

# Polycrystalline solar modules

## CS200

### SOLAR MODULE

#### EVA Encapsulation:

Decades of experience show clear encapsulated insulation enhances solar cell performance and provides proven weathering protection.

#### Anti-Reflective Coating:

Increases the efficiency of our modules by reducing the quantity of light that is reflected away from the module.

#### Reliable Outside Bussing:

Our proven module design puts bus bars outside frame and cell areas, improving module reliability.

#### Anodized Aluminum Frames:

Our corrosion resistant frames are constructed to withstand wind speeds in excess of 300Km/h (180 mph) in typical ground mounted applications.

#### Tempered Low Iron Glass:

For our crystalline product, tempered low iron glass provides both better impact resistance and better light transmission, allowing the generation of more electricity.

#### Performance and Reliability

Centennial Solar products are designed and constructed to provide high performance and reliability. We constantly improve our products to ensure product performance and reliability.

#### Features

- High efficiency and reliability for diverse grid and off-grid applications
- Superior energy generating kWh/ kWp performance

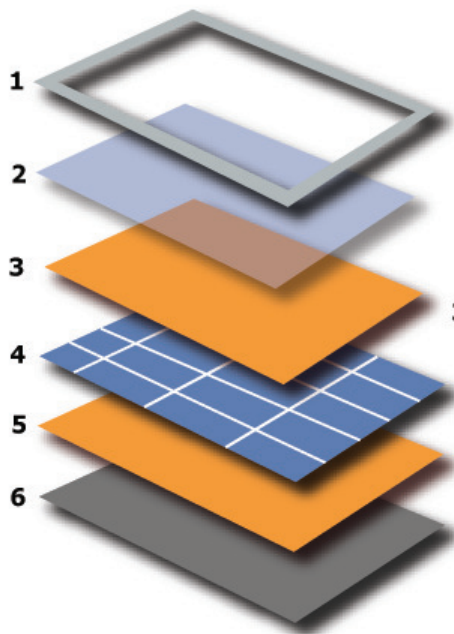
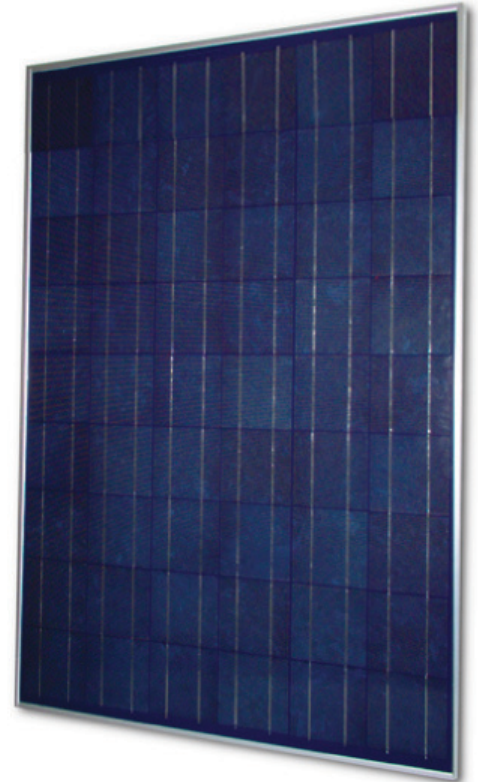
#### Applications

- Building Integration
- Solar Power Packs and Plants
- Solar Pumping Systems
- All Power Requirement



#### Laminate Options

Centennial Solar also supplies laminates, enabling easy integration of products into third party solar electric systems or directly into building structures.



#### Constructive Characteristics

##### 1 Frame

Of anodized aluminum, pre-drilled for quick and easy assembly.

##### 2 Glass

Tempered, high transmission, low iron anti-reflective and thickness of 3.2mm.

##### 3&5 EVA

(Ethylene and vinyl acetate) Enclosing material.

##### 4 Cells

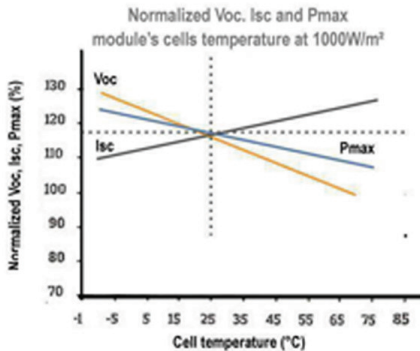
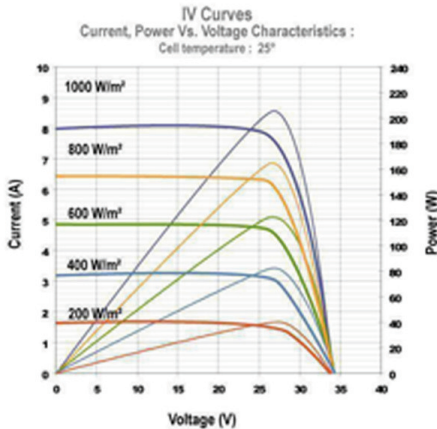
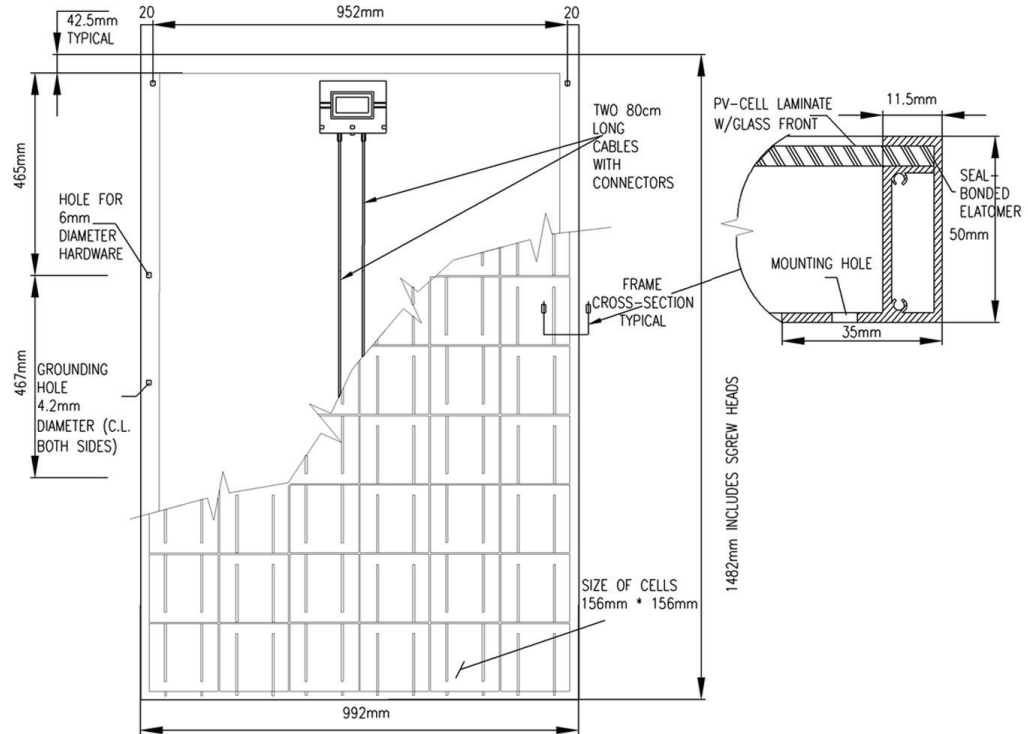
Polycrystalline cells with serial connection, textured to make best use of solar irradiance.

##### 6 Tedlar

Electrical insulation, protecting of rear part of module.

**Guarantees :**

- The materials making the photovoltaics modules and any possible defects due to the manufacturing process for 7 years.
- A power provided by the photovoltaic module of at least 90% of the minimum output power for 10 years.
- A power provided by the photovoltaic module of at least 80% of the minimum output power for 25 years.
- Measured under Standard test conditions (STC= 1000W/m<sup>2</sup>, 25°C, AM 1.5)
- The electric characteristics of each photovoltaic module are individually monitored and the results are left at the disposal of the customer.



**Specifications**

|                              |                               |
|------------------------------|-------------------------------|
| Cell Type & Size             | Polycrystalline 156mm x 156mm |
| No. of cells and connections | 6 x 9 in series               |
| Dimension of module (mm)     | 1482mm x 992mm x 50mm         |
| Weight (kg)                  | 18.6 kg                       |

**CHARACTERISTICS**

|                                 |  |
|---------------------------------|--|
| Model                           | <b>CS 200</b>                          |
| Open circuit voltage (Voc)      | 32.94 V                                |
| Optimum operating voltage (Vmp) | 27.0 V                                 |
| Short circuit current (Isc)     | 7.9 A                                  |
| Optimum operating current (Imp) | 7.4 A                                  |
| Rated power (Pmax)              | 200W +/- 3%                            |
| Module Efficiency               | 13.53%                                 |
| Type of output Terminal         | Junction Box IP65 with 3 bypass diodes |
| Cable lengths                   | 0.9M long, 4mm <sup>2</sup>            |
| Connection                      | Connector                              |
| Certificates                    | UL1703, IEC61215, IEC61730, CE         |

**Limits**

|                        |              |
|------------------------|--------------|
| Operating temperature  | -40 to +90°C |
| Maximum system voltage | 1000V        |

**Temperature and coefficients**

|                                    |            |
|------------------------------------|------------|
| Nominal Operation Cell Temperature | 46°C       |
| Current temperature coefficient    | 0.05%/ °K  |
| Voltage Temperature coefficient    | -0.33%/ °K |
| Power temperature coefficient      | -0.43%/ °K |

Note: The specifications are subject to change without notice.

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