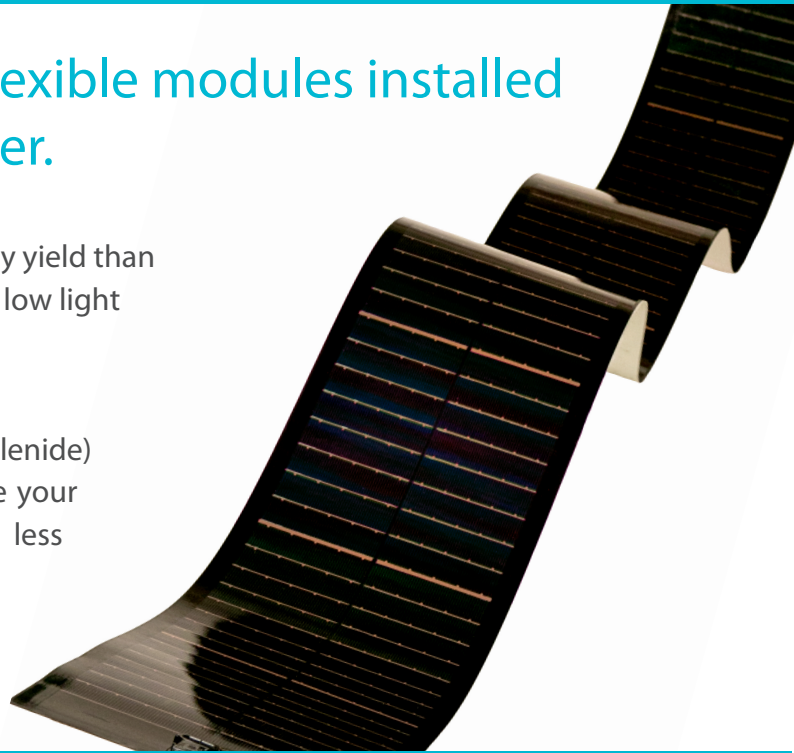


## Global Solar Energy® has more flexible modules installed than any other CIGS manufacturer.

PowerFLEX®+ systems produce up to 4.5% higher energy yield than polycrystal silicon systems, especially in hot, overcast, or low light environments, and at higher latitudes.

Our PowerFLEX®+ CIGS (Copper Indium Gallium DiSelenide) Building Applied Photovoltaic (BAPV) systems can make your installation quicker, easier, aesthetically superior, and less costly for your commercial and industrial rooftops.



## PowerFLEX®+ BAPV advantages

### 4.5% Higher Annual Energy Yield (kWh/kWp)

- Superior high temperature performance vs. p-Si (up to 3%)
- Performs better than p-Si in low and diffuse light conditions (up to 1%)
- Performs better than p-Si at low incidence angles (up to 0.5%)
- Superior Shade Tolerance
- 90% more efficient than flexible a-Si

### Lightweight

- 3.0 kg/m<sup>2</sup> (0.68 lb/ft<sup>2</sup>) including adhesive
- 110 watts/m<sup>2</sup>
- 26% of the weight per roof area than p-Si

### Rugged and Non-Breakable

- No damage from earthquakes, hail, golf balls, hurricanes, etc...
- Avoids theft and avoids vandalism
- Low profile - No added wind lift

### Versatile Integration

- Fits any roof type
- Flexible and Conforming
- Can be applied to diameters as small as 50cm(20")
- Simple peel and stick application
  - No mounting or grounding hardware
  - No roof penetrations
- Low profile
  - Lays flat. No racking or ballast required
  - No added wind load nor wind lift
  - Aesthetically pleasing
  - Minimized module spacing maximizes roof coverage and power

### Lower Maintenance Cost

- Requires less surface cleaning
- Soiling resistant surface
- Higher annual energy production

# PowerFLEX®+ BAPV 100/105/110/115 - 200/210/220/230 - 270/285/300/315W

## Electrical Specifications

Capacity rating	P max	100 W	105 W	110 W	115W	200 W	210 W	220 W	230 W	270 W	285 W	300 W	315 W
Tolerance of Pmax	W	+5/-0	+5/-0	+5/-0	+5/-0	+10/-0	+10/-0	+10/-0	+10/-0	+15/-0	+15/-0	+15/-0	+15/-0
Module aperture area efficiency	%	12.7%	13.3%	14.0%	14.6%	12.7%	13.3%	14.0%	14.6%	12.5%	13.2%	13.8%	14.5%
Rated voltage	Vmpp	32.0 V	33.1 V	34.1 V	35.1 V	64.1 V	66.2 V	68.2 V	70.1 V	86.7 V	90.0 V	93.2 V	96.3V
Rated current	Imp	3.2 A	3.2 A	3.3 A	3.3 A	3.2 A	3.2 A	3.3 A	3.3 A	3.2 A	3.2 A	3.3 A	3.3 A
Open circuit voltage	Voc	41.4 V	42.3 V	43.1 V	43.4 V	82.8 V	84.6 V	86.2 V	86.8 V	113.9 V	116.3 V	118.5 V	119.4V
Short circuit current	Isc	3.7 A	3.7 A	3.8 A	3.8 A	3.7 A	3.7 A	3.8 A	3.8 A	3.7 A	3.7 A	3.8 A	3.8 A

Note 1: Standard Test Conditions (STC): Cell Temperature at 25°C; Solar irradiance intensity of 1000 W/m<sup>2</sup>; AM1.5 solar reference spectrum (ASTM E892)

Note 2: Average aperture efficiency is calculated using the average of rating and aperture area: 0.81m<sup>2</sup> for 100-115W, 1.62m<sup>2</sup> for 200-230W, and 2.22m<sup>2</sup> for 270-315W

Note 3: Electrical parameters are +/-10% unless stated otherwise

## Temperature Coefficients

Maximum power	P max	-0.36%/°C
Voltage at Maximum Power	V max	-0.31%/°C
Open circuit voltage	Voc	-0.28%/°C
Short circuit current	Isc	+0.01%/°C

Note: Relative to Standard Test Conditions (STC): Solar irradiance intensity of 1000 W/m<sup>2</sup>; AM1.5 solar reference spectrum (ASTM E892)

## Low-Light Performance

Intensity	1000W/m <sup>2</sup>	800W/m <sup>2</sup>	600W/m <sup>2</sup>	400W/m <sup>2</sup>	200W/m <sup>2</sup>
Relative Efficiency	100%	100.9%	101.5%	100.7%	97.1%

Note: Relative to Standard Test Conditions (STC): Cell Temperature at 25°C; AM1.5 solar reference spectrum (ASTM E892)

## Mechanical Specifications

Model Numbers	FG-M6BP(M or N)-(270, 285, 300, or 315)    FG-M4BP(M or N)-(200, 210, 220, or 230)    FG-M2BP(M or N)-(100, 105, 110, or 115)
	Note: where M is for mastic or N is for no mastic, and 100, 105, 110, 115, 200, 210, 220, 230, 270, 285, 300, or 315 indicates wattage
Dimensions	5411 x 494 x <3 mm (213 x 19.4 x <0.12 in)    3978 x 494 x <3 mm (156.6 x 19.4 x <0.12 in)    2068 x 494 x <3 mm (81.4 x 19.4 x <0.12 in)
Weight - without adhesive	6.3 kg (2.4 kg/m <sup>2</sup> ) ± 5%    4.6 kg (2.3 kg/m <sup>2</sup> ) ± 5%    2.4 kg (2.3 kg/m <sup>2</sup> ) ± 5%
Weight - with adhesive	8.1 kg (3.0 kg/m <sup>2</sup> ) ± 5%    6.0 kg (3.0 kg/m <sup>2</sup> ) ± 5%    3.1 kg (3.0 kg/m <sup>2</sup> ) ± 5%
Junction Box - Top Mounted	TE Connectivity Micro Junction Box, 4.0mm <sup>2</sup> , 2 Double Insulated PV Cable, 1000VDC, MC4 compatible connector (IP 67 Rated)
Top Surface Material	Low reflectivity, and soil and dust resistant E T F E
Solar Cells	176, 128 or 64 CIGS cells (211.5 mm x 58 mm)
Adhesive	ADCO Heliobond™ PVA 600BT butyl mastic
Hot Spot Protection	Bypass diodes at every other cell; 1 at junction box
Maximum Series Fuse Rating	6 Amp

## Operating Conditions

Temperature Range	-40°C to + 85°C
Maximum System Voltage	1000VDC IEC, 1000VDC UL

## Certifications and Warranty\*

EN 61646, EN 61730, UL 1703; Fire Rating UL790, Class C, CE Mark

Materials and workmanship - 5 years

Power output - 25 years (90% @ 10 yrs; 80% @ 25 yrs) Limited Warranty

\*Contact GSE for complete warranty terms

Call Global Solar® to find out if PowerFLEX®+ BAPV is right for you.



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