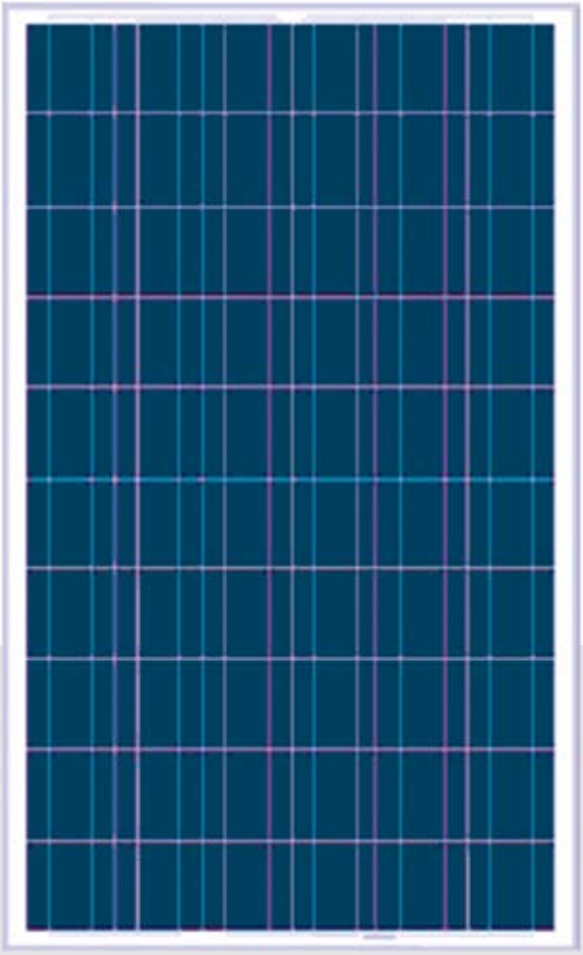
Conergy P 220PA–240PA

The Conergy P 220PA–240PA solar modules offer a high level of module output at an attractive price/performance ratio. They are equipped with 60 efficient, polycrystalline cells and have proven their worth in practical applications over the years. They are characterised by high yields and a long service life. Their production is certified in accordance with the ISO 9001 international quality standard and meets the high quality standards of Conergy. Thanks to the high quality of manufacture and standardised dimensions, the Conergy P 220PA–240PA can be used for all applications.

Solar modules in the Conergy P-series are also available with monocrystalline and polycrystalline cells in other power classes and different module dimensions.



Product similar to the picture

Benefits for the system operator

- Attractive price/performance ratio
- High module output
- Certification in accordance with IEC/EN 61215 Ed. 2 and IEC/EN 61730
- Low performance tolerance of +/– 3 %
- Secure investment decision thanks to a 5-year product warranty

Benefits for the installer

- Simple installation thanks to functional connection technology
- Option to combine with Conergy inverters and mounting systems

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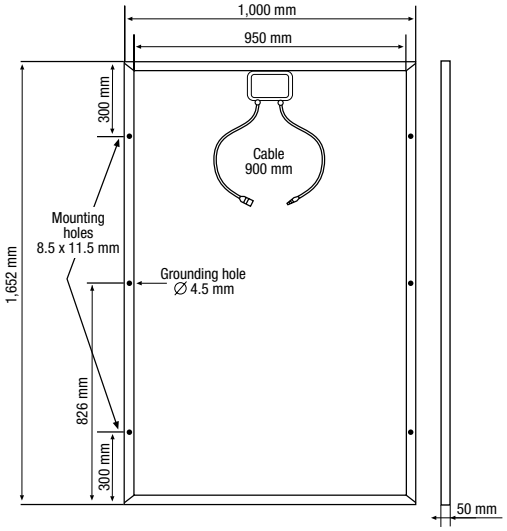

Module dimensions (L × W × H): [1]	1,652 × 1,000 × 50 mm
Cell dimensions:	156 × 156 mm
Number of cells:	60
Cell type:	polycrystalline
NOCT: [2]	45±3° C
Maximum permissible load:	2,400 Pa [3]
Front cover type:	patterned solar glass
Cable:	Nantong Wirosun PV1-F
Plug type:	Amphenol H4 (MC4-compatible)
Module weight: [4]	22 kg
Certification:	in accordance with IEC/EN 61215 Ed. 2 and IEC/EN 61730, ISO 9001:2008, ISO 14001:2004
Product warranty: [5]	5 years
Performance guarantee 1: [5]	12 years, 90 % of nominal output
Performance guarantee 2: [5]	25 years, 80 % of nominal output
Maximum permissible system voltage:	1,000 V
Reverse current loadability (IR):	20 A
Frame material:	anodised aluminium

Conergy P	220P	225P	230P	235P	240P
Electrical ratings under standard test conditions [6]					
Nominal output (P_{nom})	220 W	225 W	230 W	235 W	240 W
Performance tolerance	±3 %	±3 %	±3 %	±3 %	±3 %
Module efficiency (P_{nom})	13.30 %	13.62 %	13.92 %	14.23 %	14.53 %
MPP voltage (V_{mpp}) [7]	29.8 V	29.9 V	30.0 V	30.1 V	30.2 V
MPP current (I_{mpp}) [7]	7.40 A	7.53 A	7.67 A	7.81 A	7.95 A
Off-load voltage (V_{oc}) [7]	36.5 V	36.7 V	36.8 V	36.8 V	37.0 V
Short-circuit current (I_{sc}) [7]	8.12 A	8.18 A	8.34 A	8.44 A	8.54 A
Temperature coefficient (P_{mpp})	–0.45 %/° C	–0.45 %/° C	–0.45 %/° C	–0.45 %/° C	–0.45 %/° C
Temperature coefficient (V_{oc}), absolute	–0.117 V/° C	–0.118 V/° C	–0.118 V/° C	–0.118 V/° C	–0.118 V/° C
Temperature coefficient (V_{oc}), in per cent	–0.32 %/° C	–0.32 %/° C	–0.32 %/° C	–0.32 %/° C	–0.32 %/° C
Temperature coefficient (I_{sc}), absolute	3.2 mA/° C	3.3 mA/° C	3.3 mA/° C	3.4 mA/° C	3.4 mA/° C
Temperature coefficient (I_{sc}), in per cent	0.04 %/° C	0.04 %/° C	0.04 %/° C	0.04 %/° C	0.04 %/° C
Electrical rating at 800 W/m², NOCT and AM 1.5					
Power (P_{mpp})	160 Wp	163 Wp	167 Wp	170 Wp	174 Wp
Off-load voltage (V_{oc})	33.0 V	33.1 V	33.3 V	33.5 V	33.7 V
Short-circuit current (I_{sc})	6.40 A	6.50 A	6.66 A	6.74 A	6.84 A
Voltage (V_{mpp})	27.0 V	27.1 V	27.1 V	27.3 V	27.4 V
Current (I_{mpp})	5.91 A	6.02 A	6.14 A	6.23 A	6.35 A

[1] Dimensional tolerance: +/–1 mm.
[2] Nominal operating temperature of the cell at 800 W/m² irradiation, 20° C ambient temperature, wind speed of 1 m/s.
[3] In accordance with IEC 61215 Ed. 2.
[4] Weight tolerance: +/– 0.5 kg.
[5] According to Conergy AG's current warranty conditions.
[6] Standard Test Conditions defined as follows: 1,000 W/m² radiant power at a spectral density of AM 1.5 and a cell temperature of 25° C.
[7] Typical production values.

This data sheet complies with the specifications of DIN EN 50380.

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