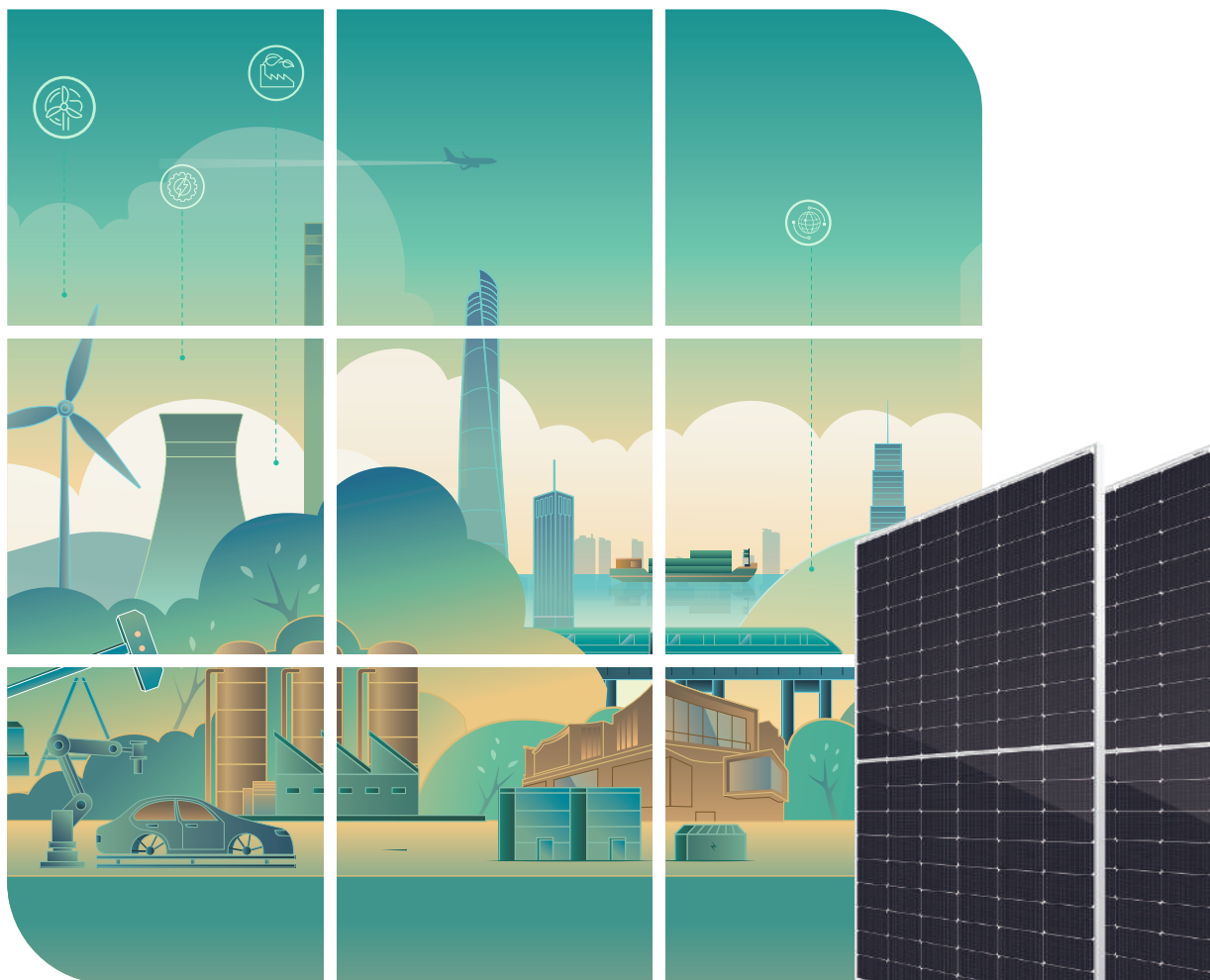


# Noark

A CHNT Company



## ExSM-M

MONOCRYSTALLINE SOLAR MODULE



High Efficiency



Low Degradation



High Reliability



Low Risk of Hot Spot



High ROI



Low Risk of Micro-Crack

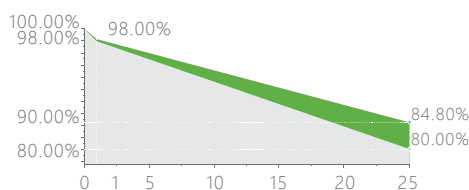


### LINEAR PERFORMANCE WARRANTY

■ Linear power guarantee of Haitai Solar modules

■ Standard linear power guarantee

12 YEARS Product warranty



25 YEARS Linear power warranty

0.55 Linear attenuation of 0.55% per year within 25 years

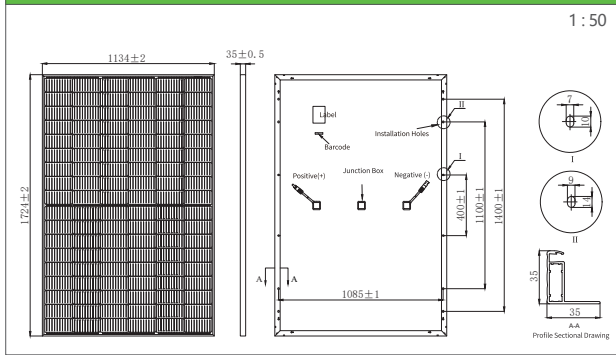


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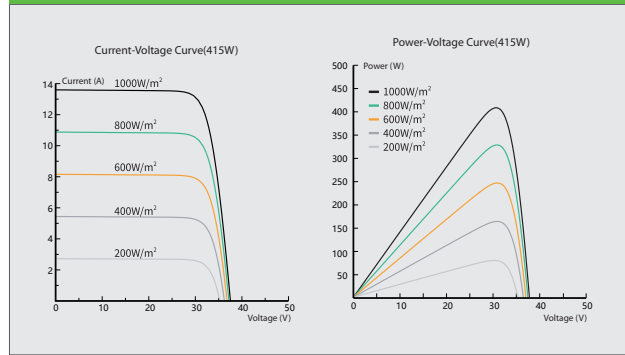


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## Mechanical drawings (mm)



## I-V Curve



## Electrical Data (STC)

Maximum Power (Pmax/W)	390	395	400	405	410	415
Open Circuit Voltage (Voc/V)	36.66	36.81	36.96	37.11	37.26	37.41
Short Circuit Current (Isc/A)	13.40	13.50	13.60	13.70	13.79	13.89
Voltage at Maximum Power (Vmp/V)	30.70	30.85	31.00	31.15	31.30	31.45
Current at Maximum Power (Imp/A)	12.71	12.81	12.91	13.01	13.10	13.20
Module Efficiency (%)	19.95	20.20	20.46	20.72	20.97	21.23
Operating Temperature	-40° C ~ +85° C					
Maximum System Voltage	1000/1500V					

STC (Standard Testing Conditions): Irradiance 1000W/m<sup>2</sup>, Cell Temperature 25°C, AM1.5

## Electrical Data (NMOT)

Maximum Power (Pmax/W)	292	296	300	304	308	312
Open Circuit Voltage (Voc/V)	33.67	33.82	33.97	34.12	34.27	34.42
Short Circuit Current (Isc/A)	10.93	11.01	11.1	11.18	11.27	11.35
Voltage at Maximum Power (Vmp/V)	27.89	28.04	28.19	28.34	28.49	28.64
Current at Maximum Power (Imp/A)	10.48	10.56	10.65	10.73	10.82	10.90

NMOT (Nominal Module Operating Temperature): Irradiance 800W/m<sup>2</sup>, Ambient Temperature 20°C, AM1.5, Wind Speed 1m/s.

## Mechanical Data

Cell Type	182×91mm Mono
Cell Orientation	108(6×18)
Module Dimensions	1724×1134×35mm
Weight	22.0kg
Glass	3.2mm high transmittance, reinforced glass
Backsheet	Anti-aging film
Frame Material	Anodized aluminum alloy
Junction Box	Protection class IP68
Cable	4.0 mm <sup>2</sup> positive pole: 250 mm negative pole: 300 mm wire length can be customized
Connector	MC4 compatible connector

## Temperature Coefficients

Temperature Coefficient (Pm)	-0.340%/°C
Temperature Coefficient (Voc)	-0.270%/°C
Temperature Coefficient (Isc)	0.048%/°C
NMOT (Nominal Module Operating Temperature)	41±3°C

## Packaging

Transportation methods	Number of modules per cabinet	Number of modules per pallet
40HQ container	806pcs	31pcs + 31pcs

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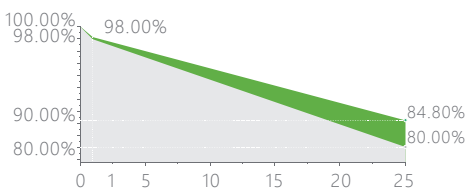


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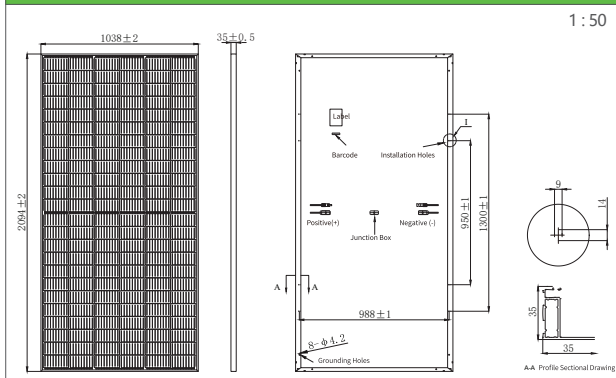


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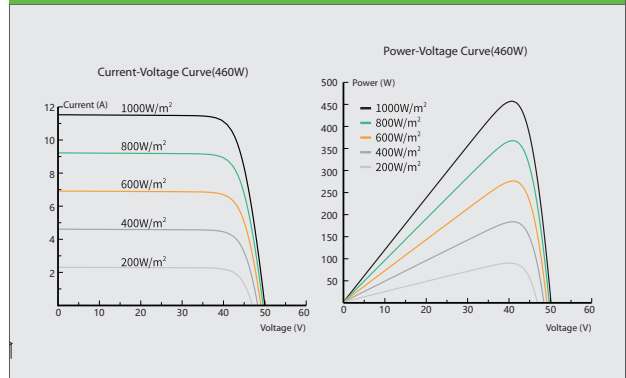


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## Mechanical drawings (mm)



## I-V Curve



## Electrical Data (STC)

Maximum Power (P <sub>max</sub> /W)	440	445	450	455	460
Open Circuit Voltage (V <sub>oc</sub> /V)	49.08	49.28	49.48	49.68	49.88
Short Circuit Current (I <sub>sc</sub> /A)	11.39	11.46	11.53	11.59	11.67
Voltage at Maximum Power (V <sub>mp</sub> /V)	40.54	40.74	40.94	41.14	41.34
Current at Maximum Power (I <sub>mp</sub> /A)	10.86	10.93	11.00	11.07	11.13
Module Efficiency (%)	20.24	20.47	20.7	20.93	21.16
Operating Temperature	-40° C ~ +85° C				
Maximum System Voltage	1000/1500V				

STC (Standard Testing Conditions): Irradiance 1000W/m<sup>2</sup>, Cell Temperature 25°C, AM1.5

## Electrical Data (NMOT)

Maximum Power (P <sub>max</sub> /W)	328	332	336	340	344
Open Circuit Voltage (V <sub>oc</sub> /V)	45.01	45.21	45.41	45.61	45.81
Short Circuit Current (I <sub>sc</sub> /A)	9.46	9.54	9.61	9.67	9.74
Voltage at Maximum Power (V <sub>mp</sub> /V)	37.34	37.54	37.74	37.94	38.14
Current at Maximum Power (I <sub>mp</sub> /A)	8.79	8.85	8.91	8.97	9.02

NMOT (Nominal Module Operating Temperature): Irradiance 800W/m<sup>2</sup>, Ambient Temperature 20°C, AM1.5, Wind Speed 1m/s.

## Mechanical Data

Cell Type	166×83mm Mono
Cell Orientation	144(6×24)
Module Dimensions	2094×1038×35mm
Weight	23.5kg
Glass	3.2mm high transmittance, reinforced glass
Backsheet	Anti-aging film
Frame Material	Anodized aluminum alloy
Junction Box	Protection class IP68
Cable	4.0 mm <sup>2</sup> positive pole: 200mm negative pole: 250 mm wire length can be customized
Connector	MC4 compatible connector

## Temperature Coefficients

Temperature Coefficient (P <sub>m</sub> )	-0.340%/°C
Temperature Coefficient (V <sub>oc</sub> )	-0.270%/°C
Temperature Coefficient (I <sub>sc</sub> )	0.048%/°C
NMOT (Nominal Module Operating Temperature)	41 ± 3°C

## Packaging

Transportation methods	Number of modules per cabinet	Number of modules per pallet
40HQ container	682pcs	31pcs + 31pcs

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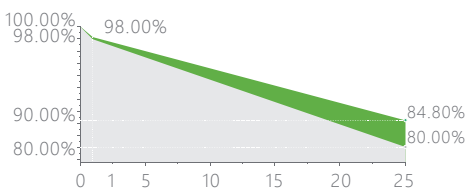


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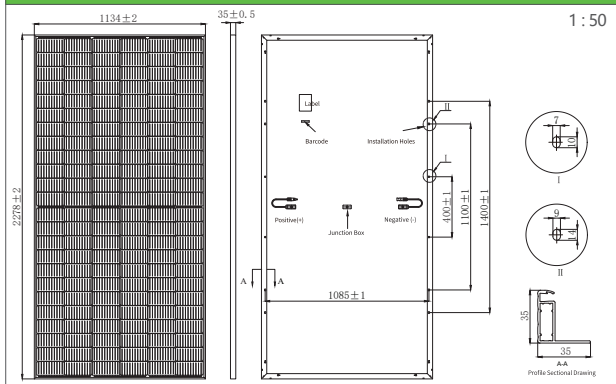


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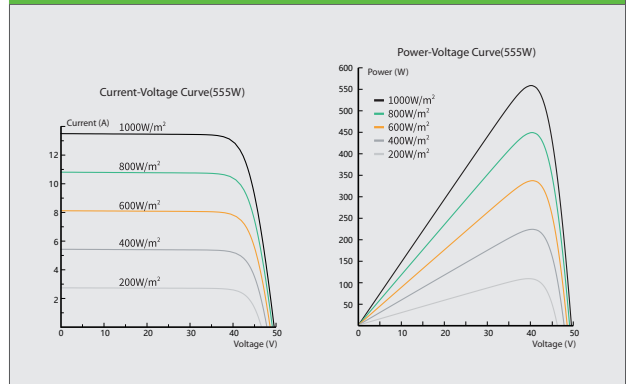


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## Mechanical drawings (mm)



## I-V Curve



## Electrical Data (STC)

Maximum Power (Pmax/W)	535	540	545	550	555
Open Circuit Voltage (Voc/V)	49.38	49.53	49.68	49.83	49.88
Short Circuit Current (Isc/A)	13.54	13.63	13.71	13.80	13.88
Voltage at Maximum Power (Vmp/V)	40.88	41.03	41.18	41.31	41.43
Current at Maximum Power (Imp/A)	13.10	13.17	13.24	13.32	13.40
Module Efficiency (%)	20.71	20.90	21.10	21.29	21.48
Operating Temperature	-40° C ~ +85° C				
Maximum System Voltage	1000/1500V				

STC (Standard Testing Conditions): Irradiance 1000W/m<sup>2</sup>, Cell Temperature 25°C, AM1.5

## Electrical Data (NMOT)

Maximum Power (Pmax/W)	400	404	408	412	416
Open Circuit Voltage (Voc/V)	45.41	45.56	45.71	45.85	46.00
Short Circuit Current (Isc/A)	11.29	11.37	11.44	11.53	11.60
Voltage at Maximum Power (Vmp/V)	37.64	37.79	37.94	38.05	38.17
Current at Maximum Power (Imp/A)	10.64	10.70	10.77	10.83	10.90

NMOT (Nominal Module Operating Temperature): Irradiance 800W/m<sup>2</sup>, Ambient Temperature 20°C, AM1.5, Wind Speed 1m/s.

## Mechanical Data

Cell Type	182×91mm Mono
Cell Orientation	144(6×24)
Module Dimensions	2278×1134×35mm
Weight	28.0kg
Glass	3.2mm high transmittance, reinforced glass
Backsheet	Anti-aging film
Frame Material	Anodized aluminum alloy
Junction Box	Protection class IP68
Cable	4.0 mm <sup>2</sup> positive pole: 200 mm negative pole: 250 mm wire length can be customized
Connector	MC4 compatible connector

## Temperature Coefficients

Temperature Coefficient (Pm)	-0.340%/°C
Temperature Coefficient (Voc)	-0.270%/°C
Temperature Coefficient (Isc)	0.048%/°C
NMOT (Nominal Module Operating Temperature)	41±3°C

## Packaging

Transportation methods	Number of modules per cabinet	Number of modules per pallet
40HQ container	620pcs	31pcs +31pcs