

## Photovoltaic modules

### TE 2000, TE 2200

180 à 240 Watts Peak  
Multicrystalline, Glass/Tedlar



**Tenesol manufactures its own photovoltaic modules.**

Tenesol's modules use the **high-output technology of the multicrystalline cell**. Each cell is individually measured and sorted before the encapsulation stage.

The combination of **Tempered Glass / EVA / Tedlar** ensures weight minimisation, guarantees a perfect watertightness as well as durable protection of the cells.

**The reinforced aluminium frame of 50 mm** allows an effortless handling and an easy and fast assembly.

Each module is submitted to an **individual quality control** and is referenced by an assessment sheet of its performance tests.

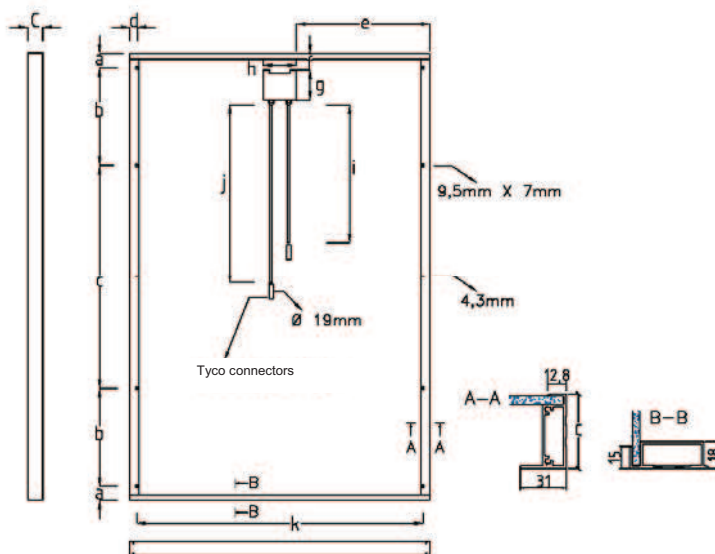
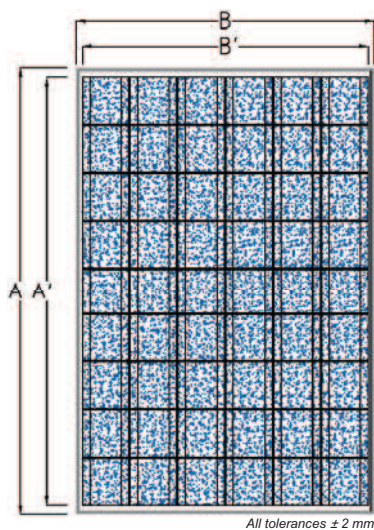
The Tenesol modules' quality is certified : **CE**  
Manufactured in ISO 9001:2000 certified facilities

#### APPLICATIONS :

- Photovoltaic power plants
- Grid connected systems



### Dimensions



	TE2000	TE2200
A	1510	1660
A'	1480	1630
B	995	990
B'	969	964
C	50	50
a	48	123
b	327,5	327,5
c	759	759
d	23,5	19
e	444	440
f	50	50
g	99	100
h	107	110
i	840	840
j	1030	1030
k	948	952

### Characteristics

Electrical characteristics	TE 2000				TE 2200				
Nominal Power	180	190	200	210	200	210	220	230	240
Minimum power	175	185	195	205	195	205	215	225	235
Maximum power	185	195	205	215	205	215	225	235	245
Sorting limits (Wp)	-5 / +5 Wp				-5 / +5 Wp				
Sorting limits (%)	$\pm 2,78\%$	$\pm 2,63\%$	$\pm 2,50\%$	$\pm 2,38\%$	$\pm 2,50\%$	$\pm 2,38\%$	$\pm 2,27\%$	$\pm 2,17\%$	$\pm 2,08\%$
Voltage at max. power	26,3	26,5	26,7	26,9	29,3	29,5	29,7	29,9	30,1
Current at max. power	6,9	7,2	7,5	7,8	6,9	7,2	7,5	7,8	8
Open circuit voltage	32,5	32,7	32,9	33,1	35,9	36,2	36,5	36,8	37
Short circuit current	7,6	7,8	8	8,2	7,6	7,8	8	8,2	8,3

Temperature coefficients	TE 2000	TE 2200
Coefficient Temperature of Voltage	- 116,1 mV/°C	- 129,0 mV/°C
Coefficient Temperature of Current	+ 4,4 mA/°C	+ 4,4 mA/°C
Coefficient Temperature of Power	- 0,46 %/°C	- 0,46 %/°C
NOCT (°C)	45	45

Cells	TE 2000	TE 2200
Size	156 x 156 mm	156 x 156 mm
Layout	54 cells / 6 x 9	60 cells / 6 x 10
Type	Multicrystalline	Multicrystalline

General informations	TE 2000	TE 2200
Maximum system voltage (V)	1000 V	1000 V
Diodes	3 by-pass	3 by-pass
Type of connection	Tyco connectors	Tyco connectors
Weight (kg)	18	19

Certifications	TE 2000	TE 2200
	IEC61215 + TUV class II	

Warranty	TE 2000	TE 2200
Product warranty	2 years	
Warranty on power output	25 years - 80 % of nominal power / 10 years in marine environment	

(According to specifications @ STC: Irradiation 1000 W/m<sup>2</sup>; AM 1.5; Cell at ambient Temperature T: 25°C)

Typical curve I/V with irradiation of 1000 W/m<sup>2</sup> à 25°C

