

EN156M-60S-275/280/285/290W






Smart Monocrystalline Solar Module
60-Cell Series

ABOUT ECONESS ENERGY

Established in 2009 by Jiangsu Huadong Group (founded in 1997), Econess Energy is a world's leading solution provider for solar energy. With annual production capacity of 800MW cells and 1.2GW modules. Econess Energy now distributes its PV products to over 36 countries with cumulative module shipment of 3GW. As a strong, bankable partner, we are committed to building strategic, mutually beneficial collaboration with installers and developers.



KEY FEATURES

-  **Maximize limited space**
Maximum power output 290W
-  **IP68 junction box**
The highest waterproof level
-  **Excellent Anti-PID performance**
2 times of industry standard
Anti-PID test by TUV
-  **Certified to withstand the most challenging environmental conditions**
2400 Pa wind load · 5400 Pa snow load · 25mm hail stones at 82 km/h
-  **Smart Module**
By module data collecting, it can realise the real-time monitoring, high-temp alarm and remote failure diagnosis

SYSTEM & PRODUCT CERTIFICATES

- IEC 61215 / IEC 61730 / UL 1703
- ISO 9001 : 2015 Quality Management System
- ISO 14001 : 2015 Environment Mangement System
- OHSAS 18001 : 2007 Occupational Health and Safety Management System

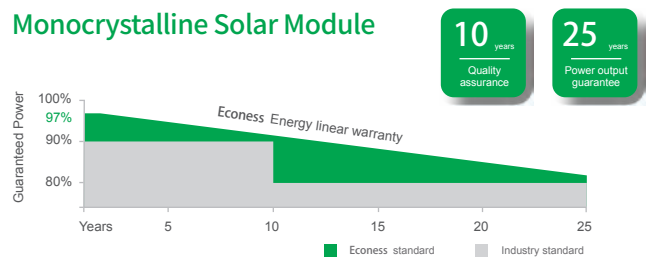


QUALITY WARRANTY

ECONESS Energy guarantees that defects will not appear in materials and workmanship defined by IEC61215, IEC61730 or UL1703 under normal installation, use and maintenance as specified in Econess Energy's installation manual for 10 years from the warranty starting date.

PERFORMANCE WARRANTY

Monocrystalline Solar Module



ELECTRICAL PARAMETERS

Performance at STC (Power Tolerance 0 - +3%)

| | | | | |
|--------------------------------|-------|-------|-------|-------|
| Maximum Power(Pmax/W) | 275 | 280 | 285 | 290 |
| Operating Voltage (Vmpp/V) | 31.52 | 31.81 | 32.14 | 32.42 |
| Operating Current(Imp/A) | 8.73 | 8.81 | 8.87 | 8.95 |
| Open-Circuit Voltage (Voc/V) | 38.70 | 38.94 | 39.12 | 39.33 |
| Short-Circuit Current(Isc/A) | 9.31 | 9.34 | 9.39 | 9.44 |
| Module Efficiency η_m (%) | 16.8 | 17.11 | 17.41 | 17.72 |

Performance at NMOT

| | | | | |
|------------------------------|-------|-------|-------|-------|
| Maximum Power(Pmax/W) | 203 | 207 | 210 | 214 |
| Operating Voltage(Vmpp/V) | 28.96 | 29.28 | 29.54 | 29.86 |
| Operating Current(Imp/A) | 7.01 | 7.07 | 7.11 | 7.18 |
| Open-Circuit Voltage(Voc/V) | 35.78 | 35.99 | 36.17 | 36.23 |
| Short-Circuit Current(Isc/A) | 7.52 | 7.55 | 7.61 | 7.67 |

STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5 NMOT: Irradiance at 800W/m², Ambient Temperature 20°C, Wind Speed 1m/s

MECHANICAL SPECIFICATION

| | |
|---------------------------|--|
| Cell Type | Mono |
| Cell Dimensions | 156.75*156.75mm (6 inch) |
| Cell Arrangement | 60 (6*10) |
| Weight | 18 kg (39.7lbs) |
| Module Dimensions | 1650*992*35 mm (64.96*39.06*1.38 inch) |
| Cable Length | 900 mm (35.4 inch) |
| 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 (1) | 31 pcs/Pallet, 868 pcs/40hq |
| Packing Configuration (2) | 31 pcs+4pcs/Pallet, 924 pcs/40hq |
| Frame | Anodized Aluminium Alloy |
| Junction Box | IP 68 |

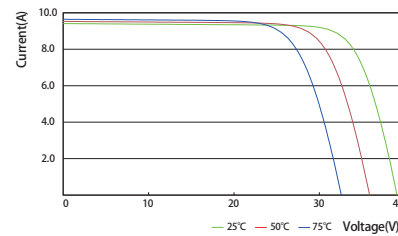
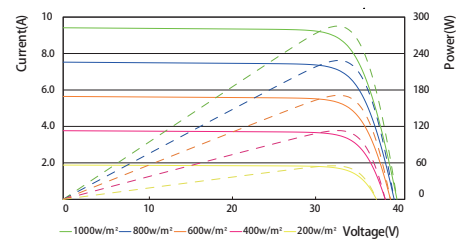
OPERATING CONDITIONS

| | |
|------------------------|------------------------------|
| Maximum System Voltage | 1000V/DC(IEC)/ 1500V/DC(IEC) |
| Operating Temp | -40°C - +85°C |
| Maximum Series Fuse | 15 A |
| Static Loading | 5400 Pa |
| Conductivity at Ground | ≤ 0.1 Ω |
| Safety Class | II |
| Resistance | ≥ 100 MΩ |
| Connector | MC4 Compatible |

TEMPERATURE COEFFICIENT

| | |
|-------------------------------|-----------|
| Temperature Coefficient(Pmax) | -0.39%/°C |
| Temperature Coefficient(Voc) | -0.30%/°C |
| Temperature Coefficient(Isc) | +0.05%/°C |
| NMOT | 45 ± 2°C |

I-V CURVE



TECHNICAL DRAWINGS

