

# S-Class Excellent

220 Wp ■ 225 Wp ■ 230 Wp ■ 235 Wp

## Excellence in design and high yields

- Manufactured completely in Germany at the CENTROSOLAR factory, certified in accordance with DIN EN ISO 9001:2008, 4001:2009 and OHSAS 18001
- Module efficiency up to 15.8%
- Attractive design solution in premium black\*
- Salt spray corrosion tested according to IEC 61701 Ed. 2
- Ammonia resistant according to IEC 62716 Draft C
- Up to 5,400 Pa load
- Panel sizes optimised for performance and handling
- Positive power classification
- Anti-reflective glass ensures high yields even under diffuse irradiation
- Ten-year product warranty\*\*
- 26-year linear performance warranty\*\*



\* Slight colour variation of panels is possible due to specific conditions in production.  
 \*\* For detailed information, please consult the Centrosolar AG warranty conditions.



- Qualified, IEC 61215
- Safety tested, IEC 61730
- Heavy Snow Load tested
- Ammonia resistance tested
- Salt corrosion resistance tested
- ANSI/UL 1703 listed
- Periodic inspection



## S-Class Excellent, monocrystalline

### Performance under STC\*

Panel type	S 220M54	S 225M54	S 230M54	S 235M54	
Rated power (Pmpp)	220	225	230	235	Wp
Short-circuit current (Isc)	8.93	8.99	9.06	9.13	A
Open-circuit voltage (Uoc)	33.4	33.72	33.97	34.2	V
Voltage (Umpp)	26.5	26.9	27.19	27.45	V
Current (Impp)	8.32	8.37	8.46	8.57	A
Efficiency $\eta$	14.8	15.1	15.5	15.8	%

\* Under Standard Test Conditions (STC) (1,000 W/m<sup>2</sup>, spectrum AM 1.5, cell temperature 25°C), measurement tolerances STC:  $\pm 3\%$  (Pmpp);  $\pm 10\%$  (Isc, Uoc, Impp, Umpp)

### Power at 800 W/m<sup>2</sup>, NOCT, AM 1.5

Panel type	S 220M54	S 225M54	S 230M54	S 235M54	
Rated power (Pmpp)	164.64	167.99	171.61	175.54	Wp
Short-circuit current (Isc)	7.19	7.23	7.29	7.35	A
Open-circuit voltage (Uoc)	31.45	31.76	31.99	32.20	V
Voltage (Umpp)	24.86	25.21	25.47	25.71	V
Current (Impp)	6.62	6.66	6.74	6.83	A

### Thermal properties

TC Pmpp	-0.45	%/K
TC Uoc	-0.36	%/K
TC Isc	0.028	%/K
NOCT	46 $\pm$ 2	°C

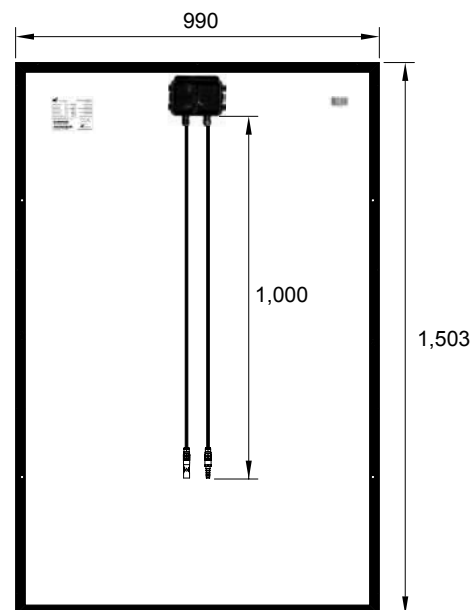
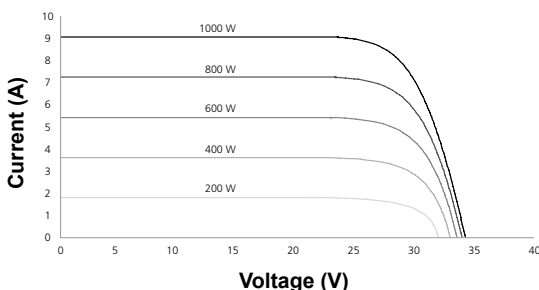
### Other technical specifications

Class range (positive classification)	-0/+4.99	W
Max. system voltage	1,000	V
Weight	17.5 $\pm$ 0.5	kg
Reverse current load IR	15	A
Pmpp measurement accuracy at STC	$\pm 3$	%
Frame height	40	mm

### Materials used

Cell count	54
Cell dimensions	156 mm x 156 mm
Front side	Hardened solar glass
Connector	IP65

I-V curve S 225M54 Excellent



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Measurements in mm

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