

**For a Free Quote:**

Web: [EnergyPal.com/solar](http://EnergyPal.com/solar)

Call: 1-800-990-3725

Email: [contact@energypal.com](mailto:contact@energypal.com)

# EnergyPal

## **Solar Panel Guide Specification Data Sheet**

**Full Solar Co., Ltd.**

**F-280-330M**

**F-290M**

Also available on the web at  
[EnergyPal.com/full-solar-co-ltd-solar-panels/f-290m](http://EnergyPal.com/full-solar-co-ltd-solar-panels/f-290m)

## Mono-Crystalline Solar PV Module 72 Cells Series (156MMX156MM)



### Performance

- ♦ Water resistant junction box with bybass diode and high strength polymer sheet on module's rear ensures module is sealed from moisture and mechanical damage
- ♦ High transmissivity low-iron toughened glass
- ♦ Excellent week light performance
- ♦ Unique drainage hole design and aluminum frame

### Quality and Reliability

- ♦ Superior reliability with guaranteed +/-3% power output tolerance
- ♦ 10 years warranty on materials and workmanship,
- ♦ 25 years linear power warranty, 97% in the first year, 91% in 10<sup>th</sup> year, and ending with 80% in 25<sup>th</sup> year
- ♦ Cells are individually tested, characterized and modulated prior to interconnection
- ♦ Test and produce standard: IEC61215, IEC61730, ISO 9001:2008, ISO14001:2004, OHSAS18001:2007, TIS18001:2011, TIS1843:2553, TIS2580:2555

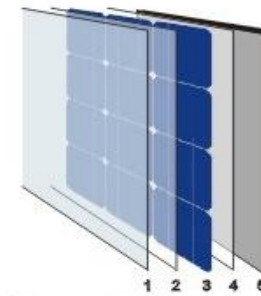
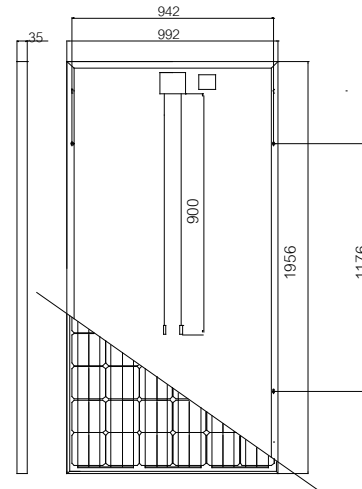
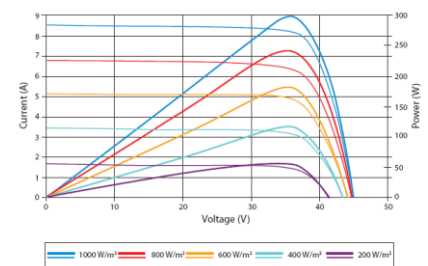
## Electrical Characteristics

Specification	F - 280M	F - 290M	F - 300M	F - 310M	F - 320M	F - 330M
Rating power at STC (Wp)	280W	290W	300W	310W	320W	330W
Open circuit voltage (Voc)	45.1V	45.5V	45.9V	46.3V	46.7V	47.1V
Short circuit current (Isc)	8.30A	8.45A	8.60A	8.75A	8.90A	9.05A
Rated voltage (Vm)	36.1V	36.4V	36.7V	37.1V	37.4V	37.7V
Rated current (Im)	7.75A	7.97A	8.17A	8.36A	8.55A	8.75A
Module efficiency (%)	14.43%	14.95%	15.46%	15.98%	16.49%	17.01%
Power tolerance	±3%					
Temperature coefficient of Pm	-0.47%/K					
Temperature coefficient of Isc	+0.038%/K					
Temperature coefficient of Voc	-0.34%/K					
Maximum system voltage	DC600v (UL) / DC1000V (IEC)					
All technical data at STC: AM1.5; 1000W/m <sup>2</sup> ; 25°C						

## Mechanical Characteristics

Solar Cell	Monocrystalline 156 x 156 mm (6 inches)
No. of cells	72 (6X12)
Nominal Operating Cell Temperature (NOCT)	46 ± 2 °C
Maximum system voltage	DC600v (UL) / DC1000V (IEC)
Operation temperature	From -40 to + 85°C
Typical Application	24V DC
Max series fuse rating	15A
Max wind resistance	2400Pa
Surface max. load capacity	5400Pa
Weight	21.4kg
Dimension	1956X992X35MM

Current-Voltage & Power-Voltage Curve (300-24)



1. Tempered glass
2. EVA
3. Cells
4. EVA
5. Back sheet