

MONO

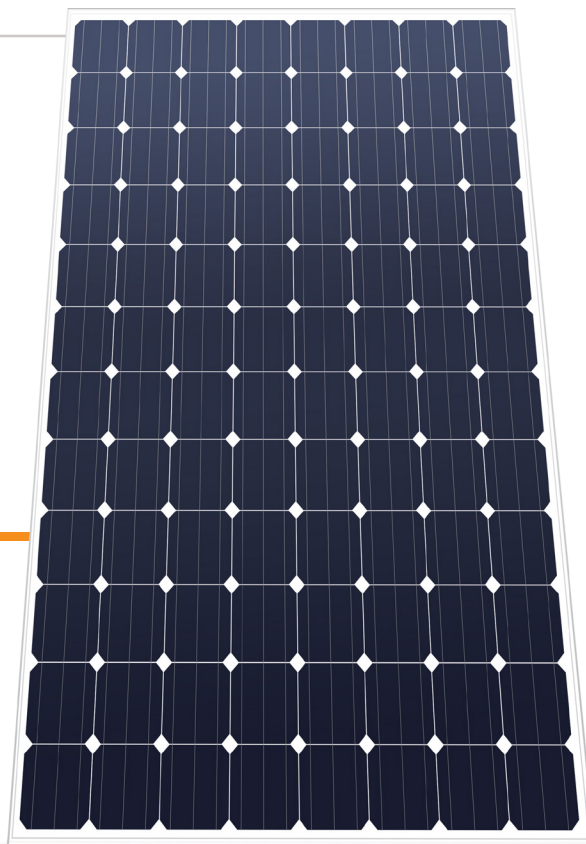
POLY



**HELIENE**

**96<sup>M</sup>**

96-CELL MONOCRYSTALLINE MODULE



**490 Wp**

MAX POWER OUTPUT

**18.9%**

MAX EFFICIENCY

**10 YEAR**

PRODUCT WARRANTY

**25 YEAR**

LINEAR PERFORMANCE GUARANTEE



GUARANTEED POSITIVE POWER SORTING: [-0 : +4.99 WP]



AVAILABLE IN 1000V OR 1500V SYSTEM VOLTAGE RATING



MANUFACTURED ACCORDING TO INTERNATIONAL QUALITY SYSTEM STANDARDS: ISO9001



REDUCES SYSTEM TOTAL INSTALLED COST (TIC)

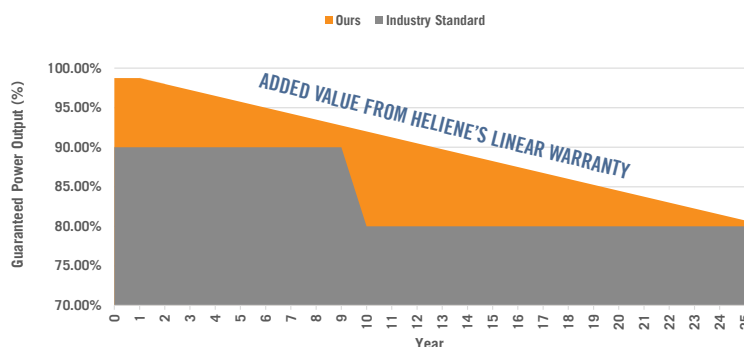
HELIENE INC. IS A PREMIER SOLAR MODULE MANUFACTURER, SERVICING THE GROWING SOLAR ENERGY MARKETS OF NORTH AMERICA.

COMBINING PROVEN EUROPEAN TECHNOLOGY WITH NORTH AMERICAN INGENUITY ALLOWS HELIENE TO MAKE A REAL COMMITMENT IN PROVIDING SMARTER ENERGY CHOICES FOR THE FUTURE.

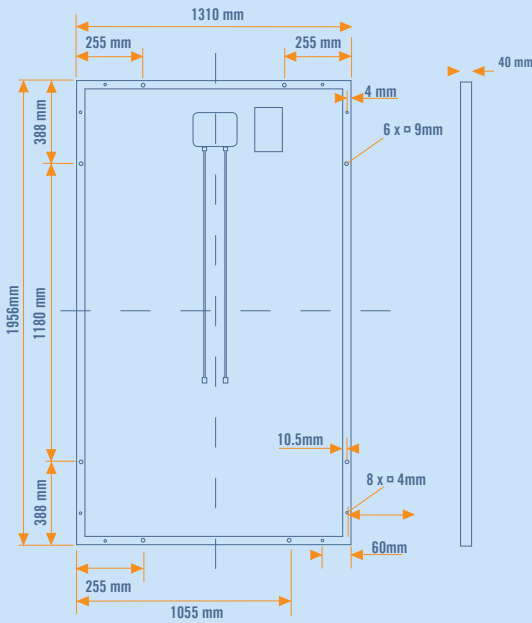
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### LINEAR PERFORMANCE GUARANTEE

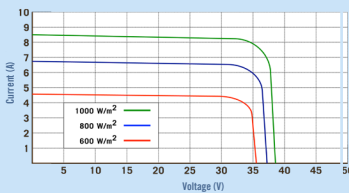
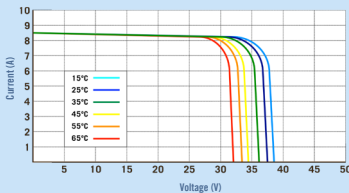
10 YEAR WORKMANSHIP WARRANTY • 25 YEAR LINEAR PERFORMANCE GUARANTEE



## DIMENSIONS FOR HELIENE 96M SERIES MODULES



## I-V CURVE FOR HELIENE 96M SERIES



## CERTIFICATIONS



## ELECTRICAL DATA (STC)

Parameter	Symbol	490	480	470	465	460
Peak Rated Power	$P_{mpp}$ (W)	490	480	470	465	460
Maximum Power Voltage	$V_{mpp}$ (V)	52.664	52.262	51.860	51.659	51.458
Maximum Power Current	$I_{mpp}$ (A)	9.359	9.235	9.111	9.049	8.987
Open Circuit Voltage	$V_{oc}$ (V)	62.985	62.587	62.189	61.990	61.791
Short Circuit Current	$I_{sc}$ (A)	10.056	9.91	9.764	9.691	9.618
Module Efficiency *	Eff (%)	19.3	18.9	18.5	18.3	18.1
Power Output Tolerance		[- 0 , + 4.99] Wp				

STC - Standard Test Conditions: Irradiation 1000 W/m<sup>2</sup> - Air mass AM 1.5 - Cell temperature 25 °C

\* Calculated using maximum power based on full positive output tolerance [-0 , +4.99] Wp

## MECHANICAL DATA

Dimensions (L x W x D)	1956 x 1310 x 40 mm (77 x 51.6 x 1.6 inch)
Weight	38 kg (83.7 lbs)
Output Cables	> 1.3 m (51 inch) symmetrical cables with MC4 type connectors
Junction Box	IP-67 rated with bypass diodes
Frame	Double webbed 5 micron anodized aluminum alloy
Front Glass	Low-iron content, high-transmission PV solar glass
Solar Cells	96 Monocrystalline cells (156 x 156 mm)

## CERTIFICATIONS

UL Listed	ULC/ORD-C1703-1 , UL1703
IEC Listed	IEC 61215, IEC 61730

## TEMPERATURE RATINGS

Nominal Operating Cell Temperature (NOCT)	+45°C (±2°C)
Temperature Coefficient of $P_{max}$	-0.39%/°C
Temperature Coefficient of $V_{oc}$	-0.31%/°C
Temperature Coefficient of $I_{sc}$	0.045%/°C

## PACKAGING CONFIGURATION

Modules per box:	25 pieces
Modules per 53' trailer:	550 pieces

## MAXIMUM RATINGS

Operational Temperature	-40°C - +85°C
Max System Voltage	1000V / 1500V
Max Series Fuse Rating	15 A

## WARRANTY

10 Year Manufacturer's Workmanship Warranty

25 Year Linear Power Guarantee

(Refer to product warranty page for details)