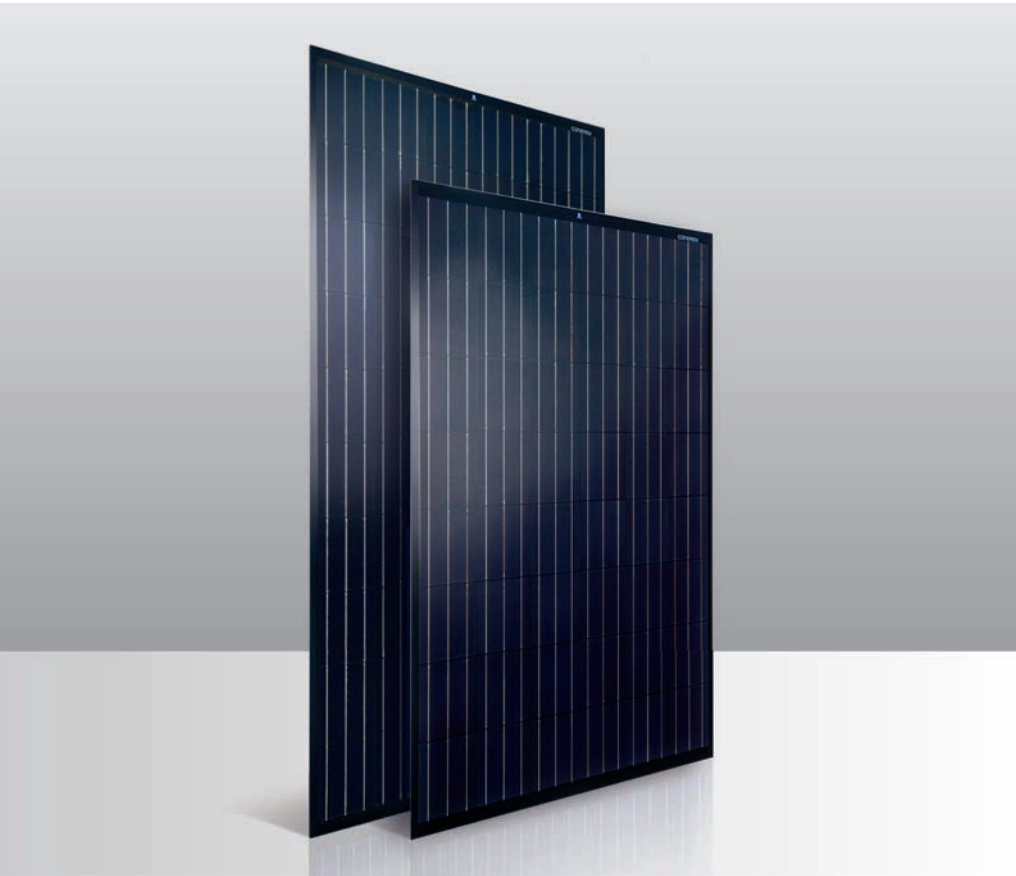


Conergy PowerPlus 180PCL - 200PCL (Conergy PowerPlus 230PL - 250PL)



Conergy PowerPlus solar laminates offer premium quality that pays for itself. They guarantee high system yields and reliable operation over the entire term, and under the most demanding environmental 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. For this we offer our unique PremiumPlus warranty.

Benefits:

- | High yields in practice
- | Premium quality for long service life
- | Easy installation, especially with Conergy Complete 200 system
- | Available in two different sizes (48 cells / 60 cells)

	Nominal output
	180 - 250Wp
	No. of cells
	48 (60)
	Cell type
	polycrystalline
	Module weight*
	16kg (20kg)
	Maximum permissible load**
	2400Pa
	Warranty***
	PremiumPlus
	Module type
	laminate



* In accordance with IEC 61215 Ed.2

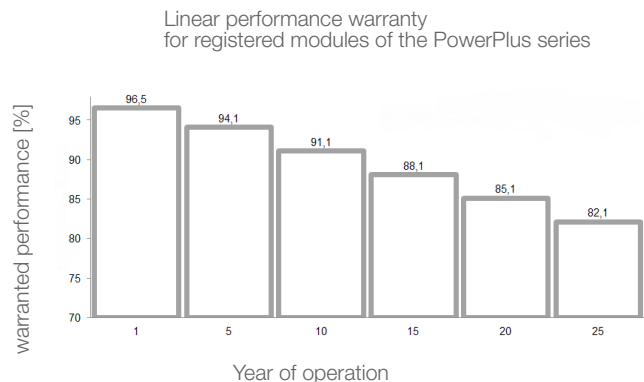
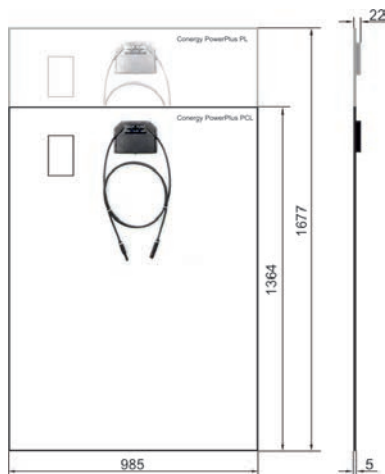
** Weight tolerance: +/- 0.5kg

*** Valid for registered modules of the PowerPlus series. Otherwise, standard warranty conditions apply.

Conergy PowerPlus 180PCL - 200PCL (Conergy PowerPlus 230PL - 250PL)



Mechanical specification	
Laminate dimensions (L x W x H)*	1364 x 985 x 22mm (1677 x 985 x 22mm)
Cell dimensions	156 x 156mm
No. of cells	48 (60)
Cell type	polycrystalline cell; 3- busbar technology
NOCT**	46 °C ± 2°C
Maximum permissible load***	2,400Pa
Front cover type	Micro- structured solar glass, 4mm thickness
Junction box	Huber + Suhner RH3, Protection class IP 67, 129 x 94 x 16 mm
Cable	2x 1.000 mm length, 4 mm ² cross-section Radox-solar cable
Plug type	Huber + Suhner: plug connector with integrated twist lock
Module weight****	16kg (20kg)
Certification*****	IEC/EN 61215 Ed. 2, IEC/EN 61730, ISO 9001:2008, ISO 14001:2004, OHSAS 18001, SK II, MCS
Product warranty*****	12 years
Performance warranty*****	linear performance warranty: year 1: > 96,5% of nominal power output year 25: > 82% of nominal power output
Maximum permissible system voltage	1000V
Reverse current loadability (IR)	20A
Reduction of efficiency from 1,000W/m ² to 200W/m ² in accordance with EN 60904 -1	At 200W/m ² , 97% of STC efficiency is achieved



* Dimensional tolerance: +/- 1.3mm
 ** Nominal operating temperature of the cell at 800W/m² irradiation, 20°C ambient temperature, wind speed of 1m/s
 *** In accordance with IEC 61215 Ed.2
 **** Weight tolerance: +/- 0.5 kg
 ***** IEC and MCS certification for 60-cell laminate in progress
 ***** Valid for registered laminates of the PowerPlus series. Otherwise, standard warranty conditions apply.

Conergy PowerPlus 180PCL - 200PCL (Conergy PowerPlus 230PL - 250PL)



Electrical ratings under standard test conditions*					
Conergy PowerPlus	180PCL (230PL)	185PCL (235PL)	190PCL (240PL)	195PCL (245PL)	200PCL (250PL)
Nominal output (P _{nom})	≥ 180W (≥ 230W)	≥ 185W (≥ 235W)	≥ 190W (≥ 240W)	≥ 195W (≥ 245W)	≥ 200W (≥ 250W)
Power class range	-0%/+3%	-0%/+3%	-0%/+3%	-0%/+3%	-0%/+3%
Module efficiency (P _{nom})	14.13%	14.44%	14.74%	15.05%	15.36%
Voltage at maximum performance (U _{mpp})**	23.42V (29.68V)	23.70V (29.91V)	23.98V (30.14V)	24.27V (30.37V)	24.55V (30.61V)
Current at maximum performance (I _{mpp})**	7.82A (7.85A)	7.93A (7.94A)	8.05A (8.04A)	8.16A (8.14A)	8.28A (8.24A)
Off-load voltage (U _{oc})**	29.01V (36.36V)	29.27V (36.64V)	29.52V (36.91V)	29.78V (37.20V)	30.03V (37.48V)
Short-circuit current (I _{sc})**	8.34A (8.28A)	8.43A (8.37A)	8.53A (8.45A)	8.62A (8.53A)	8.71A (8.62A)
Temperature coefficient (P _{mp})	-0.42%/°C	-0.42%/°C	-0.42%/°C	-0.42%/°C	-0.42%/°C
Temperature coefficient (U _{oc}), absolute	-0.093V/°C (-0.116V/°C)	-0.094V/°C (-0.117V/°C)	-0.094V/°C (-0.118V/°C)	-0.095V/°C (-0.119V/°C)	-0.096V/°C (-0.120V/°C)
Temperature coefficient (U _{oc}), in percent	-0.32%/°C	-0.32%/°C	-0.32%/°C	-0.32%/°C	-0.32%/°C
Temperature coefficient (I _{sc}), absolute	4.92mA/°C (4.89mA/°C)	4.97mA/°C (4.94mA/°C)	5.03mA/°C (4.99mA/°C)	5.09mA/°C (5.03mA/°C)	5.14mA/°C (5.09mA/°C)
Temperature coefficient (I _{sc}), as a percentage	0.059%/°C	0.059%/°C	0.059%/°C	0.059%/°C	0.059%/°C

Electrical rating at 800W/m², NOCT and AM 1.5***

Power (P _{mp})	135.84W (172.86W)	139.43W (176.22W)	143.25W (179.84W)	146.29W (183.49W)	150.90W (187.24W)
Off-load voltage (U _{oc})	26.66V (33.42V)	26.91V (33.68V)	27.14V (33.93V)	27.38V (34.20V)	27.61V (34.46V)
Short-circuit current (I _{sc})	6.75A (6.71A)	6.83A (6.78A)	6.91A (6.84A)	6.98A (6.91A)	7.05A (6.98A)
Voltage (U _{mp})	21.45V (27.19V)	21.71V (27.40V)	21.97V (27.62V)	22.24V (27.83V)	22.50V (28.06V)
Current (I _{mp})	6.33A (6.36A)	6.42A (6.43A)	6.52A (6.51A)	6.61A (6.59A)	6.71A (6.67A)

* 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

** Measuring tolerance STC: +/-3% (P_{mp}); +/-10% (I_{sc}, U_{oc}, I_{mp}, U_{mp});

*** Measuring tolerance NOCT: +/-5% (P_{mp}); +/-10% (I_{sc}, U_{oc}, I_{mp}, U_{mp})



Available at:

Conergy AG
Anckelmannsplatz 1
20537 Hamburg
Germany
info@conergy.com
Tel: +49-40-27142-1000

www.conergy.com

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