

# MiaSolé MS SERIES -02

## CIGS Modules: Delivering c-Si Performance with Thin Film

135W – 155W MODULES WITH EFFICIENCIES UP TO 14.5%

### SUPERIOR PROJECT RETURNS

- ▶ Low Voc enables up to 30 modules per 1000V string; 25A fuse rating allows two strings to be combined in parallel
- ▶ Corner junction boxes reduce install labor and eliminate cable tie downs
- ▶ Frameless design eliminates need for module grounding
- ▶ Better ground coverage ratios and increased energy in partial shading due to embedded bypass diodes
- ▶ Higher output due to +5/-0 watts positive binning

### RELIABLE PERFORMANCE

- ▶ Innovative UltraWire™ creates fault tolerant, low resistance interconnect
- ▶ Unique weather protection system provides optimum defense against adverse weather, humidity and mechanical damage
- ▶ Rigorous test-to-fail philosophy; thermal tested to 1400 cycles; damp heat tested to 7000 hours for moisture barrier
- ▶ Ten-year product warranty and 5/10/25 year warranty against power loss
- ▶ Dual tempered glass ensures extremely low breakage

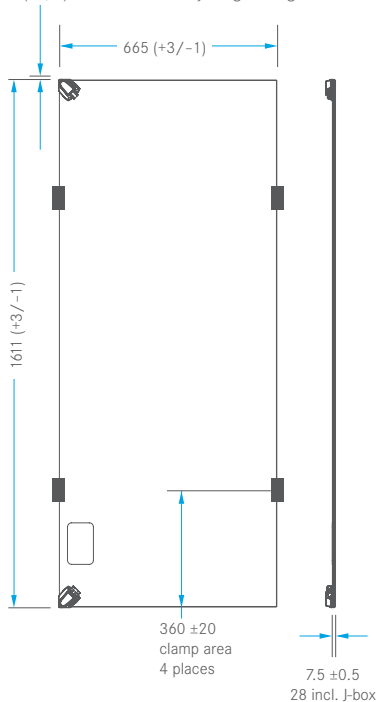
### SAFETY AND ENVIRONMENT

- ▶ Sophisticated and comprehensive quality management system
- ▶ Fully equipped UL certified internal test facilities
- ▶ Fully automated factory ensures repeatable build quality
- ▶ Three month energy payback

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2.4 (+2/-0) J-Box extension beyond glass edge



MiaSolé will evaluate alternate clamping solutions upon customer request. All dimensions in millimeters.

## ELECTRICAL PERFORMANCE AT STC<sup>1</sup>

		MS135GG-02	MS140GG-02	MS145GG-02	MS150GG-02	MS155GG-02
Nominal Power	$P_{MPP}$	[W]	135	140	145	150
Power Output Tolerance		[W]	+5/-0	+5/-0	+5/-0	+5/-0
Maximum Power Voltage	$V_{MPP}$	[V]	23.0	23.0	23.0	23.0
Maximum Power Current	$I_{MPP}$	[A]	5.87	6.09	6.30	6.52
Open Circuit Voltage	$V_{OC}$	[V]	29.0	29.0	29.0	29.0
Short Circuit Current	$I_{SC}$	[A]	6.80	6.92	7.12	7.28
Maximum Series Fuse Rating		[A]	25			
Maximum System Voltage (IEC/UL)		[V]	1000/600			

<sup>1</sup>Standard Test Conditions (STC): 1000 W/m<sup>2</sup>, 25°C cell temperature, AM 1.5 spectrum

## ELECTRICAL PERFORMANCE AT NOCT<sup>2</sup>

Nominal Power	$P_{MPP}$	[W]	95.6	99.3	102.1	107.3	109.9
Maximum Voltage	$V_{MPP}$	[V]	20.4	20.5	20.6	20.7	20.8
Maximum Current	$I_{MPP}$	[A]	4.69	4.84	4.97	5.19	5.28
Open Circuit Voltage	$V_{OC}$	[V]	26.2	26.3	26.2	26.3	26.3
Short Circuit Current	$I_{SC}$	[A]	5.44	5.54	5.70	5.83	5.98

<sup>2</sup>Nominal Operating Cell Temperature (NOCT): 800 W/m<sup>2</sup>, 20°C ambient temperature, 1 m/s wind speed  
Power measurement uncertainty is within ±3% using best in Class AAA solar simulator.

## THERMAL CHARACTERISTICS

NOCT	[°C]	49
Temperature Coefficient of $P_{MPP}$	[%/°C]	-0.45
Temperature Coefficient of $V_{OC}$	[%/°C]	-0.36
Temperature Coefficient of $I_{SC}$	[%/°C]	-0.003

## PHYSICAL AND MECHANICAL SPECIFICATIONS

Length	1611 mm (63.4 in)
Width	665 mm (26.2 in)
Depth	7.5 mm (0.3 in); 28 mm (1.1 in) including junction box
Weight	18 kg (39.7 lbs)
Junction Box / Output Terminal Type	2 corner connection boxes / MC4 type
Cell Type	Copper Indium Gallium Diselenide (CIGS)
Maximum Load	Tested snow load: 5400 N/m <sup>2</sup>
Warranty Term	5/10/25 year power output, 10 year workmanship
Certifications	IEC 61646, IEC 61730 (Application Class A), UL 1703 (Fire Class A)

<sup>3</sup>Please see full warranty for details.



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Silicon Valley, USA

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