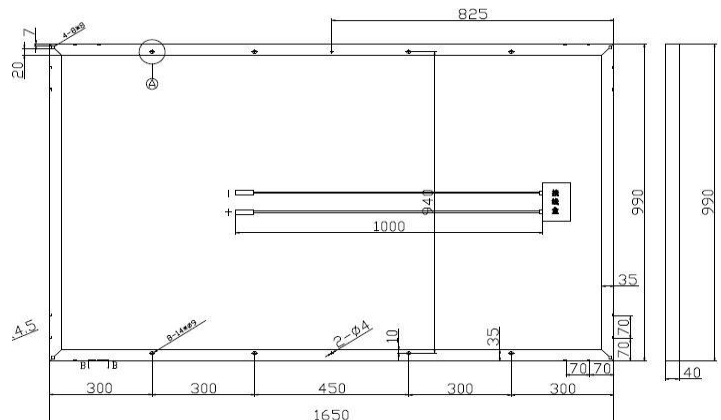
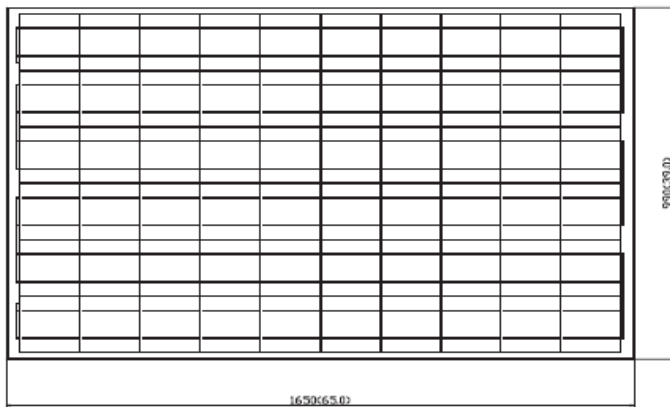
**Electrical Specifications**

(STC\* = 25 °C, 1000W/m<sup>2</sup> irradiance and AM=1.5)

Model	CS-P-230-DJ
Max System Voltage	600 V
Max Peak Power P <sub>max</sub>	230 W (+ 3%)
Maximum Power Point Voltage at STC* V <sub>mpp</sub>	29.7 V
Maximum Power Point Current at STC* I <sub>mpp</sub>	7.74 A
Open Circuit Voltage V <sub>oc</sub>	36.23 V
Short Circuit Current I <sub>sc</sub>	8.70 A
Temperature Coefficient of V <sub>oc</sub>	-0.127 V / °C (-0.35% / °C)
Temperature Coefficient of I <sub>sc</sub>	3.9x10 <sup>-3</sup> A / °C (0.05% / °C)
Temperature Coefficient of P <sub>max</sub>	-1.035 W / °C (-0.45% / °C)

\*Standard Test Conditions

**Physical Specifications mm (in.)**



**Other Performance Data**

Power Tolerance	Operating Temperature	Max Series Fuse Rating	NOCT*
+ 3%	-40 °C to +85 °C	15 A	48 °C +/- 2 °C

\*Normal Operating Cell Temperature

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For 24/7 service or support call

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