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.

Premium build
High quality glass-glass product with a black frame.

Versatile module format
Optimized dimension for rooftop installations.

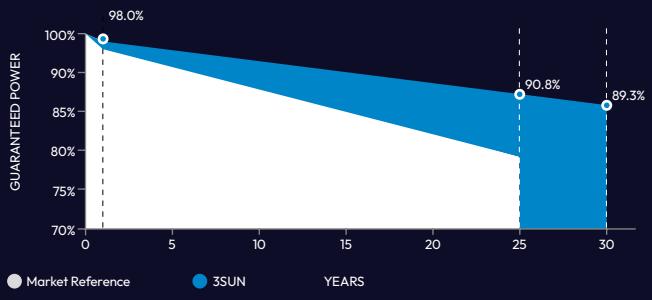
Proven performance
PID and LeTID free.

WARRANTY

Product	Performance*
25 YEARS	30 YEARS

*2% first year, the 0.30% per year

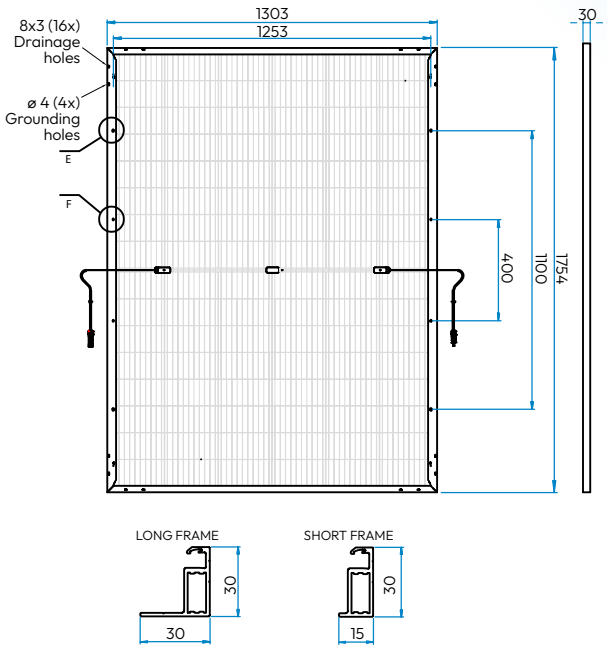
LINEAR PERFORMANCE WARRANTY



Cells and modules manufactured by 3SUN S.r.l., Contrada Blocco Torrazze, Zona Industriale, 95121 Catania (Italy)

3SUN B48

Product code **3SHBGA-AF-460-480**



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 mm², (+): 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 - C Class UNI 9177 - 1 Class UNI EN 13501-1 - B-s1, d0 Class UNI EN 13501-5 - Broof (t1/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

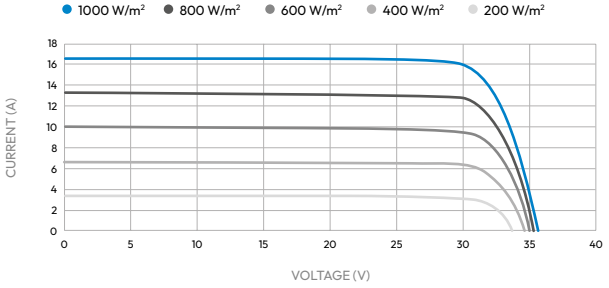
MAXIMUM RATINGS

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

		3SHBGA-AF-460		3SHBGA-AF-465		3SHBGA-AF-470		3SHBGA-AF-475		3SHBGA-AF-480	
	UNITÀ	**STC**	BNPI	**STC**	BNPI	**STC**	BNPI	**STC**	BNPI	**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.
*Contact 3Sun to verify availability and certificates for the power classes