

3SUN B48

Powered by **CORE-H®** Technology

Made in Italy

Power
460-480 Wp



Commercial & Industrial



Residential



Proprietary HJT technology

Heterojunction cells and modules designed and manufactured in Italy.



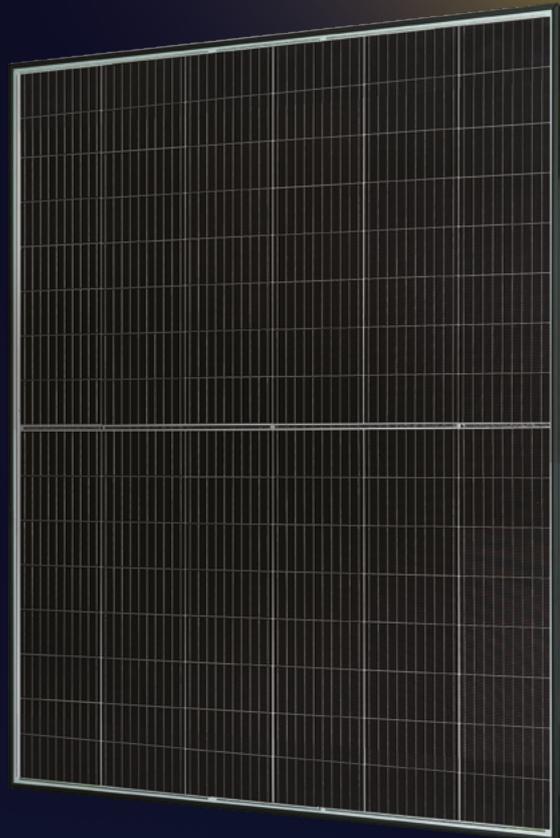
High Bifaciality

Captures and converts rear-side reflected light, boosting the system's energy yield.



Versatile module format

Optimized dimension for rooftop installations.



Premium build

High quality glass-glass product with a black frame.



Proven performance

PID and LeTID free.

WARRANTY

Product

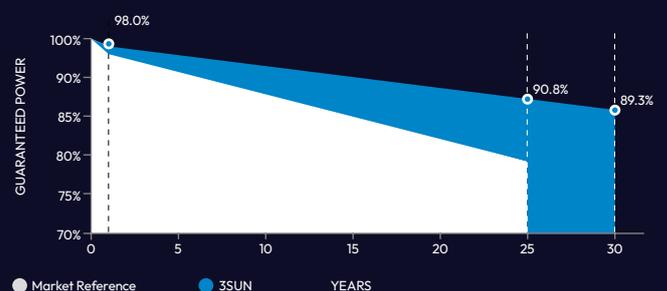
25
YEARS

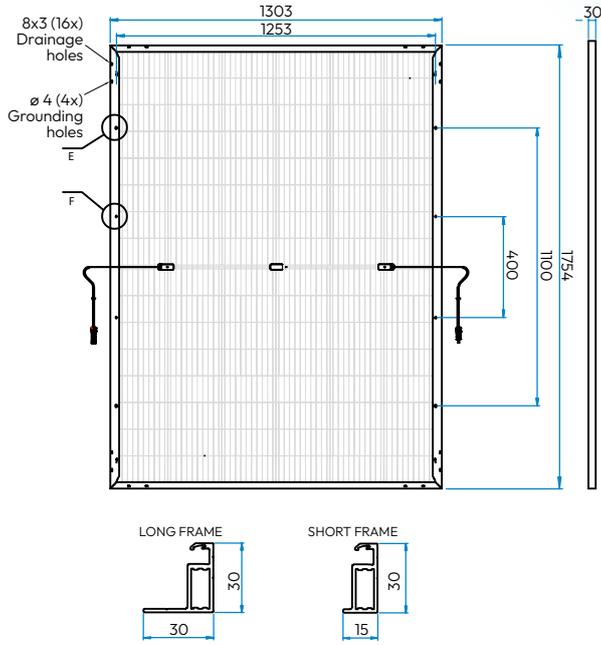
Performance*

30
YEARS

*2% first year, the 0.30% per year

LINEAR PERFORMANCE WARRANTY





MECHANICAL CHARACTERISTICS

Cell Type	Mono-crystalline, n-type Si HJT - G12 (210mm x 210mm)
Number of cells	96 ½ cells (6 x 8) x 2
Dimensions	1754 x 1303 x 30 mm
Weight	29 kg
Frame	Black anodized aluminium
Front Cover	Textured Glass - 2.0 mm, AR coated, Low Iron, Semi-Tempered
Back Cover	Textured Glass - 2.0 mm, Semi-Tempered
Junction Box	IP68, 1500VDC, 3 bypass diodes
Output Cable	4 mm ² , (+): 1400mm, (-): 1400mm
Type of Connector	Stäubli MC4 EVO 2
Maximum static test loading*	Front: up to 5400 Pa Rear: up to 2400 Pa
Module Fire Performance	IEC 61730/UL 790 - C Class UNI 9177 - 1 Class UNI EN 13501-1 - E Class UNI EN 13501-5 - Roof (t2) Class

*Under certain mounting configurations, refer to the installation and maintenance manual for details.

PACKAGING

Pallet dimension [L x W x H]
Bi-pack: 1782 x 1063 x 2861 mm

Pallet weight
Bi-pack: 1981 kg

Packing Configuration
Bi-pack (33 pcs/top
+ 33 pcs/bottom)

Modules per semi-trailer truck
924 pcs (14 bi-packs)

TEMPERATURE RATINGS

Nominal Module Operating Temperature (NMOT)	°C	44 ± 2
P_{max} Temperature Coefficient	%/°C	-0.24 +/- 0.04
I_{sc} Temperature Coefficient	%/°C	0.044
V_{oc} Temperature Coefficient	%/°C	-0.20

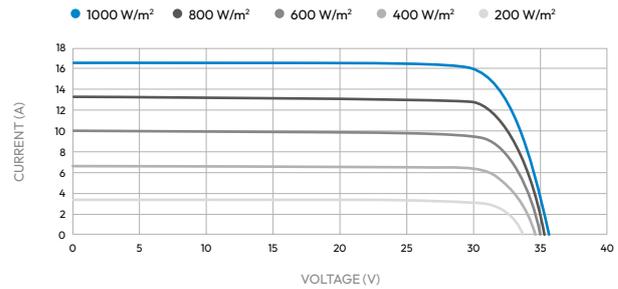
MAXIMUM RATINGS

Operating Temperature	°C	-40~+70
Maximum System Voltage	V	1500
Maximum Series Fuse	A	35

BIFACIAL COEFFICIENTS

Maximum power bifaciality coefficient	90 % ± 10%
I_{sc} bifaciality coefficient	90 % ± 10%
V_{oc} bifaciality coefficient	100 % ± 5%

CURRENT - VOLTAGE CURVES - 3SHBGA-AF-460-480



ELECTRICAL CHARACTERISTICS

	UNITÀ	3SHBGA-AF-460		3SHBGA-AF-465		3SHBGA-AF-470		3SHBGA-AF-475		3SHBGA-AF-480	
		STC	BNPI								
P_{max} - Power at Mpp*	Wp	460	516	465	521	470	527	475	533	480	538
V_{mpp} - Voltage at Mpp	V	29.31	29.42	29.53	29.64	29.75	29.86	29.97	30.08	30.19	30.30
I_{mpp} - Current at Mpp	A	15.70	17.53	15.75	17.59	15.80	17.65	15.85	17.71	15.90	17.76
V_{oc} - Open Circuit Voltage	V	35.25	35.41	35.35	35.51	35.45	35.61	35.55	35.71	35.65	35.81
I_{sc} - Short Circuit Current	A	16.52	18.53	16.56	18.57	16.60	18.62	16.64	18.66	16.68	18.71
Module efficiency	%	20.1%	22.6%	20.3%	22.8%	20.6%	23.1%	20.8%	23.4%	21.0%	23.6%

Electrical characteristics measured under:

Measurement tolerance on P_{max}, V_{oc} and I_{sc}: ± 5%

Power Class Sorting: -0+5 W

STC = AM 1.5, 1000 W/m², Cells Temperature 25°C

BNPI = Bifacial NamePlate Irradiance according to IEC 61215:2021

BNPI = AM 1.5, 1000W/m² front side + 135 W/m² rear side

Measurement tolerance BNPI Pmax: ± 10%



IEC 61215-1:2021; IEC 61215-2:2021; IEC 61730-2:2023; UL 61730:2022;

*Contact 3Sun to verify availability and certificates for the power classes