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# **EnergyPal**

## **Solar Panel Guide Specification Data Sheet**

**Calyxo GmbH**

**CX3/3**

**CX3 90/3**

Also available on the web at  
[EnergyPal.com/calyxo-gmbh-solar-panels/cx3-90-3](http://EnergyPal.com/calyxo-gmbh-solar-panels/cx3-90-3)

Length x Width	1200 mm x 600 mm
Thickness	6.9 mm (21.0 including junction box)
Weight	12.0 kg
Front Cover	3.2 mm glass
Back Cover	3.2 mm glass
Cell Type	Cadmium telluride [CdTe]
Frame	none
Junction Box	Protection Class IP65
By-Pass Diode	none
Cable Type	Solar cable 2.5mm <sup>2</sup>
Cable Length	650 mm (+Cable), 850 mm (-Cable)
Connector	Multicontact MC 4 optional Y-SOL 4

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Note: Installation instructions must be followed. See the instruction and operating manual or contact the technical service for further information on approved installation and use of the product.  
 Specifications subject to technical changes. Printed on environment-friendly paper.  
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### ELECTRICAL CHARACTERISTICS

POWER CLASS			CX3	CX3	CX3	CX3	CX3
			82/3	85/3	87/3	90/3	92/3
Nominal Power [+10% / -5%]	$P_{MPP}$	[W]	77.5	80.0	82.5	85.0	87.5
Current at max. Power	$I_{MPP}$	[A]	2.03	2.03	2.05	2.06	2.07
Voltage at max. Power	$V_{MPP}$	[V]	42.0	43.2	44.0	45.0	45.8
Short Circuit Current	$I_{SC}$	[A]	2.37	2.38	2.39	2.40	2.41
Open Circuit Voltage	$V_{OC}$	[V]	58.6	59.4	60.2	61.0	61.7

### Performance at normal operating cell temperature (NOCT: 800 W/m<sup>2</sup>, 45 ±2°C, AM 1.5 Spectrum)

POWER CLASS			CX3	CX3	CX3	CX3	CX3
			82/3	85/3	87/3	90/3	92/3
Nominal Power	$P_{MPP}$	[W]	59.5	61.4	63.4	65.3	67.2
Current at max. Power	$I_{MPP}$	[A]	1.63	1.63	1.65	1.66	1.66
Voltage at max. Power	$V_{MPP}$	[V]	40.2	41.4	42.2	43.1	43.9
Short Circuit Current	$I_{SC}$	[A]	1.91	1.92	1.92	1.93	1.93
Open Circuit Voltage	$V_{OC}$	[V]	56.1	56.9	57.6	58.4	59.1

### Performance at low irradiance

The typical relative change in module efficiency at an irradiance of 200W/m<sup>2</sup> in relation to 1000W/m<sup>2</sup> (both at 25°C and AM 1.5 spectrum) on request.

Temperature coefficients (at 1000W/m <sup>2</sup> , AM 1.5 Spectrum)			
Temperature $I_{SC}$	$\alpha$	[%/K]	+ 0.03
Temperature $V_{OC}$	$\beta$	[%/K]	- 0.21
Temperature $P_{MPP}$	$\gamma$	[%/K]	- 0.20

### Properties for system design (IEC)

Maximum System Voltage	$V_{SYS}$	[V]	1000
Maximum Reverse Current	$I_R$	[A]	4.0
Wind / Snow Load	$p$	[Pa]	2400
Safety Class			II
Fire Rating			C

The power classes are defined by sorting of power classes (+2.5W/0W) according to measured PMPP under STC. IMPP, VMPP, ISC, VOC are within ±10% of the indicated values under STC. Valid indoor measurement of STC performance is obtained by pretreating the module before measurement. For more information PAS-11-05-0203-EN.