

60M G1 All Black Module

60 Cell Monocrystalline 305W - 320W

19.2%

Utilizes the latest high efficiency Monocrystalline PERC cells.



Rugged, double webbed frame design withstands wind, snow, and other mechanical stresses. Framed Glass-Backsheet aesthetic is ideal for high visibility installation.

Anti-Reflective

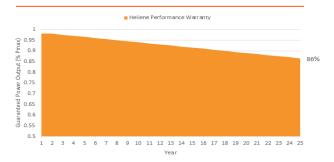
Premium solar glass with anti reflective coating delivers more energy throughout the day

High Reliability

Proven resistance to PID and reliable in high temperature and humidity environments.

No Compromise Guarantee

15 Year Workmanship Warranty 25 Year Linear Performance Guarantee







Manufactured Using International Quality System Standards: ISO9001

World-class Quality

- Heliene's fully automated manufacturing facilities with state-of-the-art robotics and computer aided inspection systems ensure the highest level of product quality and consistency
- All manufacturing locations are compliant with international quality standards and are ISO 9001 certified
- Heliene modules have received
 Top Performer rankings in several
 categories from PV Evolution Labs (PV
 EL) independent quality evaluations

Bankable Reputation

- Established in 2010, Heliene is recognized by Bloomberg New Energy Finance (BNEF) as Tier 1 manufacturer of solar modules and has been approved for use by the U.S. Department of Defense, U.S. Army Corps of Engineers and from numerous top tier utility scale project debt providers
- By investing heavily in research and development, Heliene has been able to stay on the cutting edge of advances in module technology and manufacturing efficiency

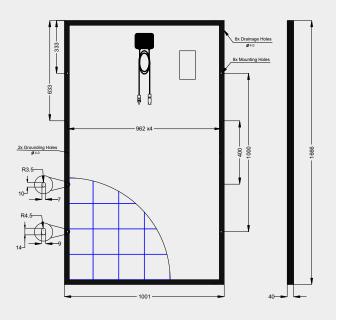
Local Sales, Service, and Support

- With sales offices across the U.S. and Canada, Heliene prides itself on unsurpassed customer support for our clients. Heliene has become the brand of choice for many of the leading residential installers, developers and Independent Power Producers due to our innovative technology, product customization capability and just in time last-mile logistics support
- Local sales and customer support means answered phone calls and immediate answers to your technical and logistics questions. We understand your project schedules often change with little warning and endeavor to work with you to solve your project management challenges

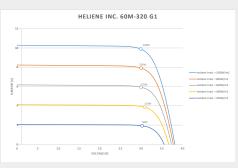


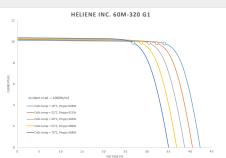


Dimensions for 60M G1 All Black Series Modules



I-V Curves for 60M G1 All Black Series Modules





Certifications





Electrical Data (STC)

Peak Rated Power	P _{mpp} (W)	320	315	310	305
Maximum Power Voltage	$V_{mpp}(V)$	34.10	33.70	33.54	33.60
Maximum Power Current	$I_{mpp}(A)$	9.37	9.33	9.27	9.07
Open Circuit Voltage	$V_{oc}(V)$	40.50	40.32	40.13	39.98
Short Circuit Current	Isc (A)	10.20	10.16	10.22	9.67
Module Efficiency *	Eff (%)	19.21	18.92	18.78	18.28
Maximum Series Fuse Rating	MF (A)	20	20	20	20
Power Output Tolerance			[-3,+3]%		

STC - Standard Test Conditions: Irradiation 1000 W/m2 - Air mass AM 1.5 - Cell temperature 25 °C * Calculated using maximum power based on full positive output tolerance [-3 , +3] %

Electrical Data (NMOT)

Maximum Power	$P_{mpp}(W)$	235	230	225	220
Maximum Power Voltage	$V_{mpp}(V)$	31.30	30.76	30.43	30.30
Maximum Power Current	$I_{mpp}(A)$	7.51	7.48	7.39	7.26
Open Circuit Voltage	V _{oc} (V)	38.09	37.92	37.75	37.61
Short Circuit Current	Isc (A)	8.22	8.19	8.24	7.79

NMOT - Nominal Module Operating Temperature: Irradiance at 800W/m2, Ambient Temperature 20°C, Wind speed 1m/s

Mechanical Data

Solar Cells	60 Monocrystalline cells (158.75 x 158.75 mm)
Module Construction	Framed Glass-Backsheet
Dimensions (L x W x D)	1666 x 1001 x 40 mm (65.5 x 39.4 x 1.6 inch)
Weight	19 kg (41.9 lbs)
Frame	Double Webbed 15-Micron Anodized Aluminum Alloy
Glass	3.2mm Low-Iron Content, High-Transmission, PV Solar Glass with Anti Reflective Coating
Junction Box	IP68 Rated Junction Box with 3 Bypass Diodes
Output Cables	1.2-meter (47.24-inch) Symmetrical Cables
Connectors	MC4 Compatible (Standard) Multi-Contact/ Stäubli MC4 (Optional)

Certifications

UL Certification UL61215, UL61730

Temperature Ratings

Nominal Operating Cell	+45°C
Temperature (NOCT)	(±2°C)
Temperature Coefficient of P_{\max}	-0.36%/°C
Temperature Coefficient of $V_{\rm oc}$	-0.27%/°C
Temperature Coefficient of $I_{\rm sc}$	0.040%/°C

Warranty

15 Year Manufacturer's Workmanship Warranty25 Year Linear Power Guarantee

Maximum Ratings

Operational Temperature	-40°C to +85°C
Max System Voltage	1500V (1000V Optional)
Mech. Load Test (Front)	113 psf / 5400 Pa
Mech. Load Test (Back)	50 psf / 2400 Pa

Packaging Configuration

Modules per box:	26 pieces
Modules per 53' trailer:	936 pieces





