

**18.3% EFFICIENCY****UP TO 320 W****60 CELLS****EUPD RESEARCH****TOP BRAND PV****MODULES****GERMANY****2018****EUPD RESEARCH****TOP BRAND PV****MODULES****AUSTRALIA****2018****99% relative efficiency at weak-light**

Because a 3% increase in yield makes a difference.

**25 year linear performance guarantee**

15 year product warranty.

**Protection against the weather and the elements**

Because long term performance matters.

**2 years of free insurance included**

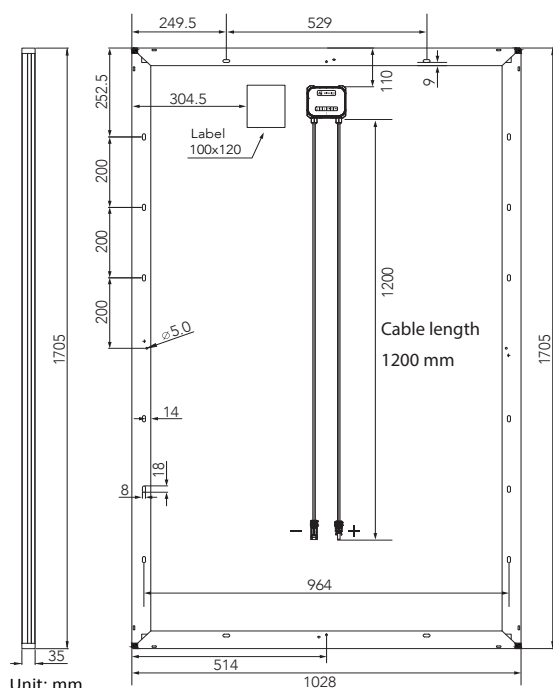
Because you never know what tomorrow might bring.

**10 years of WINAICO quality modules**

WINAICO has been providing the global market with quality solar panels for over 10 years.

**Water drainage design**

Avoid water and dust accumulation to prevent power degradation and hotspot problems.



Mechanical data

Cell	Monocrystalline 161.7 x 161.7 mm
Quantity and wiring of cells	60 in series
Dimensions	1,705 x 1028 x 35 mm (67.13 x 40.47 x 1.38 in)
Weight	20.6 kg (45.8 lbs)
Glass thickness	3.2 mm (0.13 in)
Frame	Black anodised aluminium
Junction box	IP 67
Connector type	MC4 (PV-KBT4/PV-KST4) IP68; QC4.10 IP67
Module fire performance	Type 4
Fire safety class	C

Operating conditions

Operating temperature	-40 °C to +85 °C / -40 °F to +185 °F
Maximum system voltage IEC/UL	1,000 V/1,000 V
Maximum series fuse	20 A
Maximum design load (+) / (-)	3,600 Pa / 2,400 Pa
Maximum test load (+) / (-)	5,400 Pa / 3,600 Pa
Nominal Module Operating Temperature NMOT	43.85 ± 3 °C
Temperature coefficient of P_{MAX}	-0.38 %/°C
Temperature coefficient of V_{OC}	-0.29 %/°C
Temperature coefficient of I_{SC}	0.04 %/°C

Certifications

IEC 61215-1:2016, IEC 61215-2:2016, IEC 61730-1:2016, IEC 61730-2:2016

Electrical data (STC)		WSP-320MX	
Nominal performance	P_{MAX}	320	Wp
Voltage at maximum performance	V_{MP}	32.76	V
Current at maximum performance	I_{MP}	9.77	A
Open circuit voltage	V_{OC}	39.26	V
Short circuit current	I_{SC}	10.48	A
Module efficiency		18.26	%
Power tolerance		-0/+5	W

The electrical data applies under standard test conditions (STC): solar radiation 1,000 W/m² with light spectrum AM 1.5, with cell temperature 25 °C. Measurement tolerance of P_{MAX} at STC: ±3%. Accuracy of other electrical data: ±10%.

Electrical data (NMOT)		WSP-320MX	
Nominal performance	P_{MAX}	233	Wp
Voltage at maximum performance	V_{MP}	30.10	V
Current at maximum performance	I_{MP}	7.74	A
Open circuit voltage	V_{OC}	36.98	V
Short circuit current	I_{SC}	8.29	A

The electrical data applies under Nominal Module Operating Temperature (NMOT), irradiance of 800 W/m², spectrum AM 1.5, ambient temperature 20 °C, wind speed 1 m/s.



This frame design, produced entirely from aluminium, guarantees maximum stability and protection against material fatigue. The rounded corners provide greater torsional stiffness and waterproofing in this critical area, where the material is at its weakest. In contrast to other corner connections that use mitered cuts or threaded connections, WINAICO's corner pieces guarantee the best possible transfer of tension across each section of the frame. The corner pieces are also designed with drainage channels, avoiding water and dust accumulation, which over time can cause cell shading, power degradation and hotspot problems.



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