



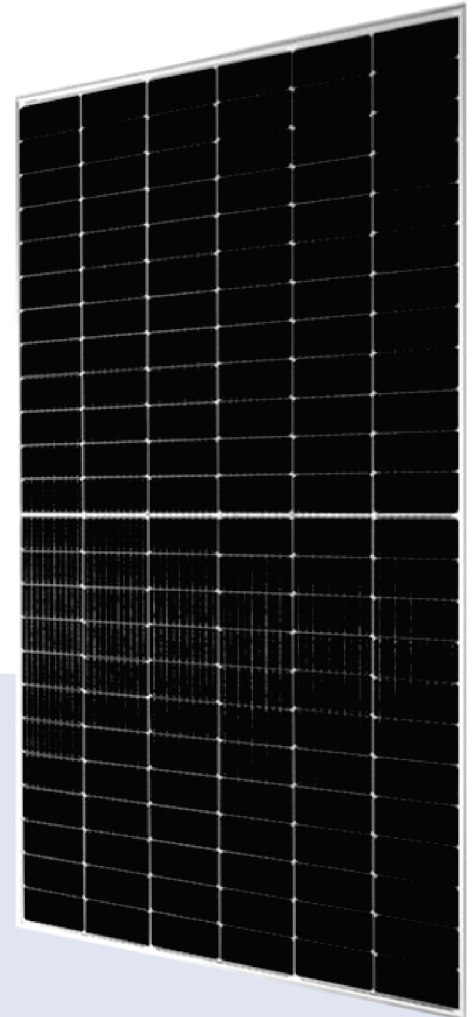
# GRAYMAN SOLAR

EMPOWERING YOU THROUGH NATURE

## The **ARCLIGHT** Series Monocrystalline Modules

**Grayman 430-450W**

144 Cells Mono PERC Half Cut



### ADVANTAGES OF GRAYMAN PHOTOVOLTAICS MODULES

**25 years**

TECHNICAL  
PRODUCT  
WARRANTY

**20.84%**

MAXIMUM  
MODULE  
EFFICIENCY

**80% after 25 years**

PRODUCT  
PERFORMANCE  
WARRANTY



#### MBB Cell Technology

Modules are made with 5 BB cells along with strong and smart soldering automatic machine.



#### Positive power tolerance

All modules are tested. We provide only those that have a positive power tolerance which means, that the customer receives solar modules with no less than declared power.



#### High performance

Solar cells used in solar modules ensure a high-efficiency rate that goes as high as 20.84%. The selected cells are one of the most advanced ones. Therefore, these modules are unequivocally among the most effective in their category.



#### Module testing process

During the manufacturing process modules are being tested at least three times, during every stage of manufacturing, therefore they reach the end customer fully checked, A class, and without any visual or electrotechnical defects.



#### Low Light Performance

Modules work excellent even in low light and has excellent PID resistance.



#### Resistant to extreme climate conditions

Modules are resistant to the most severe climate conditions. Modules are not afraid of rain, snow, wind, or hail. They can withstand wind and snow load up to 5400Pa.



#### 80% performance warranty after 25 years

After 25 years of operation, Grayman modules will operate with at least 80% efficiency compared to the original power rate of the solar module.



**BIS**



#### Factory Address :

Plot No. 106, Sector-16, HSIIDC  
Industrial Estate, Bahadurgarh,  
Haryana

#### Office Address :

TC-14, 3rd Floor, Vibhuti Khand,  
Gomti Nagar, Lucknow

E-mail: [info@graymansolar.com](mailto:info@graymansolar.com)  
Toll free Number: 1800 203 5636

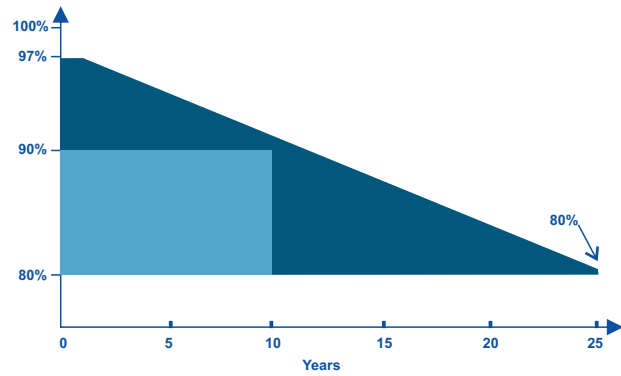
#### Website :

[www.graymansolar.com](http://www.graymansolar.com)

## ELECTRICAL PARAMETERS @STC

Model Type	GMS-435
Maximum Power (Pmax)	435 Wp
Maximum Voltage (Vmp)	40.54 V
Maximum Current (Imp)	10.86 A
Open Circuit Voltage (Voc)	49.09 V
Short Circuit Current (Isc)	11.39 A
Power tolerance	Positive
Efficiency, %	20.84 %

## LINEAR DEGRADATION OF WARRANTY



## MECHANICAL PARAMETERS

Solar cell	Monocrystalline, 166x83mm
Cell Arrangement	144 cells
Front Cover	3.2mm Tempered Glass
Weight	28 kg
Dimensions (LxWxH)	2094 x 1038 x 30 mm
J-box	IP 67, 3 Diodes
Cable cross-section size	4 mm <sup>2</sup>
Number of diodes	3
Plug-in connection	MC4 or equivalent
Frame	Anodized Aluminum Alloy
Packing Conguration	2 Pcs/Box



Warranty is applicable by Grayman Solar limited warranty terms.

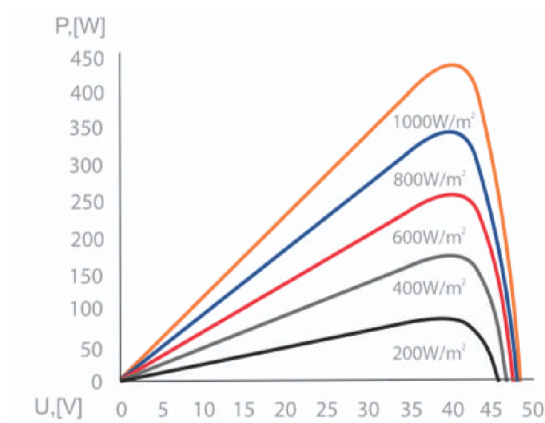
## WORKING CONDITIONS

Maximum System Voltage	DC1500V
Operating temperature	-40°C/+85°C
Maximum reverse current	20A
Max. wind load/max. snow load	5400Pa
IP protection level	67
Fire safety class	A

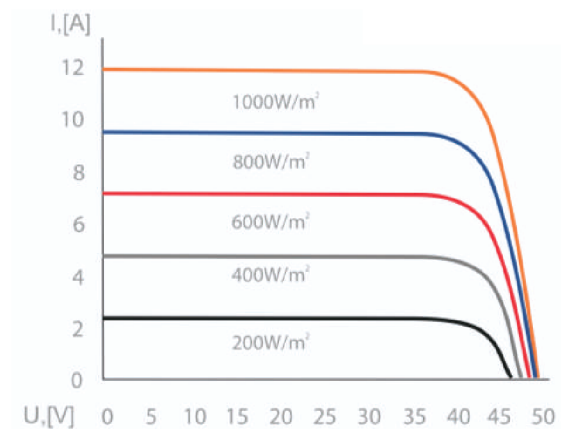
## TEMPERATURE COEFFICIENTS

Voltage temperature coefficient	$\beta$	-0.27%/°C
Current temperature coefficient	$\alpha$	0.048 %/°C
Power temperature coefficient	$\delta$	-0.35 %/°C

PV module: Grayman, GMS-435



PV module: Grayman, GMS-435



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