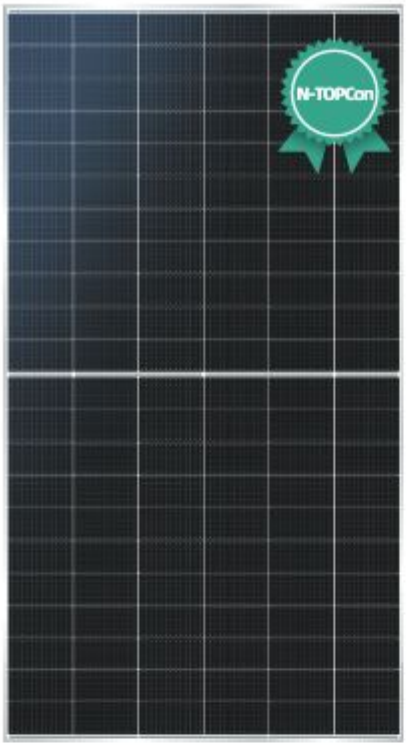


PHONO

690-710w

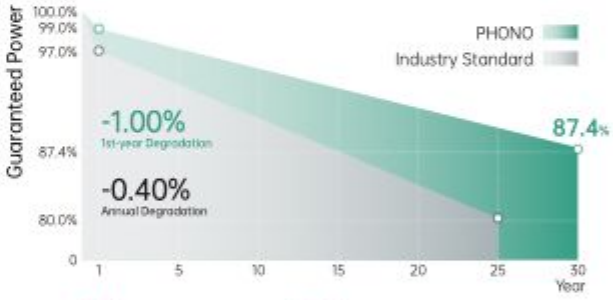
Draco Module Series

N-TOPCON HIGH EFFICIENCY 132-18BB-W-WG

Bloomberg NEW ENERGY FINANCE Tier 1

Extraordinary Product Performance

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



15-year Product Warranty

30-year Linear Performance Warranty

High Quality Reliability

- N-type with lower LID and LeTID
- Industry-leading cell processing technology and dual glass contributes to excellent anti-PID characteristic
- First-year degradation is less than 1.0%, with linear degradation of 0.4% per year for 30 years

Wider Application Conditions

- BIPV , vertical installation , snowfield , high-humid area , windy and dusty area
- Safer and easier handling during transportation and installation

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

GL-EN-VERSION 2024.09.19 © PHONO SOLAR CO., LTD. ALL RIGHTS RESERVED

www.phonosolar.com / info@phonosolar.com

Electrical Typical Values

Model	PS690M13GFH-22/WNH		PS695M13GFH-22/WNH		PS700M13GFH-22/WNH		PS705M13GFH-22/WNH		PS710M13GFH-22/WNH	
Testing Condition	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Rated Power (Pmpp)	690	526	695	530	700	534	705	538	710	542
Rated Current (Impp)	17.25	14.02	17.30	14.06	17.35	14.10	17.40	14.14	17.45	14.18
Rated Voltage (Vmpp)	40.01	37.54	40.20	37.72	40.39	37.90	40.58	38.08	40.76	38.26
Short Circuit Current (Isc)	18.26	14.72	18.32	14.77	18.38	14.82	18.44	14.87	18.50	14.92
Open Circuit Voltage (Voc)	48.02	46.22	48.22	46.41	48.42	46.60	48.62	46.79	48.82	46.98
Module Efficiency (%)	22.21		22.37		22.53		22.70		22.86	

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)	759	765	770	776	781
Optimum Operating Current (Impp)	18.96	19.01	19.06	19.11	19.16
Optimum Operating Voltage (Vmpp)	40.12	40.31	40.50	40.69	40.88
Short Circuit Current (Isc)	20.09	20.16	20.22	20.29	20.35
Open Circuit Voltage (Voc)	48.13	48.33	48.53	48.73	48.93

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

Mechanical Characteristics

Cell Type	N Type Monocrystalline
Dimension (L × W × H)	Length: 2384mm (93.86 inch) Width: 1303mm (51.30 inch) Height: 33mm (1.30 inch)
Weight	37.7kg (83.11 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	+0.048%/°C
Power Temperature Coefficient	-0.29%/°C
Power Tolerance	0~+3%
NOCT	42±2°C
Bifaciality	80±5%

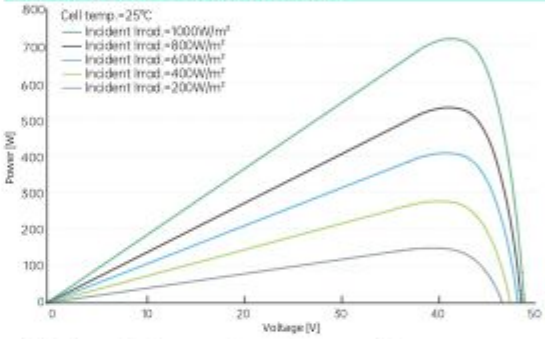
Absolute Maximum Rating

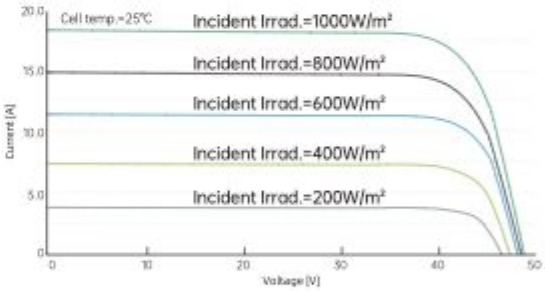
Operating Temperature	From -40 to + 85°C
Hail Diameter @ 80km/h	Up to 25mm
Front Side Maximum Static Loading	5400Pa
Rear Side Maximum Static Loading	2400Pa
Maximum Series Fuse Rating	35A
PV Module Classification	II
Fire Rating (IEC 61730)	C
Maximum System Voltage	DC 1500V

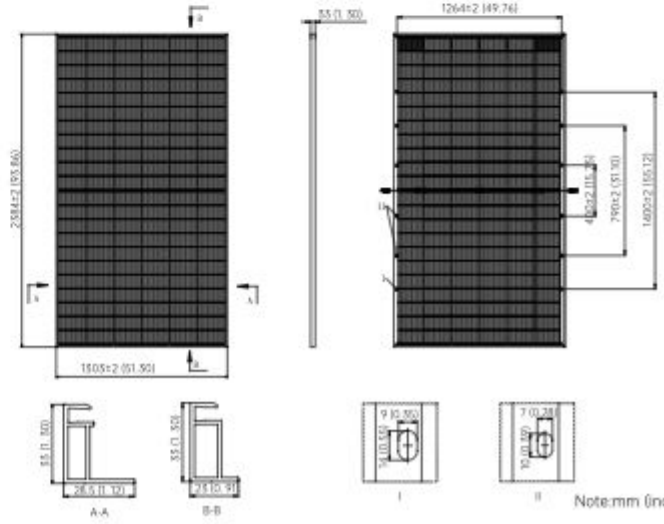
Packing Configuration

Container	40' HQ
Pieces/Container	594
Pcs/Pallet	33
Pallets/Container	18

Electrical Characteristics







Note:mm (inch)

PHONO

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.