

EN156M-144-380/385/390/395/400W







Bifacial High Efficiency Monocrystalline Solar Module 144 Half-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 4GW. As a strong, bankable partner, we are committed to building strategic, mutually beneficial collaboration with installers and developers.



KEY FEATURES

-  **Maximize limited space**
Half cell technology (low Rs) combine more internal reflection, maximum power output 400W
-  **Bifacial Power Generation**
Bifacial cell technology, 5%~50% more yield depends on different conditions
-  **IP67 junction box**
The highest waterproof level
-  **Excellent Anti-PID performance**
2 times of industry standard Anti-PID test by TUV
-  **Lower temperature coefficients**
Enhance power generation
-  **Certified to withstand the most challenging environmental conditions**
2400 Pa wind load · 5400 Pa snow load · 25mm hail stones at 82 km/h

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

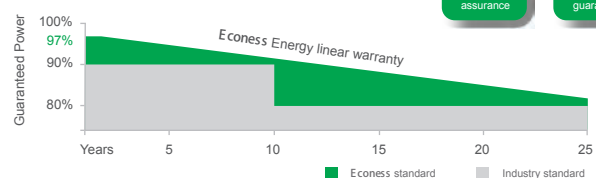


QUALITY WARRANTY

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)	380	385	390	395	400
Operating Voltage (Vmpp/V)	40.15	40.43	40.69	40.94	41.20
Operating Current(Imp/A)	9.47	9.53	9.59	9.66	9.72
Open-Circuit Voltage (Voc/V)	48.81	49.11	49.34	49.55	49.79
Short-Circuit Current(Isc/A)	9.99	10.07	10.15	10.22	10.31
Module Efficiency ηm (%)	19.15	19.41	19.66	19.91	20.16

Performance at NMOT

Maximum Power(Pmax/W)	282	286	290	293	297
Operating Voltage(Vmpp/V)	37.16	37.39	37.62	37.84	38.11
Operating Current(Imp/A)	7.59	7.64	7.71	7.76	7.82
Open-Circuit Voltage(Voc/V)	45.18	45.44	45.67	45.92	46.18
Short-Circuit Current(Isc/A)	8.06	8.12	8.17	8.22	8.28

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

Electrical characteristics with different rear side power again (reference to 400W front)

Pmax gain(%)	10%	20%	30%	40%	50%
Maximum Power (Pmax/W)	440	480	520	560	600
Maximum Power Voltage (Vmpp/V)	41.20	41.20	41.20	41.20	41.20
Maximum Power Current (Imp/A)	10.69	11.66	12.64	13.61	14.58

MECHANICAL SPECIFICATION

Cell Type	Half-cell · Mono · 5BB · Bifacial
Cell Dimensions	6 inch (156.75 x 156.75 mm)
Cell Arrangement	144 [2 x (12 x 6)]
Weight	23 kg
Module Dimensions	2000 x 992 x 40mm
Front Glass	3.2 mm High Transmission, Tempered Glass
Backsheet	KPF
Packing Configuration (1)	27pcs/Pallet, 594pcs/40hq
Packing Configuration (2)	27pcs+4pcs/Pallet, 638pcs/40hq
Frame	Anodized Aluminium Alloy
Junction Box	IP67, Bypass Diodes x 3

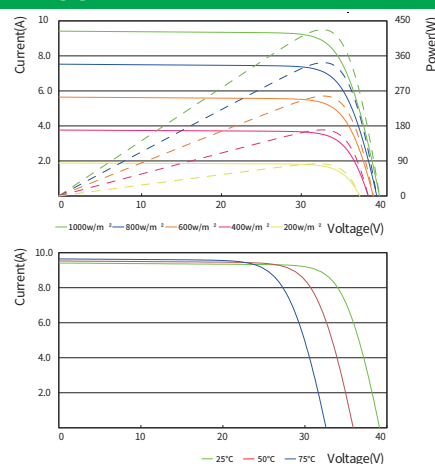
OPERATING CONDITIONS

Maximum System Voltage	1000V/DC(IEC)/1500V/DC(IEC)
Operating Temp	-40°C ~ +85°C
Maximum Series Fuse	20 A
Static Loading	5400 Pa
Connector	MC4 Compatible

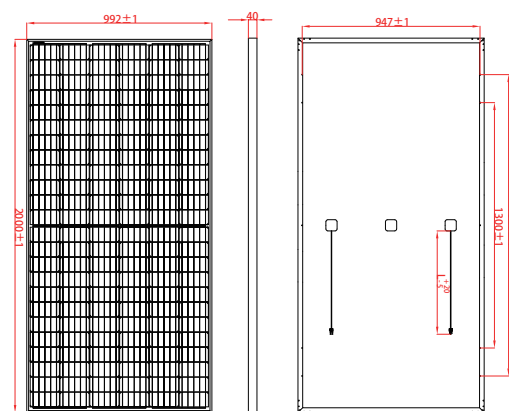
TEMPERATURE COEFFICIENT

Temperature Coefficient(Pmax)	-0.39%/°C
Temperature Coefficient(Voc)	-0.30%/°C
Temperature Coefficient(Isc)	+0.05%/°C
NMOT	42 ± 2°C

I-V CURVE



TECHNICAL DRAWINGS (mm)



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* This is preliminary datasheet and for reference only. The specifications and key features contained in this datasheet may deviate slightly from our actual products due to the on-going innovation and product enhancement. Econess Energy reserves the right to make necessary adjustment to the information described herein at any time without further notice.