



energetica Photovoltaic Module

E-2000

black laminat



10 years
Product warranty



- ▶ **Performance through matching module components**
High-quality, high-performance materials from European manufacturers lead to lasting module performance.
- ▶ **Aesthetics as part of the product**
The homogeneous colour of the cells and covered string connections produce an elegant appearance.
- ▶ **The energetica Power Glass Concept**
Outstanding performance in weak light or oblique light conditions thanks to the energetica Power Glass Concept with nanostructured surface.
- ▶ **Presorted delivery as assembly preparation**
The pre-sorting of energetica modules reduces preparation time for installations on site.
- ▶ **Delivery with purely positive output tolerance**
Within a performance category, E-2000 modules are delivered with an output tolerance of 0 to +4,99 Wp.
- ▶ **Safety through comprehensive warranty**
10 years product warranty and the performance warranty of 25 years on 80 %, 10 years on 90 % of the nominal performance ensure long-term returns.

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Electrical Data

Type	E-2000L BLK 235	E-2000L BLK 240	E-2000L BLK 245	E-2000L BLK 250
Nominal performance MPP ^① P _{MPP} (P _{Max})	235 Wp	240 Wp	245 Wp	250 Wp
Open circuit voltage U _{OC}	37,14 V	37,16 V	37,43 V	37,57 V
Voltage MPP ^① U _{MPP}	29,81 V	29,83 V	29,86 V	29,99 V
Current MPP ^① I _{MPP}	7,93 A	8,15 A	8,31 A	8,46 A
Short-circuit current I _{SC}	8,38 A	8,47 A	8,90 A	8,91 A
Cell efficiency η _{cell}	16,80 %	17,20 %	17,60 %	17,80 %
Module efficiency η _{module}	14,65 %	14,96 %	15,28 %	15,59 %
Performance tolerance	+/-3 %	+/-3 %	+/-3 %	+/-3 %

This measurements are valid on standard test conditions STC. All electrical data ±10 % (airmass AM 1,5; radiation of 1000W/m²; cell temperature 25°C).

① MPP= Maximum Power Point

Temperature coefficient (Tc)

Tc short circuit current α	+0,06 %/ °C
Tc open circuit voltage β	-0,33 %/ °C
Tc maximum power γ	-0,46 %/ °C
NOCT ^②	44 ±2 °C

② Irradiation 800W/m², ambient air temperature 20°, wind speed 1m/s

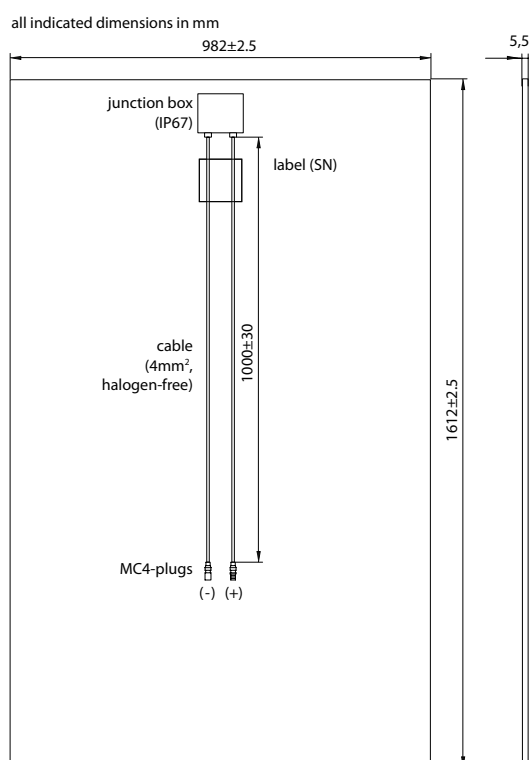
Mechanical Data

Cells	60 polycrystalline cells 156 x 156 mm
Dimensions HxWxD	16212 x 982 x 5,5 mm
Weight	18 kg
Bypass diodes	3
Module connection	solar cable 4 mm ² , ≈ 1 m length, provided with MC 4 plugs

Permissible operating conditions

Temperature range	-40°C to +85°C
Maximum system voltage	1.050 V
Nominal load _{max}	tested according to IEC up to 5.400 Pa
Breaking load	>6.000 Pa
Hail resistance	up to 25 mm Ø _{hailstone} at 165,6 km/h v _{impact} up to 55 mm Ø _{hailstone} at 122,6 km/h v _{impact}
Reverse current strength	30 A
Fuse Rating	20 A
Packing unit	40 modules/pallet

your specialist partner:



energetica is certified according to the valid standards ISO 9001, ISO 14001 and BS OHSAS 18001.

energetica photovoltaic modules are certified according to the applicable European and international requirements of IEC 61215:2005 ed. 2.0, IEC 61730 and meet the requirements of protection class II. energetica is a cooperation partner of ÖVE.

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energetica reserves the right to make production-related changes to this datasheet. The provided data is subject to change. Photovoltaic modules are electrical equipment. For proper installation and commissioning please contact your installer.

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