

**DBB**


# DHN-54R20/DG/FS(BW)-465W

Full-Screen Double Glass PV Module

## Comprehensive Products & System Certificates

IEC 61215 / IEC 61730 / CE / INMETRO  
ISO 45001  
2018/International standards for occupational health & safety  
ISO 14001  
2015/Standards for environmental management system  
ISO 9001  
2015/Quality management system

 Material & technology warranty

 Linear power output warranty



Frameless design, installable both vertically & horizontally,  
No water, no dust, snow slide fast, power generation increased by 6-15%



No-Busbar(OBB) Technology, shorten 40% of the transmission distance.  
Reduces losses & improving conversion efficiency



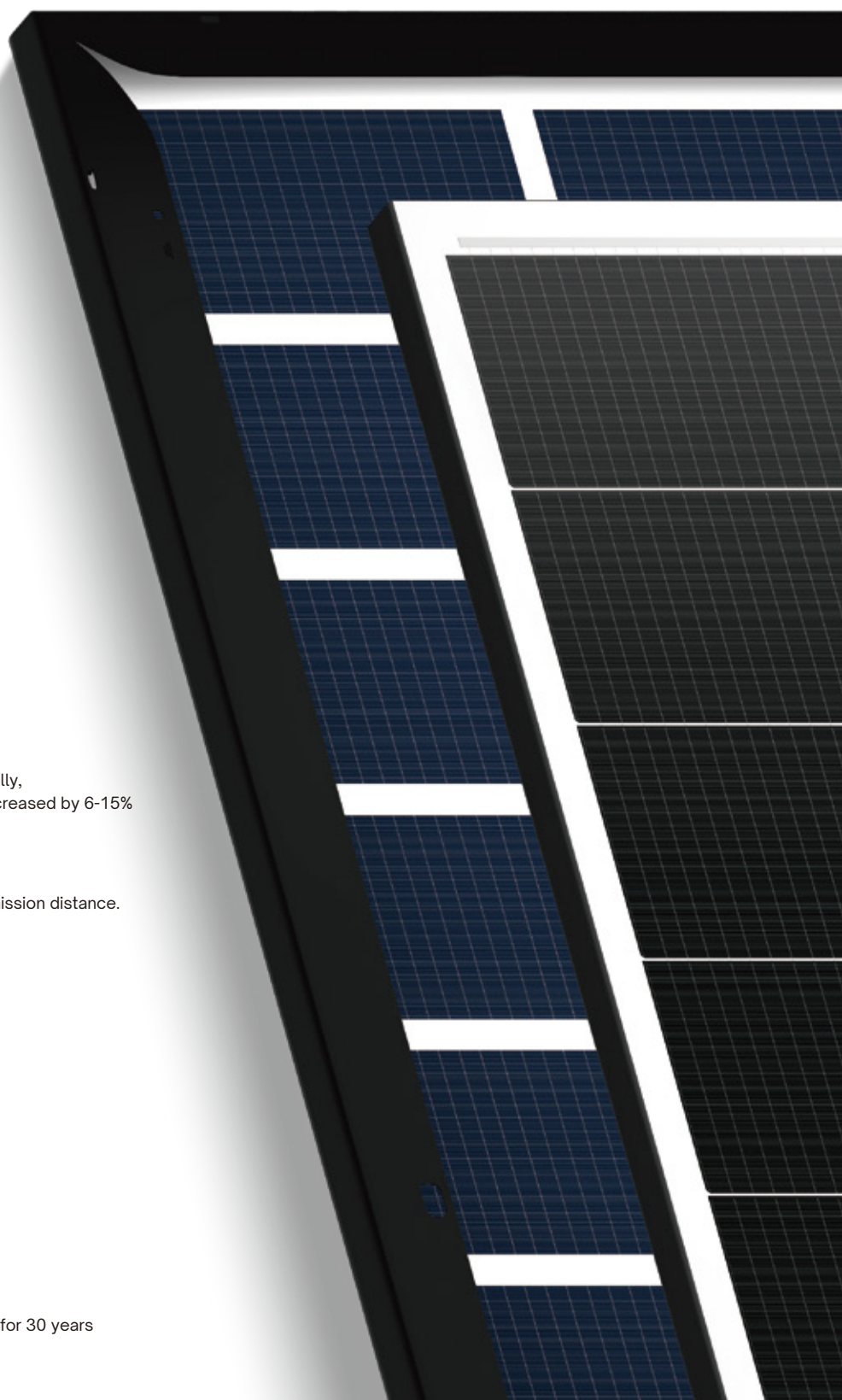
TOPCon cells double-sided rate up to 85% and  
more back power generation by 5-25%



Double-glass Technology,  
higher encapsulation blocking and mechanical strength

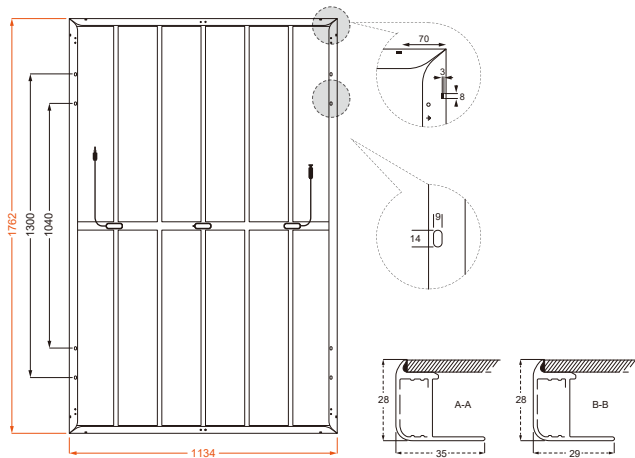


Higher power, longer service life, linear power warranty for 30 years

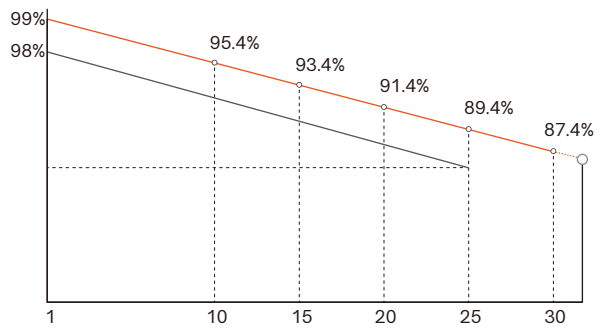


# DHN-54R20/DG/FS(BW)-465W

## Design



## 30-Year Linear Power Output Warranty



— DAH Solar linear power output guarantee  
— Standard linear power output guarantee

## Mechanical Specification

No. of Cells	108 (6×18)
Weight	24.4kg
Cells Type	N-type 182×95.8mm
Dimension (L×W×T)	1762×1134×28mm
Packing	36pcs/pallet, 864pcs/40HQ

Cable	4.0mm <sup>2</sup> , 300/200mm in length, length can be customized
Glass	2.0mm High Transmission, Antireflection Coating
Junction Box	IP68, 3 Bypass Diodes
Connector	PV5e, Changshu Friends Connector Technology Co.,Ltd Customized Connectors

## Electrical Characteristics

Module Type	DHN-54R20/DG/FS(BW)-465W	
	STC	NOCT
Test conditions	STC	NOCT
Maximum Power (P <sub>max</sub> /W)	465	350
Open-circuit Voltage (V <sub>oc</sub> /V)	40.0	38.0
Maximum Power Voltage (V <sub>mp</sub> /V)	34.1	32.4
Short-circuit Current (I <sub>sc</sub> /A)	14.60	11.79
Maximum Power Current (I <sub>mp</sub> /A)	13.64	10.79
Module Efficiency (STC)	23.27%	
Refer Bifacial Factor	80±5%	

STC-Standard Test Environment: Irradiance 1000W/m<sup>2</sup>, Cell temperature 25°C, Spectrum AM1.5 Tolerance: P<sub>max</sub>=±3%, V<sub>oc</sub>=±3%, I<sub>sc</sub>=±3%  
NOCT-Standard Test Environment: Irradiance 800W/m<sup>2</sup>, Ambient temperature 20°C, Spectrum AM1.5, Wind speed 1m/s

## Electrical ratings at irradiance level at BNPI

Rated V <sub>oc</sub> at STC (V) / tolerance ±3%	40.2
Rated I <sub>sc</sub> at STC (A) / tolerance ±3%	16.09
Rated V <sub>mp</sub> at STC (V)	34.3
Rated I <sub>mp</sub> at STC (A)	15.01
Rated P <sub>max</sub> at STC (W) / tolerance±3%	515

Bifaciality coefficient with tolerance: φ<sub>Isc</sub> = 80%±5%, φ<sub>Voc</sub> = 98%±2%, φ<sub>Pmax</sub> = 80%±5%

## Electrical ratings at irradiance level at aBSI

Rated I <sub>sc</sub> at aBSI (A) / tolerance ±3%	17.91
---------------------------------------------------	-------

## Operating Parameters

Maximum System Voltage	1500V DC
Operating Temperature	-40 ~ +85°C
Maximum Series Fuse Rating	30A
Nominal Operating Cell Temperature	45°C±2°C
Application Level	Class A
Power sorting tolerance	0 ~ 5W

## Temperature Coefficient

Temperature Coefficient of I <sub>sc</sub> (α <sub>Isc</sub> )	0.046%/°C
Temperature Coefficient of V <sub>oc</sub> (β <sub>Voc</sub> )	-0.25%/°C
Temperature Coefficient of P <sub>max</sub> (γ <sub>Pmp</sub> )	-0.29%/°C
Fire class	CLASS A
Snow load, frontside / Wind load, backside	5400Pa/2400Pa