

PREMIUM

# BISOL® Bifacial

Bifacial Half-Cut PV Modules with Transparent Backsheet / BDO 440-460 Wp (+ Bifacial Gain)



Made in Europe



30 years of EU Guarantee



Hail and Fire resistant



Uncompromisingly certified



6.000 Pa Snow load



PID and LETID free



Highest Efficiency

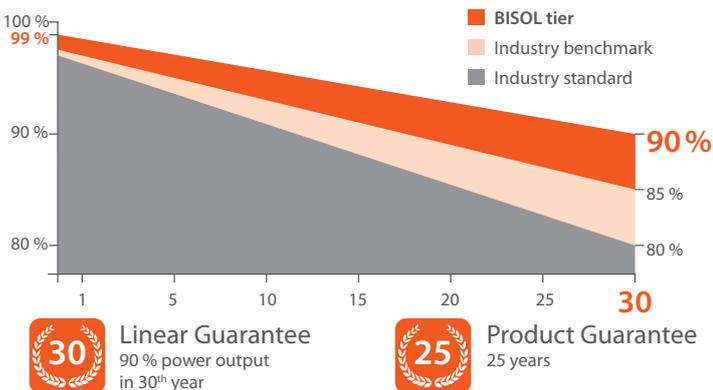


Module sorting technology



Low maintenance costs

## Guarantee:



## In compliance with:



Certificates available upon request. Additional charges may apply.

### Electrical Specifications @ STC (1,000 W/m<sup>2</sup>, AM 1.5, 25 °C):

Module Type	BDO	440	450	460
Nominal Power	$P_{MPP}$ [W]	440	450	460
Short Circuit Current	$I_{SC}$ [A]	16.0	16.1	16.2
Open Circuit Voltage	$V_{OC}$ [V]	34.9	35.3	35.9
MPP Current	$I_{MPP}$ [A]	15.0	15.2	15.4
MPP Voltage	$V_{MPP}$ [V]	29.3	29.6	29.9
Module Efficiency	$\eta_M$ [%]	22.0	22.5	23.0
Cell Efficiency	$\eta_C$ [%]	24.0	24.5	25.1
Power Output Tolerance			±3 %	
Maximum System Voltage			1,500 V	
Maximum Reverse Current			30 A	
Protection Class			Class II	
Bifaciality			72 % ± 5 %	

Electrical specifications at STC (1,000 W/m<sup>2</sup>, AM 1.5, 25 °C), NOCT (800 W/m<sup>2</sup>, AM 1.5, 42 °C, Wind 1 m/s), BSTC (1000 W/m<sup>2</sup> front side, 135 W/m<sup>2</sup> back side, AM 1.5, 25 °C). | Efficiency at irradiation 200 W/m<sup>2</sup>: 99.3 % of STC efficiency or higher. | Tolerances for  $V_{OC}$  and  $I_{SC}$  and other electrical parameters are ±3 %. | Additional power classes available upon request.

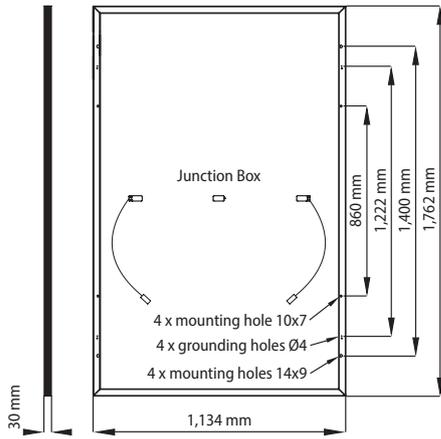
### Electrical Specifications @ NOCT (800 W/m<sup>2</sup>, AM 1.5, 42 °C, Wind 1 m/s):

Module Type	BDO	440	450	460
Nominal Power	$P_{MPP}$ [W]	338	346	353
Short Circuit Current	$I_{SC}$ [A]	12.9	13.0	13.1
Open Circuit Voltage	$V_{OC}$ [V]	33.4	33.8	34.4
MPP Current	$I_{MPP}$ [A]	12.1	12.3	12.4
MPP Voltage	$V_{MPP}$ [V]	27.9	28.2	28.4
Module Efficiency	$\eta_M$ [%]	22.0	22.5	23.0
Cell Efficiency	$\eta_C$ [%]	24.0	24.5	25.1
Power Output Tolerance			±3 %	
Maximum System Voltage			1,500 V	
Maximum Reverse Current			30 A	

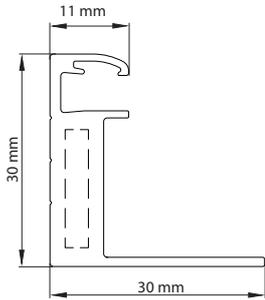
### Electrical Specifications @ BSTC (1,000 W/m<sup>2</sup> front, 135 W/m<sup>2</sup> back, AM 1.5, 25 °C):

Module Type	BDO	440	450	460
Nominal Power	$P_{MPP}$ [W]	499.4	510.8	522.1
Short Circuit Current	$I_{SC}$ [A]	17.9	18.2	18.6
Open Circuit Voltage	$V_{OC}$ [V]	34.9	35.3	35.9
MPP Current	$I_{MPP}$ [A]	17.0	17.3	17.5
MPP Voltage	$V_{MPP}$ [V]	29.3	29.6	29.9
Module Efficiency	$\eta_M$ [%]	22.0	22.5	23.0
Cell Efficiency	$\eta_C$ [%]	24.0	24.5	25.1
Power Output Tolerance			±3 %	
Maximum System Voltage			1,500 V	
Maximum Reverse Current			30 A	
Protection Class			Class II	
Bifaciality			72 % ± 5 %	

## Dimensions



## Frame Cross Section



## Thermal Specifications:

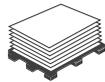
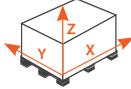
Current Temperature Coefficient	$\alpha$	+ 0.05 %/°C
Voltage Temperature Coefficient	$\beta$	- 0.25 %/°C
Power Temperature Coefficient	$\gamma$	- 0.29 %/°C
NOCT		42 °C ( $\pm 3$ °C)
Temperature Range		- 40 °C to + 85 °C

## Mechanical Specifications:

Length x Width x Thickness	1,762 x 1,134 x 30 mm
Weight	21 kg
Solar Cells	96 Half-Cut Bifacial c-Si / 182.25 x 105 mm
Junction Box / Connectors / IP	3 bypass diodes / MC4 compatible; On demand: MC4 EVO2 / IP 68
Cable Length	Default: 1,200 mm On demand (for portrait orientation): 300 mm
Frame	Anodized Al with mounting and drainage holes / rigid anchored corners.
Glass	3.2 mm AR coating tempered glass / high-transparency / low-iron content
Certified Test Load (Snow / Wind)	6,000 Pa / 2,400 Pa
Impact Resistance	Hailstone / $\Phi$ 40 mm / 99.1 km/h (61.6 mph)

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

## Packaging Information:

				
Modules per Pallet	Packing Dimension: Length/Width/Height	Stackable	Packing Weight	Tot. Nr. of Pallets/Load
35	178 x 116 x 128 cm	3 pallets	759 kg	28