



Module

TF Membrane Professional

thin-film

288 Wp



Roofing membrane with integrated thin-film modules

TF Membrane Professional - made from thin-film cells of leading manufacturer UNI-SOLAR®, in combination with market-renowned, tried and tested roofing membranes.

System advantages:

Efficient use of diffuse irradiation in spite of low roof angles and unfavourable orientation.

- low distribution load
- roofing system plus power generation
- ideal output due to the advanced Triple Junction technology
- suitable even for less than ideal roof alignments
- durable due to use of premium material
- high-grade TPO roofing membrane
- qualified planning and installation by certified specialists only
- high-value single layer roofing
- quick installation (fast "plug-and-play")
- safe and easy electric connexion via pin-and-socket connectors



TF Membrane Professional

Electrical Data*

Module type	TFM 288FB	TFM 288RG	
Nominal power (P _{MPP})	144 Wp	144 Wp	
Nominal Voltage (U _{MPP})	33 V	33 V	
Nominal Current (I _{MPP})	4.36 A	4.36 A	
Open Circuit (U _{OC})	46.2 V	46.2 V	
Short Circuit (I _{SC})	5.3 A	5.3 A	
Temperature Coefficient of P _{MPP} (Δ P _{MPP})	-0.3 W/K	-0.3 W/K	-0.21 %/K
Temperature Coefficient of U _{MPP} (Δ U _{MPP})	-102 mV/K	-102 mV/K	-0.31 %/K
Temperature Coefficient of I _{MPP} (Δ I _{MPP})	4.36 mA/K	4.36 mA/K	0.10 %/K
Temperature Coefficient of U _{OC} (Δ U _{OC})	-176 mV/K	-176 mV/K	-0.38 %/K
Temperature Coefficient of I _{SC} (Δ I _{SC})	5.3 mA/K	5.3 mA/K	0.10 %/K

NOCT 46°C

At standard test conditions (1,000 W/m², spectrum AM 1.5, cell temperature 25 °C). During the first 8-10 weeks of operation, electrical output exceeds specified ratings: Power P_{MPP} +15%, Open Voltage U_{OC} +11%, Short Circuit I_{SC} +4%.

* Electrical data refer to one submodule, the module consists of two separately interconnectable submodules.

Dimensions and weight data

Length	5900	5900	mm
Width	1050	1050	mm
Weight	32	32	kg
Misplacing Measure	5750 x 950	5750 x 950	mm

Quality features

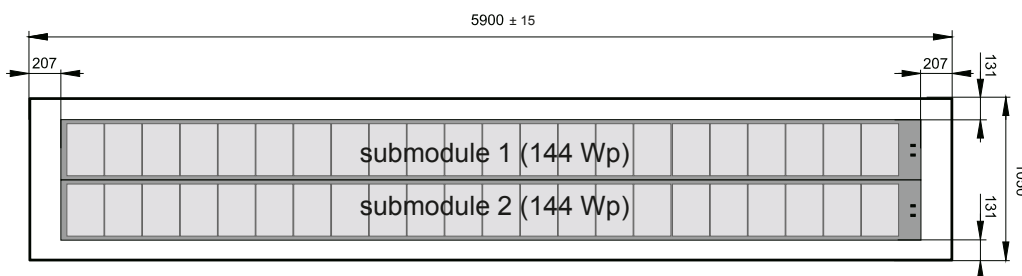
Tolerance of nominal power	± 5%
Performance guarantee**	20 years to 80% of rated nominal power
Product guarantee**	5 years
max. system voltage	1000 V

** According to the Centrosolar guarantee conditions (incl. product and performance guarantee).

Construction features

Solar cells	amorphous silicon Triple Junction cells
Construction	laminates on roofing membrane
Frontside	highly transparent ETFE fluorine polymer
Junction box	protection class IP65
Bypass diodes	integrated Schottky bypass diodes
Connection cable	2 x 0.5 m, quality pin-and-socket connector system
Application	roofing for flat roofs, roof inclination above 3°

specifications subject to change without notice, 08/2009



Protection Class II



CENTROSOLAR AG
Behringstrasse 16
22765 Hamburg
GERMANY
phone: +49 (0)40 391065-0
fax: +49 (0)40 391065-99
hamburg@centrosolar.com

CENTROSOLAR AG
Otto-Stadler-Strasse 23
33100 Paderborn
GERMANY
phone: +49 (0)5251 50050-0
fax: +49 (0)5251 50050-10
paderborn@centrosolar.com

CENTROSOLAR AG
Karlsberger Strasse 3
87471 Durach
GERMANY
phone: +49 (0)831 540214-0
fax: +49 (0)831 540214-5
durach@centrosolar.com

www.centrosolar.com