

# Beam N **DUAL GLASS** Solar Panel

## 500-510W

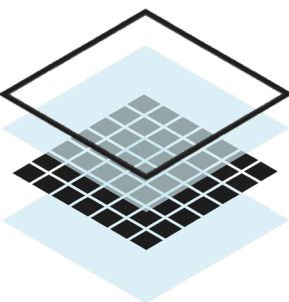
Bifacial - Black Frame

N-Type Half Cell Module

ENSP54NDG3500BF  
ENSP54NDG3505BF  
ENSP54NDG3510BF



Built using N-Type Dual Glass technology, the Energizer® Solar Panels range combine two of the best technologies in the market.



### Dual Glass Construction

- Panel Frame
- Front Glass Panel
- Solar Cells
- Rear Glass Panel



Dual glass technology

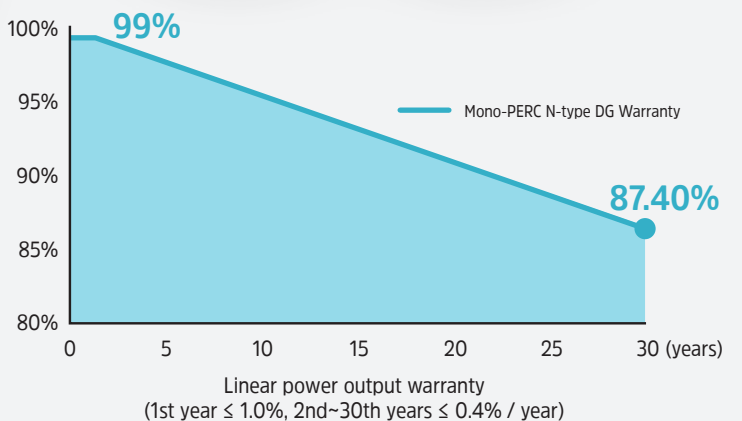
Lower operating temperatures

Improved fire & water resistance

Improved durability with no extra weight

Quality controlled by artificial intelligence

Positive power tolerance of 0~+3%



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## Mechanical Specifications

Outer dimensions (L x W x H)	1961 x 1134 x 30 mm
Cell type	N-Type mono-crystalline
No. of Cells	108 (8*16)
Frame Technology	Aluminum, black or silver anodized
Front / Back glass	2.0+2.0 mm
Cable length (Including connector)	Portrait: ( + )350 mm,( - )250 mm; Customized length
Cable diameter (IEC/UL)	4 mm <sup>2</sup> / 12 AWG
Maximum mechanical test load	5400 Pa (front) / 2400 Pa (back)
Connector type (IEC/UL)	PV-HCB40 (Chint New Energy) or PV-KST4-EVO2A/xy,PV-KBT4-EVO2A/xy (Stäubli)
Module weight	27.4 kg
Packing unit	36 pcs / box
Weight of packing unit for 40'HQ container)	1035 kg
Modules per 40' HQ container	864 pcs

## Electrical Specifications

**STC:** Irradiance: 1000W/m<sup>2</sup>, Cell Temperature 25° C, AM=1.5

Rated output power (P <sub>mpp</sub> / Wp)	500	505	510
Rated voltage (V <sub>mpp</sub> / V)	34.02	34.15	34.29
Rated current (I <sub>mpp</sub> / A)	14.70	14.79	14.87
Open circuit voltage (V <sub>oc</sub> / V)	40.89	41.05	41.21
Short circuit current (I <sub>sc</sub> / A)	15.52	15.61	15.70
Module efficiency	22.5%	22.7%	22.9%

Measurement Tolerances: P<sub>mpp</sub> ±3%, V<sub>oc</sub> ±3%, I<sub>sc</sub> ±4%

**BNPI:** Irradiance: front 1000W/m<sup>2</sup>, rear 135W/m<sup>2</sup>, Cell Temperature 25° C, AM=1.5

Rated output power (P <sub>mpp</sub> / Wp)	551.0	556.5	562.0
Rated voltage (V <sub>mpp</sub> / V)	34.03	34.16	34.30
Rated current (I <sub>mpp</sub> / A)	16.19	16.29	16.39
Open circuit voltage (V <sub>oc</sub> / V)	40.90	41.06	41.22
Short circuit current (I <sub>sc</sub> / A)	17.27	17.37	17.47

Bifaciality: φP<sub>mpp</sub>/φI<sub>sc</sub>: 80% ±5%, Bifaciality: φV<sub>oc</sub>: 98% ±5%

### Electrical characteristics with 10% Bifacial Gains

Rated output power (P <sub>mpp</sub> / Wp)	550	556	561
Rated voltage (V <sub>mpp</sub> / V)	34.02	34.15	34.29
Rated current (I <sub>mpp</sub> / A)	16.17	16.27	16.36
Open circuit voltage (V <sub>oc</sub> / V)	40.89	41.05	41.22
Short circuit current (I <sub>sc</sub> / A)	17.07	17.17	17.27

## Operating Parameters

No. of diodes	3
Junction box IP rating	IP68
Max. series fuse rating	30A
Max. system voltage (IEC/UL)	1500 <sub>DC</sub>
Fire Rating	Class C

Made in China, Made in Turkey.



## Temperature Ratings

Temperature coefficient (P <sub>mpp</sub> )	-0.29%/°C
Temperature coefficient (I <sub>sc</sub> )	+0.043%/°C
Temperature coefficient (V <sub>oc</sub> )	-0.25%/°C

## Curve

