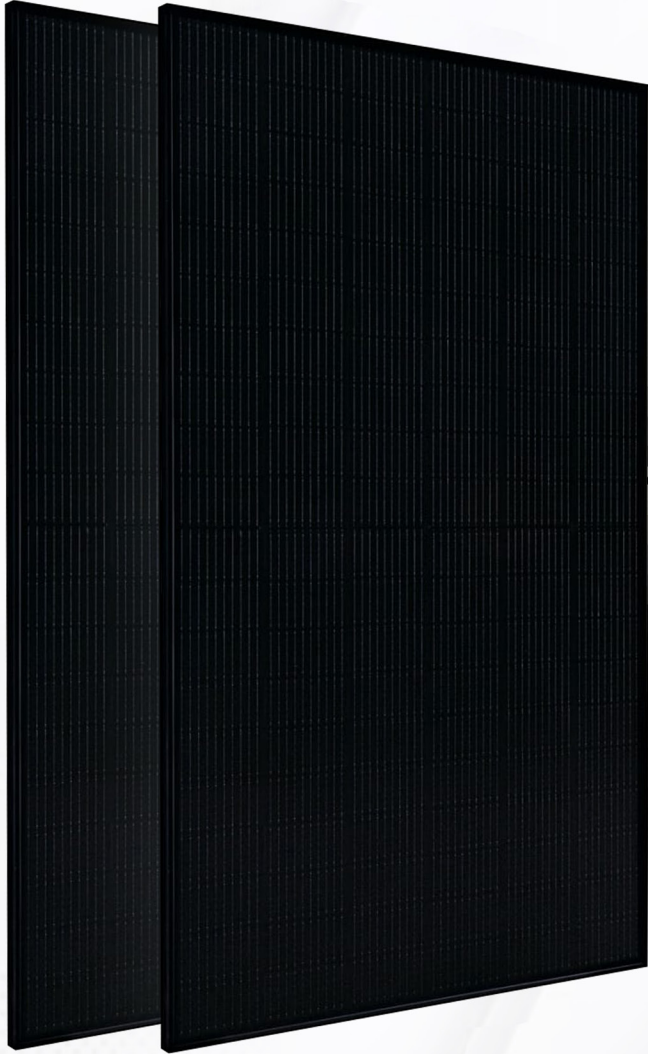


N-TYPE SERIES

WS60M10



460-480W



Superior aesthetics, all-black design



Robust product design for harsh weather conditions



Improved performance in shaded areas



Designed & engineered in the U.S. Made in Dubai

Certifications:



Intertek



Headquarter address

📍 2401 Fountain view Dr, #464
Houston TX 774057

☎ (832) 291- 3444

✉ info@winnsolarllc.com

Factory address

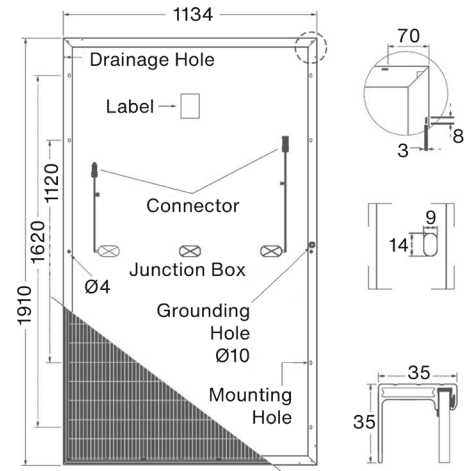
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MECHANICAL SPECIFICATIONS

Cells Type	N type Mono-crystalline 182x91mm
Weight	24kg
Dimension	1910x1134x35mm(LxWxT)
Cables	4.0mm ² , Portrait: 300mm(+)/400mm(-) Landscape: 1400mm(+)/1400mm(-)
No. of Cells	120 (6x20)
Glass	3.2mm High Transmission, Antireflection Coating
Junction box	IP68, 3 Bypass Diodes
Packing	31pcs/pallet, 744pcs/40HQ
Connector Type	QC Solar (Suzhou) Corporation(QC4.10-35) OR Staubli Electrical Connector AG (PV-KST4-EV02/xy_UR)



ELECTRICAL SPECIFICATIONS

Module Type	ws-460W-M60HN-M10		ws-465W-M60HN-M10		ws-470W-M60HN-M10		ws-475W-M60HN-M10		ws-480W-M60HN-M10	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Testing Condition										
Open-circuit Voltage (Voc/V)	42.05	39.94	42.22	40.10	42.38	40.25	42.54	40.41	42.71	40.57
Maximum Power Voltage (Vmp/V)	34.72	32.60	34.89	32.77	35.05	32.94	35.21	33.10	35.38	33.27
Short-circuit Current (Isc/A)	13.99	11.29	14.07	11.36	14.15	11.42	14.23	11.49	14.31	11.55
Maximum Power Current (Imp/A)	13.25	10.61	13.33	10.67	13.41	10.73	13.49	10.79	13.57	10.85
Maximum Power (Pmax/Wp)	460	346	465	350	470	353	475	357	480	361
Module Efficiency STC (%)	21.24%		21.47%		21.70%		21.93%		22.17%	
Power Tolerance(W)	±3%									
Tolerance of rating Pmax/Isc/Voc%	±3%/±4%/±3%									

NOCT: Irradiance 800w/m², Cell Temperature 20°C, Spectrum AM1.5, Wind Speed 1m/s STC: Irradiance 1000w/m², Cell Temperature 25°C, Spectrum AM1.5

MAXIMUM RATINGS

Maximum System Voltage	1500V DC
Operating Temperature	-40°C to +85°C
Maximum Series Fuse	25A
Mechanical Load	5400pa

TEMPERATURE CHARACTERISTICS

NOCT Temperature	43°C±2°C
Temperature Coefficient (Pmax)	-0.36%/°C
Temperature Coefficient (Voc)	-0.26%/°C
Temperature Coefficient (Isc)	0.043%/°C

PERFORMANCE WARRANTY

Max Power Degradation	0.5%/Year
97.5% At The End of 1 st Year	
92.5% At The End of 10 th Year	
83.5% At The End of 25 th Year	

CURVE & TEMPERATURE DEPENDENCE

