GermanSolar[™]

GermanSolar Black Line

Outstanding features of the Black Line by GermanSolar

- Only high-performance cells which have been thoroughly tested are used
- Use of 4 mm special-purpose glass
- Load capacity: 5400 Pa
- Can withstand extreme weather conditions (hail, snow, ice, sharply fluctuating temperatures, etc.)
- Outstanding design thanks to anthracite powder-coated solar panel frame and black backsheet
- Flash data for every panel
- Low chance of mismatching due to extremely low power tolerance of +/-3%
- Classification o/+4.99 W



Monocrystalline | 50 cells GSM-B50-190/-195/-200

Mechanical data

Dimensions	1636 x 827 mm
Thickness	40 mm
Weight	Approx. 19 kg
Laminate/glass	5,8mm/4 mm ESG extra-white tempered safety glass, impact resistance in accordance with DIN 52337
Coloration	Black backsheet
Deformation	1.2° at the module level
Surface load	5400 Pa max.

Technical data

The following calculations are based on the electrical data from 50 monocrystalline cells (156 x 156 mm).

Model	GSM-B50-190	GSM-B50-195	GSM-B50-200
Power rating Pmpp	190 Wp	195 Wp	200 Wp
Rated current Impp	7.49 A	7.61 A	7.72 A
Rated voltage Vmpp	25.50 V	25.62 V	25.90 V
Short-circuit current Isc	8.24 A	8.29 A	8.35 A
Open-circuit voltage Voc	31.05 V	31.10 V	31.15 V
Module efficiency	14.04%	14.41%	14.78%

Temp. coeff. P	-0.45 %/K
Temp. coeff. Is	+0.03 %/K
Temp. coeff. Voc	-0.33 %/K
Bypass diodes	3 in the junction box
Junction box	Certified special box with tension spring clamps
Connector	1 m, including plug-in system
Maximum permissible values	System voltage: 1000 V Rated power tolerance: +/-3% Classification: -0/+4.99 W Operating temperature range: -40 to +85°C
Protection class	2

The product manufacturing process for PV generator components is based on glass film technology. In this process, the high quality of the laminate structure is achieved thanks to the composite film on the back side of the panel and the completely sealed edges. This ensures that the panel will have an extremely long life.

Certification

This special laminate is certified in accordance with IEC standards 61215 and 61730. ID: 0000023436 TÜV Rheinland.

Quality

The production facility is TÜV-, MCS-, IEC-, CE-, FSEC-, CEC-, CSA- and ISO 9001:2000-certified, and validated in accordance with EMAS II.

Regular individual inspections ensure that the products' electrical, optical and mechanical properties are always of the highest quality.



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Product shipped with the cables required to connect the panel (connector and plug-in system)

Length: 100 cm

All electrical values are based on perpendicular solar irradiation at 1000 W/m² and a temperature of 25°C (normal conditions with AM = 1.5).



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