

PREMIUM

# BISOL Lumina

Bifacial PV Modules with Transparent Backsheet / BBO 410 Wp (+ Bifacial Gain)



Designed and manufactured in EU



All relevant certificates



Lower losses



Module presorting for higher profitability



Excellent low light performance



Natural light transmission



Available with or without frame

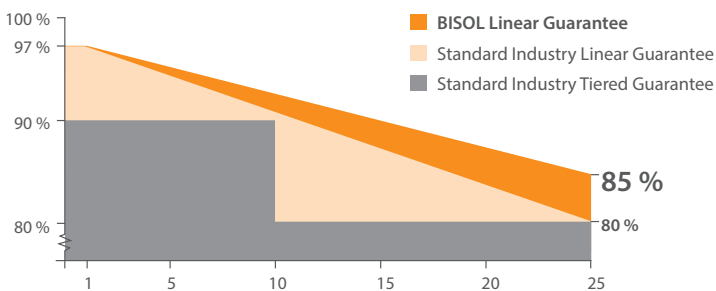


Transparent back foil



Bifacial module

## Guarantees:



Linear Guarantee  
85% power output in 25<sup>th</sup> year



Product Guarantee  
Standard: 15 years  
Extra: 20 years

## In compliance with:



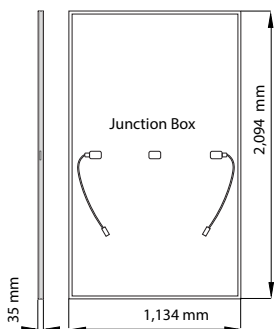
Certificates available upon special request. Additional charges may apply.

## Electrical Specifications @ STC (AM1.5, 1,000 W/m<sup>2</sup>, 25 °C):

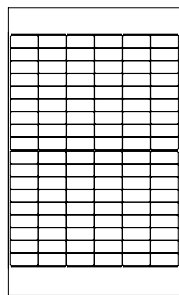
Module Type	BBO	410				
Number of Cells		108				
Cell Matrix		6 x 9 + 6 x 9				
Transparent Area	m <sup>2</sup>	0.52				
	%	22.5				
		Front	Bifacial Gain			
Light Source	%	100	10	20	30	40
Nominal Power	$P_{MPP}$ [W]	410	451	492	533	574
Short Circuit Current	$I_{SC}$ [A]	13.3	14.6	15.8	17.1	18.4
Open Circuit Voltage	$V_{OC}$ [V]	39.6	39.7	40.0	40.0	40.1
MPP Current	$I_{MPP}$ [A]	12.5	13.7	14.9	16.1	17.3
MPP Voltage	$V_{MPP}$ [V]	32.8	33.0	33.1	33.2	33.2
Module Efficiency	$\eta_M$ [%]	17.3				
Power Output Tolerance		±3 %				
Maximum Reverse Current		25 A				
Maximum System Voltage		1,500 V				
Protection Class		Class II				

Additional power classes available upon request. | Efficiency at irradiation 200 W/m<sup>2</sup>: 99.3 % of STC efficiency or higher. | Tolerances for  $V_{OC}$  and  $I_{SC}$  are 3 %.

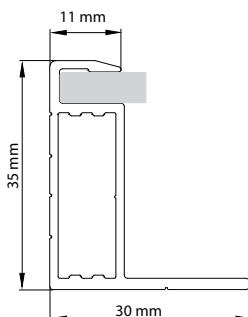
### Dimensions



### Matrix



### Frame Cross Section



### Thermal Specifications:

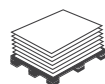
Current Temperature Coefficient	$\alpha$	+ 0.05 %/°C
Voltage Temperature Coefficient	$\beta$	- 0.26 %/°C
Power Temperature Coefficient	$\gamma$	- 0.34 %/°C
NOCT		43 ± 2 °C
Temperature Range		- 40 °C to + 85 °C

### Mechanical Specifications:

Length x Width x Thickness	2,094 x 1,134 x 35 mm
Weight	26 kg
Solar Cells	108 Half-Cut mono PERC Bifacial c-Si / 182 mm x 91 mm
Junction Box / Connectors / IP	3 bypass diodes / MC4 compatible / IP 68
Cable Length	Default: 1,200 mm On demand (for portrait orientation): 300 mm
Frame	Anodized Al with drainage holes / rigid anchored corners
Glass	3.2 mm AR coating tempered glass / high-transparency / low-iron content
Certified Test Load (Snow / Wind)	5,400 Pa / 2,400 Pa
Impact Resistance	Hailstone / $\Phi$ 25 mm / 83 km/h (51 mph)

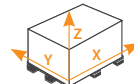
Tolerances of values are ±5 %. Unspecified product properties remain under full discretion of BISOL Production.

### Packaging Information:



Modules per Pallet

30



Packing Dimension:  
Length/Width/Height

212 x 116 x 127 cm



Stackable

3 Pallets



Packing Weight

807 kg



Tot. Nr. of Pallets/  
Load

24

