

# Powerful performance – high stability.

## Bosch Solar Module c-Si M 60

EU44117 | EU44123



**High-quality – high-performance – reliable.**  
Solar modules from Bosch Solar Energy.



**BOSCH**



### Our crystalline solar modules offer impressive features including:

- ▶ Excellent quality assured through use of the best European-standard components
- ▶ Excellent processing and long-term stability right along the value-added chain
- ▶ Higher specific yields due to positive power sorting

### Our certificates – quality stamped in writing

Bosch Solar Energy modules go through strict quality tests during the different stages of production according to international standards.



#### Quality

Salt corrosion resistance tested  
Ammonia resistance tested



#### Product features

Performance sorting  $-0/+4.99$  Wp  
Temperature coefficient  $P_{mpp} -0.42\%/K$



#### Value chain

Crystal – Wafer – Cell – Module



#### Components

Silver aluminum frame, white back sheet,  
AR glass, structured cell connector, MC4,  
Bosch Solar Cell M 3BB



#### Warranty

10 years product and  
25 years performance guarantee  
(90% up to 10 years, 80% up to 25 years)



#### Power classes

260 – 280 Wp

Length [x]	Width [y]	Frame height [z]	Weight	Junction box	Plug connector type	Cable [l]	Front glass surface
1660.0	990.0	50.0	19.5	IP65	MC4	-800 +1200	Structured with anti-reflective coating
x, y, l in mm, ±2; z in mm, ±0.3; weight in kg ±0.5							

Crystalline solar module	
Performance classes	260 Wp, 265 Wp, 270 Wp, 275 Wp, 280 Wp
Performance sorting	-0/+4.99 Wp
Structure	<b>Glass-foil laminate</b> <ul style="list-style-type: none"> <li>▶ Anodized aluminum frame</li> <li>▶ Junction box (IP65) with 3 bypass diodes</li> <li>▶ Weather-resistant back sheet (white)</li> </ul>
Cells	60x monocrystalline solar cells in 156 mm x 156 mm format
Mechanical load	5400 Pa superimposed load, 2400 Pa suction load, in accordance with IEC 61215 (extended test)

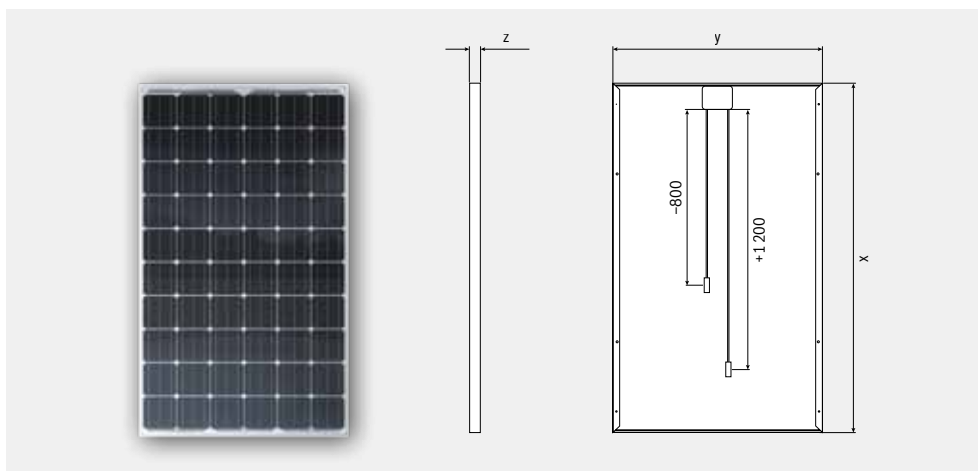
### Electrical characteristics for STC<sup>1</sup>:

Designation	P <sub>mpp</sub> [Wp]	V <sub>mpp</sub> [V]	I <sub>mpp</sub> [A]	V <sub>oc</sub> [V]	I <sub>sc</sub> [A]	Reverse-current load capacity [A]
260	260	30.25	8.60	37.60	9.19	25
265	265	30.55	8.68	37.91	9.26	25
270	270	30.85	8.76	38.22	9.33	25
275	275	30.87	8.91	38.81	9.59	25
280	280	31.18	8.99	38.95	9.62	25
Reduction in module efficiency with decrease in irradiation level from 1000 W/m <sup>2</sup> to 200 W/m <sup>2</sup> (at 25°C): -0.51% (absolute); measuring tolerance P <sub>mpp</sub> ±3%						

### Electrical characteristics for NOCT<sup>1</sup>:

Designation	P <sub>mpp</sub> [W]	V <sub>mpp</sub> [V]	V <sub>oc</sub> [V]	I <sub>sc</sub> [A]
260	189.00	27.79	30.31	7.40
265	192.25	28.07	30.56	7.46
270	196.42	28.35	30.81	7.52
275	200.06	28.37	31.29	7.73
280	203.70	28.65	31.40	7.75
NOCT: Normal Operation Cell Temperature 47.5 °C; Irradiation level 800 W/m <sup>2</sup> , AM 1.5, temperature 20 °C, wind speed 1 m/s, electrical open circuit operation				

### Dimensions<sup>2</sup>:



<sup>1</sup> Electrical parameters are typical mean values from historical production data. No guarantee is made for the accuracy of this data for future production batches.

<sup>2</sup> Drawings are not to scale. For detailed dimensions and tolerances, see above.

### Notes on assembly:

- ▶ See installation and operating manual at: [www.bosch-solarenergy.com](http://www.bosch-solarenergy.com)
- ▶ Horizontal and vertical assembly possible
- ▶ System voltage max. 1000 V
- ▶ Operating temperature range -40 to 85 °C

### Weak light performance:

Intensity [W/m <sup>2</sup> ]	V <sub>mpp</sub> [%]	I <sub>mpp</sub> [%]
800	0.35	-20
600	0.38	-40
400	-0.23	-60
200	-2.57	-80
100	-5.66	-90
The electrical data applies for 25 °C and AM 1.5.		

### Thermal characteristics:

Temperature coefficient	TK [%/K]
P <sub>mpp</sub>	-0.43
U <sub>oc</sub>	-0.304
I <sub>sc</sub>	0.042



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