

# Energizer®

## SOLAR PANELS

# Beam 2

All Black (182mm)

# 390-405W

Mono PERC Half Cell Module  
ENSP54MBL2 Series



## Key Features



### 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.

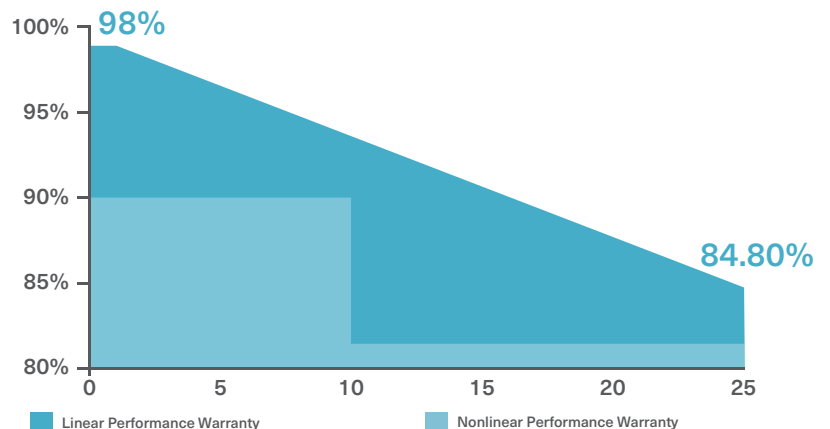
## Warranty



Product warranty



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



## Electrical Specifications

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

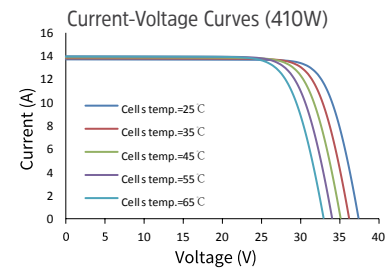
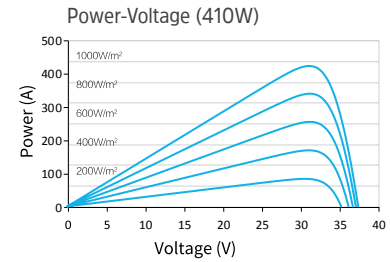
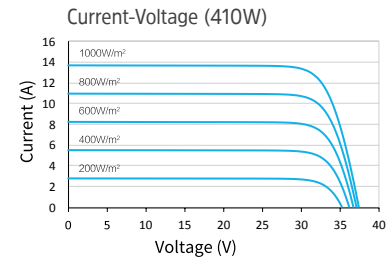
Rated output (P <sub>mpp</sub> / Wp)	390	395	400	405
Rated voltage (V <sub>mpp</sub> / V)	30.76	30.92	31.09	31.26
Rated current (I <sub>mpp</sub> / A)	12.68	12.77	12.86	12.96
Open circuit voltage (V <sub>oc</sub> / V)	36.60	36.80	37.00	37.20
Short circuit voltage (I <sub>sc</sub> / A)	13.40	13.52	13.65	13.76
Module efficiency	20.0%	20.2%	20.5%	20.7%

**NMOT:** Irradiance 800W/m<sup>2</sup>, Ambient Temperature 20°C, AM=1.5, Wind Speed 1m/s

Rated output (P <sub>mpp</sub> / Wp)	291.5	295.2	298.9	302.7
Rated voltage (V <sub>mpp</sub> / V)	28.66	28.82	28.98	29.13
Rated current (I <sub>mpp</sub> / A)	10.17	10.24	10.32	10.39
Open circuit voltage (V <sub>oc</sub> / V)	34.59	34.78	34.97	35.15
Short circuit current (I <sub>sc</sub> / A)	10.87	10.97	11.07	11.17

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

## Curve



## Tempertaure Rating (STC) Operating Parameters

Temperature coefficient (P <sub>mpp</sub> )	-0.35% / °C	No. of diodes	3
Temperature coefficient (I <sub>sc</sub> )	-0.045% / °C	Junction box IP rating	IP68
Temperature coefficient (V <sub>oc</sub> )	-0.27% / °C	Max. series fuse rating	25A
Nominal module operating temperature (NMOT)	41±2°C	Max. system voltage (IEC/UL)	1500V <sub>DC</sub>

## Mechanical Specifications

Outer dimensions (L x W x H)	1722 x 1134 x 30mm
Cell type	P type Mono-crystalline
No. of cells	108
Frame technology	Black Aluminium
Front glass thickness	3.2mm
Cable length (IEC/UL)	Portrait: 300mm; Landscape: 1200mm
Cable diameter (IEC/UL)	4mm <sup>2</sup> / 12 AWG
Maximum mechanical test load	5400 Pa (front) / 2400 Pa (back)
Connector type (IEC/UL)	PV-HCB40 or PV-KST4-EVO2/xy-UR, PVKBT4-EVO2/xy-UR (optional)
Module weight	21.6kg
Packing unit	36 pcs / box
Weight of packing unit (40ft container)	821kg
Modules per 40ft container	936 pcs

