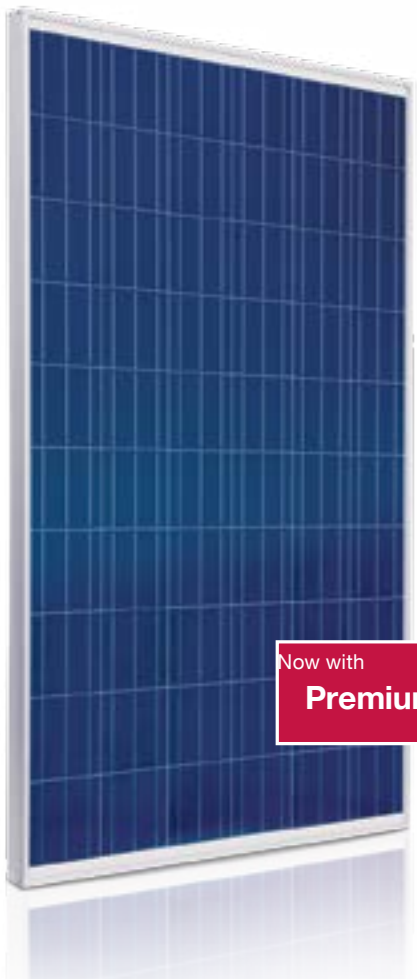




CONERGY

# Conergy PowerPlus 230P–250P

Conergy PowerPlus solar modules are Made in Germany, offering premium quality that pays for itself. They guarantee high system yields and reliable operation over the entire term, and under the most demanding environments and weather conditions. They are manufactured to the highest quality standards and are characterised by many well thought through details and characteristics that set standards in this combination. Because of this, we offer our unique PremiumPlus warranty.



## High yields in practice

- | High-performance modules with polycrystalline, triple busbar cell technology
- | High efficiency, even in poor light conditions
- | Up to 3 % more module output through positive performance tolerance
- | High yield security thanks to linear performance guarantee for 25 years <sup>1</sup>

## Premium quality for long service life

- | Made in Germany on fully automated production lines
- | 12 years product warranty <sup>1</sup>
- | High-quality and quality-tested materials and TÜV-certified production
- | Secure junction box and cavity-free frame
- | High stability, for example in snow, wind and hail, and now with a module load of up to 6,000 Pascal
- | Resistant to all weather conditions and to salt spray and ammonia vapours

## Planning flexibility

- | Recommended for solar energy systems of any size and in any environment
- | Optimum area utilisation with optional portrait or landscape installation

## Easy to install

- | Clamping areas now tested right into the corners for even more flexible installation
- | Simple transport – one of the lightest modules of the performance class, with a load capacity of 6,000 Pascal
- | Secure installation thanks to reverse polarity protected plugs with twist lock

### 1 | More output

High level of performance, with up to 250Wp rated capacity and an additional 3 % positive performance tolerance, increase the yield still further, even in small areas.

### 2 | Very high loading capacity

The high-quality design withstands loads of up to 6,000 Pascal or the impact of golf ball-sized hailstones falling at a speed of 120 km/h with ease.

### 3 | High-quality materials

Premium quality through the use of high-quality materials. The waterproof, soldered and sealed junction box, for example, is particularly secure, and with its passively cooled 3-bypass diodes, it ensures the highest yields, even in unfavourable ambient conditions.

### 4 | Conergy premium quality

The entire module development, production, quality assurance and module production is TÜV-certified to ISO 9001 and 14001, and meets or exceeds all relevant standards.

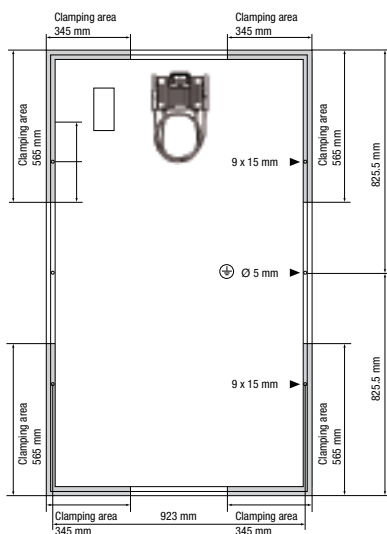


<sup>1</sup> Valid for registered modules of the PowerPlus series. Otherwise, standard warranty conditions apply.



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# Conergy PowerPlus 230P–250P

Module dimensions (L × W × H): <sup>1</sup>

Cell dimensions:

No. of cells:

Cell type:

NOCT: <sup>2</sup>

Maximum permissible load:

Front cover type:

Cable:

Plug type:

Frame material:

Module weight: <sup>4</sup>

Maximum permissible system voltage:

Reverse current loadability ( $I_a$ ):Reduction of efficiency from 1,000 W/m<sup>2</sup> to 200 W/m<sup>2</sup> in accordance with EN 60904-1:

Certification:

Product warranty: <sup>5</sup>Performance guarantee: <sup>5</sup>

1,651 × 986 × 46 mm

156 × 156 mm

60

Polycrystalline cell incorporating 3-busbar technology

46°C ± 2°C

6,000 Pa <sup>3</sup>

Micro-structured solar glass, 3.2 mm diameter

2 × 1,000 mm length, 4 mm<sup>2</sup> cross-section

Huber + Suhner: plug connector with integrated twist lock

Anodised aluminium

19.6 kg

1,000 V

20 A

At 200 W/m<sup>2</sup>, 97 % of

STC efficiency is achieved

IEC/EN 61215 Ed. 2, IEC/EN 61730, SK II, MCS

12 years

&gt;82% of nominal output in year 25

Conergy PowerPlus	230P	235P	240P	245P	250P
<b>Electrical ratings under standard test conditions: <sup>6</sup></b>					
<b>Nominal output (<math>P_{nom}</math>)</b>	230 W	235 W	240 W	245 W	250 W
<b>Performance tolerance</b>	−0/+3 %	−0/+3 %	−0/+3 %	−0/+3 %	−0/+3 %
<b>Module efficiency (<math>P_{nom}</math>)</b>	14.13 %	14.44 %	14.74 %	15.05 %	15.36 %
<b>Voltage at maximum performance (<math>U_{mpp}</math>) <sup>7</sup></b>	29.30 V	29.49 V	29.70 V	29.81 V	30.01 V
<b>Current at maximum performance (<math>I_{mpp}</math>) <sup>7</sup></b>	7.95 A	8.06 A	8.15 A	8.29 A	8.40 A
<b>Off-load voltage (<math>U_{oc}</math>) <sup>7</sup></b>	36.22 V	36.37 V	36.48 V	36.89 V	37.12 V
<b>Short-circuit current (<math>I_{sc}</math>) <sup>7</sup></b>	8.42 A	8.51 A	8.62 A	8.71 A	8.81 A
<b>Temperature coefficient (<math>P_{mpp}</math>)</b>	−0.44 %/°C	−0.44 %/°C	−0.44 %/°C	−0.44 %/°C	−0.44 %/°C
<b>Temperature coefficient (<math>U_{oc}</math>), absolute</b>	−0.120 V/°C	−0.120 V/°C	−0.120 V/°C	−0.120 V/°C	−0.120 V/°C
<b>Temperature coefficient (<math>U_{oc}</math>), in percent</b>	−0.33 %/°C	−0.33 %/°C	−0.33 %/°C	−0.33 %/°C	−0.33 %/°C
<b>Temperature coefficient (<math>I_{sc}</math>) absolute</b>	4.90 mA/°C	4.97 mA/°C	5.02 mA/°C	5.08 mA/°C	5.47 mA/°C
<b>Temperature coefficient (<math>I_{sc}</math>) as a percentage</b>	0.059 %/°C	0.059 %/°C	0.059 %/°C	0.059 %/°C	0.059 %/°C
<b>Electrical rating at 800 W/m<sup>2</sup>, NOCT and AM 1.5</b>					
<b>Power (<math>P_{mpp}</math>)</b>	172.38 W	175.92 W	179.18 W	182.94 W	186.64 W
<b>Off-load voltage (<math>U_{oc}</math>)</b>	33.21 V	33.35 V	33.45 V	33.84 V	34.05 V
<b>Short-circuit current (<math>I_{sc}</math>)</b>	6.82 A	6.89 A	6.98 A	7.05 A	7.14 A
<b>Voltage (<math>U_{mpp}</math>)</b>	26.77 V	26.95 V	27.14 V	27.25 V	27.43 V
<b>Current (<math>I_{mpp}</math>)</b>	6.44 A	6.53 A	6.60 A	6.71 A	6.80 A

<sup>1</sup> Dimensional tolerance: +/−1 mm<sup>2</sup> Nominal operating temperature of the cell at 800 W/m<sup>2</sup> irradiation, 20°C ambient temperature, wind speed of 1 m/s<sup>3</sup> In accordance with IEC 61215 Ed. 2<sup>4</sup> Weight tolerance: +/−0.5 kg<sup>5</sup> Valid for registered modules of the PowerPlus series. Otherwise, standard warranty conditions apply.<sup>6</sup> Standard test conditions defined as follows: 1,000 W/m<sup>2</sup> radiant power at a spectral density of AM 1.5 and a cell temperature of 25°C<sup>7</sup> Typical production values

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

Available at:

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