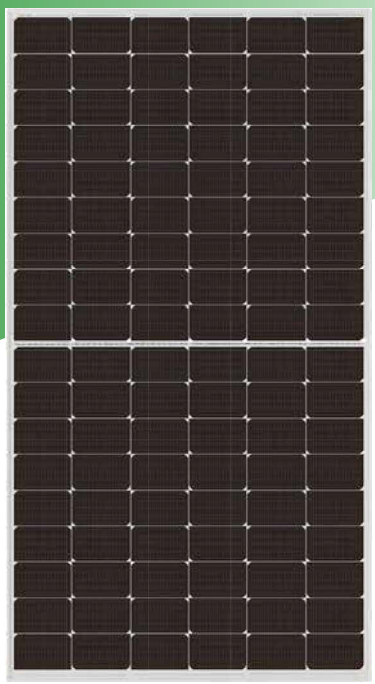
EN182N-108D-415/420/425/430/435W

Bifacial Dual Glass N-type Monocrystalline Solar Module

108 Half-Cell Series



ABOUT ECONESS ENERGY

Established in 2009 , Econess Energy is engaged in PV power station development and PV module production. With current annual production capacity of 12GW modules, Econess Energy now distributes its PV products all over the world,such as Germany, Spain, Italy, France, India, Japan ect. As a strong, bankable partner, we are committed to building strategic, mutually beneficial collaboration with installers and developers.

KEY FEATURES

Multi Busbar Technology
Better light trapping and current collection to improve module power output and reliability

Bifacial power generation
Bifacial cell technology, 5% to 25% more yield depends on different conditions

Lower temperature coefficients
Enhance power generation

Enhanced Mechanical Load
Certified to withstand: wind load (2400 Pa) and snow load (5400 Pa)

IP68 junction box
High waterproof level

High customer value
Lower BOS cost and LCOE

SYSTEM & PRODUCT CERTIFICATES

- IEC 61215 / IEC 61730
- IEC 61701 / IEC 62804
- ISO 9001 : 2015 Quality Management System
- ISO 14001 : 2015 Environment Mangement System
- ISO 45001 : 2018 Occupational Health and Safety Management System

QUALITY WARRANTY

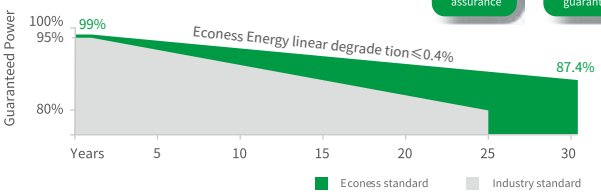
Econess Energy guarantees that defects will not appear in materials and workmanship defined by IEC61215 or IEC61730 under normal installation, use and maintenance as specified in Econess Energy's installation manual for 12 years from the warranty starting date.

PERFORMANCE WARRANTY

Bifacial Dual Glass
N-type Monocrystalline Solar Module

12 years Quality assurance

30 years Power output guarantee



ELECTRICAL PARAMETERS

Performance at STC (Power Tolerance 0-+5W)					
Maximum Power(Pmax/W)	415	420	425	430	435
Operating Voltage (Vmpp/V)	31.49	31.70	31.91	32.12	32.32
Operating Current(Impp/A)	13.18	13.25	13.32	13.39	13.46
Open-Circuit Voltage (Voc/V)	38.11	38.32	38.53	38.74	38.95
Short-Circuit Current(Isc/A)	13.92	14.00	14.08	14.16	14.24
Module Efficiency ηm (%)	21.25	21.51	21.76	22.02	22.28
Performance at NOCT					
Maximum Power(Pmax/W)	315.8	319.6	323.4	327.1	330.8
Operating Voltage(Vmpp/V)	30.06	30.21	30.37	30.53	30.69
Operating Current(Impp/A)	10.51	10.58	10.65	10.71	10.78
Open-Circuit Voltage(Voc/V)	36.10	36.29	36.48	36.67	36.86
Short-Circuit Current(Isc/A)	11.20	11.28	11.37	11.46	11.55

STC: Irradiance 1000W/㎡, Cell Temperature 25°C, Air Mass AM1.5 **NOCT: Irradiance 800W/㎡, Ambient Temperature 25°C, Wind Speed 1m/s**

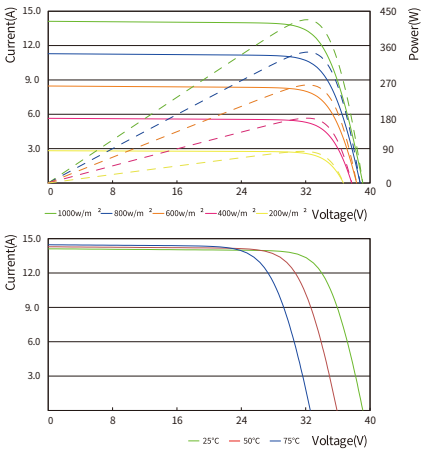
Electrical characteristics with different rear side power again (reference to 435W front)

Pmax gain(%)	5%	10%	15%	20%	25%
Maximum Power (Pmax/W)	456.8	478.5	500.3	522.0	543.8
Maximum Power Voltage (Vmpp/V)	32.32	32.32	32.32	32.32	32.32
Maximum Power Current (Impp/A)	14.13	14.81	15.48	16.15	16.83

MECHANICAL SPECIFICATION

Cell Arrangement	108 [2 x (9 x 6)]
Weight	24.5 kg(54.01 lb)
Module Dimensions	1722 x1134 x 30mm(67.80 x 44.65 x 1.18 inch)
Cable	300 mm (11.81 inch) · 4 mm² (0.006 sq.in)
Front Glass	2.0 mm High Transmission, Tempered Glass
Packing Configuration	36pcs/Pallet, 936pcs/40hq
Frame	Anodized Aluminium Alloy
Junction Box	IP68

I-V CURVE



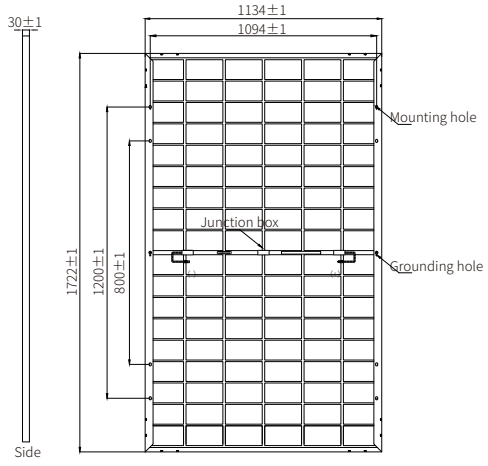
OPERATING CONDITIONS

Maximum System Voltage	1500V (IEC/UL) DC
Operating Temp	-40°C ~ +85°C
Maximum Fuse Rating	25 A
Static Loading	5400 Pa
Connector	MC4 Compatible

TEMPERATURE COEFFICIENT

Temperature Coefficient(Pmax)	-0.30%/°C
Temperature Coefficient(Voc)	-0.24%/°C
Temperature Coefficient(Isc)	+0.043%/°C
NOCT	41±2°C

TECHNICAL DRAWINGS (mm)



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