



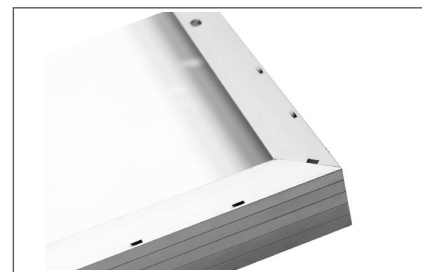
POWERFUL PERFORMANCE FOR A CLEANER PLANET

- ◆ MANUFACTURED IN MONTREAL, CANADA
- ◆ 25 YEAR LINEAR POWER WARRANTY
- ◆ 12 YEAR WORKMANSHIP WARRANTY
- ◆ OUTSTANDING LOW LIGHT PERFORMANCE
- ◆ MC4 CONNECTORS
- ◆ POSITIVE TOLERANCE 0/+3%

GMASOLAR introduces the new generation of solar modules. Providing more power by utilizing high efficiency solar cells. Ideal for off grid systems thanks to their robust design proving reliability and high quality performance in isolated areas.

GMASOLAR Reliability. All our solar modules are manufacture according to UL and IEC standards. Each module goes to a strict quality verification on through an EL testing process The EL tester works like a X-ray scanner that immediately exposes every possible hidden defect in the solar panel. This way you get a crystal clear picture of the good operation of the solar panel.

GMASOLAR Flexibility. Our solar modules are designed to offer worry free used in the harshest climates. Our frame allows installation in multiple configurations, making an easy, safe and faster installation in harshest climates. The water drain holes prevent frame breakage due to freezing temperatures.



ELECTRICAL PARAMETERS @ STC

Module Type		GMA 310-72
Peak Power	P _{max} (W)	310
Maximun Power Voltage	V _{mp} (V)	36.7
Maximun Power Current	I _{mp} (A)	8.45
Open-circuit voltage	V _{oc} (V)	45.6
Short-circuit current	I _{sc} (A)	9.30
Module Efficiency	η(%)	16.0

Values at standard test conditions STC (Air mass AM1.5, Irradiance 1000W/sqm, Cell temperature 25°C)
Power Measurement Tolerance: 0 / +3%

MECHANICAL DATA

Solar Cell (type / dimension)	Poly-crystalline silicon solar Cell / 156 x 156 mm
Cell (quantity / orientation)	72 cells / 6 x 12
Module Dimension (L x W x H)	1956 X 992 X 45 mm (77.00 x 39.05 x 1.77 inches)
Weight	27 kg
Frame (material / color)	Anodized aluminum / silver
Front Glass (material / thickness)	High transmission low-iron tempered glass / 3.2mm
Backsheet (material)	Fluoropolymer coating / PET / polyolefin
Mechanical Load	50 psf, 245Kg/sqm, 2400 Pa, 0.34 psi, front and back
Junction Box (protection degree)	≥IP 65
Junction Box (diode)	Three (3) bypass diodes
Output Cables (Length/cross-sectional area)	1000 mm length, 10 AWG PV cable, UV protected
Connector (type / protection degree)	MC4 / IP68 rated

TEMPERATURE COEFFICIENTS

Nominal Operating Cell Temp. (NOCT)	45 +/- 2 °C
Voltage Temperature Coefficient (VOC)	-0.31% / °C
Current Temperature Coefficient (Isc)	0.033% / °C
Power Temperature Coefficient (Pmax)	-0.42% / °C

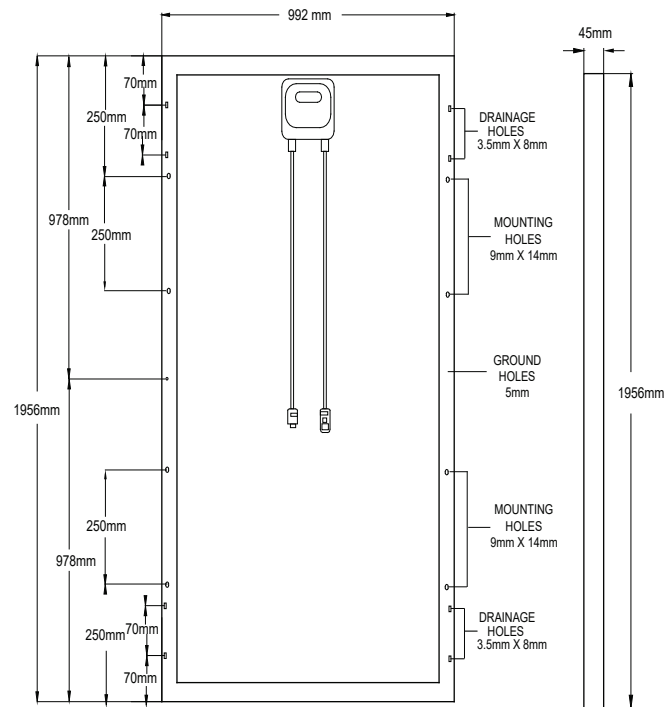
MAXIMUM RATINGS

Operational Temperature	-40°C to +85°C
Maximun System Voltage	1000V DC
Max Series Fuse Rating	15A

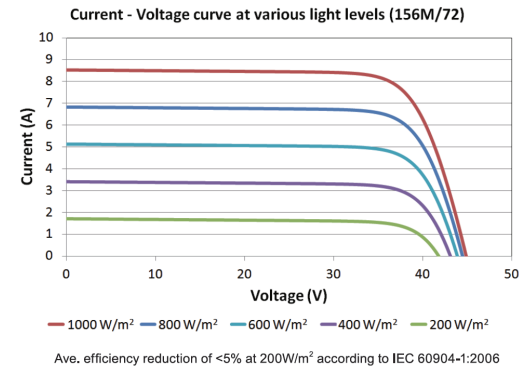
WARRANTY & CERTIFICATIONS

Certification	Tested to UL 1703 / IEC 61215 / IEC 61730 CE .
Fire Rating	Class C
Warranty	12 years workmanship, 12 years 90%, 25 years 80% Power Warranty

MECHANICAL DRAW



I-V CURVE OF PV MODULE GMA 72-P / 310W



Note: The specifications are subject to change without notice.

