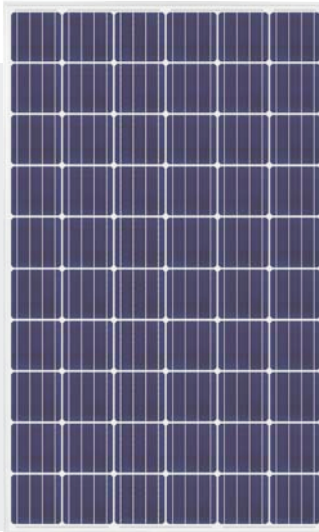
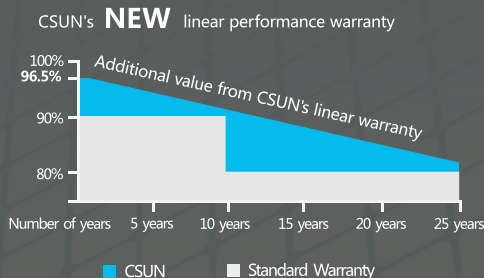


Mono



Powerguard Insurance Global Coverage

The power output shall not be less than 96.5% of the minimum power output stated in the product data sheet in the first year of the product's life cycle. The loss of power output shall not exceed 0.7% per year thereafter, ending with 80.7% in the 25th year.



CSUN290-60M

The Large Scale Project Solution
PERC Technology

CSUN290-60M CSUN285-60M CSUN280-60M

17.86%
Module efficiency

290W
Highest power output

10years
Material & Workmanship warranty

25years
Linear power output warranty



PID-free



World class mono efficiency



Tighter product performance distribution and current sorting reduces the mismatch power loss in system operation



positive tolerance offer



Good temperature coefficient enables higher output in high temperature regions



Excellent performance under low light conditions



Certified for salt/ammonia corrosion resistance



Load certificates: wind to 2400Pa and snow to 5400Pa

- China Sunergy Co., Ltd. designs, manufactures and delivers high efficiency solar cell and modules to the world from its production centers based in Chian, Turkey, South Korea and Vietnam.
- Founded in 2004, China Sunergy is well know for its advanced solar cell technology, reliable product quality, and excellent customer service.
- As one of leading PV enterprises, China Sunergy has delivered more than 4.0GW of solar products to residential, commercial, utility and off-grid projects all around the word

- Note:
All specifications, warranties, certifications about module of "CSUN" series also apply to that of "SST".

All information and data are subject to change without notice.



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Electrical Characteristics at Standard Test Conditions (STC)

Module Type	CSUN290-60M	CSUN285-60M	CSUN280-60M
Maximum Power-Pmax (W)	290	285	280
Open Circuit Voltage - Voc (V)	39.1	39.3	39.1
Short Circuit Current - Isc (A)	9.47	9.40	9.33
Maximum Power Voltage - Vmpp (V)	31.9	31.7	31.5
Maximum Power Current - Impp (A)	9.10	9.04	8.99
Module Efficiency	17.86%	17.55%	17.21%

Standard Test Conditions [STC]: irradiance 1,000 W/m²; AM 1.5G; module temperature 25°C. Measuring uncertainty of power is within ±3%. Tolerance of Pmp:0~+3%. Certified in accordance with IEC61215, IEC61730-1/2 and UL1703.

Electrical Characteristics at Nominal Operating Cell Temperature (NOCT)

Module Type	CSUN290-60M	CSUN285-60M	CSUN280-60M
Maximum Power-Pmax (W)	214	210	207
Open Circuit Voltage - Voc (V)	36.1	35.3	35.5
Short Circuit Current - Isc (A)	7.60	7.54	7.48
Maximum Power Voltage - Vmpp (V)	30.0	29.8	29.7
Maximum Power Current - Impp (A)	7.13	7.06	6.99

Nominal Operating Module Temperature(NOCT): irradiance 800W/m²; wind speed 1m/s; ambient temperature 20°C. Measuring uncertainty of power is within ±3%, Certified in accordance with IEC61215, IEC61730-1/2 and UL1703.

Temperature Characteristics

Voltage Temperature Coefficient	-0.307%/°C
Current Temperature Coefficient	+0.039%/°C
Power Temperature Coefficient	-0.423%/°C
NOCT	45±2°C

Maximum Ratings

Maximum system voltage(V)	1000
Series fuse rating(A)	20

Mechanical Characteristics

Dimensions	1640x990x35mm (LxWxH)
Weight	18.3kg
Frame	Anodized aluminum profile
Front Glass	White toughened safety glass, 3.2mm
Cell Encapsulation	EVA(Ethylene-Vinyl-Acetate)
Back Sheet	Composite film
Cells	6×10 pieces polycrystalline solar cells series strings (156mm×156mm)
Junction Box	Rated current ≥13A, IP≥ 67, TUV&UL
Cable & Connector	Length 900mm,1x4mm ² , compatible with MC4

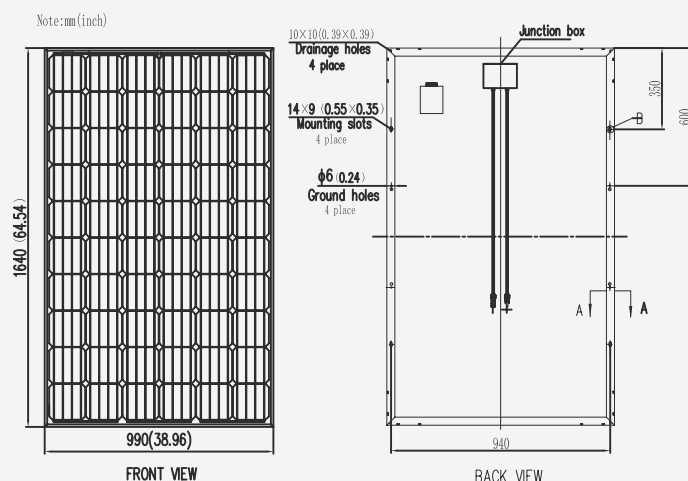
Packaging

Dimensions (L×W×H)	1700×1140×1137mm
Container 20'	360
Container 40'	840
Container 40' HC	896

System Design

Temperature range	-40°C to +85°C
Hail	maximum diameter of 25mm with impact speed of 23m/s
Maximum surfaceload	5400Pa
Application class	class A
Safety class	class II

Dimensions



IV-Curves

