

Module Specifications (Mono) :

SF160-24-1M (TÜV, Kemco)



Jiangsu Linyang Solarfun Co., Ltd.

1. Electrical Characteristics

1.1 Electrical characteristics at STC*

* P_{max}, Voc, Isc, V_{mp} and I_{mp} tested at Standards testing Conditions (STC) defined as irradiance of 1000W/m² at AM 1.5G solar spectrum and a temperature 25±2°C

All electrical specifications are +/-3%.

Maximum Power (P _{max})	160W	165W	170W	175W	180W	185W	190W	195W
Open Circuit Voltage (V _{oc})	43.3V	43.6V	43.8V	44.0V	44.3V	44.6V	44.8V	45.0V
Short Circuit Current (I _{sc})	5.15A	5.26A	5.36A	5.48A	5.59A	5.68A	5.78A	5.85A
Maximum Power Voltage (V _{mp})	34.6V	34.8V	35.0V	35.2V	35.4V	35.6V	35.8V	36.0V
Maximum Power Current (I _{mp})	4.63A	4.76A	4.86A	4.98A	5.11A	5.21A	5.33A	5.42A
Module Efficiency (%)	12.5	12.9	13.3	13.7	14.1	14.5	14.9	15.3
Cell Efficiency (%)	14.5	14.9	15.4	15.8	16.3	16.7	17.2	17.6

1.2 Electrical characteristics at NOCT**

** P_{max}, Voc, Isc, V_{mp} and I_{mp} tested at Normal Operating Cell Temperature(NOCT) defined as irradiance of 800W/m²; 45±3°C; Wind speed 1m/s

All electrical specifications are +/-3%.

Maximum Power (P _{max})	115W	119W	122W	126W	130W	133W	137W	140W
Open Circuit Voltage (V _{oc})	39.8V	40.1V	40.3V	40.5V	40.8V	41.0V	41.2V	41.4V
Short Circuit Current (I _{sc})	4.17A	4.26A	4.34A	4.44A	4.53A	4.60A	4.68A	4.74A
Maximum Power Voltage (V _{mp})	31.1V	31.3V	31.5V	31.7V	31.9V	32.0V	32.2V	32.4V
Maximum Power Current (I _{mp})	3.70A	3.81A	3.89A	3.98A	4.09A	4.17A	4.26A	4.34A
Module Efficiency (%)	11.3	11.6	11.9	12.3	12.7	13.0	13.4	13.7
Cell Efficiency (%)	14.5	14.9	15.4	15.8	16.3	16.7	17.2	17.6

1.3 Performance at Low Irradiance

The typical relative change in module efficiency at an irradiance of 200 W / m² in relation to 1000 W / m² (both at 25°C and AM 1.5G spectrum) is less than 5%.

1.4 Temperature Coefficients

Temperature Coefficients of P	-0.44%/K
Temperature Coefficients of V	-0.33%/K
Temperature Coefficients of I	+0.03%/K

1.5 Absolute Maximum Ratings

Storage Temperature	-40°C to +85°C
Operating Temperature	-40°C to +85°C
Hail Safety Impact Velocity	Hailstone(25mm)at 23m/s
Fire Safety Classification	Class C
Static Load Wind / Snow	2400Pa(40 frame) & 5400Pa(45 frame)
Series Fuse Rating	10A

1.6 Maximum System Voltage and Certifications

Maximum System Voltage	1000V(IEC) / 600V(UL1703)
Certifications	TÜV(IEC61215 & IEC61730 Application Class A), Kemco(Korea: apply to 40 frame & 180-190W)

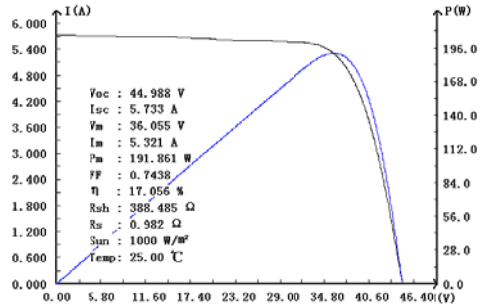
2. Mechanical Characteristics

Cell Technology	125×125 mm [4.92×4.92 in] Mono-Si Small chamfer angle	
Brand Name of Solar Cells	Solarfun	
Number of Cells (Pcs)	72 (6×12)	
Dimensions	1580×808×45(40) mm [62.2×31.8×1.77(1.57) in]	
Junction Box	protection class IP65, with bypass-diode	
Output Cables	solar cable: 4 mm ² ; length: 900 mm [35.4 in]	
Weight	15(14) kg [33(30.8) lb]	
Frame	aluminum-alloy	
Front / Encapsulant / Back	tempered glass / EVA / back sheet	
Packing Options	40 frame	4Pcs/carton, 182cartons/40FCL=728 Pcs/container
	45 frame	4Pcs/carton, 140cartons/40FCL=560 Pcs/container 2Pcs/carton, 266cartons/40FCL=532 Pcs/container 49Pcs/pallet, 14pallets/40FCL=686 Pcs/container

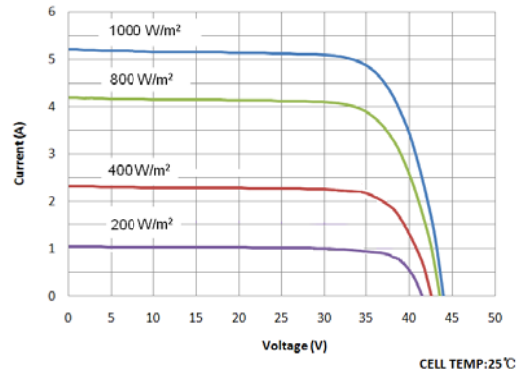
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3. I-V Characteristic Curve

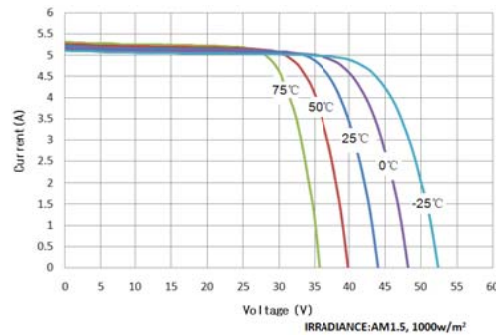
3.1 I-V Characteristic Curve of Module at STC



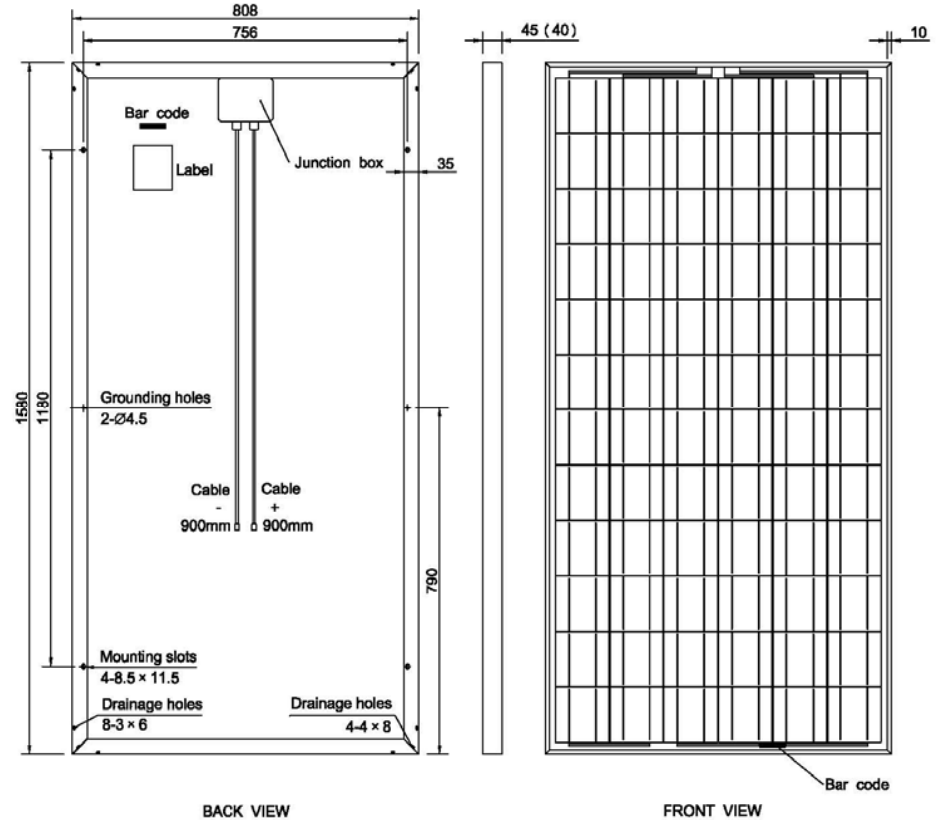
3.2 I-V Characteristic Curves at Various Irradiance Levels



3.3 I-V Characteristic Curves at Various Cell Temperatures



4. Basic Dimensions



Jiangsu Linyang Solarfun Co., Ltd.

666 Linyang Road

Qidong, Jiangsu Province, 226200, P. R. China

Phone: +86-513-83606222

Fax: +86-513-83606278

www.solarfun-power.com