# **MS-M960H** 600-620W MONO 12BB HALF-CUT MODULE

1.6°℃ It's temperature is 1.6°C lower than that of the conventional module

4% 4% more energy generation



#### Half-Cut technique leads to increased power output

When the cells are cut into halves, the current are also halved, which enables less internal loss. Series-parallel wiring improves power performance. The working temperature of module and junction box are lower than that of conventional types, which effectively reduces the hot spot risk and reduces overall module damage.



1500

#### Series-parallel wiring mode results in reduced shading loss

Series-parallel wiring will not only reduce power lows from shade but also improves the effective use of supports and space.

#### Excellent temperature performance

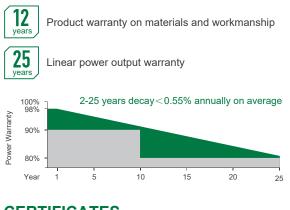
The temperature of HC module is 1.6 °C lower than that of the conventional module under the same working condition, which results less power loss.

Reduced encapsulation loss due to reduced current HC module is of lower current and lower CTM loss at around 0.2%, while the CTM loss of conventional module is 1%.

#### 1500V high system voltage design



# LINEAR PERFORMANCE WARRANTY



# **CERTIFICATES**

ISO 9001: 2015 Quality Management System

Environmental Management System

ISO 14001: 2015

1

IEC 61215 / IEC 61730

OHSAS 18001: 2007 Occupational Health & Safety Managemnet System

\*Certification requirements vary in different markets, please consult with Maysun Optronics sales team for appropriate certification.

Black frame module **Appealing Exterior** 

All black /



F

### **ELECTRICAL PARAMETERS @ STC**

Max. Power Output Pmax (W)	600	605	610	615	620
Power Tolerance	0~+3%	0~+3%	0~+3%	0~+3%	0~+3%
Max. Power Voltage Vmp (V)	34.41	34.60	34.78	34.97	35.15
Max. Power Current Imp (A)	17.44	17.49	17.54	17.59	17.64
Open Circuit Voltage Voc (V)	41.51	41.70	41.89	42.08	42.27
Short Circuit Current Isc (A)	18.52	18.57	18.62	18.67	18.72
Module Efficiency (%)	21.20	21.38	21.56	21.73	21.91

\*STC (Standard Test Condition): Irradiance 1000W/m² , Cell Temperature 25  $^\circ\!C$ , Air Mass 1.5 \*Measurement Tolerance (±3.0%)

# **ELECTRICAL PARAMETERS @ NOCT**

Max. Power Output Pmax (W)	446	450	454	458	461
Max. Power Voltage Vmp (V)	31.76	31.93	32.05	32.22	32.39
Max. Power Current Imp (A)	14.04	14.08	14.16	14.20	14.24
Open Circuit Voltage Voc (V)	38.60	38.77	38.96	39.13	39.31
Short Circuit Current Isc (A)	14.96	15.00	15.04	15.08	15.12

\*NOCT(Nominal Operating Cell Temperature): Irradiance 80 0W/m<sup>2</sup> , Ambient Temperature 20 °C , Wind Speed 1m/s

#### **TEMPERATURE COEFFICIENTS**

Temperature Coefficients of Pmp	-0.34%/ °C
Temperature Coefficients of Voc	-0.25%/ °C
Temperature Coefficients of Isc	+0.040%/ °C

## **MECHANICAL PARAMETERS**

Cell Type	Mono 210x105mm	
Number of Cells	120pcs(6x20)	
Dimensions ( L*W*H )	2172x1303x35mm	
Weight	30.9kg	
Frame	Anodised Aluminum	
Junction Box	IP68, 3 bypass diodes	
Cable, Length	4.0mm <sup>2</sup> , 300mm	

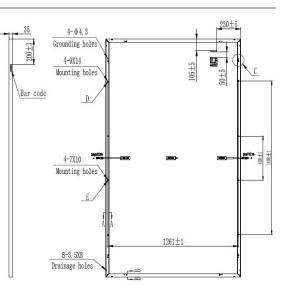
## **OPERATING CONDITION**

Maximum System Voltage(V)	1000(DC)	1500(DC)	
Operating Temperature(C)	-40~+85		
Max. Wind Load / Snow Load(pa)	2400/5400		
Max. Series Fuse Rating(A)	30		
Fire Rating	Class C		
NOCT(°C)	45±2		

## PACKAGE INFORMATION

Container 40'HQ	558pcs
Quantity / Pallet	CTNR: 31pcs

#### ASSEMBLY DRAWING (Unit:mm)



#### **I-V CURVES**

6

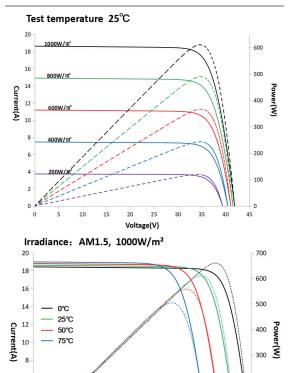
4

2

0

5

10 15 20 25 30





Voltage(V)

200

100

0

35 40 45