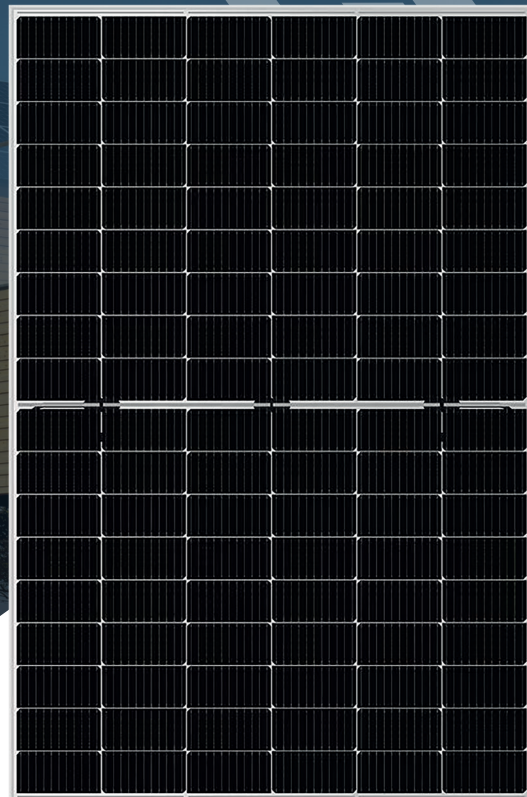


KS415MNH-BI

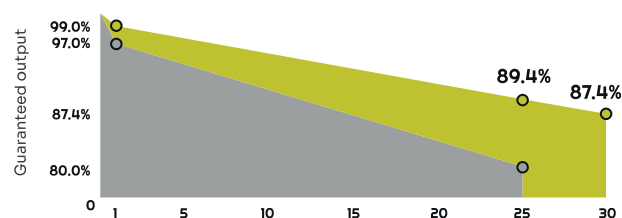
N-type Bifacial Mono Module

415-435W



Kensol modules use special glass to increase transparency. Bifacial modules can generate up to 30% more energy compared to traditional panels.

Linear Performance Warranty



Polish Brand
Polish Guarantor

25

25-year product
performance warranty
25-year linear warranty



Better Weak
Illumination Response



10-30% Additional Power
Generation

TÜV

Certificate TÜV



ZERO LID
(Light Induced
Degradation)

KENSOL

ENERGY FOR THE FUTURE

Electrical Properties STC*

Module Type	KS415 MNH-BI	KS420 MNH-BI	KS425 MNH-BI	KS430 MNH-BI	KS435MN- H-BI
Testing Condition	Front Side	Front Side	Front Side	Front Side	Front Side
Peak Power (Pmax) (W)	415	420	425	430	435
MPP Voltage (Vmp) (V)	31.7	31.9	32.1	32.3	32.5
MPP Current(Imp)(A)	13.10	13.17	13.24	13.32	13.39
Open Circuit Voltage(Voc)(V)	37.7	37.9	38.1	38.3	38.4
Short Circuit Current(Isc)(A)	13.91	13.98	14.05	14.12	14.18
Module Efficiency(%)	21.25	21.51	21.76	22.02	22.27

*STC: Irradiance 1000 W/m², Cell Temperature 25°C, AM1.5
The data above is for reference only and the actual data is in accordance with the practical testing Power Measurement Tolerance
±3%

Electrical Properties NOCT*				
NOCT	45 °C			
Open Circuit Voltage (V _{oc})	21.6 V			
Short Circuit Current (I _{sc})	5.82 A			
Maximum Power (P _{max})	127 W			
Maximum Power Voltage (V _{mp})	18.5 V			
Maximum Power Current (I _{mp})	6.87 A			
Fill Factor (FF)	77.3 %			
Efficiency (%)	23.3 %			

Testing Condition	Front Side	Front Side	Front Side	Front Side	Front Side
Peak Power (Pmax) (W)	315	318	322	326	330
MPP Voltage (Vmp) (V)	29.8	30.0	30.2	30.3	30.5
MPP Current(Impp)(A)	10.56	10.62	10.67	10.74	10.82
Open Circuit Voltage(Voc)(V)	36.0	36.2	36.4	36.6	36.8
Short Circuit Current(Isc)(A)	11.22	11.27	11.33	11.38	11.44

*NOCT: Irradiance 800 W/m², Ambient Temperature 20°C, Wind Speed 1 m/s

Operating Properties

Operating Temperature (°C)	-40°C~+85°C
Maximum System Voltage(V)	1500V DC (IEC)
Maximum Series Fuse Rating (A)	30
Power Tolerance	0~+5W
Bifaciality*	80%

*Bifaciality= $P_{\text{maxrear}}(\text{STC})/P_{\text{maxfront}}(\text{STC})$, Bifaciality tolerance: $\pm 5\%$

Temperature Coefficient

Temperature Coefficient of Pmax*	-0.300%/°C
Temperature Coefficient of Voc	-0.250%/°C
Temperature Coefficient of Isc	+0.045%/°C
Nominal Operating Cell Temperature (NOCT)	42±2°C

*Temperature Coefficient of Pmax±0.03%/°C

Mechanical Properties

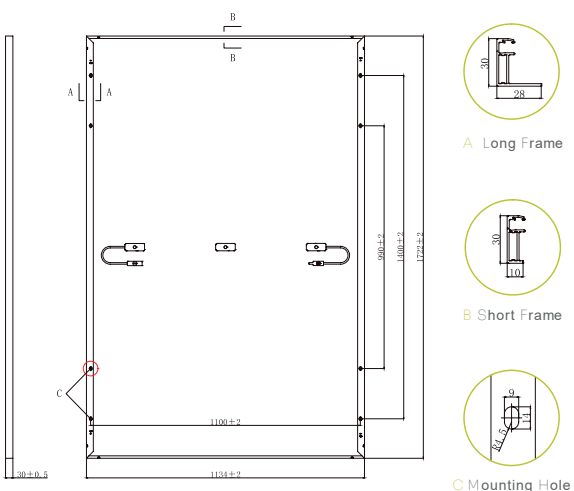
Cell Size	182.00mm*91.00mm
Number of Cells	108pcs(12*9)
Module Dimension	1722mm*1134mm*30mm
Weight	24.5kg
Front / Rear Glass*	2.0mm/2.0mm (anti-reflective coating)
Frame	Anodized Aluminium Alloy
Junction Box	IP68 (3 diodes)
Length of Cable	4.0mm ² , +300mm/-180mm (Cable length can be customized)
Connector	MC4 EVO2

*Heat strengthened glass

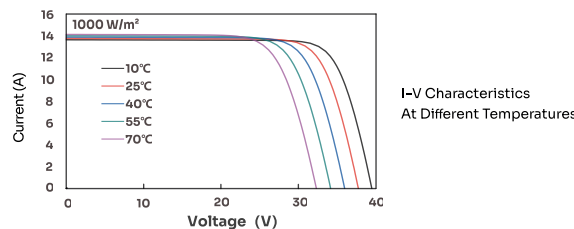
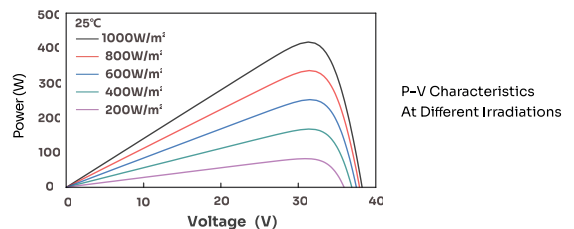
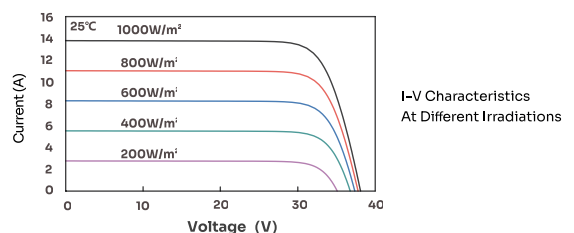
With Different Power Generation Gain (regarding 415W as an example)

Power Gain (%)	Peak Power (Pmax) (W)	MPP Voltage (Vmp)(V)	MPP Current (Imp)(A)	Open Circuit Voltage (Voc) (V)	Short Circuit Current (Isc) (A)
10	448	31.7	14.13	37.7	14.99
15	465	31.7	14.65	37.7	15.54
20	481	31.7	15.17	37.7	16.08
25	498	31.7	15.69	37.7	16.62
30	515	31.8	16.20	37.8	17.16

Engineering Drawing (unit: mm)



Characteristic Curves



Packaging Configuration

Packing Type	20'GP	40'GP	40'HQ
Piece/Pallet		36	
Pallet/Container	6	13	26
Piece/Container	216	468	936

*The specification and key features described in this datasheet may deviate slightly and are not guaranteed. Due to ongoing innovation, R&D enhancement, Kensol Sp. z o.o. reserves the right to make any adjustment to the information described here in at any time without notice. Please always obtain the most recent version of the datasheet which shall be duly incorporated into the binding contract made by the parties governing all transactions related to the purchase and sale of the products described herein.

Due to the continuous technical innovation, technical data above might be of modification accordingly. KENSOL informs of its sole right to make modifications at anytime without further notice.

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