



n-type

TECHNOLOGY
INSIDE

515 W 23.15 %

Maximum power

Maximum efficiency

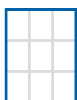
KEY BENEFITS AND FEATURES



Power from 510 to 515 Watt



108 G12R n-type
bifacial half-cut cells



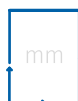
Black frame and
white-patterned back glass



Optimised frontal
performance



Improved long-life stability



1962 x 1134 x 30 mm

Performance guarantee

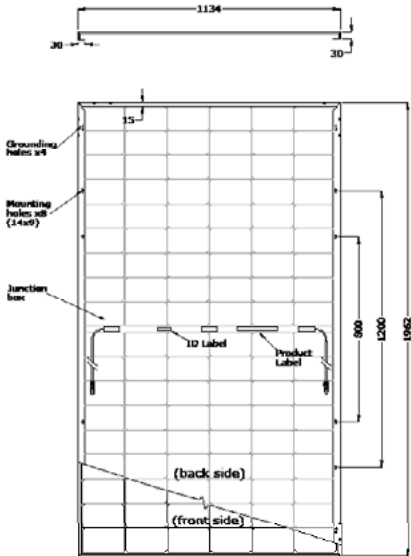
- 30-years performance warranty with max power decrease from 1nd year 0.4%/year
- 99% at the end of first year
- 92% at the end of 20th year
- 87% at the end of 30th year

Product guarantees

- 15-year product and performance warranty
- Third-party product liability insurance
- All FuturaSun's modules are designed and guaranteed by the Italian headquarters

Mechanical specifications

Dimensions	1962 x 1134 x 30 mm
Weight	28.5 kg
Front glass	2.0 mm solar glass with ARC
Cells	108 monocrystalline n-type half-cut bifacial cells 182 x 105 mm
Frame	Black anodized aluminium frame with mounting and drainage holes
Junction boxes	Certified according to IEC 62790, IP 68 approved, 3 bypass diodes
Cables	Solar cable, length 1200 mm or customized assembled with 4mm ² compatible connectors
Back glass	2,0 mm solar glass with con white patterned
Maximum reverse current (Ir)	35 A
Maximum system voltage	1500 V
Mechanical load (snow)	Design load: 3600 Pa, (5400 Pa including safety factor 1.5)
Mechanical load (wind)	Design load: 1600 Pa, (2400 Pa including safety factor 1.5)



Electrical data

FU 510 MV

FU 515 MV

TEST CONDITIONS		STC`	BNPI``	STC`	BNPI``
Module power (Pmax)	W	510	566,05	515,00	571,77
Open circuit voltage (Voc)	V	40,45	40,55	40,65	40,75
Short circuit current (Isc)	A	15,86	17,60	15,92	17,67
Maximum power voltage (Vmpp)	V	34,12	34,12	34,32	34,32
Maximum power current (Impp)	A	14,95	16,59	15,01	16,66
Module efficiency	%	22,92	25,44	23,15	26,70
Isc at BSI****	A	19.67		19,74	
Sorting tolerance	W	0/+5			

Electrical data - NOCT***

FU 510 MV

FU 515 MV

Module power (Pmax)	W	383,62	387,41
Open circuit voltage (Voc)	V	38,56	38,75
Short circuit current (Isc)	A	12,80	12,85
Maximum power voltage (Vmpp)	V	31,75	31,94
Maximum power current (Impp)	A	12,08	12,13

Temperature ratings

Temperature coefficient Isc	%/°C	0.045
Temperature coefficient Voc	%/°C	-0.25
Temperature coefficient Pmax	%/°C	-0.29
NOCT**	°C	45 ± 2
Operating temperature	°C	da -40 a +85

Certifications

Factory	ISO 9001 - 14001 - 45001
Product	IEC EN 61215, IEC EN 61730, EN 13501-1 Classe E, EN13501-5 Proof (T1)

Packaging

Quantity / Pallet	36 pz
Container 40' HC	864 pz / 24 pallets

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*Standard Test Conditions (STC): 1000 W/m² - AM 1.5 - 25 °C - tolerance: Pmax (±3%) Voc (±4%) Isc (±5%)
**Bifacial Name Plate Irradiance (BNPI) Front side irradiation 1000 W/m² Back side reflection irradiation 135 W/m² Ambient temperature 25 °C
***Nominal Operating Cell Temperature (NOCT): 800 W/m² - T=45 °C - AM 1.5
****Bifacial Stress Irradiance (BSI). Front side irradiation 1000 W/m², Back side reflection irradiation 300 W/m²