

GKA120M-182 440W-460W Mono

M10/182mm Cell. 120 Half-Cell Layout

MBB
182mm

GAMKO
SOLAR

KEY FEATURES



M Busbar Solar Cell

M Busbar Solar Cell design improves module efficiency and offers better aesthetic appearance for rooftop installation.



High Efficiency:

Higher module conversion efficiency (up to 24.67%) benefit from Passivated Emitter Rear Contact (PERC) technology.



PID Resistance:

Excellent Anti-PID performance guarantee limited power degradation for mass production.



Low-light Performance:

Advanced glass and cell surface textured design ensure excellent performance in low-light environment.



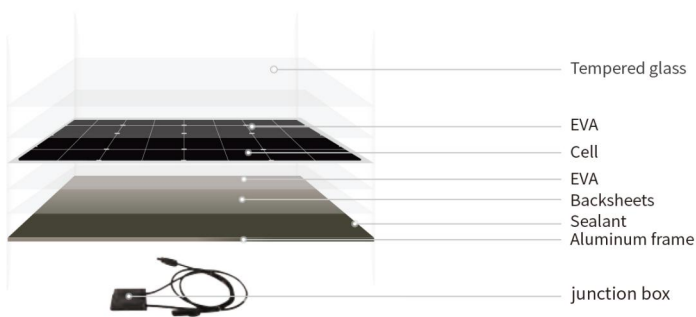
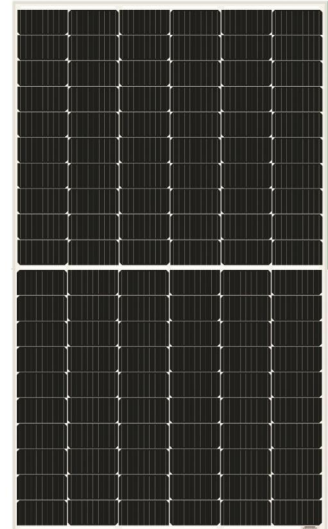
Severe Weather Resilience:

Certified to withstand: wind load (2400 Pascal) and snow load (5400 Pascal).



DURABILITY AGAINST EXTREME ENVIRONMENTAL CONDITIONS:

High salt mist and ammonia resistance certified by TUV NORD.



GAMKO SOLAR MODULE BOM

CELLS: TIER 1 BRANDS SOLAR CELLS

TEMPERED GLASS: ULTRA-CLEAR

EVA: TRANSPARENCY > 93%

BACKSHEETS: REFLECTIVITY > 80%, TPT

JUNCTION BOX: IP65/IP67 MAX 30A

SILICON GEL: UV, AGING-RESISTANT

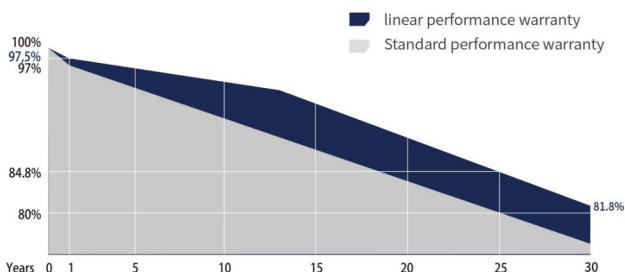
FRAME: ANODIZED ALUMINUM 6005-T5

GAMKO QUALITY CONTROL

- ◆ 2 EL testing avoid cells cracking of each solar module.
- ◆ 2 Power flash testing avoid false welding and insufficient power of each module.
- ◆ Packing tightly with angle protection avoid transportation broken.
- ◆ Gamko Official Warranty cover all Gamko solar module 30 years.

LINEAR PERFORMANCE WARRANTY

12 Year Product Warranty • 30 Year Linear Power Warranty



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ELECTRICAL CHARACTERISTICS AT STC

| | | | | | |
|---------------------------------------|---|--------|--------|--------|--------|
| Maximum Power (P_{max}) | 440W | 445W | 450W | 455W | 460W |
| Open Circuit Voltage (V_{OC}) | 41.0V | 41.2V | 41.4V | 41.6V | 41.8V |
| Short Circuit Current (I_{SC}) | 13.70A | 13.75A | 13.80A | 13.85A | 13.9A |
| Voltage at Maximum Power (V_{mp}) | 34.2V | 34.4V | 34.6V | 34.8V | 35.0V |
| Current at Maximum Power (I_{mp}) | 12.87A | 12.94A | 13.01A | 13.08A | 13.14A |
| Module Efficiency (%) | 20.29 | 20.52 | 20.75 | 20.99 | 21.22 |
| Operating Temperature | -40°C to +85°C | | | | |
| Maximum System Voltage | 1000V DC/1500V DC | | | | |
| Fire Resistance Rating | Type 1(in accordance with UL1703)/Class C(IEC61730) | | | | |
| Maximum Series Fuse Rating | 25A | | | | |

STC: Irradiance 1000W/m², Cell temperature 25°C, AM1.5; Tolerance of Pmax: ±3%; Measurement Tolerance: ±3%

ELECTRICAL CHARACTERISTICS AT NOCT

| | | | | | |
|---------------------------------------|--------|--------|--------|--------|--------|
| Maximum Power (P_{max}) | 324W | 328W | 332W | 336W | 340W |
| Open Circuit Voltage (V_{OC}) | 45.1V | 45.3V | 45.5V | 45.7V | 45.9V |
| Short Circuit Current (I_{SC}) | 11.06A | 11.10A | 11.14A | 11.18A | 11.22A |
| Voltage at Maximum Power (V_{mp}) | 30.9V | 31.1V | 31.3V | 31.5V | 31.7V |
| Current at Maximum Power (I_{mp}) | 10.49A | 10.55A | 10.61A | 10.67A | 10.73A |

NOCT: Irradiance 800W/m², Ambient temperature 20°C, Wind Speed 1 m/s

MECHANICAL CHARACTERISTICS

| | |
|-------------------|---|
| Cell type | Monocrystalline PERC 182*91mm |
| Number of cells | 120 (6x20) |
| Module dimensions | 1909x1134x35mm (75.28x44.65x1.38inches) |
| Weight | 24kg (52.9lbs) |
| Front cover | 3.2mm (0.13inches) tempered glass with AR coating |
| Frame | Anodized aluminum alloy |
| Junction box | IP68, 3 diodes |
| Cable | 4mm ² (0.006inches ²), Portrait: 300mm (11.81inches); Landscape: 1200mm (47.24inches) |
| Connector | MC4 or MC4 compatible |

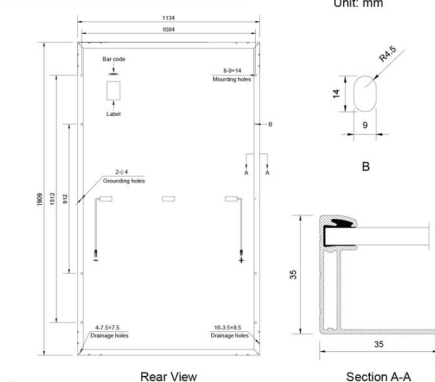
TEMPERATURE CHARACTERISTICS

| | |
|---|-----------|
| Nominal Operating Cell Temperature (NOCT) | 43°C±2°C |
| Temperature Coefficients of P_{max} | -0.36%/°C |
| Temperature Coefficients of V_{OC} | -0.28%/°C |
| Temperature Coefficients of I_{SC} | 0.05%/°C |

PACKAGING

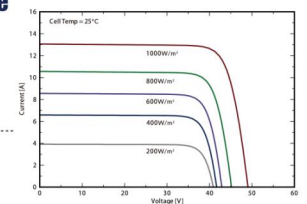
| | |
|-----------------------------------|--------------|
| Standard packaging | 31pcs/pallet |
| Module quantity per 20' container | 285pcs |
| Module quantity per 40' container | 744pcs (HQ) |

ENGINEERING DRAWINGS

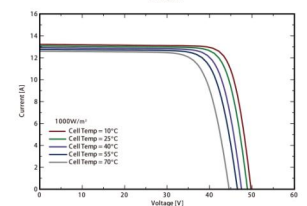


Electrical Performance & Temperature Dependence

Current-Voltage and Power-Voltage Curves (495W)



Temperature Dependence of I_{sc} , V_{oc} , P_{max}



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