



Beam 2 Solar Panel

435-450W

All Black (182mm)

Mono PERC Half Cell Module

ENSP60MBL2435BF ENSP60MBL2445BF
ENSP60MBL2440BF ENSP60MBL2450BF



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

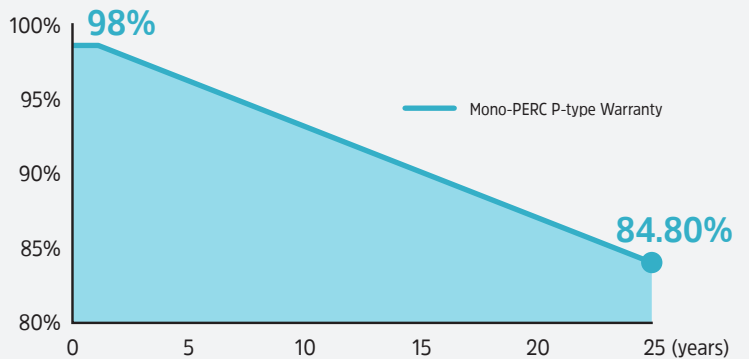
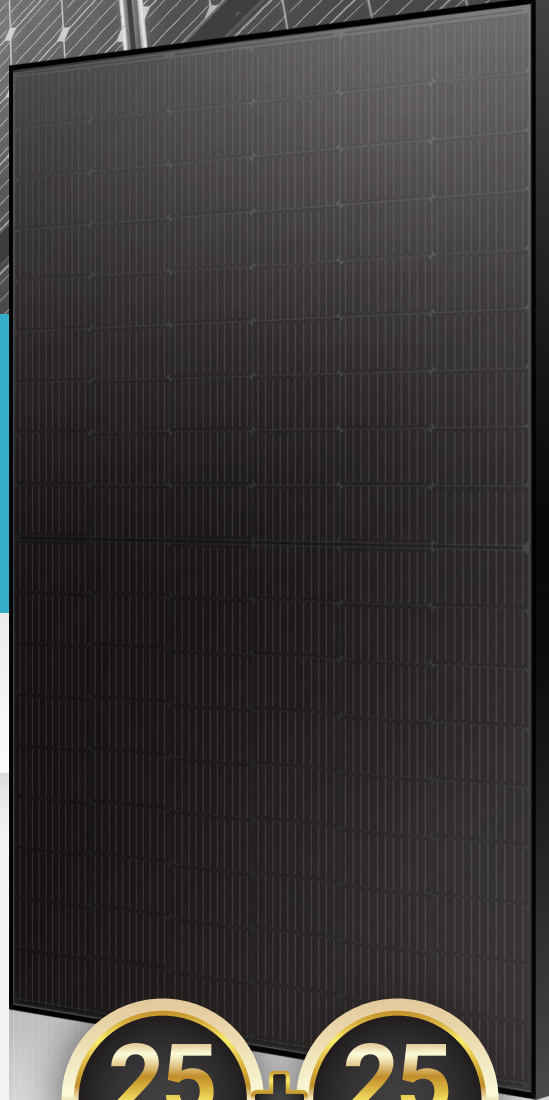
Lower Power Loss
Better performance in shaded and low-light conditions.

Higher efficiency
Higher module power efficiency up to 20.6%.

Lower operating temperatures
Low operating temperatures and coefficients increases performance.

Half Cell technology
Excellent performance under real conditions.

Keeps going and going
Engineered and designed to withstand harsh environments.



Linear power output warranty
(1st year ≤ 2.0%, 2nd~25th years ≤ 0.55% / year)

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Electrical Specifications

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

Rated output (P _{mpp} / W _p)	435	440	445	450
Rated voltage (V _{mpp} / V)	34.33	34.50	34.66	34.83
Rated current (I _{mpp} / A)	12.67	12.76	12.84	12.92
Open circuit voltage (V _{oc} / V)	40.85	41.05	41.25	41.45
Short circuit voltage (I _{sc} / A)	13.38	13.48	13.59	13.71
Module efficiency	20.3%	20.5%	20.8%	21.0%

NMOT: Irradiance 800W/m², Ambient Temperature 20°C, AM=1.5, Wind Speed 1m/s

Rated output (P _{mpp} / W _p)	325.1	328.8	332.6	336.3
Rated voltage (V _{mpp} / V)	31.99	32.15	32.31	32.46
Rated current (I _{mpp} / A)	10.16	10.23	10.29	10.36
Open circuit voltage (V _{oc} / V)	38.60	38.79	39.98	39.17
Short circuit current (I _{sc} / A)	10.85	10.94	11.02	11.12

Power Sorting: +/-5W Measurement tolerance +/-3%

Temperature Rating (STC)

Temperature coefficient (P _{mpp})	-0.35% / °C
Temperature coefficient (I _{sc})	-0.045% / °C
Temperature coefficient (V _{oc})	-0.27% / °C
Nominal module operating temperature (NMOT)	41±2°C

Operating Parameters

No. of diodes	3
Junction box IP rating	IP68
Max. series fuse rating	25A
Max. system voltage (IEC/UL)	1000V _{oc}

Mechanical Specifications

Outer dimensions (L x W x H)	1890 x 1133 x 30mm
Cell type	P type Mono-crystalline
No. of cells	120
Frame technology	Black Aluminium
Front glass thickness	3.2mm
Cable length (IEC/UL)	Portrait: 300mm; Landscape: 1200mm
Cable diameter (IEC/UL)	4mm 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	23.8kg
Packing unit	36 pcs / box
Weight of packing unit (40ft container)	892kg
Modules per 40ft container	864 pcs
Fire Class Rating	Class C
Country of Manufacturer	China

Curve

