

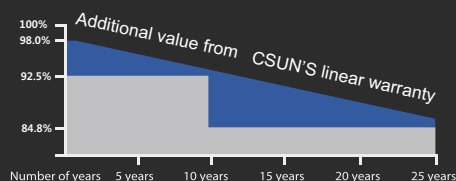
Mars Series Half cell Modules

The power output shall not be less than 98.0% of the minimum power output stated in the product datasheet in the first year of the product's life cycle.

The loss of power output shall not exceed 0.55% per year thereafter, ending with 84.80% in the 25th year.

■ CSUN ■ Standard warranty

CSUN's NEW linear performance warranty



CSUN460-120M

High efficiency PERC tech for esthetic applications

Module Fire Performance: Type 1 (UL 1703)

Fire Resistance Rating: Class C (IEC 61730)

CSUN445-120M

CSUN450-120M

CSUN455-120M

CSUN460-120M

21.26%

Module efficiency

460W

Highest power output

12 Year

Material & workmanship warranty

25 Year

Linear power output warranty



Industry leading conversion efficiency



Certified to withstand wind (2400Pa) and snow load (5400Pa)



Positive tolerance offer



Excellent performance under weak light condition



Passed salt mist & ammonia corrosion, blowing sand and hail testing



Good temperature coefficient enables better output in hot climates



Electrical Characteristics at Standard Test Conditions (STC)

Module Type	CSUN445-120M	CSUN450-120M	CSUN455-120M	CSUN460-120M
Maximum Power(Pmpp)[W]	445	450	455	460
Positive Power Tolerance[W]	0~5	0~5	0~5	0~5
Open Circuit Voltage(Voc)[V]	41.10	41.25	41.40	41.55
Short Circuit Current(Isc) [A]	13.75	13.82	13.89	13.96
Maximum Power Voltage(Vmpp)[V]	34.60	34.75	34.90	35.05
Maximum Power Current(Imp)[A]	12.87	12.95	13.04	13.13
Module Efficiency	20.62%	20.85%	21.08%	21.32%

Electrical data relates to standard test conditions(STC): irradiance 1000W/m²; AM1.5; cell temperature 25°C measuring uncertainty of power is within ±3%. Certified in accordance with IEC61215,IEC61730-1/2 and UL1703.

Electrical Characteristics at Nominal Operating Cell Temperature(NOCT)

Module Type	CSUN445-120M	CSUN450-120M	CSUN455-120M	CSUN460-120M
Maximum Power(Pmpp)[W]	337	340	344	348
Open Circuit Voltage(Voc)[V]	38.59	38.73	38.87	39.02
Short Circuit Current(Isc) [A]	11.06	11.11	11.17	11.22
Maximum Power Voltage(Vmpp)[V]	32.21	32.35	32.49	32.63
Maximum Power Current(Imp)[A]	10.45	10.52	10.59	10.66

Electrical data relates to nominal operating cell temperature(NOCT): irradiance 800W/m²;wind speed 1m/s; cell temperature 45°C ambient temperature 20°C measuring uncertainty of power is within ±3%.

Temperature Characteristics

Voltage Temperature Coefficient	-0.28%/°C
Current Temperature Coefficient	+0.048%/°C
Power Temperature Coefficient	-0.35%/°C

Maximum Ratings

Maximum System Voltage(V)	1000/1500
Series Fuse Rating(A)	25
Reverse Current Overload(A)	25

Mechanical Characteristics

Dimensions	1909×1134×35mm - frame thickness upon request
Weight	24.2kg
Frame	Anodized aluminum profile-black frame upon request
Front Glass	Toughened low iron glass,3.2mm
Cell Encapsulation	EVA(Ethylene-Vinyl-Acetate)
Back Sheet	Composite film-black back sheet upon request
Cell	120(6×20) monocrystalline solar semi-cells (182×91)
Junction Box	Rated current≥25A, IP≥65, TUV&UL
Cable	Length 300mm,1×4mm²
Connector	MC4/compatible with MC4

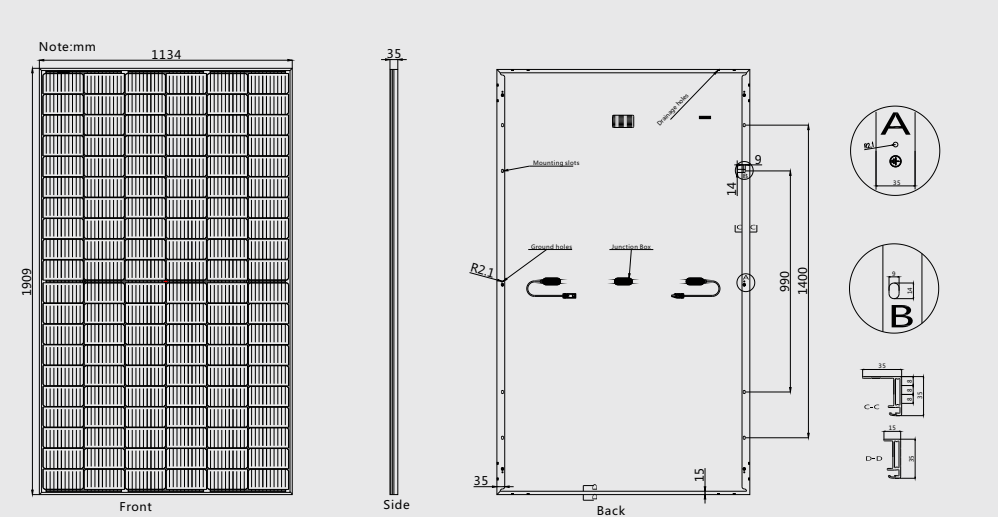
Packaging

Container 20'	216pcs.
Container 40'	432pcs.
Container 40' HC	744pcs.

System Design

Temp.Range	-40°F to +185°F(-40°C to +85°C)
Hail	Max. diameter of 0.98"(25mm)with impact speed of 51.2mph(23m/s)
Max.Capacity	Wind 2400Pa, snow 5400Pa-7200Pa upon request
Application Class	A
Safety Class	II

Dimensions



I-V Curves

