

قُدْرَة Qudra



Qudra-S144/FNH 166 Half Cell Series

430-450w

144-CELL HALF CUT MONOCRYSTALLINE SOLAR MODULE



Product Advantages



High Power Output

Compared to 158.75mm module, the power output can increase 25W-30W



High Reliability

Passed 3*IEC standard test



Low Hot-spot Risk

1/2 current, reducing the hot spot temperature



Excellent loading capability

2400Pa wind loads, 5400Pa snow loads, 8000Pa extra support



Low NMOT

As low as 43°C, improving the power generation efficiency



Half Cell, MBB Technology

Series-then-parallel cell connection design, more reliable soldering technology

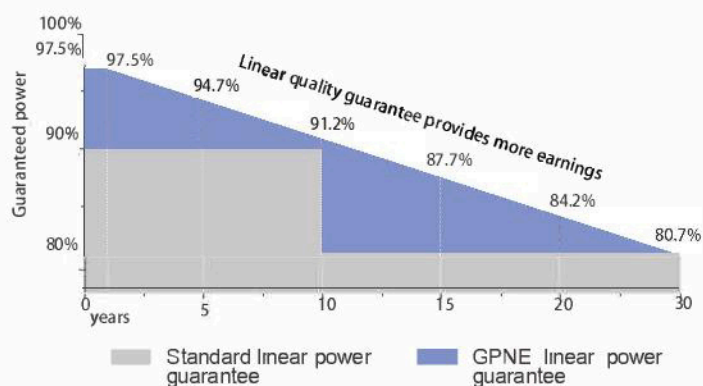
20.43%

Module efficiency

455W

Highest power output

Product Guarantee



-2.50%

First year power degradation

-0.45%

Annual degradation

12
Years

Materials and workmanship warranty

30
Years

Linear power warranty

Product Certification

IEC 61215 & IEC 61730 Standards



Qudra-S144/FNH

Electrical Characteristics

STC	450	445	440	435	430
Maximum Power at STC (Pmax)	450W	445W	440W	435W	430W
Optimum Operating Voltage (Vmp)	41.4V	41.2V	41.1V	40.8V	40.6V
Optimum Operating Current (Imp)	10.87A	10.81A	10.74A	10.67A	10.6A
Open Circuit Voltage (Voc)	49.2V	49.0V	48.8V	48.6V	48.4V
Short Circuit Current (Isc)	11.61A	11.54A	11.47A	11.4A	11.32A
Module Efficiency	20.43%	20.2%	20.0%	19.7%	19.4%
Operating Module Temperature	-40 °C to +85 °C				
Maximum System Voltage	1500 V DC (IEC)				
Maximum Series Fuse Rating	20 A				
Power Tolerance	0/+5W				

STC: Irradiance 1000 W/m², module temperature 25 °C, AM=1.5; Tolerances of Pmax, Voc and Isc are all within +/- 5%.

NMOT	450	445	440	435	430
Maximum Power at NMOT (Pmax)	348.10W	335W	331.2W	327.5W	323.8W
Optimum Operating Voltage (Vmp)	39.2V	38.5V	38.3V	38.1V	37.9V
Optimum Operating Current (Imp)	8.88A	8.7A	8.65A	8.59A	8.53A
Open Circuit Voltage (Voc)	47.4V	46.8V	46.6V	46.4V	46.2V
Short Circuit Current (Isc)	9.36A	9.19A	9.14A	9.08A	9.03A

NMOT: Irradiance 800 W/m², ambient temperature 20 °C, AM=1.5, wind speed 1 m/s;

Temperature Characteristics

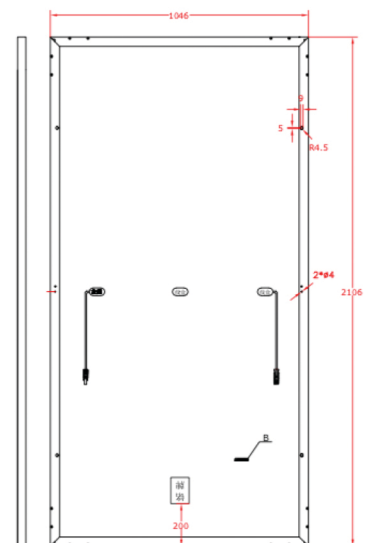
Nominal Module Operating Temperature(NMOT)	42 ± 2 °C
Temperature Coefficient of Pmax	-0.37 %/°C
Temperature Coefficient of Voc	-0.304%/°C
Temperature Coefficient of Isc	0.050 %/°C

Mechanical Characteristics

Solar Cell	Monocrystalline silicon 166 mm (9BB)
No. of Cells	144 (6 × 24)
Dimensions	2106 × 1046 × 40 mm
Weight	24 kgs
Front Glass	3.2 mm tempered glass
Frame	Anodized aluminium alloy
Junction Box	IP68 rated (3 bypass diodes)
Output Cables	4.0 mm², symmetrical lengths (-) 1400mm and (+) 1400 mm

Packing Configuration

Container	20' GP	40' HC
Pieces per pallet	26	26+1
Pallets per container	5	22
Pieces per container	130	594



Current-Voltage & Power-Voltage Curve (450S)

