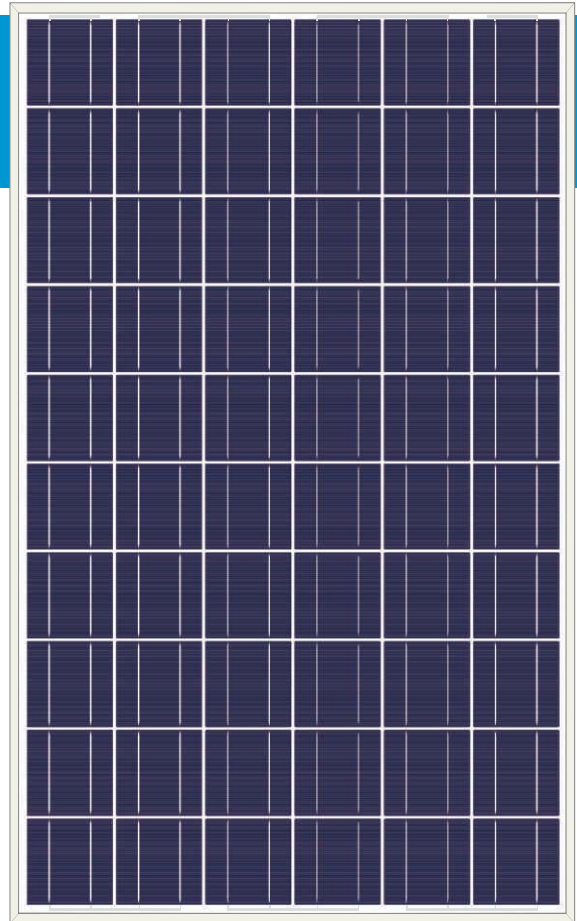
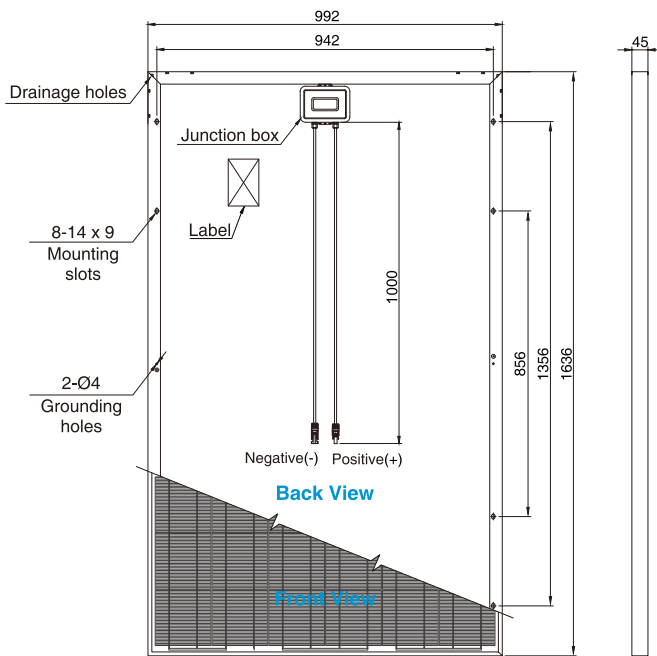


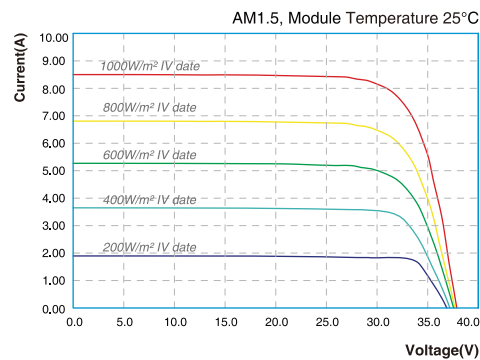
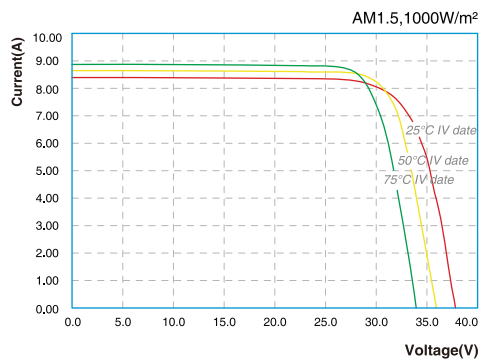
# Solar Modules

## Multi-crystalline Solar Modules Series

HR-220P-18/Bb-HR-245P-18/Bb



## 230W Curves



## Jiangyin Hareon Power Co., Ltd.

### ■ Performance

Warranty	90% power output over 12 years 80% power output over 25 years
	Free from defects in materials and workmanship for 10 years

### ■ Qualification Test

Temperature cycling range	- 40°C to +85°C for 200 cycles
Damp heat test	85°C and 85 relative humidity for 1000 h
Front & rear wind load test	2400 Pa
Front snow load test	5400 Pa
Hot spot free	100% EL inspection before and after lamination

### ■ Electrical Characteristics

Cell Type(mm)	156 × 156 Poly Solar Cell					
Item	HR-220 W	HR-225 W	HR-230 W	HR-235 W	HR-240 W	HR-245 W
Max power (Wp)	220	225	230	235	240	245
Max power voltage (Vm)	29.30	29.40	29.50	29.60	29.70	30.00
Max power current (Im)	7.51	7.66	7.82	7.94	8.09	8.17
Open circuit voltage (Voc)	36.50	36.60	36.70	36.80	36.90	36.96
Short circuit current (Isc)	7.93	8.08	8.25	8.40	8.55	8.72
Module eff (%)	13.56	13.86	14.17	14.48	14.79	15.10
Cell eff (%)	15.09	15.43	15.78	16.11	16.46	16.80
Max series fuse	15 A					
Number of diode	3					
Number of cells	60					
Max system voltage	1000 VDC					
Temperature coefficients of Pm	-0.44%/°C					
Temperature coefficients of Voc	-0.32%/°C					
Temperature coefficients of Isc	0.055 %/°C					
Nominal operating cell temperature	45 °C ± 3 °C					
Output tolerance	0 ~5W, +/- 3%					
Standard test conditions	STC: AM1.5, 1000 W/m², Module Temperature 25 °C					

### ■ Mechanical Characteristics

Dimensions (mm)	1636× 992× 45
Weight (kg)	19.5
Solar Cells	60 cells(156 mm x 156 mm) configured geometrically for a 6 x 10 matrix connected in series
Output cables lengths (mm)	1000
Cable cross section size (mm²)	4
Construction	Front: High transmission 3.2mm tempered glass. Rear. White backsheets; Encapsulant: EVA.