

Mono PERC 210mm 80 Cells

# MS(390-410)MB-40H Full Black

390/395/400/405/410 WP



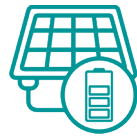
## Better appearance

- Full-black tone makes the modules blend perfectly with the building roof, ideal for residential roofs and BIPVs
- Cleaner and more aesthetic than traditional modules and complements your home's architectural style
- The new layout design is uniform overall, and the vision is extremely beautiful



## High customer value

- Lower LCOE (Levelized Cost Of Energy), reduced BOS (Balance Of System) cost, shorter payback time
- Lower guaranteed first year and annual degradation
- Designed for compatibility with existing mainstream system components
- Higher return on Investment



## High energy yield

- Excellent IAM(Incident Angle Modifier) and low irradiation performance, validated by 3rd party certifications
- The unique design provides optimized energy production under inter-rowshading conditions



## High reliability

- Minimized micro-cracks with innovative non-destructive cutting technology
- Ensured PID resistance through cell process and module material control
- Resistant to harsh environments such as salt, ammonia, sand, high temperature and high humidity areas
- Mechanical performance up to 5400 Pa positive load and 2400 Pa negative load
- Class-C fire safety test passed

## APPLICATIONS >>



On-grid residential roof-tops



On-grid commercial/ industrial roof-tops



## MAXIMUM EFFICIENCY

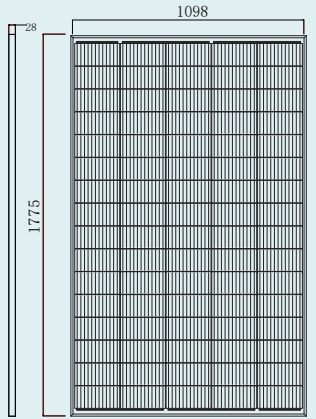
# 21%

## POSITIVE POWER TOLERANCE

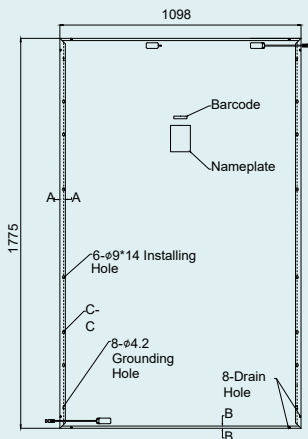
# 0 ~+5W



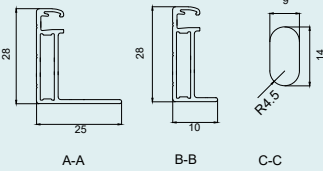
### DIMENSIONS OF PV MODULE(mm)



Front View



Back View

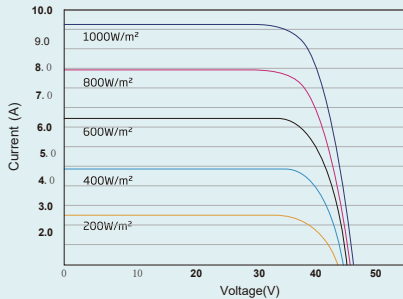


A-A

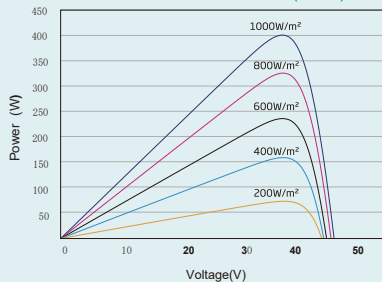
B-B

C-C

### I-V CURVES OF PV MODULE(400W)



### P-V CURVES OF PV MODULE(400W)



### ELECTRICAL DATA (STC)

Peak Power Watts- $P_{MAX}$ (Wp)*	390	395	400	405	410
Power Tolerance- $P_{MAX}$ (W)	0 ~ +5				
Maximum Power Voltage- $V_{MPP}$ (V)	42.63	42.94	43.3	43.65	44.0
Maximum Power Current- $I_{MPP}$ (A)	9.15	9.20	9.24	9.28	9.32
Open Circuit Voltage- $V_{OC}$ (V)	51.59	51.96	52.4	52.82	53.24
Short Circuit Current- $I_{SC}$ (A)	9.70	9.75	9.79	9.83	9.88
Module Efficiency $\eta_m$ (%)	20.0	20.2	20.5	20.7	21.0

STC: Irradiance 1000W/m<sup>2</sup>, Cell Temperature 25°C,  
Air Mass AM1.5. \*Measuring tolerance: ±3%.

### ELECTRICAL DATA (NOCT)

Maximum Power- $P_{MAX}$ (Wp)	295	299	302	306	309
Maximum Power Voltage- $V_{MPP}$ (V)	39.6	39.9	40.2	40.6	40.9
Maximum Power Current- $I_{MPP}$ (A)	7.44	7.49	7.51	7.54	7.56
Open Circuit Voltage- $V_{OC}$ (V)	47.9	48.3	48.6	49.1	49.4
Short Circuit Current- $I_{SC}$ (A)	7.82	7.86	7.89	7.99	8.01

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

### MECHANICAL DATA

Solar Cells	Monocrystalline
Cell Orientation	80 cells
Module Dimensions	1775mm x 1098mm x 28mm
Weight	21kg
Glass	3.2 mm High Transmission, AR Coated Heat Strengthened Glass
Encapsulant Material	EVA
Backsheet	Black
Frame	28mm Black, anodized aluminium alloy
J-Box	IP 68 rated (3 bypass diodes)
Cables	Photovoltaic Technology Cable 4.0mm <sup>2</sup> (0.006 inches <sup>2</sup> ) Portrait: N 700mm/P 700mm(27.55/27.55 inches) Length can be customized
Connector	MC4

\*Please refer to regional datasheet for specified connector.

### TEMPERATURE RATINGS

NOCT(Nominal Operating Cell Temperature)	43°C (±2°C)
Temperature Coe <sup>o</sup> cient of $P_{MAX}$	- 0.34%/°C
Temperature Coe <sup>o</sup> cient of $V_{OC}$	- 0.25%/°C
Temperature Coe <sup>o</sup> cient of $I_{SC}$	0.04%/°C

### MAXIMUM RATINGS

Operational Temperature	- 40 ~ +85°C
Maximum System Voltage	1500V DC (IEC)
	1000V DC (IEC)
Max Series Fuse Rating	20A

### WARRANTY

- 15 year Product Workmanship Warranty
- 25 year Power Warranty
- 2.5% first year degradation
- 0.5% Annual Power Attenuation

\*Please refer to product warranty for details.

### PACKAGING CONFIGURATION

- Modules per pallet: 39 pieces
- Modules per 40' container: 1014 pieces



CAUTION: READ SAFETY AND INSTALLATION INSTRUCTIONS BEFORE USING THE PRODUCT.

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