

# Powerful performance – high stability.

## Bosch Solar Module c-Si P 60

**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
- ▶ Professional customer service with unbureaucratic order and complaint processing carried out by designated contact persons
- ▶ Simple, safe installation thanks to standardized clamp mechanisms

**Warranty conditions:**

- ▶ 2-year warranty
- ▶ 25-year performance guarantee (90 % up to 10 years, 80 % up to 25 years)
- ▶ Product certification to IEC 61215 (ed. 2)
- ▶ Protection class II / IEC 61730
- ▶ CE conformity

Manufacturer	Length [x]	Width [y]	Height [z]	Weight	Junction box	Plug connector	Cable [l]	Front glass surface
10	1660.0	990.0	40.0	20	Spelsberg PV 1410	H&S Radox Twist Lock	2 x 1200	Antireflective coating
11	1655.5	988.0	42.0	22	Tyco Solarlok	Tyco Solarlok	2 x 1000	Structured
14	1660.0	990.0	50.0	24	Tyco Solarlok	Tyco Solarlok	1 x 1900	Structured

x, y, z, l in mm, ±2 mm; weight in kg ±0.5

Crystalline solar module	
Performance classes	195 Wp, 200 Wp, 205 Wp, 210 Wp, 215 Wp, 220 Wp
Performance sorting	±2.5 Wp
Structure	Glass-foil laminate ▶ Anodized aluminum frame ▶ Junction box (IP 65) with 3 bypass diodes ▶ Weather-resistant back sheet (white)
Cells	60x monocrystalline solar cells in 156 mm x 156 mm format

**Electrical characteristics for STC\*:**

Designation	Pmpp [Wp]	Vmpp [V]	Imp [A]	Voc [V]	Isc [A]	Reverse-current load capacity [A]
P220	220	29.30	7.55	37.10	7.90	16
P215	215	29.20	7.40	36.90	7.80	16
P210	210	29.10	7.25	36.70	7.70	16
P205	205	29.00	7.10	36.50	7.60	16
P200	200	28.90	6.95	36.30	7.50	16
P195	195	28.80	6.80	36.10	7.40	16

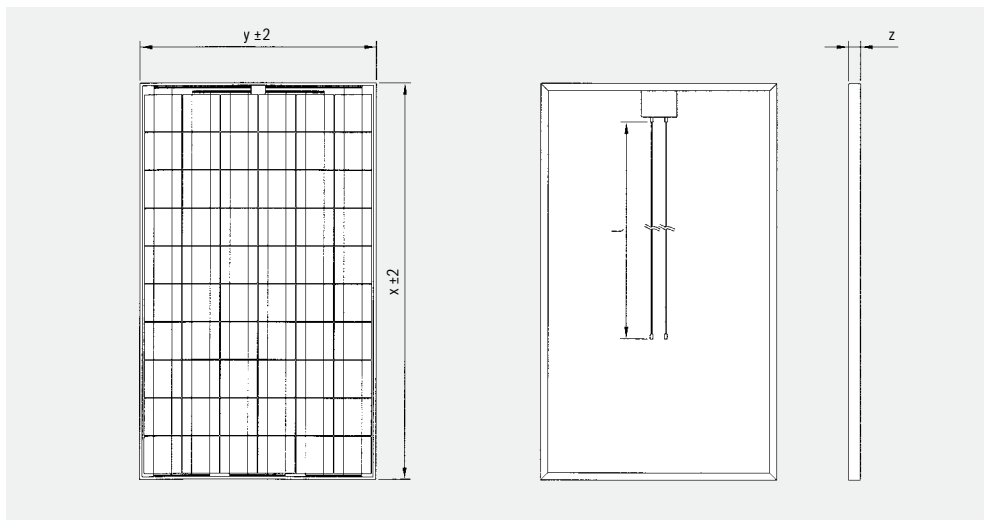
Reduction in module efficiency with decrease in irradiation level from 1000 W/m<sup>2</sup> to 200 W/m<sup>2</sup> (at 25 °C):  
 -0.59 % (absolute); measuring tolerance P ±3 %:

**Electrical characteristics for NOCT\*:**

Designation	Pmpp [W]	Vmpp [V]	Voc [V]	Isc [A]
P220	158	26.53	34.32	6.36
P215	155	26.42	34.12	6.27
P210	151	26.42	34.03	6.20
P205	148	26.29	33.79	6.12
P200	144	26.21	33.60	6.04
P195	140	26.12	33.42	5.96

NOCT: Normal Operation Cell Temperature 46 °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\*\*:**



**Notes on assembly:**

- ▶ See installation and operating manual at [www.bosch-solarenergy.de/en/products/crystallinepvmodules](http://www.bosch-solarenergy.de/en/products/crystallinepvmodules)
- ▶ Horizontal and vertical assembly possible
- ▶ System voltage max. 1 000 V

**Weak light performance:**

Intensity [W/m <sup>2</sup> ]	Vmpp [%]	Imp [%]
800	0.0	-20
600	-0.9	-40
400	-2.1	-60
200	-5.1	-80
100	-8.7	-90

The electrical data applies for 25 °C and AM 1.5.

**Thermal characteristics:**

Operating temperature range	-40 to 85 °C
Temperature coefficient Pmpp	-0.43%/K
Temperature coefficient Voc	-0.35%/K
Temperature coefficient Isc	0.03%/K

\* Electrical parameters are typical mean values from historical production data. Bosch Solar Modules GmbH assumes no liability for the accuracy of this data for future production batches.

\*\* Drawings are not to scale. For detailed dimensions and tolerances, above.

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