

# Mono S4 Halfcut | Trend Full Black

440 W / 445 W / 450 W

Bifacial double-glazed module with black grid lines and transparent back with N-TYPE/TOPCon cell technology. The aesthetic eye-catcher for the residential and commercial sector.

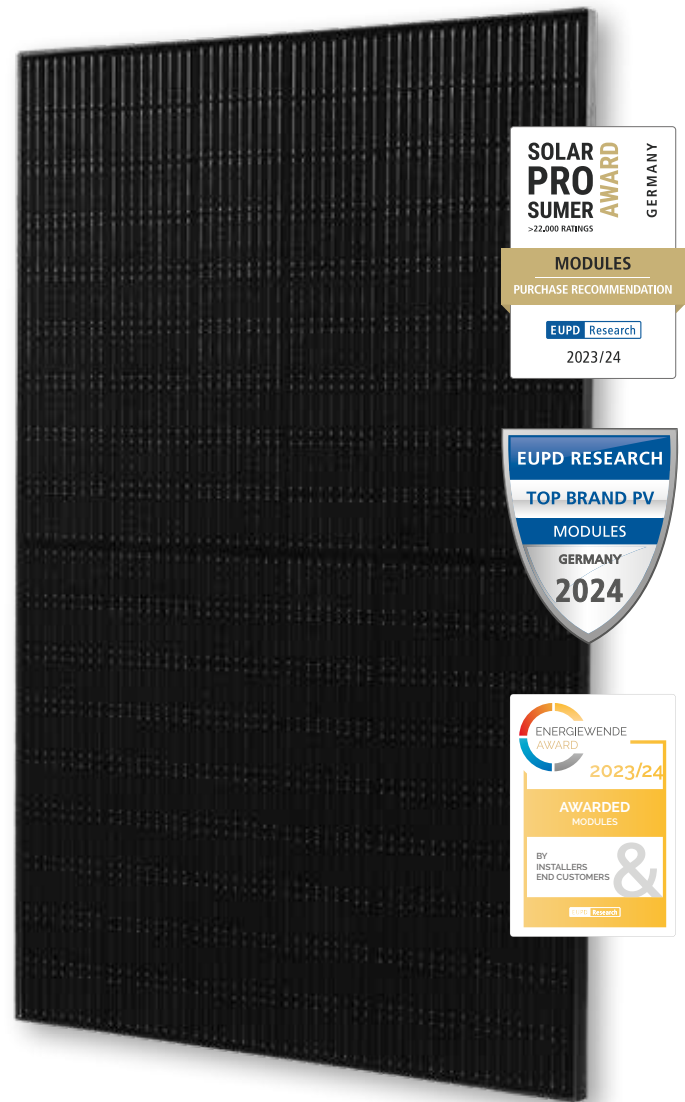
Especially suitable for:



Residential



Commercial



## German warranty

30-year guarantee on the product and 30 years on the module performance



## Hail protection class 4

Resistant to ice balls with a maximum diameter of 40 mm and a speed of 29.2 m/s



## Fire protection glass A

Best possible fire protection certification for solar modules with German TÜV certificate.



## Area utilisation factor

225 W/m<sup>2</sup> at 450 W. Better comparability through watt output per square metre



## Black Mesh

Transparent double glass solar module with a black print between the cells



## Bifacial cell

Transparent cell with additional energy on the back of the cell



## N-type technology

TopCon solar module with N-Type technology for even more peak performance



## Half-cell module

Two-part cell for more efficiency, more safety and more reliability



## Low-light behaviour

Outstanding performance even under low light conditions



## Glass cover

Resistant to ammonia & salt spray  
Highly transparent, self-cleaning glass

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## Electrical data under STC (Standard Test Conditions: 1000 W/m<sup>2</sup>, 25 °C, AM 1.5)

Rated power	P <sub>max</sub>	440 W	445 W	450 W
Sorting limits of performance		0/+5 W	0/+5 W	0/+5 W
Voltage	U <sub>MPP</sub>	32.47 V	32.65 V	32.82 V
Open circuit voltage	U <sub>OC</sub>	38.90 V	39.10 V	39.30 V
Current	I <sub>MPP</sub>	13.55 A	13.63 A	13.71 A
Short-circuit current	I <sub>SC</sub>	14.31 A	14.40 A	14.48 A
Efficiency		22.00 %	22.30 %	22.50 %

## Temperature data

Operating temperature		- 40° C bis + 85° C
Nominal operating cell temperature		43° C ± 2° C
Power temperature coefficient	T <sub>K</sub> (P <sub>MPP</sub> )	- 0.300 %/°C
Voltage temperature coefficient	T <sub>K</sub> (U <sub>OC</sub> )	- 0.280 %/°C
Current temperature coefficient	T <sub>K</sub> (I <sub>SC</sub> )	0.040 %/°C

## Further information

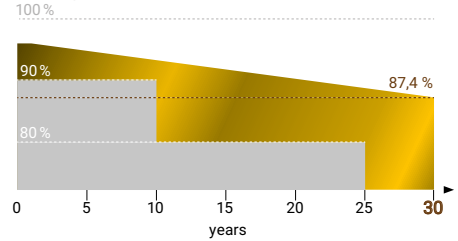
Number of cells	108 N-Type bifacial monocrystalline half cells (6 x 18)
Cell size	182 x 186.75 mm
Module dimensions	1762 x 1134 x 30 mm
Type of Frame	black anodized aluminium alloy
Max. system voltage	1500 V
Reverse current loading capability	30 A
Glass thickness	Frontside/Backside: 2.0 mm/2.0 mm
Weight	approx. 24.9 kg
Module connection	MC4 or similar, 4.0 mm <sup>2</sup> , cable length: (+) ≥ 1200 mm, (-) ≥ 1200 mm
Junction box rating	IP68
Allowable Hail Load	40 mm iceball with velocity of 29.2 m/s
Snow load	5400 Pa ≙ 550 kg/m <sup>2</sup>
Fire class	A according to IEC standard 61730-2 (UL 790, UL 1703)

30 years product warranty, 30 years linear performance warranty according to our additional warranty conditions for solar power modules of the "Mono S4 Halfcut Trend Full Black" product series, which we will gladly send you. Due to the tolerance of the anti-reflective coating, colour differences in the solar modules may occur.

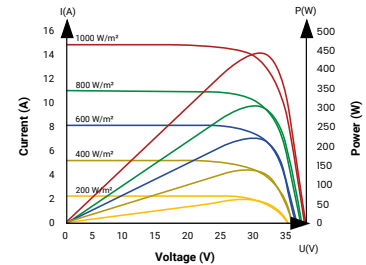
## Logistic

Dimension pallet (L/W/H)	180/114/125 cm
Weight pallet	ca. 926 kg
Modules per pallet	36
Modules per truck	1008
Modules per Container [40' HC]	936

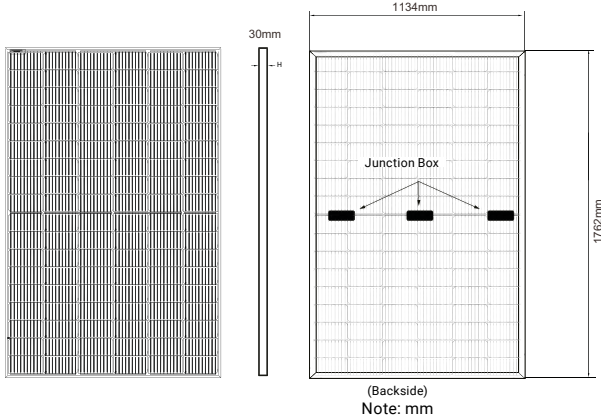
## Module performance



■ Linear performance warranty for Double-Glas Solar Modules  
 ■ Standard tiered warranty



### Mono S4 HC V XXX BF-DG (half cell module)



Note:  
 Ensure correct polarity!  
 Data with tolerance ± 1 mm

Errors and technical changes excepted. Illustration similar.

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