Energizer
SOLAR PANELS



Beam N DUAL GLASS Solar Panel

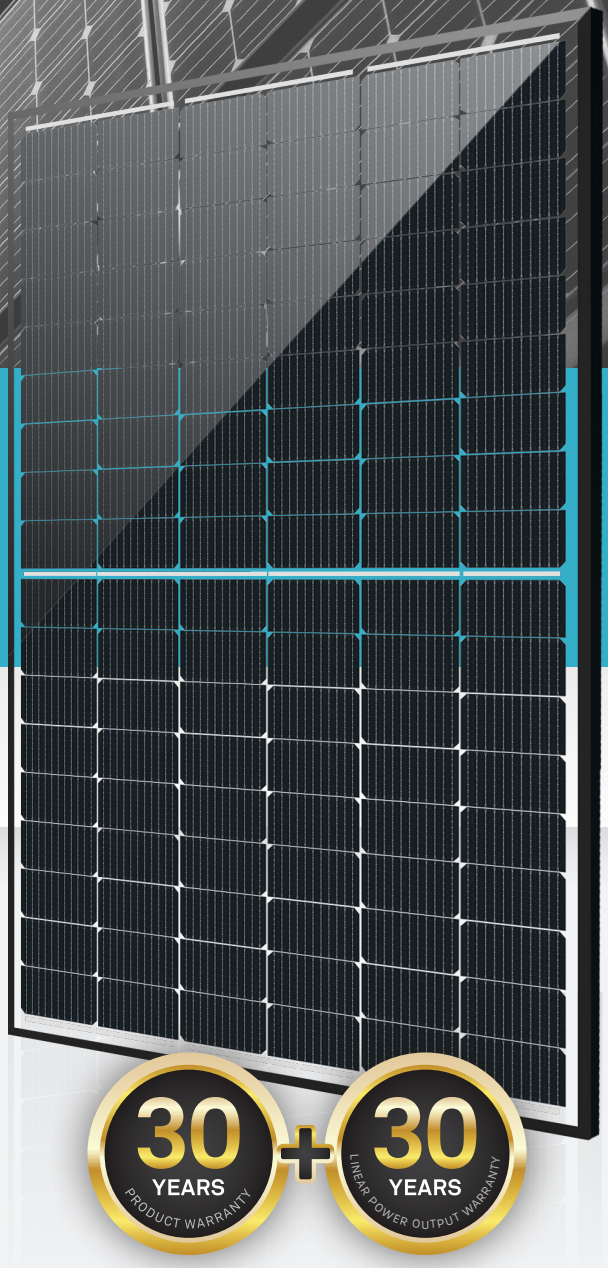
410-420W

Black Frame (182mm)

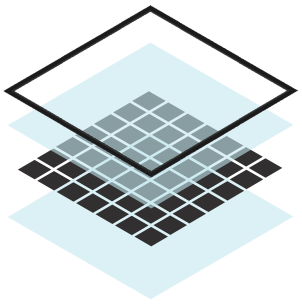
Mono PERC Half Cell Module

ENSP54NBT2410BF ENSP54NBT2420BF
ENSP54NBT2415BF

Tier 1 Manufactured | Underwritten by International Insurer | ctc Green Building Materials AAA



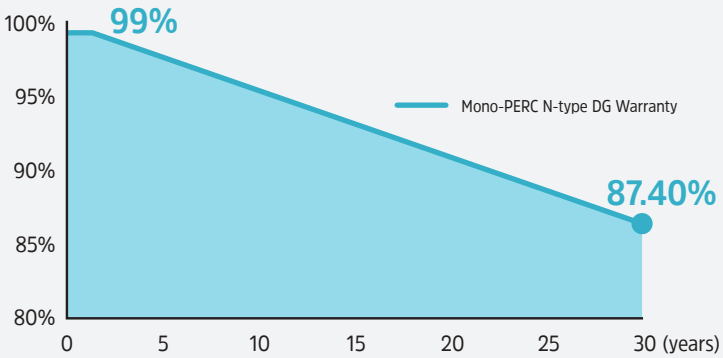
Built using Mono-crystalline PERC technology, the Energizer® Solar Panels range combine two of the best technologies in the market.



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~+5W**



Linear power output warranty
(1st year ≤ 1.0%, 2nd~30th years ≤ 0.4% / year)

hello@energizersolar.com energizersolar.com

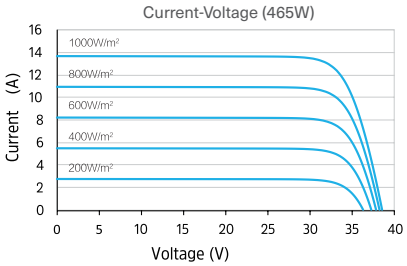
© 2023 Energizer. Energizer and certain graphic designs are trademarks of Energizer Brands, LLC and related subsidiaries and are used under license by 8 Star Energy Pty Ltd. All other brand names are trademarks of their respective owners. Neither 8 Star Energy Pty Ltd nor Energizer Brands is affiliated with the respective owners of their trademarks.

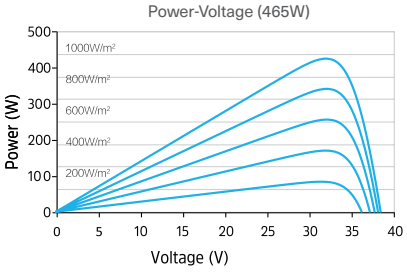
Electrical Specifications

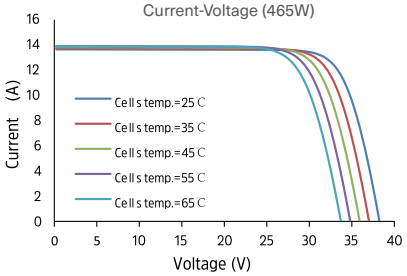
STC rated output (P_{mpp})	410 Wp	415 Wp	420 Wp
Rated voltage (V_{mpp}) at STC	31.68 V	31.85 V	32.02 V
Rated current (I_{mpp}) at STC	12.94 A	13.03 A	13.12 A
Open circuit voltage (V_{oc}) at STC	37.70 V	37.90 V	38.10 V
Short circuit current (I_{sc}) at STC	13.65 A	13.76 A	13.87 A
Module efficiency	21.0%	21.3%	21.5%
Rated output (P_{mpp}) at NMOT	308.3 Wp	312.1 Wp	315.8 Wp
Rated voltage (V_{mpp}) at NMOT	29.82 V	29.98 V	30.14 V
Rated current (I_{mpp}) at NMOT	10.34 A	10.41 A	10.48 A
Open circuit voltage (V_{oc}) at NMOT	35.81 V	36.00 V	36.19 V
Short circuit current (I_{sc}) at NMOT	11.02 A	11.11 A	11.19 A
Temperature coefficient (P_{mpp})		- 0.30%/°C	
Temperature coefficient (I_{sc})		+ 0.043%/°C	
Temperature coefficient (V_{oc})		- 0.24%/°C	
Nominal module operating temperature (NMOT)		41±2°C	
Maximum system voltage (IEC/UL)		1500V_{DC}	
Number of diodes		3	
Junction box IP rating		IP 68	
Maximum series fuse rating		39 A	

STC: Irradiance 1000W/m^2, Cell Temperature 25°C, AM=1.5
NMOT: Irradiance 800W/m^2, Ambient Temperature 20°C, AM=1.5, Wind Speed 1m/s
Name plate tolerances: Pmax +/-3%, Voc +/-3%, Isc +/-5%

Curve





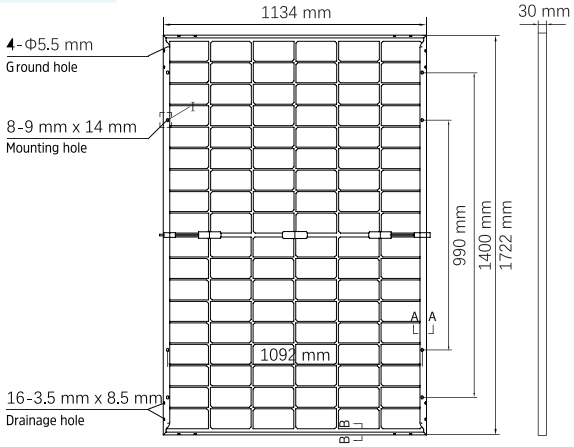


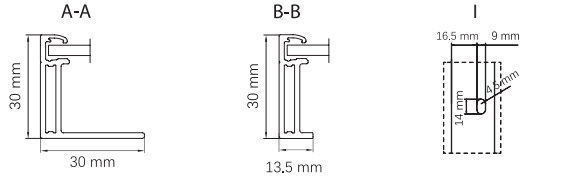
Electrical Specifications (Integrated power)

Pmpp Gain	Pmpp / Wp	Vmpp / V	Impp / A	Voc / V	Isc / A
5%	441	32.02	13.77	38.10	14.56
10%	462	32.02	14.43	38.10	15.25
15%	483	32.03	15.08	38.11	15.94
20%	504	32.03	15.74	38.11	16.64
25%	525	32.03	16.39	38.11	17.33

Other Specifications

Outer dimensions (L x W x H)	1722 x 1134 x 30 mm
Cell type	N type Mono-crystalline
No. of cells	108
Frame technology	Aluminium (silver)
Front glass thickness	1.6+1.6 mm
Cable length (IEC/UL)	Landscape (standard): 1200 mm
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 (Astronergy) or PV-KST4-EVO2/ xy-UR, PVKBT4-EVO2/xy (Stäubli)
Module weight	20.8 kg
Packing unit	36 pcs / box
Weight of packing unit (40ft container)	793 kg
Modules per 40ft container	936 pcs
Fire Class Rating	Class C
Country of Manufacturer	China





© 2023 Energizer. Energizer and certain graphic designs are trademarks of Energizer Brands, LLC and related subsidiaries and are used under license by 8 Star Energy Pty Ltd. All other brand names are trademarks of their respective owners. Neither 8 Star Energy Pty Ltd nor Energizer Brands is affiliated with the respective owners of their trademarks.