

DBB

DHN-48Z20/DG(BW)

435~465W

High Efficiency 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



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



Bifacial Rate Up to 85% and More Back Power Generation by 5-25%



Double-glass Technology, higher encapsulation
blocking and mechanical strength



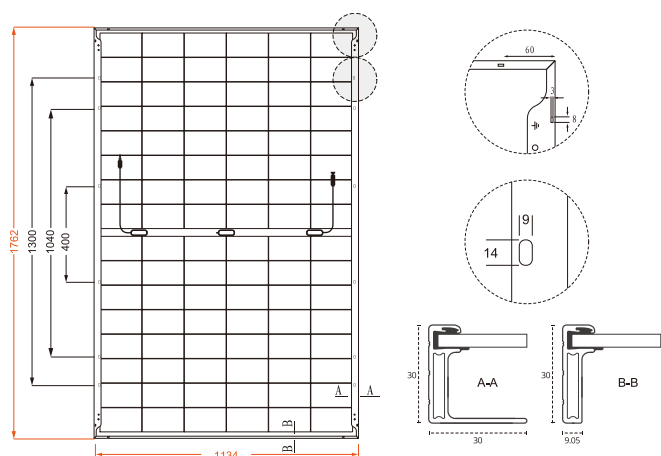
Higher power, longer service life, linear power warranty for 30 years



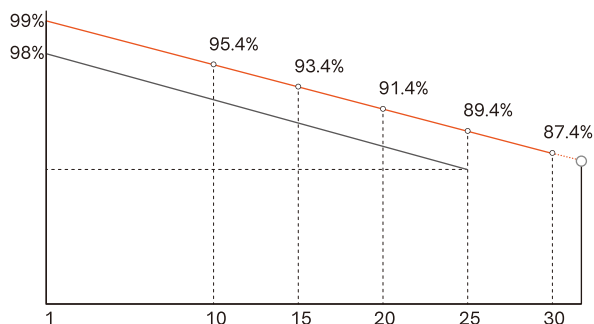
TOPCon cells, lower attenuation,
better temperature coefficient & dim light performance

DHN-48Z20/DG(BW) 435~465W

Design



30-Year Linear Power Output Warranty



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

Mechanical Specification

No. of Cells	96 (6×16)
Weight	23.9kg
Cells Type	N-type 182×105mm
Dimension (L×W×T)	1762×1134×30mm
Packing	36pcs/Pallet, 936pcs/40HQ

Cable(Including connector)	4.0mm ² , 300/200mm in length, length can be customized
Glass	2.0mm High Transmission, Antireflection Coating
Junction Box	IP68, 3 Bypass Diodes
Connector	MC4 Compatible

Electrical Characteristics

Module Type	DHN-48Z20/DG(BW)													
Test conditions	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (P _{max} /W)	435	327	440	331	445	335	450	338	455	342	460	346	465	350
Open-circuit Voltage (V _{oc} /V)	35.4	33.6	35.6	33.8	35.8	34.0	36.0	34.2	36.2	34.4	36.4	34.6	36.6	34.8
Maximum Power Voltage (V _{mp} /V)	30.0	28.5	30.2	28.7	30.4	28.9	30.6	29.1	30.8	29.3	31.0	29.5	31.2	29.6
Short-circuit Current (I _{sc} /A)	15.46	12.48	15.52	12.53	15.58	12.58	15.64	12.63	15.70	12.68	15.76	12.72	15.82	12.77
Maximum Power Current (I _{mp} /A)	14.50	11.48	14.57	11.53	14.64	11.59	14.71	11.64	14.77	11.69	14.84	11.75	14.90	11.80
Module Efficiency (STC)	21.77		22.02		22.27		22.52		22.77		23.02		23.27	
Refer Bifacial Factor	80±5%													

STC-Standard Test Environment: Irradiance 1000W/m², Cell temperature 25°C, Spectrum AM1.5

NOCT-Standard Test Environment: Irradiance 800W/m², Ambient temperature 20°C, Spectrum AM1.5, Wind speed 1m/s

Double-Sided Power Generation Parameters (Rear gain)

5%	Maximum Power (P _{max})	457	462	467	473	478	483	488
	Module Efficiency (%)	22.9	23.1	23.4	23.6	23.9	24.2	24.4
15%	Maximum Power (P _{max})	500.3	506.0	511.8	517.5	523.3	529.0	534.8
	Module Efficiency (%)	25.0	25.3	25.6	25.9	26.2	26.5	26.8
25%	Maximum Power (P _{max})	543.8	550.0	556.3	562.5	568.8	575.0	581.3
	Module Efficiency (%)	27.2	27.5	27.8	28.2	28.5	28.8	29.1

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

Temperature Coefficient

Temperature Coefficient of I _{sc} (ΔI _{sc})	0.046%/°C
Temperature Coefficient of V _{oc} (βV _{oc})	-0.25%/°C
Temperature Coefficient of P _{max} (γP _{mp})	-0.29%/°C
Snow load, frontside / Wind load, backside	5400Pa/2400Pa