

# 230 Watts polycrystalline

## Photovoltaic module CPS230P



Your project: the solution for you



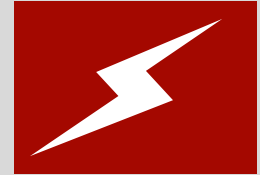
Mechanical strength of the frame reinforced with toothed interlocking system.



European back sheet for a perfect insulation, protection, watertightness and long-term strength



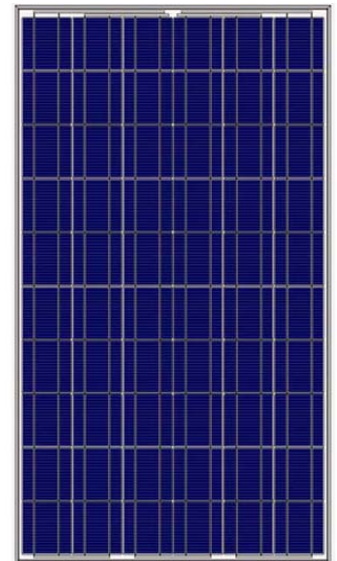
TUV and IP65 certified junction box equipped with MC4 compatible connectors, ensuring high efficiency. Build-in bypass diodes.



Every single module is systematically flashed and controlled. Flash report is sent to customer for every order of modules.

### Warranties & Insurances: 5 strengths of CP-Solar

1. A 10-year material warranty on photovoltaic modules
2. Power output warranty on individual module:
  - 94% of efficiency during 5 years
  - 92% of efficiency during 10 years
  - 90% of efficiency during 15 years
  - 85% of efficiency during 20 years
  - 80% of efficiency during 25 years
3. European products liability insurance:
  - All the products manufactured and/or marketed by CP-Solar with a CP-Solar Europe billing
  - Covers all the consequences due to products (manufacturing defects, personal injuries, etc.)
  - Subsequent of 5 years
  - Products are insured worldwide (excluded USA and Canada)
  - Resumption of the past, only the dispute date is considered, not the date of products production.
4. A multi-risks insurance, unique in France and Europe:
  - All construction risks
  - All operational risks
  - Power output warranty.
5. CP-Solar is registered within several European banks: "bankable" beside Unifergie, OSEO, Natixis, BNP Paribas, etc.



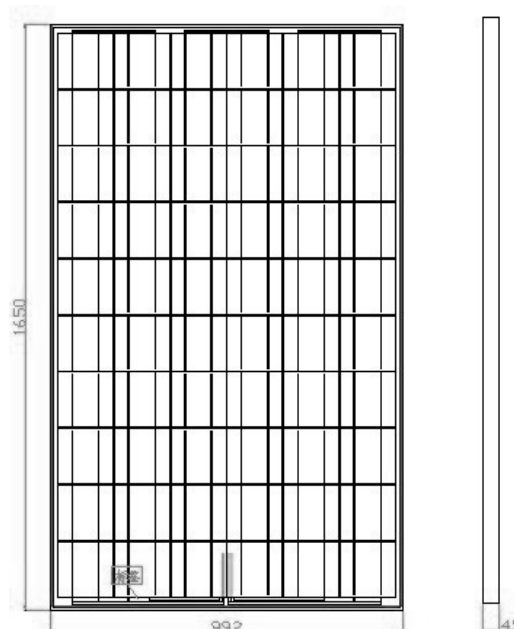
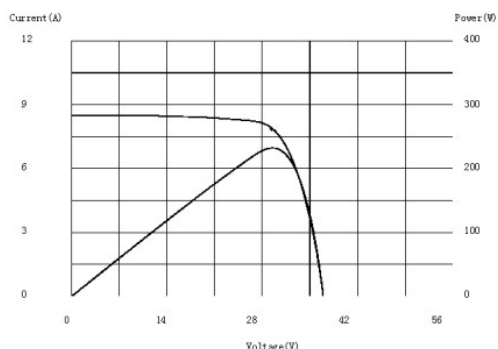
CP-Solar is committed to recycle your modules at their End-life (factory opening in 2014)



| Electrical Data  |        |
|--|--------|
| Maximum power ( $P_{max}$ )  | 230Wp  |
| Tolerance  | +/-3%  |
| Maximum power voltage ( $V_{pm}$ )                                       | 30.10V |
| Maximum power current ( $I_{pm}$ )                                       | 7.64A  |
| Open circuit voltage ( $V_{oc}$ )  | 36.30V |
| Short circuit current ( $I_{sc}$ )                                       | 8.48A  |
| Cells efficiency   | 15.7%  |
| <i>STC: Irradiation 1000W/m<sup>2</sup>, AM 1,5 and temperature 25°C</i> |        |

| Mechanical Data          |                                |
|--------------------------|--------------------------------|
| Number of cells          | 60                             |
| Number of by-pass diodes | 6 (1 for 10 cells)             |
| Back sheet               | PYE                            |
| Tempered glass thickness | 3.2mm                          |
| Frame                    | Anodized aluminium             |
| Weight                   | 18.6 Kg                        |
| Cell dimensions          | 156*156mm, $\varnothing$ 220mm |
| Module dimensions        | 1650*992*45mm                  |

| Temperature coefficient              |                   |
|--------------------------------------|-------------------|
| NOCT                                 | 45 +/-2°C         |
| Temperature coefficient ( $P_m$ )    | -0.5%/°C          |
| Temperature coefficient ( $V_{pm}$ ) | -0.38%/°C         |
| Temperature coefficient ( $I_{pm}$ ) | +0.1%/°C          |
| Temperature coefficient ( $V_{oc}$ ) | -(0.3±0.05)%/°C   |
| Temperature coefficient ( $I_{sc}$ ) | (0.065±0.015)%/°C |



| Technical data         |                |
|------------------------|----------------|
| Maximum system voltage | 1000V          |
| Operating temperature  | -40°C to +85°C |
| Maximum load           | 2400Pa         |

| Packing data |      |      |
|--------------|------|------|
| Container    | 20GP | 40GP |
| Quantity     | 258  | 574  |

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**CAUTION: READ CAREFULLY THE INSTALLATION MANUAL BEFORE USING THE PRODUCT**