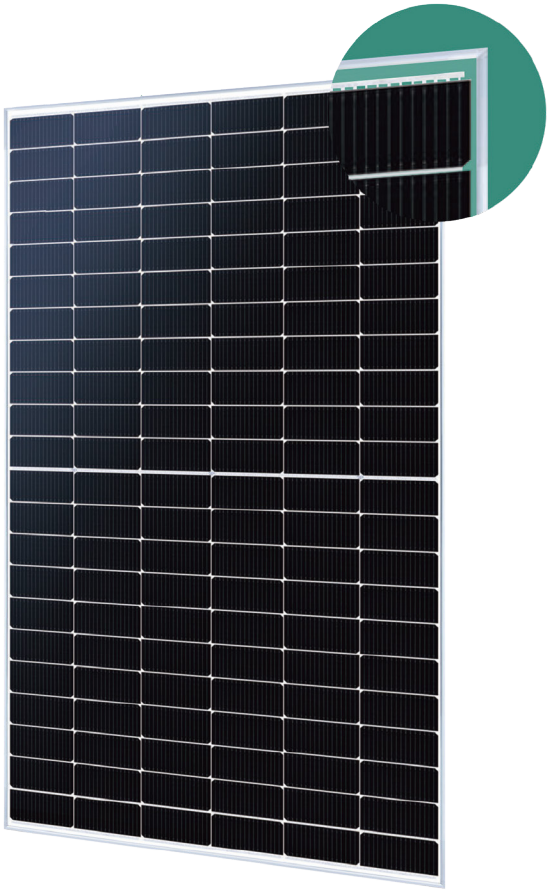
PHONO



630-650w

Draco Module Series

N-TOPCON HIGH EFFICIENCY 132-16BB-W-TG

Bloomberg NEW ENERGY FINANCE Tier 1 TOP PERFORMER 2025 kiwa PV MODULE RELIABILITY SCORECARD

Product Characteristics

- Boosting Power Output with Gap Reflective Film Technology.

Extraordinary Product Performance

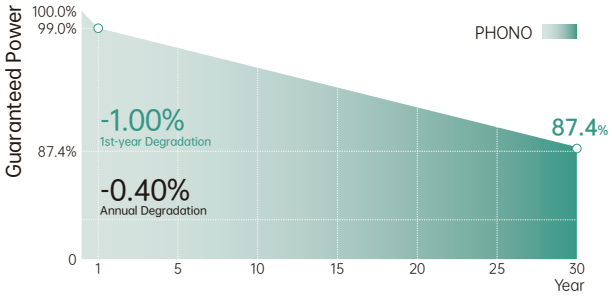
- N-type with lower LID and LeTID
- Up to 30% additional power yield benefited from bifacial technology and over 80% cell bifaciality
- Competitive high-temperature performance with ameliorated temperature coefficient
- Better weak illumination response, higher power generation with N-TOPCon technology

High Quality Reliability

- Industry-leading cell processing technology and dual glass contributes to excellent anti-PID characteristic

Wider Application Conditions

- BIPV, vertical installation, snowfield, high-humidity area, windy and dusty area
- Easy for integration, designed for compatibility with existing mainstream inverters and diverse mounting systems



15-year
Product Warranty

30-year
Linear Performance Warranty

MANAGEMENT SYSTEM CERTIFICATES

IEC 61215, IEC 61730

ISO 9001
2015 / Quality management system

ISO 14001
2015 / Standards for environmental management system

ISO 45001
2018 / International standards for occupational health & safety

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Electrical Typical Values

Model	1000V	PS630L8GF-22/WNH		PS635L8GF-22/WNH		PS640L8GF-22/WNH		PS645L8GF-22/WNH		PS650L8GF-22/WNH	
	1500V	PS630L8GFH-22/WNH		PS635L8GFH-22/WNH		PS640L8GFH-22/WNH		PS645L8GFH-22/WNH		PS650L8GFH-22/WNH	
Testing Condition		STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Rated Power (Pmpp)		630	482	635	486	640	490	645	494	650	498
Rated Current (Impp)		14.96	12.05	14.99	12.07	15.02	12.10	15.05	12.12	15.08	12.15
Rated Voltage (Vmpp)		42.12	40.04	42.37	40.27	42.61	40.51	42.86	40.74	43.11	40.98
Short Circuit Current (Isc)		15.64	12.60	15.68	12.63	15.72	12.66	15.76	12.69	15.80	12.73
Open Circuit Voltage (Voc)		50.04	47.91	50.31	48.17	50.57	48.42	50.84	48.68	51.11	48.94
Module Efficiency (%)		23.32		23.51		23.69		23.88		24.06	

STC (Standard Testing Conditions): Irradiance 1000W/m², AM 1.5, Cell Temperature 25°C

NOCT (Nominal Operation Cell Temperature): Irradiance 800W/m², Ambient Temperature 20°C , Spectra at AM1.5, Wind at 1m/s

BNPI

Maximum Power (Pmax)	694	699	705	710	716
Optimum Operating Current (Impp)	16.48	16.51	16.54	16.57	16.60
Optimum Operating Voltage (Vmpp)	42.12	42.37	42.61	42.86	43.11
Short Circuit Current (Isc)	17.22	17.26	17.32	17.35	17.40
Open Circuit Voltage (Voc)	50.04	50.31	50.57	50.84	51.11

BNPI:Front side irradiation 1000W/m², back side reflection irradiation 135W/m² , AM 1.5, ambient temperature 25°C

Mechanical Characteristics

Cell Type	N Type Monocrystalline
Dimension (L × W × H)	Length: 2382mm (93.78 inch) Width: 1134mm (44.65 inch) Height: 30mm (1.18 inch)
Weight	32.6kg (71.87 lbs)
Glass	2.0mm/2.0mm Heat Strengthened Glass
Frame	Anodized Aluminium Alloy
Cable (Including Connector)	4mm² (IEC), (+): 350mm,(-): 250mm or Customized Length
Junction Box	IP 68 Rated

Temperature Ratings

Voltage Temperature Coefficient	-0.25%/°C
Current Temperature Coefficient	+0.04%/°C
Power Temperature Coefficient	-0.29%/°C
Power Tolerance	0~+3%
NOCT	42±2°C
Bifaciality	80±5%

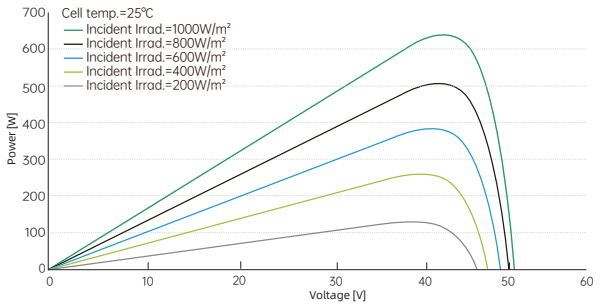
Absolute Maximum Rating

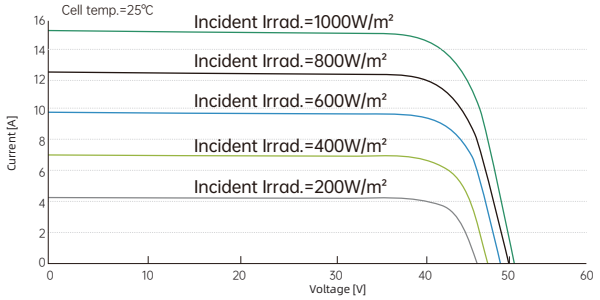
Operating Temperature	From -40 to + 85°C
Hail Diameter @ 80km/h	Up to 25mm
Front Side Maximum Static Loading	5400Pa
Rear Side Maximum Static Loading	2400Pa
Maximum Series Fuse Rating	30A
PV Module Classification	II
Fire Rating (IEC61730)	C
Maximum System Voltage	DC 1000V/1500V

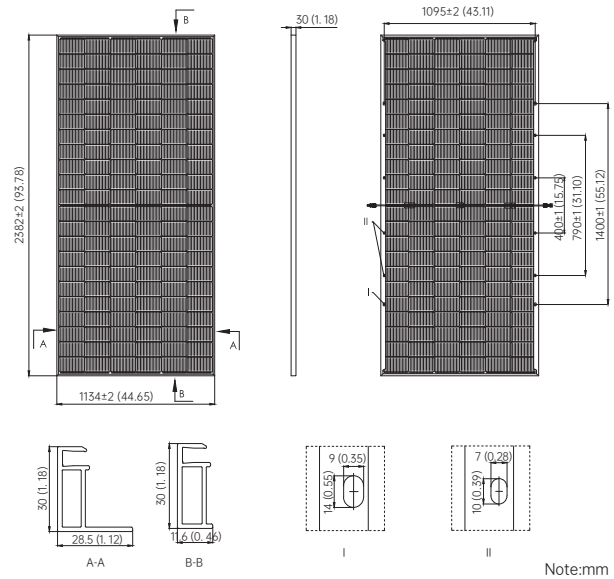
Packing Configuration

Container	40' HQ
Pcs/Container	720
Pcs/Pallet	36
Pallets/Container	20

Electrical Characteristics







Note:mm (inch)

PHONO SOLAR TECHNOLOGY CO., LTD. reserves the right to make necessary adjustments to the information described herein at any time without further notice. The specifications and certificates contained in this datasheet may deviate slightly from our actual products due to the on-going innovation and product enhancement. Please be sure to use the most recent version of data.