

# Double Glass bifacial IBC module



## Bifacial IBC technology

Cutting edge IBC Technology for ultra high efficiency  
90% bifaciality for up to 10% additional power (419W!)



## N-Type technology

Zero PID and LID



## Zero busbar technology

Elegant look and status



## Very low temperature coefficient

VOC: -0.244 % / °C, much lower than PERC or N-TopCon modules.



## European quality

Made of European components, including Stäubli MC4 connectors.



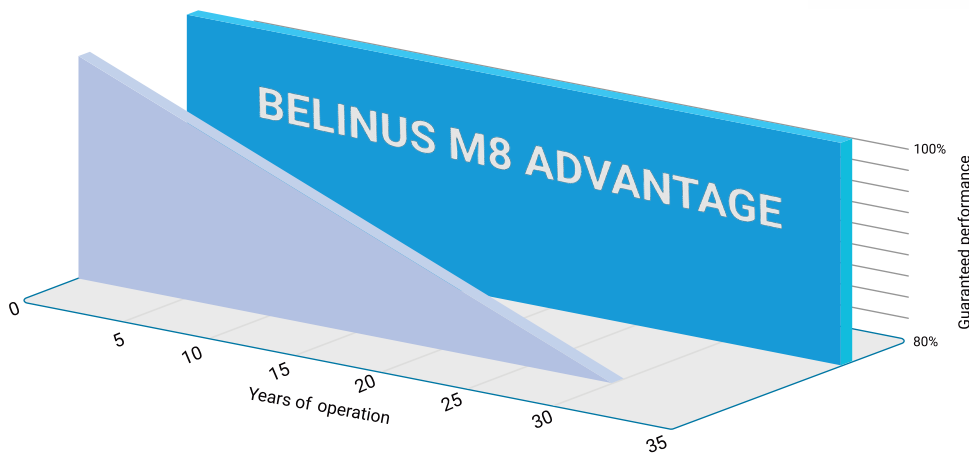
## Hail resistance

Resistance to hail storms helps ensure durability of our modules.



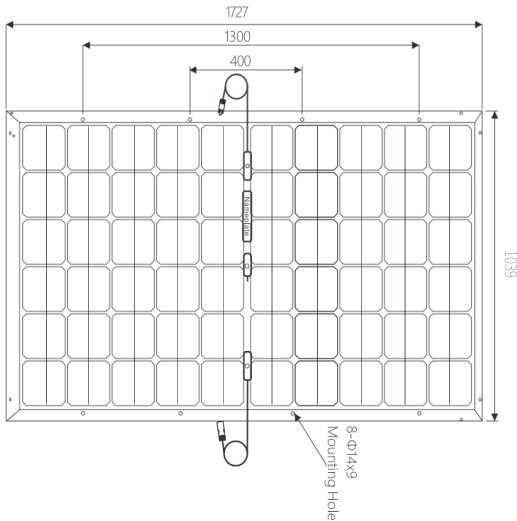
## Fire resistance

Higher standards of fire resistance increases the safety of the whole system.



**400 W**  
**220 W/M<sup>2</sup>**

## Technical characteristics



## Temperature characteristics

Nominal operating cell temperature (NOCT)	44°C (±2°C)
Temperature coefficient of Pmax	-0.288 %/°C
Temperature coefficient of Voc	-0.244 %/°C
Temperature coefficient of Isc	0.044 %/°C

## Packaging information

Container	40'HC
Pieces per pallet	35 +35 +3
Pallets per container	13
Pieces per container	949

## Mechanical characteristics

Laminate structure	Glass - POE - cells - POE - glass
Cell type	N - Type IBC 166 x 83 mm
Cell connection	120 (6x20)
Module dimensions	1727 x 1039 x 30 mm
Weight	23.5kg
Junction box	Degree of protection IP68
Output cable	4mm <sup>2</sup> , 1200mm with MC4
Connectors type	Stäubli MC4
Frame	Anodised aluminum alloy
Encapsulant	POE
Front load	5400 Pa
Real load	2400 Pa
Glass thickness	2.0mm DLAR (dual layer glass coating technology)- solar glass x 2

## Electrical characteristics

Maximum power (Pmax)	400W
Max module efficiency(%)	22.0%
Voltage at max power (Vmp)	36.1V
Current at max power (Imp)	12.0A
Open circuit voltage (Voc)	42.1V
Short circuit voltage (Isc)	12.0A
Operating module temperature	-40 to +85°C
Maximum system voltage	DC1500V
Maximum series fuse	20A
Rating power sorting	0 to +5W

\*STC: Irradiance 1000 W/m<sup>2</sup>, module temperature 25°C, AM=1.5; Best in class AAA- solar simulator used, power measurement uncertainty is within +/- 3%.

## Belinus ultra black knight IBC all-In-one warranty

## Conventional solar panel warranty

	35 years	
Service Warranty	35 years	
Shipping - new parts	✓	✗
Shipping - old parts	✓	✗
Installation	✓	✗
Product warranty	35 years	10 years
Power warranty		
Start point	100%	97%
Yearly decline	0%	0.7%
End point (25 years)	100%	80%
End point (35 years)	100%	✗



## Qualifications and certificates



Certificates available upon special requests. Additional charges may apply.

Both the Belinus solar cells and solar modules are made by suppliers in the Bloomberg Tier 1 List.

Lloyd's reinsurance back-stops the Tier 1 supplier's 15 years product defect warranty and 30 years power output warranty. Belinus self-warrants the rest of the warranties.

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