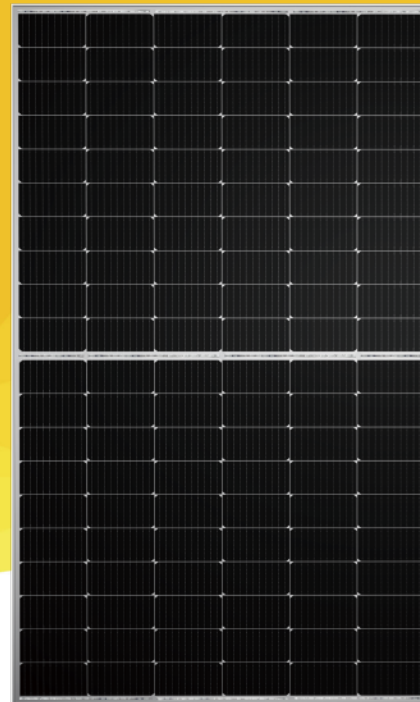




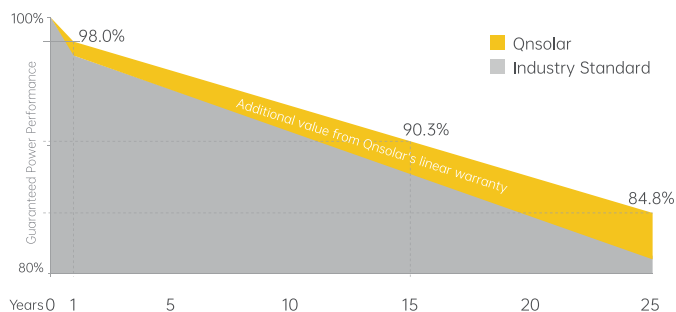
QNM182-HS-60

**440-460W**

Monofacial PERC Half-Cell Module



### LINEAR PERFORMANCE WARRANTY



Linear power guarantee over 84.8% power output after 25 years

**12** years

Product materials and process warranty

**< 2%**

First year power degradation

**25** years

Linear power warranty

**< 0.55%**

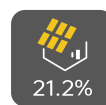
Year 2-30 power degradation

### COMPREHENSIVE CERTIFICATES



- IEC 61215, IEC 61730
- ISO 9001:2015 Quality Management System
- ISO 14001:2015 Environmental Management System
- ISO 45001:2018 Occupational Health and Safety Management System

\* Different markets have different certification requirements. Also, the products are under rapid innovation. Please confirm the certification status with regional sales representatives.



The superior MBB technology and leading process ensures high efficiency.



0-5w positive power tolerance peak power output ensures the reliability of the module



Effectively reduces the loss of up to 2% caused by mismatch and maximizes the output power of the system.



The module shows excellent weak light performance in the morning, evening and cloudy days.

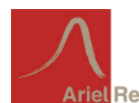


Improved cell technology and selected materials make the module has good PID resistance

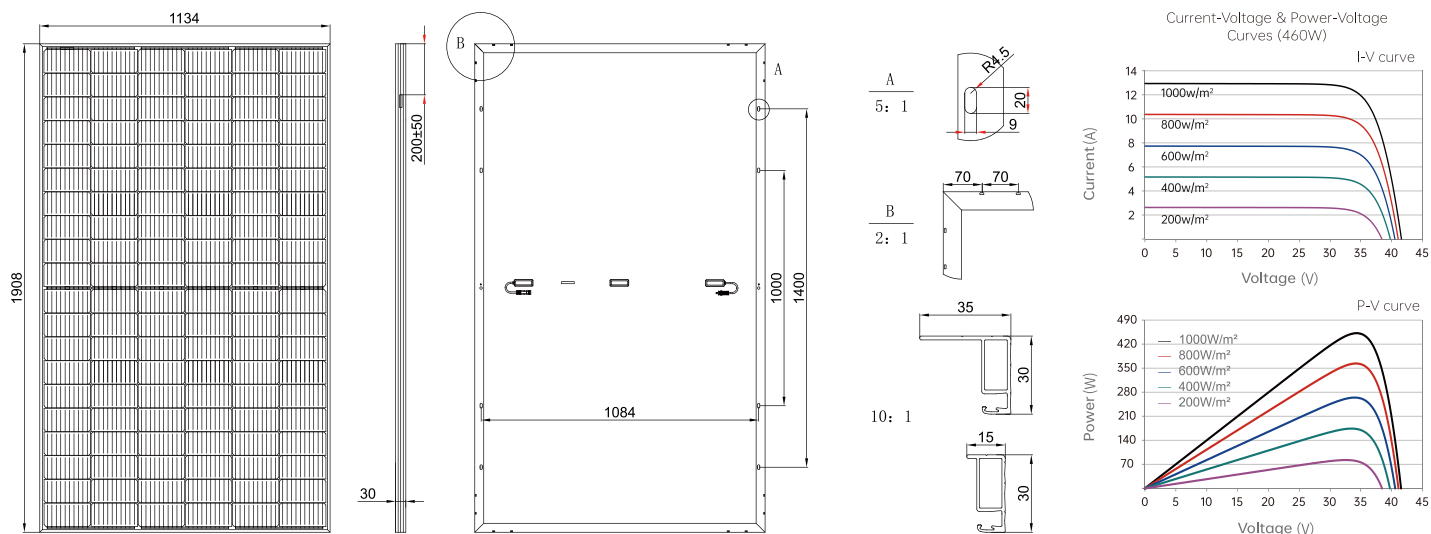


The module can withstand wind load of up to 2400Pa and snow load of 5400Pa

### PERFORMANCE INSURANCE



## MODULE DIMENSIONS (mm)



## ELECTRIC CHARACTERISTICS

Module Type	QNM182-HS440-60	QNM182-HS445-60	QNM182-HS450-60	QNM182-HS455-60	QNM182-HS460-60
STC Peak Power <b>P<sub>max</sub>(W)</b>	440	445	450	455	460
Optimum Working Voltage <b>V<sub>m</sub>(V)</b>	34.43	34.66	34.89	35.11	35.33
Optimum Working Current <b>I<sub>m</sub>(A)</b>	12.78	12.84	12.90	12.96	13.02
Open Circuit Voltage <b>V<sub>oc</sub>(V)</b>	40.70	40.99	41.12	41.43	41.60
Short Circuit Current <b>I<sub>sc</sub>(A)</b>	13.47	13.53	13.59	13.65	13.71
Module Efficiency (%)	20.3	20.5	20.7	21.0	21.2
Power Tolerance (W)	0~+5	Maximum System Voltage		DC1500V	
Maximum Series Fuse Rating	25A	Operating Module Temperature		-40°C ~ +85°C	

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

## MECHANICAL PARAMETERS

Cell Type	P-type PERC Monocrystalline 182×91mm	
Number of Half Cells	120(6×20)	
Module Size	1908mm × 1134mm × 30mm(35mm)	
Weight	23.7kg (30mm Frame) / 23.9kg(35mm Frame)	
Front Glass	3.2mm Coated tempered glass	
Frame	Anodized aluminum alloy	
Junction Box	IP68 standard (3 bypass diode)	
Output Cable	TUV (2pfg1169:2007)	4mm <sup>2</sup> /1200mm
Connector	Compatible with MC4	
Front / Rear Side Maximum Static Loading	5400pa / 2400pa	
Hailstone Test	25mm Hailstone at the speed of 23m/s	

## TEMPERATURE CHARACTERISTICS

Nominal Operating Cell Temperature (NOCT)	45±2°C
Temperature Coefficient of <b>P<sub>max</sub></b>	-0.32%/°C
Temperature Coefficient of <b>V<sub>oc</sub></b>	-0.26%/°C
Temperature Coefficient of <b>I<sub>sc</sub></b>	0.052%/°C
Rated Operating Cell Temperature	45°C±2°C

## PACKING CONFIGURATION (40'HC)

Frame	30mm	35mm
Pieces per pallet	36	31
Pallets per container	24	24
Pieces per container	864	744

NOCT (Nominal Operating Cell Temperature): Irradiance 800W/m<sup>2</sup>, Ambient Temperature 20°C , Spectra at AM1.5, Wind at 1m/s



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