

# GKA182M-BLACK

## 370-410 Watt

MONO CRYSTALLINE MODULE

9BB  
182mm

# GAMKO SOLAR

## KEY FEATURES



### M Busbar Solar Cell

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



### High Efficiency:

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



### PID Resistance:

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



### Low-light Performance:

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



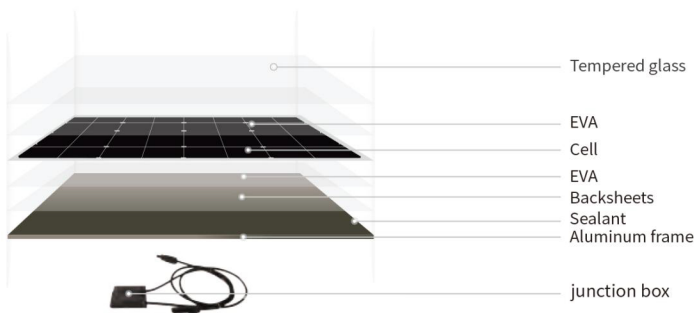
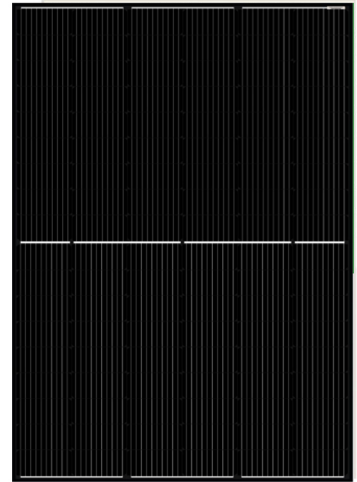
### Severe Weather Resilience:

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

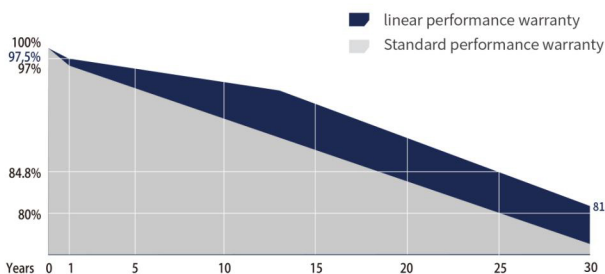
**JUNCTION BOX:** IP65/IP67 MAX 30A

**SILICON GEL:** UV, AGING-RESISTANT

**FRAME:** ANODIZED ALUMINUM 6005-T5

## LINEAR PERFORMANCE WARRANTY

12 Year Product Warranty • 30 Year Linear Power Warranty



## 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.

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### ELECTRICAL CHARACTERISTICS AT STC

Maximum Power ( $P_{max}$ )	390W	395W	400W	405W	410W
Open Circuit Voltage ( $V_{oc}$ )	36.8V	37.0V	37.2V	37.4V	37.6V
Short Circuit Current ( $I_{sc}$ )	13.58A	13.64A	13.70A	13.76A	13.82A
Voltage at Maximum Power ( $V_{mp}$ )	30.6V	30.8V	31.0V	31.2V	31.4V
Current at Maximum Power ( $I_{mp}$ )	12.75A	12.83A	12.91A	12.99A	13.06A
Module Efficiency (%)	19.88	20.13	20.39	20.64	20.90
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/m<sup>2</sup>, Cell temperature 25°C, AM1.5; Tolerance of Pmax: ±3%; Measurement Tolerance: ±3%

### ELECTRICAL CHARACTERISTICS AT NOCT

Maximum Power ( $P_{max}$ )	292W	296W	300W	304W	308W
Open Circuit Voltage ( $V_{oc}$ )	33.8V	34.0V	34.2V	34.4V	34.6V
Short Circuit Current ( $I_{sc}$ )	11.00A	11.05A	11.10A	11.15A	11.20A
Voltage at Maximum Power ( $V_{mp}$ )	27.8V	28.0V	28.2V	28.4V	28.6V
Current at Maximum Power ( $I_{mp}$ )	10.51A	10.58A	10.64A	10.71A	10.77A

NOCT: Irradiance 800W/m<sup>2</sup>, Ambient temperature 20°C, Wind Speed 1 m/s

### MECHANICAL CHARACTERISTICS

Cell type	Monocrystalline PERC 182*91mm
Number of cells	108 (6x18)
Module dimensions	1730x1134x35mm (68.11x44.65x1.38inches)
Weight	21.5kg (47.4lbs)
Front cover	3.2mm (0.13inches) tempered glass with AR coating
Frame	Anodized aluminum alloy
Junction box	IP68, 3 diodes
Cable	4mm <sup>2</sup> (0.006inches <sup>2</sup> ), Portrait: 300mm (11.81inches); Landscape: 1200mm (47.24inches)
Connector	MC4 or MC4 compatible

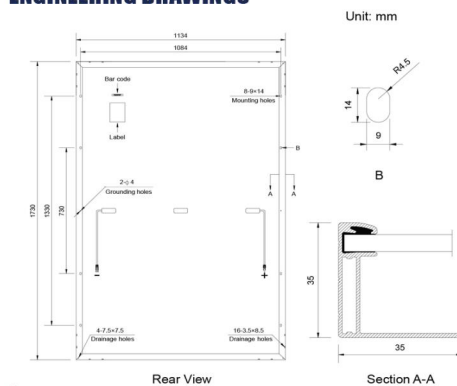
### TEMPERATURE CHARACTERISTICS

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

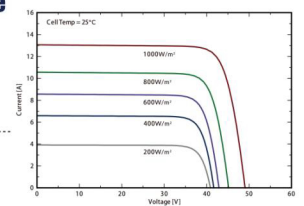
Standard packaging	31pcs/pallet
Module quantity per 20' container	318pcs
Module quantity per 40' container	806pcs (HQ)

### ENGINEERING DRAWINGS



### Electrical Performance & Temperature Dependence

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



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

