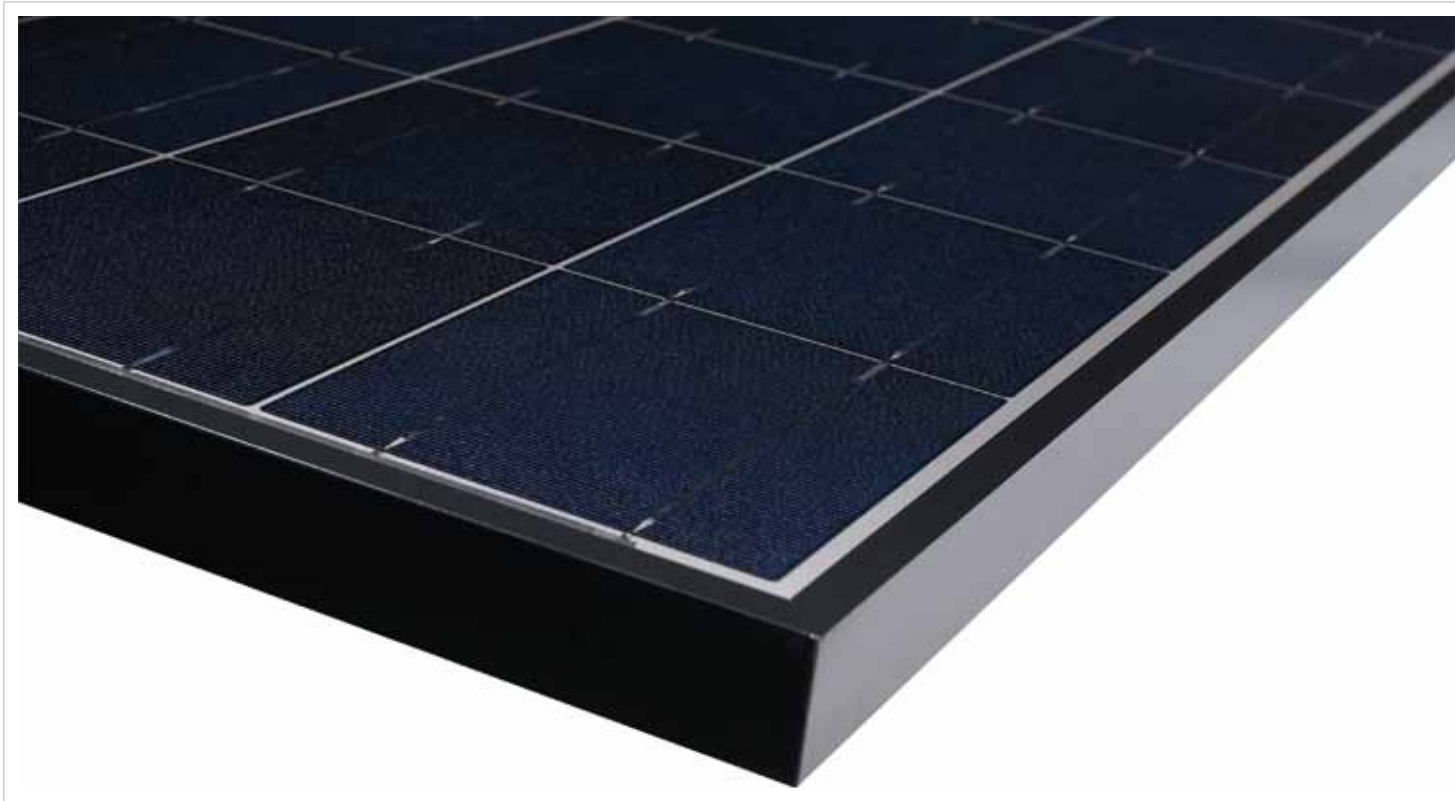


Module

# S-Class Excellent

polycrystalline

180 Wp ■ 190 Wp ■ 195 Wp



## Premium Quality - Made in Germany

S-Class Excellent modules are designed and produced in our factory in Wismar. Rely on premium quality made in Germany, saving the natural resources that belong to all of us. Become your own eco-friendly electricity producer and enjoy the freedom of maximum safety for your investment.

The S-Class Excellent is being produced in order to fulfill the highest standards and to endure even extreme climatic conditions: ice, hail, snow, storm, high humidity and intense thermal fluctuation. Neither prolonged heat nor extreme cold can harm the S-Class Excellent. It always reliably uses the optimum of the available light to gain the highest yield possible.

The S-Class Excellent modules consist of 50 polycrystalline high-performance solar cells. They transform light to power perfectly, even in case of diffuse irradiation and in months with less sunshine. Due to the anti-reflective solar glass the S-Class Excellent harvests more kWh for you – especially when the sun is low and the sky is cloudy. It's that simple when you stick to the best.

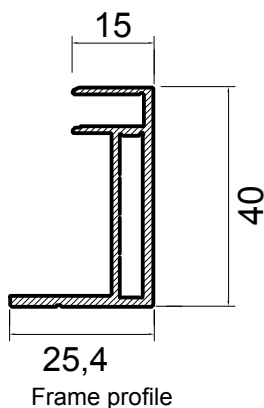
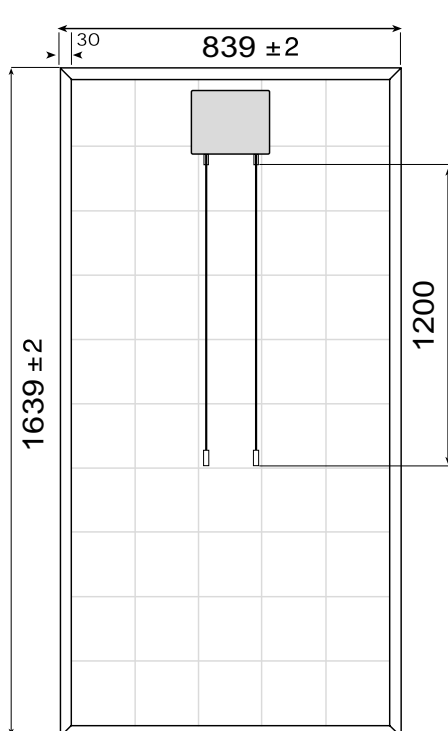
We make your quality standards our own. Thus each and every Centrosolar module is inspected and measured individually. Each S-Class Excellent module only gets its unchangeable serial number when all test criteria are fulfilled. We document this by granting a performance guarantee of 26 years. Thus we secure your money from the beginning!



## S-Class Excellent polycrystalline

### 'Made in Germany' makes the difference

- More than 15 years of experience in solar module production
- Manufactured under high quality standards according to ISO 9001:2000
- Anti-reflective coating for increased output
- Unchangeable serial number (laminated onto the front side)
- Tested and qualified by VDE according to IEC 61215 Ed. 2 and protection class II
- CE compliant
- Passed salt spray test according to DIN EN ISO 9227-NSS
- Individual measurement of every single module after production
- Thermally pre-stressed solar glass guarantees highest transmittance and stability

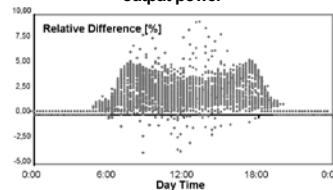


### Technical Data

	S 180P50 Excellent	S 190P50 Excellent	S 195P50 Excellent
Nominal power (P <sub>mpp</sub> ) (STC)	180 Wp	190 Wp	195 Wp
Solar cell	polycrystalline		
Cell dimension	156 x 156 mm		
Number of cells	50 pcs		
Rated Voltage U <sub>mpp</sub>	24.05 V	24.15 V	24.2 V
Open circuit voltage U <sub>oc</sub>	30.55 V	30.75 V	30.85 V
Rated current I <sub>mpp</sub>	7.48 A	7.87 A	8.06 A
Short circuit current I <sub>sc</sub>	7.91 A	8.27 A	8.45 A
Temperature coefficients ΔP <sub>mp</sub>	-0.45 %/K	-0.45 %/K	-0.45 %/K
Temperature coefficients ΔU <sub>oc</sub>	-0.36 %/K	-0.36 %/K	-0.36 %/K
Temperature coefficients ΔI <sub>sc</sub>	0.026 %/K	0.028 %/K	0.028 %/K
Power tolerance	± 3%		
Other electrical tolerances	± 10%		
NOCT (normal operating cell temperature)	46 °C		
Operating temperature	-40...+85 °C		
Product Guarantee*	5 years		
Performance guarantee*	10 years 90%, 26 years 80%		
Length x height x width	1639 x 40 x 839 mm		
Solar glass	3.2 mm with anti-reflective treatment		
Junction box	Spelsberg, easy to maintain		
Bypass diodes (Schottky)	3 pcs, 10 A		
Solar cable	Huber + Suhner, 'Radox', electron-beam cross-linked insulation and coating		
Cable diameter	4 mm		
Cable length	120 cm		
Cable connectors	Huber + Suhner, 'Twist-lock', for up to 55 A		
Maximum system voltage	1,000 V		
Frame **	anthracite-coloured, powder-coated hollow aluminium alloy profile		
Weight	16.5 kg ± 0.5 kg		

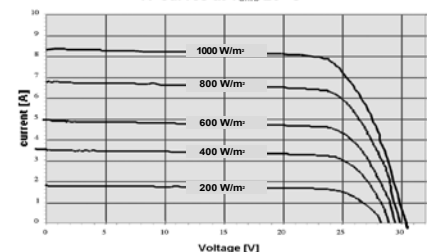
\* According to the Centrosolar Guarantee conditions (incl. Product and Performance Guarantee)  
 \*\* Available also as unframed laminate.

Distribution of relative momentary output power



The M-curve means more - due to anti-reflective solar glass.

IV-curves at T<sub>amb</sub> 25 °C



IEC61215 Ed. 2



Protection Class II



Technical details subject to change without notice due to constant advancement. All data are without guarantee.

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