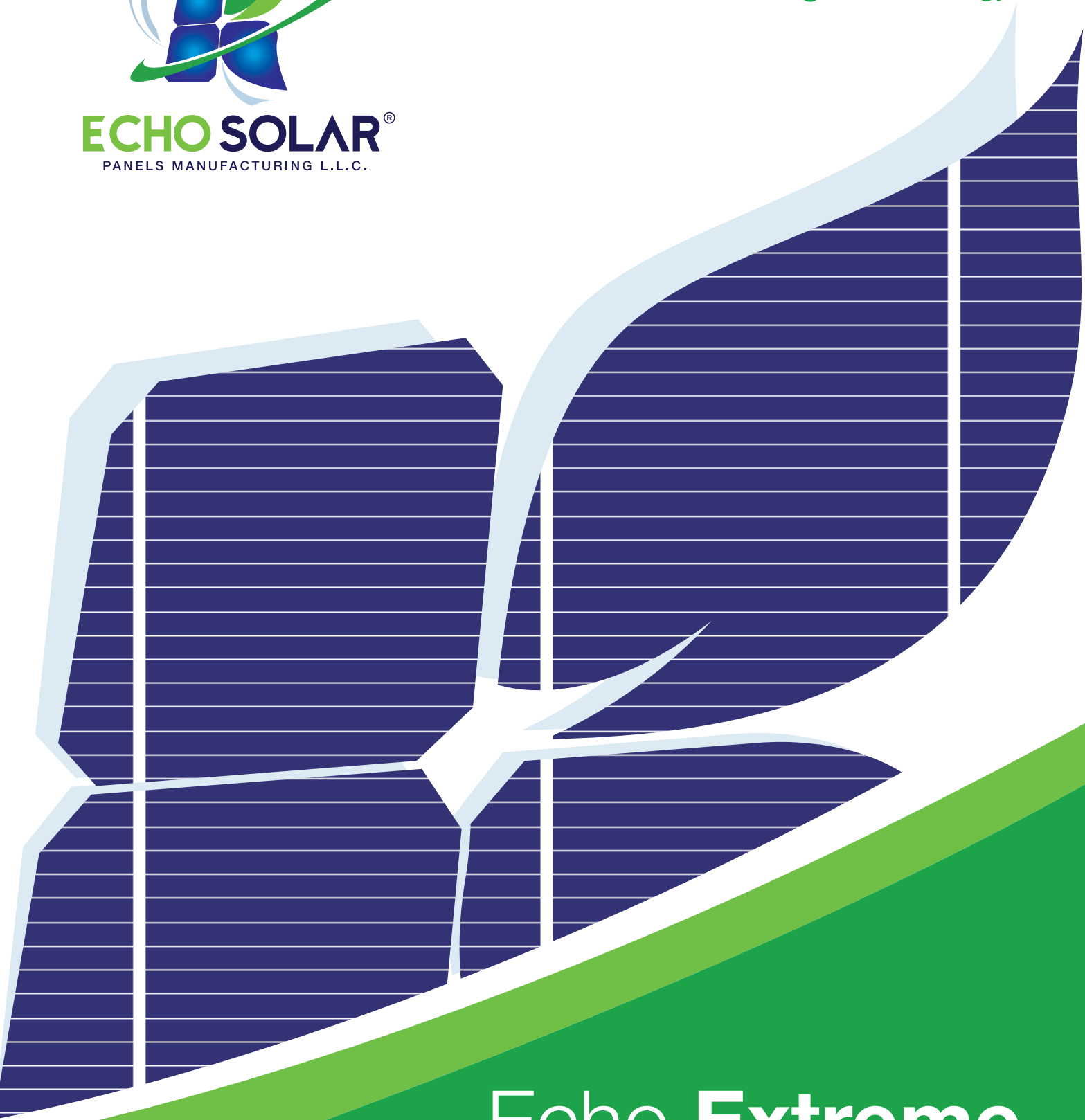




**ECHO SOLAR**<sup>®</sup>  
PANELS MANUFACTURING L.L.C.

**Powering** Green Energy



# Echo Extreme

THE PREMIUM PRODUCT



More power  
per m<sup>2</sup>



Robust &  
Durable Design



100%  
PID FREE



Low  
LID

info@echosolarae.com  
www.echosolaruae.com

# ECHO EXTREME

## POLY-CRYSTALLINE MODULE

### AAA-CLASS



AAA Class  
German Technology  
Positive Power + 3%



ECHO Modules are manufactured at the highest levels in Dubai with state of art manufacturing facility having elevated feature and unsurpassed performance.

## ECHO QUALITY CONTROL

Material Inspection



Process Monitoring



Functionality Check



Quality Reports



Module Packaging



**Multi-crystalline modules designed for residential, commercial and utility applications - rooftop or ground mount.**



### 4 & 5Bus-bar Solar Cell

Cutting Edge Technology Thoroughly methodically & carefully designed by professionals to improve the Efficiency of module.



**PID Free**

### PID Free

Long-term yield security with Anti-PID Technology



### Resistance to Salt corrosion & Humidity

Module complies with IEC 61701



### High Strength Design

Module complies with advanced load Test



### IP67 Rating Junction Box

Advanced Water and Dust Proof Level



### Superior Performance at High Temperature

Less power loss



### Low-light Performance

Advanced glass and solar cell performance in low-light environments



### Safe Electronics

Protection against short circuits and thermally induced power losses due to potted junction box and welded cables.



### 100 % EL testing Pre-EL & Post EL



**Anti-reflective and anti-soiling surface reduces power loss from dirt and dust**

## PERFORMANCE | STC (I<sub>r</sub>: 1000 W/m<sup>2</sup>, Temp: 25°C, AM: 1.5)

Module Type	EP155	EP160	EP165
Maximum Power(P <sub>max</sub> )	155W	160W	165W
Number of Cells	36	36	36
Open Circuit Voltage(V <sub>oc</sub> )	22.68V	22.89V	23.07V
Short Circuit Current(I <sub>sc</sub> )	8.61A	8.77A	8.92A
Maximum Power Voltage(V <sub>mp</sub> )	19.11V	19.33V	19.56V
Maximum Power Current(I <sub>mp</sub> )	8.12A	8.30A	8.47A
Module Efficiency(η)	15.52%	16.04%	16.57%
Operating Temperature	-40 to 85°C		
Maximum System Voltage	1000V		
Maximum Fuse Rating	15A		
Power Tolerance	0~+5W		
Temperature Co-efficient V <sub>oc</sub>	-0.28%/°C		
Temperature Co-efficient P <sub>max</sub>	-0.38%/°C		
Temperature Co-efficient I <sub>sc</sub>	0.03%/°C		

## PERFORMANCE | NOCT (I<sub>r</sub>: 800 W/m<sup>2</sup>, Ambient Temp: 20°C, Wind speed: 1m/s)

Module Type	EP155	EP160	EP165
Maximum Power(P <sub>max</sub> )	115.76W	119.72W	122.63W
Open Circuit Voltage(V <sub>oc</sub> )	20.63V	20.89V	20.99V
Short Circuit Current(I <sub>sc</sub> )	7.01A	7.14A	7.26A
Maximum Power Voltage(V <sub>mp</sub> )	17.33V	17.53V	17.62V
Maximum Power Current(I <sub>mp</sub> )	6.68A	6.83A	6.96A
Nominal Operating Cell Temp.	45+2°C		

## MECHANICAL PROPERTIES

Cells	ARC coated cells
Cell Type	Poly-crystalline
Cell Dimension	156X156mm
Module Dimensions	1481X675X35mm
Module Weight	11 Kgs.
Junction-Box	IP67
Connectors Type	MC4 Compatible
Cable Length	1000mm
Front Cover	Low Iron Tempered Textured Glass
Back Cover	Weather resistant back sheet
Frame	High strength Anodized aluminum frames
Front Load Capacity	5400Pa
Rear Load Capacity	2400Pa

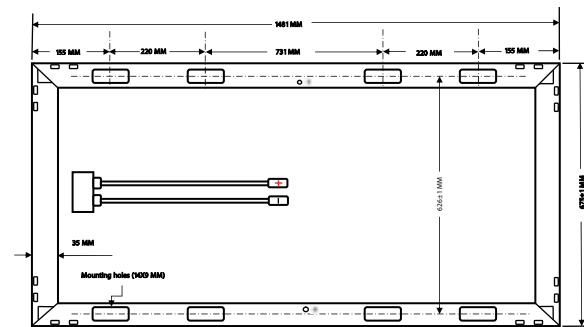
## CERTIFICATES & WARRANTY

Certificates	ISO 9001:2015 IEC 61215, IEC 61730 - I & II IEC 61701 (Maximum Severity) IEC 62716
Module Fire Rating	CLASS A
Product Warranty	10 Years
Linear Output Warranty Power	25 Years

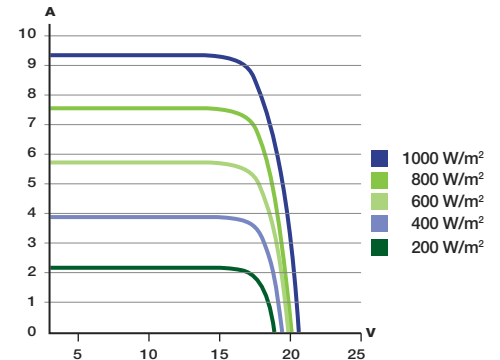
## LOADING QUANTITY

No. of Modules Per Pallet	30 Modules	
No. of Palletes in 20 ft. Container	19 Palletes	570 Modules
No. of Palletes in 40ft. HQ Container	45 Palletes	1350 Modules

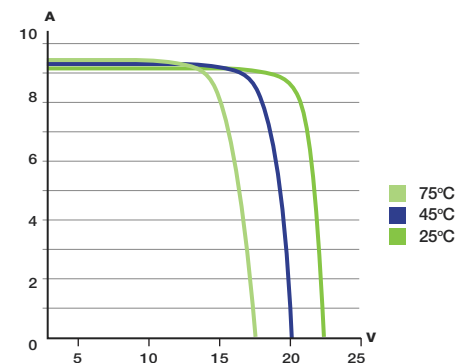
## MODULE BACK VIEW



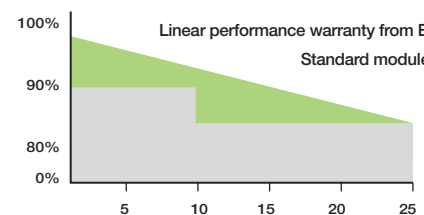
## IV CHARACTERISTICS @ LOW IRRADIANCE



## IV CHARACTERISTICS @ TEMPERATURES



## LINEAR PERFORMANCE WARRANTY



36 Cells  
Poly-Crystalline



155W - 165W  
Power Output



16.57%  
Efficiency



0~+5W  
Power



## Echo Solar Panels Manufacturing L.L.C.

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