

The SEC MonoCell Solar Series

STC 265W-280W
Monocrystalline Solar Module

**High grade silicon
for maximum
efficiency**



MonoCell Solar

Product compliance

IEC 61215	DIN EN 60068-2-68
IEC 61730	ISO 9001:2015
IEC 61701	ISO 14001:2004
IEC 62716	ISO 17025:2005



SEC-STPS270-20/WEM,
SEC-STPS275-20/WEM,
SEC-STPS280-20/WEM



SEC-STPS265-20/WEB,
SEC-STPS270-20/WEB,
SEC-STPS275-20/WEB

Product information

The SEC MonoCell Solar series monocrystalline solar module

Take a step up in the solar market

For the ultimate upgrade choose the SEC MonoCell Solar Series. Our premium monocrystalline solar panels are made out of the highest-grade silicon and have the highest efficiency rates as a result. Aesthetically pleasing, they're ideal for public facing installations, with a distinctive colouring and uniform look that speaks to quality and long-term investment.

Ideal for large scale installations

When outfitting large scale visible installations it's important to select space efficient panels with the maximum power output. The SEC MonoCell series meets both of these requirements. In fact, monocrystalline panels can produce as much as four times the amount of energy as a thin film solar pane, speeding up ROI and guaranteeing energy security for years to come.

Performs in extreme and varied conditions

Quality begins with good design. SEC modules are built with rigid frames but our hollow chamber profile ensures rigidity and high performance. Combine this with the high-tech material EVA and you get unshakeable component connections.

Product benefit

Exceptional module conversion efficiency

Through market-leading cell manufacturing technology, the SEC MonoCell Solar series is compact and flexible while also boasting efficiencies as high as 17.2%.

High tolerance to extreme weather conditions

SEC solar modules are resistant to more than just wind and rain. The highly resistant back sheet equips our panels to handle high loads of ammonia which can be common in agricultural or industrial installations.

Waterproof junction box as standard

SEC junction boxes are waterproof and support installations in all orientations. This provides better interior temperature management and protects the cables from stress damage.

Mismatch protection

SEC uses rigorous assembly and packing processes to ensure like amperages are packed together to reduce mismatch losses to 2%.

Then there's the state-of-the-art solar glass we use. It's anti-glare and self-cleaning for maximum energy output, but it also reduces the need for maintenance. When it comes to quality, raw material matters so we use the latest solar cells, developed to provide not just high, but reliable yields in every weather condition.

Excellent price to performance ratio

The MonoCell has efficiencies of up to 17.2% under real life conditions. This is clearly above the average and means you're getting real energy security and excellent price to performance ratio. To put it simply, SEC modules generate more power from the same amount of sunlight.

Guaranteeing your energy security

At SEC we believe in our products so we offer an extensive warranty, one of the best in the industry. It starts with a twelve-year warranty on parts. We guarantee the stability of each component in our modules. Further to this we offer a 25 year linear warranty which guarantees that even as the cells on your module age in the weather, the maximum decrease in power each year will be no more than 0.7%. This means that after 25 years, you can expect to have maintained at least 80.2% efficiency in your installation.

Positive power output tolerance

In this rapidly expanding market, the actual power of modules often deviates from the nominal power. SEC's MonoCell Solar series of monocrystalline solar modules are guaranteed to provide a positive power output tolerance up to 5W.

Twice inspected for 100% electroluminescence

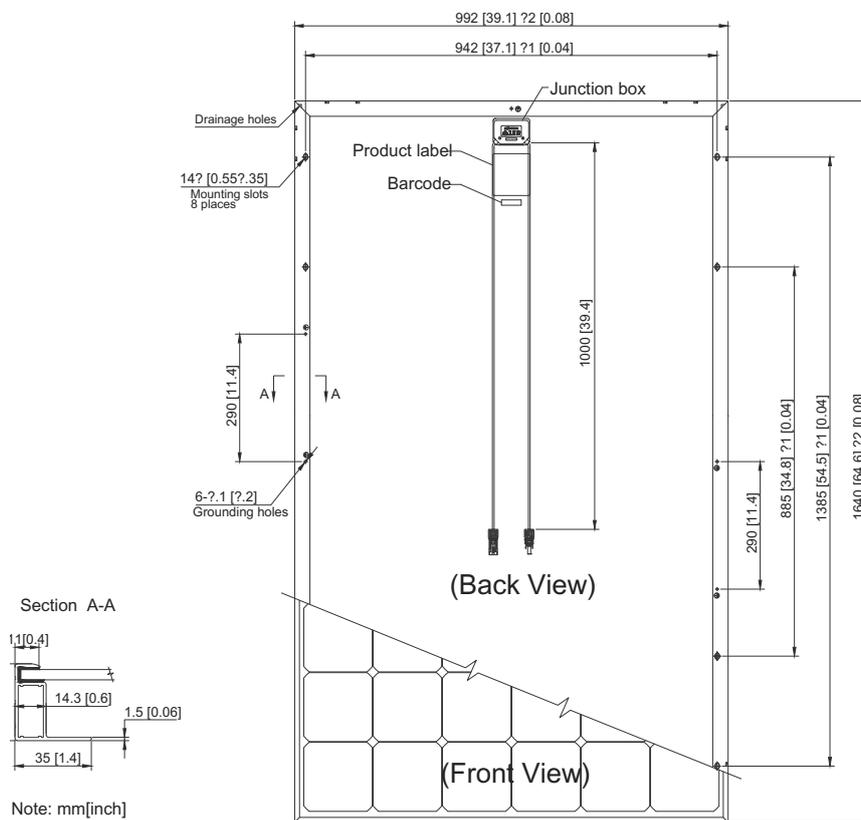
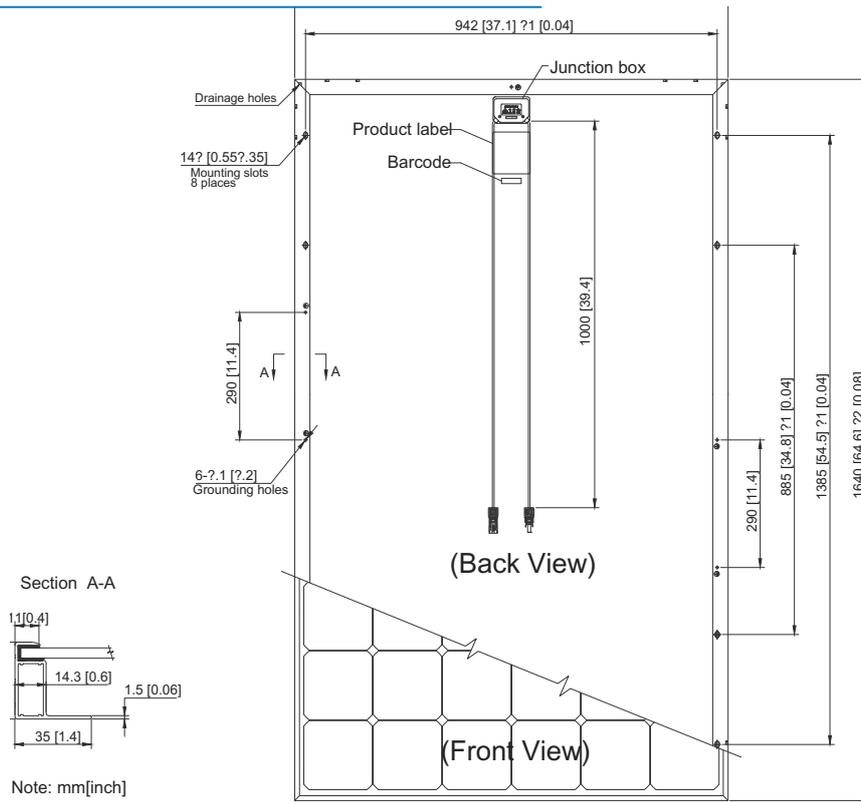
Double testing of each module ensures no invisible faults slip through the cracks. We use luminescent light to identify micro cracks, degradation and any shunted areas on cells to ensure you receive the highest quality product.

High PID resistance

While every solar panel will age, SEC modules have an improved cell design and production process to ensure power output performance in harsh environments. The thermoplastic EVA layer encapsulates cells limiting movement of sodium ions from the cell surface.

Innovative design with four busbars

This innovative design tremendously reduces electrode resistance and raises energy conversion efficiency. It's flexible but stable, which means less residual stress, fewer micro-cracks and less chance of hotspots happening as a result of these defects.



Module dimension and mechanical characteristics

Dimensions/ Mechanical data

SEC module type	SEC-STPS270-20/WEM, SEC-STPS275-20/WEM, SEC-STPS280-20/WEM	SEC-STPS265-20/WEB, SEC-STPS270-20/WEB, SEC-STPS275-20/WEB
Solar cell	Monocrystalline silicon 156.75 × 156.75 mm (6 inches)	Monocrystalline silicon 156 × 156 mm (6 inches)
No. of cell	60 (6 × 10)	60 (6 × 10)
Dimensions	1640 × 992 × 35mm (64.6 × 39.1 × 1.4 inches)	1640 × 992 × 35mm (64.6 × 39.1 × 1.4 inches)
Weight	18.2 kgs (40.1 lbs.)	18.2 kgs (40.1 lbs.)
Front glass	3.2 mm (0.13 inches) tempered glass	4.0 mm (0.16 inches) tempered glass
Frame	Anodized Aluminium Alloy	Anodized Aluminium Alloy
Junction box	IP68 rated (3 bypass diodes)	IP68 rated (3 bypass diodes)
Output cables	TUV (2Pfg1169:2007) 4.0 mm ² (0.006 inches ²), symmetrical lengths (-) 1000mm (39.4 inches) and (+) 1000 mm (39.4 inches)	TUV (2Pfg1169:2007) 4.0 mm ² (0.006 inches ²), symmetrical lengths (-) 1000mm (39.4 inches) and (+) 1000 mm (39.4 inches)
Connectors	MC4 compatible	MC4 compatible

Electrical characteristic

Under STC

SEC module type	SEC-STPS70-20/ WEM	SEC-STPS275-20/ WEM	SEC-STPS280-20/ WEM	SEC-STPS265-20/ WEB	SEC-STPS270-20/ WEB	SEC-STPS275-20/ WEB
Maximum power at STC (P_{max})	270 W	275 W	280 W	265 W	270 W	275 W
Optimum operating voltage (V_{mp})	31.1 V	31.1 V	31.5 V	30.5 V	30.8 V	31.1 V
Optimum operating current (I_{mp})	8.69 A	8.85 A	8.89 A	8.69 A	8.77 A	8.85 A
Open circuit voltage (V_{oc})	37.9 V	38.5 V	39.4 V	38.1 V	38.3 V	38.35V
Short circuit current (I_{sc})	9.15 A	9.34 A	9.41 A	9.22 A	9.28 A	9.34 A
Module efficiency	16.6%	16.9%	17.2%	16.3 %	16.6 %	16.9 %
Operating module temperature		-40 °C to +85 °C			-40 °C to +85 °C	
Maximum system voltage		1000 V DC (IEC)			1000 V DC (IEC)	
Maximum series fuse rating		20 A			20 A	
Power tolerance		0/+5 W			0/+5 W	

Under NOCT

Maximum power at STC (P_{max})	198 W	202 W	206 W	194 W	198 W	202 W
Optimum operating Voltage (V_{mp})	28.4 V	28.3 V	29.1 V	27.8 V	28.1 V	28.3 V
Optimum operating Current (I_{mp})	6.97 A	7.14 A	7.09 A	6.98 A	7.05 A	7.14 A
Open circuit voltage (V_{oc})	34.9 V	35.4 V	36.3 V	35.0 V	35.2 V	35.4 V
Short circuit current (I_{sc})	7.42 A	7.55 A	7.62 A	7.44 A	7.49 A	7.55 A

Temperature characteristics

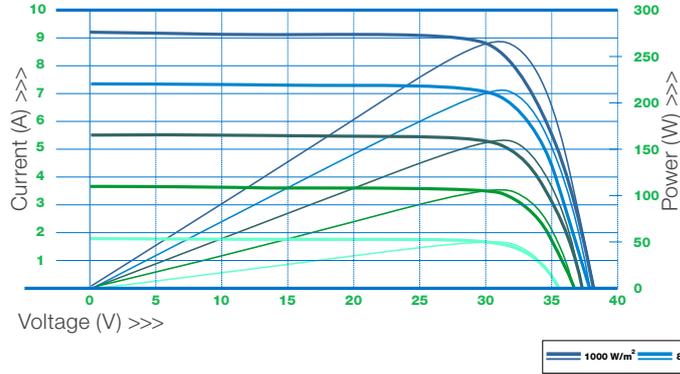
Nominal operating cell temperature (NOCT)	45±2°C
Temperature coefficient of P_{max}	-0.41 %/°C
Temperature coefficient of V_{oc}	-0.34 %/°C
Temperature coefficient of I_{sc}	0.060 %/°C

Packing information

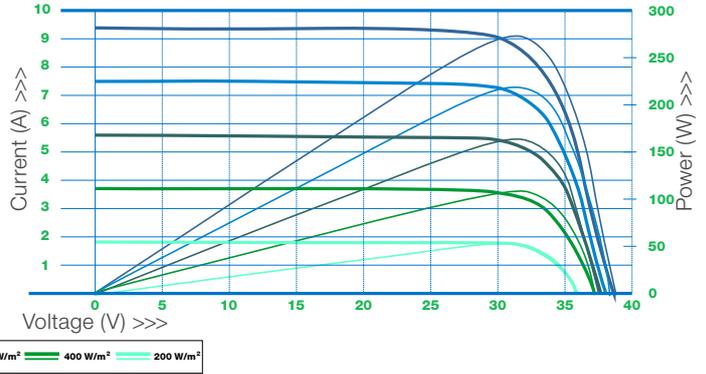
Container	20'GP	40'HC
Pieces per pallet	30	30
pallets per container	6	28
Piece per pallet	180	840

Current-Voltage & Power-Voltage Relationship

SEC-STPS280-20/WEM



SEC-STPS275 -20/WEB



Excellent performance under weak light conditions: at an irradiation intensity of 200 W/m² (AM 1.5, 25 °C), 96.5% or higher of the STC efficiency (1000 W/m²) is achieved.

Join the SEC partner grid programme for increased profits

The energy storage market is booming. From 2012 to 2016, the market has tripled from 6 billion to 18 billion US dollars, driven in large part by renewable energy needs. With more than half of the world's energy supply destined to come from renewable energy sources in the near future, continued rapid growth is a certainty. The opportunities are immense.

Let us help you expand your share of this expanding market and maximise your profits with the SEC Partner Grid Programme. We provide our partners with quality leads generated by our global marketing efforts.

Partners also receive free technical and sales marketing training, discounts, software, rewards for developing new sources of repeat business, and even subsidies for marketing efforts.



Benefits

Lead generation

Technical training

Product discounts

Market growth incentives

Sales and marketing training

Partner performance awards

Customer recruitment rewards

On demand technical and sales support

On-line tools for easy direct access to SEC



Contact us today to learn more about how you can grow your profits in the booming market for energy storage with the SEC Partner Grid Programme.



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