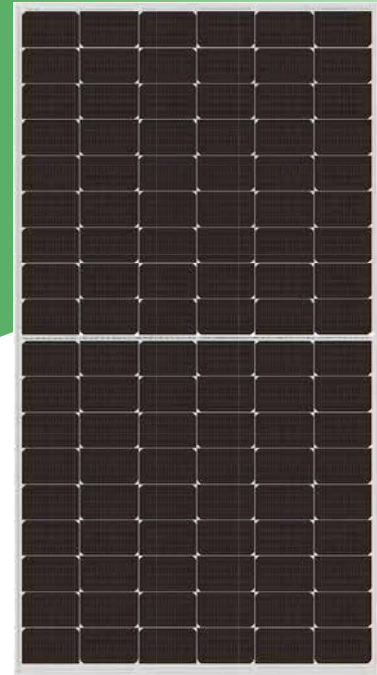


EN182N-108-425/430/435/440/445/450W

High Efficiency 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 etc. 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
- Enhanced Mechanical Load**
Certified to withstand: wind load (2400 Pa) and snow load (5400 Pa)
- IP68 junction box**
High waterproof level
- PID Resistance**
Excellent Anti-PID performance guarantee via optimized mass-production process and materials control.
- Lower temperature coefficients**
Enhance power generation
- 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

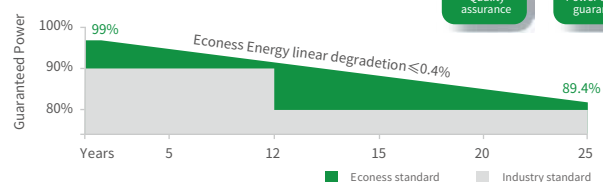


QUALITY WARRANTY

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

N-type Monocrystalline Solar Module



ELECTRICAL PARAMETERS

Performance at STC (Power Tolerance 0~+5W)

| | | | | | | |
|--------------------------------|-------|-------|-------|-------|-------|-------|
| Maximum Power(Pmax/W) | 425 | 430 | 435 | 440 | 445 | 450 |
| Operating Voltage (Vmpp/V) | 32.10 | 32.27 | 32.44 | 32.61 | 32.78 | 32.95 |
| Operating Current(Imp/A) | 13.24 | 13.33 | 13.41 | 13.50 | 13.58 | 13.66 |
| Open-Circuit Voltage (Voc/V) | 38.20 | 38.40 | 38.60 | 38.80 | 39.00 | 39.20 |
| Short-Circuit Current(Isc/A) | 13.98 | 14.09 | 14.19 | 14.30 | 14.39 | 14.48 |
| Module Efficiency η_m (%) | 21.76 | 22.02 | 22.28 | 22.53 | 22.79 | 23.04 |

Performance at NOCT

| | | | | | | |
|------------------------------|-------|-------|-------|-------|-------|-------|
| Maximum Power(Pmax/W) | 319.6 | 323.4 | 327.1 | 330.8 | 334.5 | 338.4 |
| Operating Voltage(Vmpp/V) | 30.21 | 30.37 | 30.53 | 30.69 | 30.86 | 31.02 |
| Operating Current(Imp/A) | 10.58 | 10.65 | 10.71 | 10.78 | 10.84 | 10.91 |
| Open-Circuit Voltage(Voc/V) | 36.29 | 36.48 | 36.67 | 36.86 | 36.95 | 40.04 |
| Short-Circuit Current(Isc/A) | 11.28 | 11.37 | 11.46 | 11.55 | 11.65 | 11.73 |

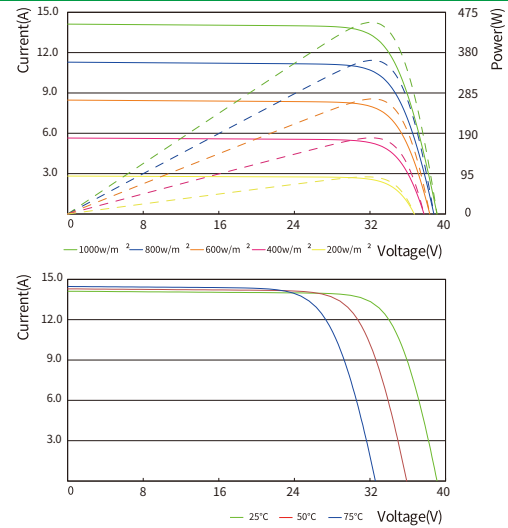
STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5

NOCT: Irradiance 800W/m², Ambient Temperature 25°C, Wind Speed 1m/s

MECHANICAL SPECIFICATION

| | |
|--------------------------|---|
| Cell Arrangement | 108 [2 x (9 x 6)] |
| Weight | 19.5kg(42.99 lb) |
| Module Dimensions | 1722x 1134x 30mm(67.80 x 44.65 x 1.18 inch) |
| Cable Length | 300 mm (11.81 inch) or Customized Length |
| Cable Cross Section Size | 4 mm ² (0.006 sq.in) |
| Front Glass | 3.2 mm High Transmission, Tempered Glass |
| No.of Bypass Diodes | 3 |
| Packing Configuration | 36pcs/Pallet, 936pcs/40hq |
| Frame | Anodized Aluminium Alloy |
| Junction Box | IP68 |

I-V CURVE



OPERATING CONDITIONS

| | |
|------------------------|----------------|
| Maximum System Voltage | 1500V (IEC) DC |
| Operating Temp | -40°C ~ +85°C |
| Maximum Fuse Rating | 25 A |
| Static Loading | 5400 Pa |
| Conductivity at Ground | ≤ 0.1Ω |
| Safety Class | II |
| Resistance | ≥ 100MΩ |
| 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)

