

Beam N **DUAL GLASS** Solar Panel

440-455W

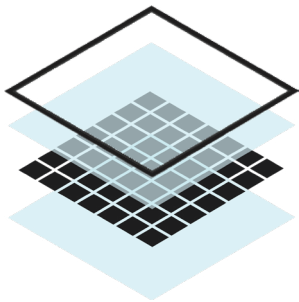
Bifacial - Black Profile

N-Type Half Cell Module

ENSP48NDGT3440BL ENSP48NDGT3450BL
ENSP48NDGT3445BL ENSP48NDGT3455BL



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

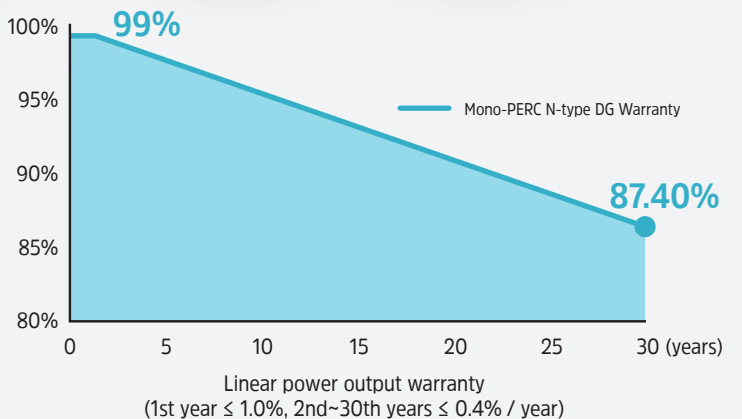
Lower operating temperatures

Improved fire & water resistance

Improved durability with no extra weight

Quality controlled by artificial intelligence

Positive power tolerance of 0~+3W



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Mechanical Specifications

Outer dimensions (L x W x H)	1762 x 1134 x 30 mm
Cell type	N-Type mono-crystalline
No. of Cells	96 (6*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 ² / 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	24.4 kg
Packing unit	36 pcs / box
Weight of packing unit for 40'HQ container)	923 kg
Modules per 40' HQ container	936 pcs

Electrical Specifications

STC: Irradiance: 1000W/m², Cell Temperature 25° C, AM=1.5

Rated output (Pmpp / Wp)	440	445	450	455
Rated voltage (Vmpp / V)	30.10	30.24	30.37	30.51
Rated current (Impp / A)	14.62	14.72	14.82	14.91
Open circuit voltage (Voc / V)	36.14	36.30	36.46	36.62
Short circuit current (Isc / A)	15.45	15.56	15.66	15.76
Module efficiency	22.0%	22.3%	22.5%	22.8%

Tolerances: Pmpp +/-3%, Voc +/-3%, Isc +/-4%

BNPI: Irradiance: front 1000W/m², rear 135W/m², Cell Temperature 25° C, AM=1

Rated output (Pmpp / Wp)	485	490	495	500
Rated voltage (Vmpp / V)	30.11	30.24	30.38	30.51
Rated current (Impp / A)	16.11	16.20	16.29	16.39
Open circuit voltage (Voc / V)	36.14	36.31	36.47	36.63
Short circuit current (Isc / A)	17.12	17.21	17.31	17.40

Bifaciality: φPmpp/φIsc: 80% ±5%, Bifaciality: φVoc: 98% ±2%

Electrical characteristics with 10% Bifacial Gains

Rated output (Pmpp / Wp)	485	490	495	501
Rated voltage (Vmpp / V)	30.10	30.24	30.37	30.51
Rated current (Impp / A)	16.08	16.19	16.30	16.41
Open circuit voltage (Voc / V)	36.14	36.31	36.47	36.63
Short circuit current (Isc / A)	17.00	17.11	17.23	17.34

Operating Parameters

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

Made in China, Made in Turkey.



Temperature Ratings

Temperature coefficient (Pmpp)	-0.29%/°C
Temperature coefficient (Isc)	+0.043%/°C
Temperature coefficient (Voc)	-0.25%/°C

Curve

