3SUN B48 LE

CLASS A
ENEA Register

495-510 Wp
Bifacial: 90% (Bifaciality Factor)

Commercial & Industrial | Residential

Assembled in Europe.
Modules designed and manufactured exclusively in Italy.

Listed in the ENEA registry.
Modules produced in Europe, with efficiency greater than 21.5%.

Superior energy yield.
Heterojunction technology for enhanced energy yield.

Long-term reliability.
Low performance degradation in the product's lifetime.

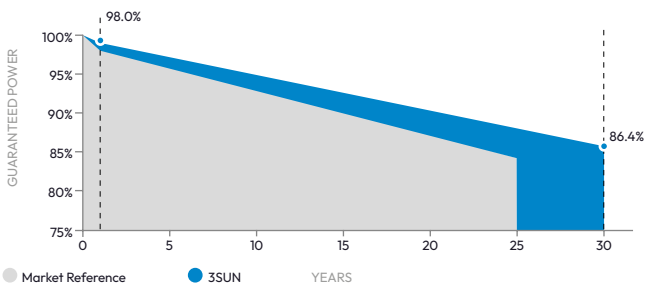
Versatile module format.
Optimized dimension for rooftop installations.

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

WARRANTY PACKAGE

- Dedicated after-sales support
- Product warranty: **15 years**
- Performance warranty: **30 years**
  (2% first year, then 0.40% per year)

LINEAR PERFORMANCE WARRANTY



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

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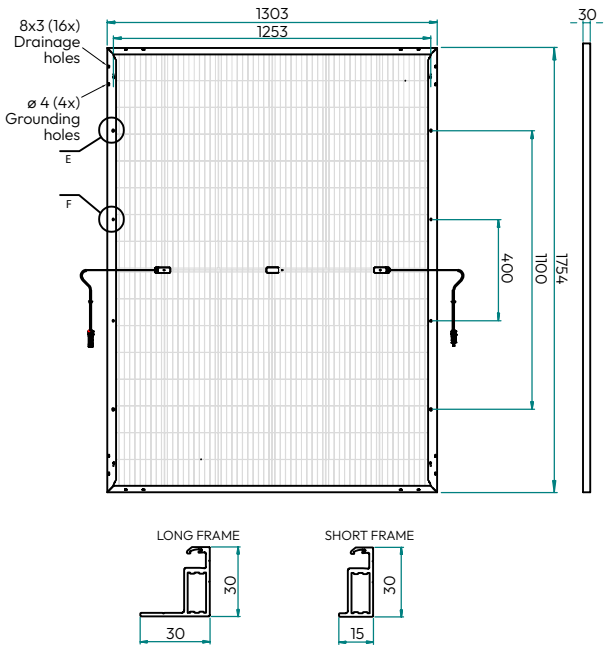
Product code **3SHBGA-CF-495-510**



MECHANICAL CHARACTERISTICS

Cell Type	Mono-crystalline, n-type Si HJT - G12 (210mm x 210mm; Cells manufactured outside the European Union
Number of cells	96 ½ celle (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 loading*	Front: up to 5400 Pa Back: up to 2400 Pa
Module Fire Performance	IEC 61730/UL 790 - C Class UNI 9177 - 1 Class

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

PACKAGING

Pallet dimensions (L x W x H)
Bi-pack: 1787 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
924 pcs (14 bi-packs)

TEMPERATURE RATINGS

Nominal Module Operating Temperature	°C	44 ± 2
P_{max} Temperature Coefficient	%/°C	-0.26
I_{sc} Temperature Coefficient	%/°C	0.055
V_{oc} Temperature Coefficient	%/°C	-0.27

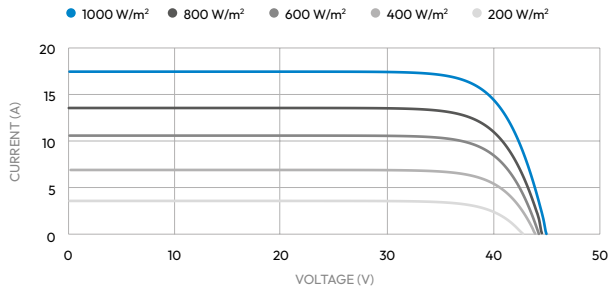
MAXIMUM RATINGS

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

BIFACIAL PERFORMANCES

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

CURRENT - VOLTAGE CURVES - 3SHBGA-CF-495-510



ELECTRICAL CHARACTERISTICS

		3SHBGA-CF-495		3SHBGA-CF-500		3SHBGA-CF-505		3SHBGA-CF-510	
	UNITÀ	**STC**	BNPI	**STC**	BNPI	**STC**	BNPI	**STC**	BNPI
P_{max} - Power at Mpp	Wp	**495**	555	**500**	561	**505**	566	**510**	572
V_{mp} - Voltage at Mpp	V	**30.47**	30.59	**30.67**	30.78	**30.86**	30.97	**31.06**	31.17
I_{mp} - Current at Mpp	A	**16.25**	18.14	**16.31**	18.22	**16.37**	18.27	**16.43**	18.35
V_{oc} - Open Circuit Voltage	V	**36.40**	36.59	**36.44**	36.64	**36.48**	36.68	**36.52**	36.72
I_{sc} - Short Circuit Current	A	**17.40**	19.51	**17.44**	19.56	**17.48**	19.60	**17.52**	19.65
Module efficiency	%	**21.7%**	24.3%	**21.9%**	24.5%	**22.1%**	24.8%	**22.3%**	25.0%

Electrical characteristics measured under:
Measurement Tolerance Voc and Isc: ± 5%
Measurement Tolerance Pmax: ± 3%
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;