



182 Series 460-480W

N-type Half-cell Module

POWER OUTPUT RANGE

460-480W

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MAXIMUM MODULE EFFICIENCY

22.3 %

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POWER WARRANTY

30 years

(2)

***** Characteristic



Higher Power Output

Multi-busbar technology 1500V system voltage, reduce the BOS cost



Guaranteed Output Power

Module power positive tolerance; High power generation;Low levelized cost of energy



Ultra-low Degradation

N-type modules are more reliable with less LID/LETID



Best Solution to Harsh Conditions

Pass the mechanical load test, front 5400Pa and back 2400Pa



Excellent PID Resistance

Excellent Anti-PID Performance, guarantee less power degradation



High Reliability Based On Strict Quantity.Control

Over 100 internal tests including ultraviolet irrtadiation, heat-recycling, damp heat(DH) test, humidity-freeze(HF) test and etc.







TOENERGY Technical Parameter

Electrical Data @STC					
Peak power-Pmax(Wp)	460	465	470	475	480
Power tolerance(W)			±3%		
Open circuit voltage - Voc(V)	41.8	42.0	42.2	42.4	42.6
Maximum power voltage - Vmpp(V)	36.0	36.2	36.4	36.6	36.8
Short circuit current - Im(A)	13.68	13.75	13.82	13.88	13.95
Maximum power current - Impp(A)	12.78	12.85	12.91	12.98	13.05
Module efficiency um(%)	21.3	21.6	21.8	22.0	22.3

Standard testing condition(STC): Irradiance 1000W/m², Temperature 25°C, AM 1.5

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Cell size	Mono182×182mm					
NO.of cells	120 Half Cells (6×20)					
Dimension	1903*1134*35mm					
Weight	24.20kg					
Glass	3.2mm high transmission,Anti-reflectioncoating toughened glass					
Frame	Anodized aluminum alloy					
Junction box	SeparatedJunction box IP68 3 bypass diodes					
Connector	AMPHENOLH4/MC4 connector					
Cable	4.0mm ² , 300mm PV CABLE, length can be customized					

Temperature Katings				
Nominal operating cell temperature	45±2℃			
Temperature coefficient of Pmax	-0.35%/°C			
Temperature coefficients of Voc	-0.27%/°C			
Temperature coefficients of Isc	0.048%/°C			

Operating temperature	-40°Cto+85°C
Maximum system voltage	1500v DC (IEC/UL)
Maximum series fuse rating	25A
Pass hail test	Diameter 25mm, speed 23m/s

12 Years Workmanship Warranty

30 Years Performance Warranty









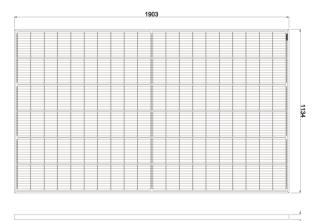


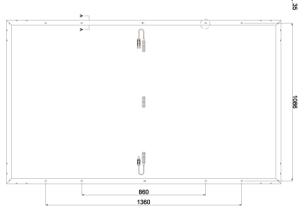




Modules per pallet	31 PCS
Modules per 40HQ container	744 PCS
Modules per 13.5m long flatcar	868 PCS
Modules per 17.5m long flatcar	1116 PCS

Dimension





Please refer to TOENERGY Solar product warranty for details