

Energizer®

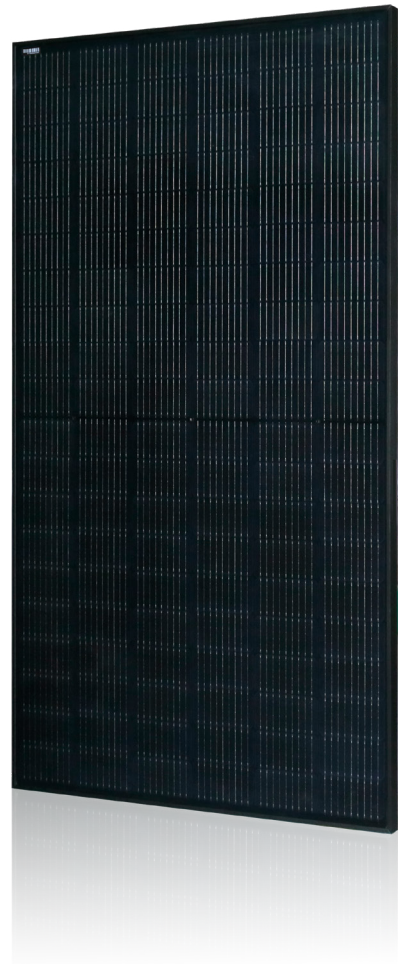
SOLAR PANELS

Beam 2 All Black

Black Frame (182mm)

390-405W

Mono PERC Half Cell Module
ENSP54M2 Series



Key Features



Lower power loss

Better performance in shaded and low-light conditions



Half Cell technology

Excellent performance under real conditions



Higher efficiency

Higher module power efficiency up to 20.6%



Keeps going and going

Engineered and designed to withstand harsh environments



Lower operating temperatures

Low operating temperatures and coefficients increases performance

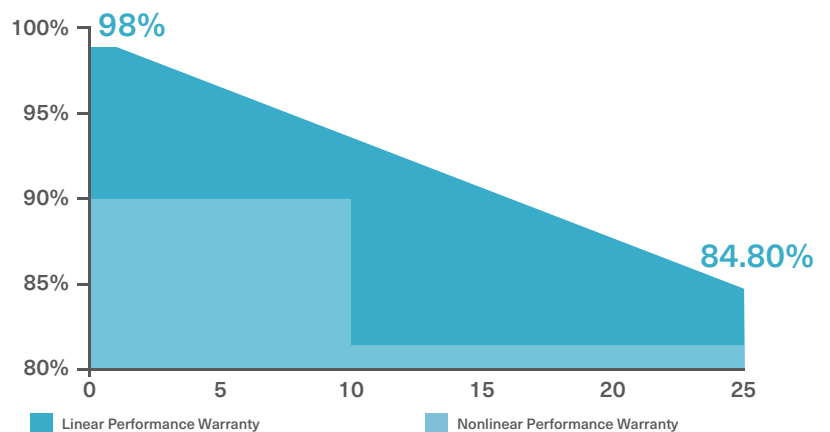
Warranty



Product warranty



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



Electrical Specifications

STC rated output (P_{mpp})	390 Wp	395 Wp	400 Wp	405 Wp
Rated voltage (V_{mpp}) at STC	30.76 V	30.92 V	31.09 V	31.26 V
Rated current (I_{mpp}) at STC	12.68 A	12.77 A	12.86 A	12.96 A
Open circuit voltage (V_{oc}) at STC	36.60 V	36.80 V	37.00 V	37.20 V
Short circuit current (I_{sc}) at STC	13.40 A	13.52 A	13.65 A	13.76 A
Module efficiency	20.2%	20.4%	20.7%	20.9%
Rated output (P_{mpp}) at NMOT	291.5 Wp	295.2 Wp	298.9 Wp	302.7 Wp
Rated voltage (V_{mpp}) at NMOT	28.66 V	28.82 V	28.98 V	29.13 V
Rated current (I_{mpp}) at NMOT	10.17 A	10.24 A	10.32 A	10.39 A
Open circuit voltage (V_{oc}) at NMOT	34.59 V	34.78 V	34.97 V	35.15 V
Short circuit current (I_{sc}) at NMOT	10.87 A	10.97 A	11.07 A	11.17 A
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		
Maximum system voltage (IEC/UL)		1500V _{DC}		
Number of diodes		3		
Junction box IP rating		IP 68		
Maximum series fuse rating		25 A		

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

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

Name plate tolerances: P_{max} +/-3%, V_{oc} +/-3%, I_{sc} +/-5%

Mechanical Specifications

Outer dimensions (L x W x H)	1722 x 1134 x 30 mm
Frame technology	Aluminum, black anodized
Front glass thickness	3.2 mm
Cable length (IEC/UL)	Portrait: 300 mm Landscape (standard): 1200 mm
Cable diameter (IEC/UL)	4 mm ² / 12 AWG
^① Maximum mechanical test load	5400 Pa (front) / 2400 Pa (back)
Fire performance (IEC/UL)	Class C (IEC) or Type 4 (UL)
Connector type (IEC/UL)	Stäubli MC4 EVO2 connectors (PV-KST4 EVO 2 & PV-KBT4 EVO 2)

^① Refer to Energizer crystalline installation manual or contact technical department.
Maximum Mechanical Test Load=1.5×Maximum Mechanical Design Load.

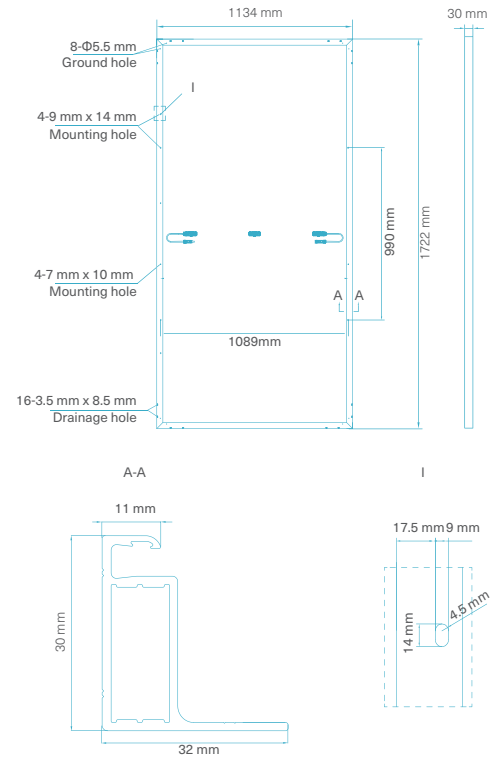
Packing Specifications

^① Module Weight	21.5 kg
^② Packing unit	36 pcs / box
Weight of packing unit (for 40'HQ container)	813 kg
Number of modules per 40'HQ container	936 pcs

^① Tolerance +/- 1.0kg

^② Subject to sales contract

Module Dimensions



Curve

