SOLAR ELECTRIC SUPPLY, INC.

SINCE 1996

140W and 150W Photovoltaic modules

140J - 150J

Module appearance may vary.
Cells have rounded corners with either 165 or 150mm diameter.

Our latest generation of small area modules offers the following benefits:

Built to last

From mountaintops to off-shore platforms, on weather stations in the bitter cold of Antarctica and on telephone signal repeaters in the hot Australian outback, the technology has been proven in the harshest environments.

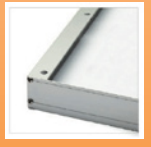
Accessible junction box for off grid connections

J-type junction box has accessible terminals for easier module interconnections in off grid applications, and it allows fitting cable glands for various cable sections.

High reliability

Cell interconnections and diode placement use well-established industry practice and are field-proven to provide excellent reliability.

Thick, durable, scratch resistant back sheet



The thick back sheet provides extra insulation and increased resistance to protect your module against rough handling. The white polyester material lasts longer and increases energy production.

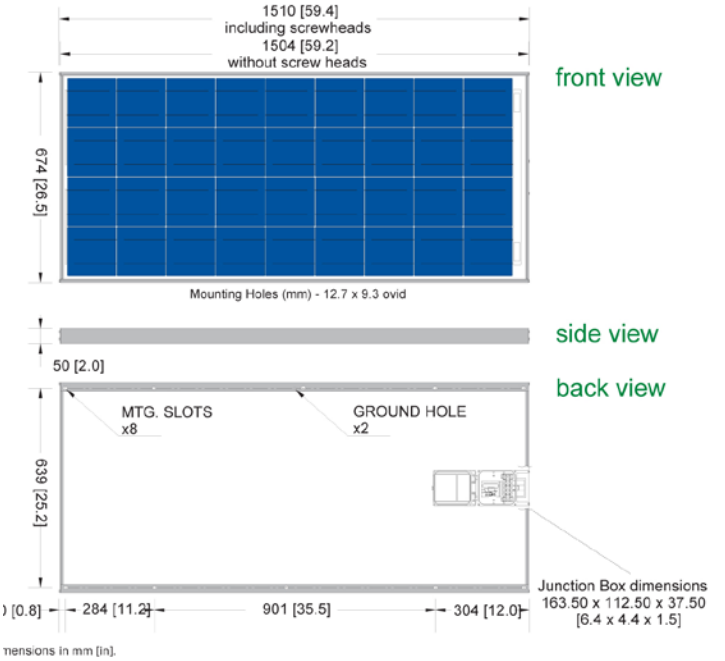
140W and 150W Photovoltaic modules – **140J - 150J**

Electrical characteristics

	140J		150J	
	(1) STC 1000W/m²	(2) NOCT 800W/m²	(1) STC 1000W/m²	(2) NOCT 800W/m²
Maximum power (P_{max})	140W	101W	150W	108W
Voltage at Pmax (V_{mpp})	17.5V	15.6V	18.1V	16.2V
Current at Pmax (I_{mpp})	8.0A	6.5A	8.3A	6.7A
Short circuit current (I_{sc})	8.2A	6.6A	8.5A	6.9A
Open circuit voltage (V_{oc})	22.0V	20.0V	22.2V	20.2V
Module efficiency	13.7%	-	14.6%	-
Tolerance Pmax	+10% / -5%	-	+10% / -5%	-
Nominal voltage	12V	-	12V	-
Efficiency reduction at 200W/m²	<5% reduction (efficiency 13.0%)		<5% reduction (efficiency 13.8%)	
Limiting reverse current	8.2A		8.5A	
Temperature coefficient of I_{sc}	0.105%/ °C			
Temperature coefficient of V_{oc}	-0.360%/ °C			
Temperature coefficient of P_{max}	-0.45%/ °C			
(3) NOCT	47 ±2 °C			
Maximum series fuse rating	20A			
Application class	Class A (according to IEC 61730-2007)			
Maximum system voltage	600V (U.S. NEC) 1000V (IEC 61730:2007)			

1: Values at Standard Test Conditions (STC): 1000W/m² irradiance, AM1.5 solar spectrum and 25°C module temperature
2: Values at 800W/m² irradiance, Nominal Operation Cell Temperature (NOCT) and AM1.5 solar spectrum
3: Nominal Operation Cell Temperature: Module operation temperature at 800W/m² irradiance, 20°C air temperature, 1m/s wind speed

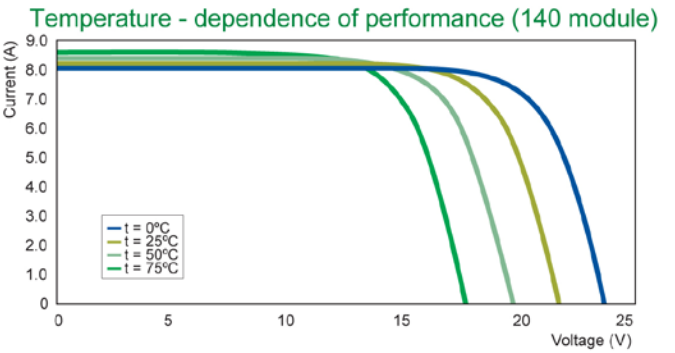
All solar modules are individually tested prior to shipment; an allowance is made within our factory measurement to account for the typical power degradation (LILD effect) which occurs during the first few days of deployment.

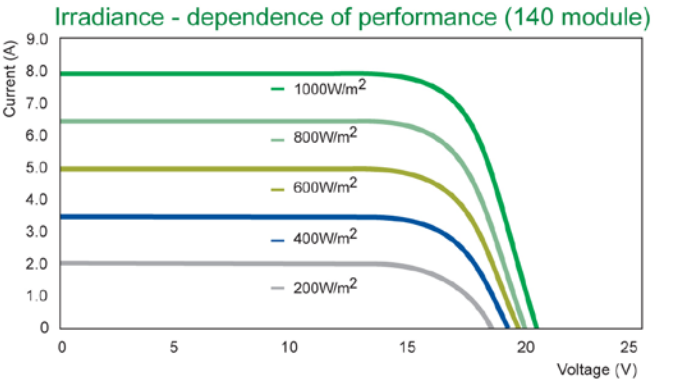


SES MAPPS Solar Module Mechanical characteristics

Solar cells	36 polycrystalline 6" silicon cells (156x156mm) in series
Front cover	High transmission 3.2mm (1/8") glass
Encapsulant	EVA
Back cover	White polyester
Frame	Silver anodized aluminum (Universal II)
Junction box	IP65 with 4 terminal screw connection block; accepts PG 13.5, M20 13mm (½") conduit, or cable fittings accepting 6-12mm diameter cable.
Terminals	accept 2.5-10mm2 (8-14 AWG) wire
Dimensions	1510 x 674 x 50mm / 59.4 x 26.5 x 2in
Weight	12kg / 26.5lbs

All dimensional tolerances within ±1% unless otherwise stated.





Warranty*

- Free from defects in materials and workmanship for 2 years
- 90% Min power output for 12 years
- 25 year warranty optional *Refer to limited warranty certificate for terms and conditions

SES MAPPS Solar Module Certification

Certified according to the extended version of the IEC 61215 (ed. 2), EC 61215:2005-08 (Crystalline silicon terrestrial photovoltaic modules - Design qualification and type approval)

Certified according to IEC 61730-1 and IEC 61730-2 (ed. 1), EN 61730-1:2007-05 and EN 61730-2:2007-05. (Photovoltaic module safety qualification, requirements for construction and testing).

Listed to UL 1703 & ULC ORD-C1703 Standard for Safety by Intertek ETL. Class C Fire Rating.

Approved by Intertek ETL according to FM 3611, Dec 2004, and according to CAN/CSA C22.2 No. 213-M1987, 1st Edition, Reaffirmed 2004, for use in a Class I, Division 2, Group A, B, C, D Hazardous (Classified) Location.

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