

Original size

CDTE THIN FILM SOLAR MODULE CX3

The Calyxo CX series is a series of cost-efficient high performance modules. Based on innovative and patented CdTe thin film solar technology, the solar modules are designed to provide a significant reduction in the overall costs of electricity generation.

APPLICATION



RESIDENTIAL ROOFTOP
INSTALLATION



COMMERCIAL AND INDUSTRIAL
INSTALLATION



ROOF-PARALLEL AND FLAT-ROOF
INSTALLATION



GROUND MOUNTED
INSTALLATION

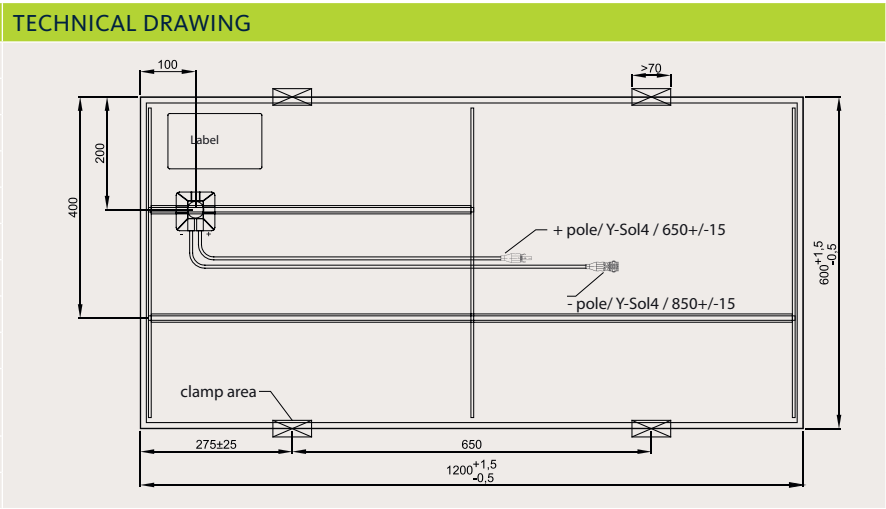
THE ALLROUNDER

- 1200 x 600 mm module area
- Low temperature coefficients
- High performance ratio
- Positive sorting +2.5 W / -0 W
- Mounting options for every inclination - from roof top to ground mounted

WARRANTY

- 10-years product warranty
- 25-years performance warranty*
- Free module recycling through membership in the PV Cycle Association**

MECHANICAL SPECIFICATION	
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 / Cadmium sulfide [CdTe/CdS]
Frame	None
Junction Box	Protection Class IP65
By-Pass Diode	None
Cable Length	650 mm (+Cable), 850 mm (-Cable)
Cable Type	Solar cable 1.5mm ²
Connector	Y-Sol4



ELECTRICAL CHARACTERISTICS

Performance at standard test conditions (STC: 1000W/m², 25°C, AM 1.5 Spectrum)¹

POWER CLASS	CX	75	77	80	82	85
Nominal Power (±5%)	P _{MPP} [W]	75.0	77.5	80.0	82.5	85.0
Current at max. Power	I _{MPP} [A]	1.65	1.68	1.72	1.75	1.78
Voltage at max. Power	V _{MPP} [V]	46.3	46.7	47.0	47.3	47.8
Short Circuit Current	I _{SC} [A]	1.95	1.98	2.01	2.04	2.06
Open Circuit Voltage	V _{OC} [V]	62.0	62.5	62.8	63.2	63.6

Performance at normal operating cell temperature (NOCT: 800 W/m², 40 ±2°C, AM 1.5 Spectrum)

Power Class	CX	75	77	80	82	85
Nominal Power	P _{MPP} [W]	57.2	58.9	60.4	62.0	63.6
Current at maximum Power	I _{MPP} [A]	1.32	1.35	1.38	1.40	1.43
Voltage at maximum Power	V _{MPP} [V]	43.2	43.6	43.9	44.2	44.5
Short Circuit Current	I _{SC} [A]	1.56	1.59	1.61	1.63	1.66
Open Circuit Voltage	V _{OC} [V]	57.9	58.3	58.6	58.9	59.3

Performance at low irradiance

The typical relative change in module efficiency at an irradiance of 200W/m² in relation to 1000W/m² (both at 25°C and AM 1.5 spectrum) on request.

Temperature coefficients (at 1000W/m ² , AM 1.5 Spectrum)			
Temperature Coefficients of I _{SC}	α	[%/K]	+0.02
Temperature Coefficients of V _{OC}	β	[%/K]	-0.24
Temperature Coefficients of P _{MPP}	γ	[%/K]	-0.25

Properties for system design			
Maximum System Voltage	V _{sys}	[V]	1000 (IEC) / 600 (UL1703)
Maximum Reverse Current	I _R	[A]	4.0
Wind / Snow Load	p	[Pa]	2400
Safety Class			II
Fire Rating			C

¹The power classes are defined by positive sorting (+2.5W/-0W) according to measured P_{MPP} under STC. I_{MPP}, V_{MPP}, I_{SC}, V_{OC} are within ±10% of the indicated values under STC. Valid indoor measurement of STC performance is obtained by pretreating the module before measurement with 24 hour light soak (at approx. 1000W/m² in open circuit) followed by cool down to 25°C.

YOUR DIRECT CONTACT TO THE SUN

QUALIFICATIONS AND CERTIFICATES

IEC 61646; IEC 61730 Application Class A; MCS; ISO 9001:2008; ISO 14001:2004; OHSAS 18001:2007; PVCycle; CE-Mark; Safety Class II; UL 1703 (pending)



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CDTE DÜNNSCHICHT-SOLARMODUL **CX3**

CDTE THIN FILM SOLAR MODULE

Die CX-Serie von Calyxo sind kosteneffiziente Hochleistungsmodule. Basierend auf der innovativen und patentierten CdTe Dünnschicht-Solartechnologie sind die Solarmodule darauf zugeschnitten, die Gesamtkosten der Stromerzeugung deutlich zu reduzieren.

The Calyxo CX series is a series of cost-efficient high performance modules.

Based on innovative and patented CdTe thin film solar technology, the solar modules are designed to provide a significant reduction in the overall costs of electricity generation.

Länge x Breite: 1200 mm x 600 mm
Höhe: 6,9 mm (21,0 mm inklusive Anschlussdose)
Frontabdeckung/Rückabdeckung: 3,2 mm Glas
Gewicht: 12,0 kg
Length & Width: 1200 mm x 600 mm
Thickness: 6.9 mm (21.0 mm including junction box)
Front Cover/Back Cover: 3.2 mm glass
Weight: 12.0 kg

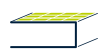
EINSATZGEBIETE APPLICATION



AUFDACHANLAGEN
RESIDENTIAL ROOFTOP INSTALLATION



KOMMERZIELLE UND INDUSTRIELLE AUFDACHANLAGEN
COMMERCIAL AND INDUSTRIAL INSTALLATION



DACHPARALLELE FLACHDACHANLAGEN
ROOF-PARALLEL AND FLAT-ROOF INSTALLATION



FREIFLÄCHENANLAGEN
GROUND MOUNTED INSTALLATION

Originalgröße
Original size

PRODUKTVORTEILE

HOHES ENERGIE-/LEITSTUNGS- VERHÄLTNISS (KWh/KWp)

- bessere Leistung als kristallines Silizium bei schwachem Licht und hohen Temperaturen

ENGE LEISTUNGSTOLERANZ (+2,5 / -0 W)

- bessere Feldleistung
- Minderleistungsrisiko wird eliminiert
- Reduzierung von Mismatch Sortierungen

BLACK DESIGN RANDVERSIEGELUNG GEGEN WITTERUNGSEINFLÜSSE

- zuverlässige Feuchtigkeits- und Dampfsperre
- absolute Isolationsfestigkeit durch zuverlässige Laserrandentschichtung und 100% Modulprüfung
- ästhetisches, homogenes Erscheinungsbild realisiert durch das hochwertige Randversiegelungsmaterial

GERINGERE AUSGANGSSPANNUNG BEI GEGEBENER AUSGANGSLEISTUNG

- ermöglicht längere Strings und geringere Systemkosten

VOLLAUTOMATISIERTE KOMPLETT- FERTIGUNG – MADE AND DEVELOPED IN GERMANY

- reduziert die Herstellungskosten bei gleichzeitiger Maximierung der Zuverlässigkeit
- Weiterentwicklung der Technologie und Zuverlässigkeit mit namenhaften Instituten.

GEWÄHRLEISTUNG

- 5 Jahre auf Material und Verarbeitung
- 20 Jahre Leistungsgarantie: auf 90% der Nennleistung in den ersten 10 Jahren; auf 80% über 20 Jahre

GESICHERTES RÜCKNAHME- UND RECYCLING PROGRAMM DURCH PV CYCLE*

- das Produkt wurde unter Berücksichtigung der späteren Wiederverwertung entwickelt
- 100% Rücknahme und Wiederverwertung der Module am Ende ihrer Lebensdauer
- für den Käufer kostenlos

ZERTIFIZIERT UND GEPRÜFT DURCH FÜHRENDE TESTINSTITUTE

- SGS Deutschland – IEC 61646 & IEC 61730
- MCS Zulassung (in Abschluss)
- UL1703 (in Vorbereitung)
- TÜV Rheinland – Ammoniaktest, Performancetest (vorlaufend)
- PI Berlin – Damp Heat zzgl. negativer Spannung

BEWÄHRTES UND BEKANNTES MODULFORMAT

- 1200 x 600mm Modulfläche bei einem geringen Gewicht von 12kg
- hervorragende Flächenausnutzung durch das geringe Modulformat

BENEFITS

HIGH ENERGY/PERFORMANCE RATIO (KWh/KWp)

- better performance than crystalline silicon at low light and high temperatures

NARROW OUTPUT TOLERANCE (+2.5 / -0 W)

- better field performance
- Risk of reduced output is eliminated
- Reduction in mismatch sortings

BLACK DESIGN EDGE SEAL TO PROTECT AGAINST THE ELEMENTS

- reliable moisture and vapour barrier
- absolute insulation resistance through precise laser edge ablation
- aesthetic, homogenous appearance through the use of high-grade edge sealing material

LOWER OUTPUT VOLTAGE

- allows longer strings and lower system costs

FULLY AUTOMATED COMPLETE PRODUCTION – MADE AND DEVELOPED IN GERMANY

- reduces manufacturing costs whilst at the same time increases product quality
- further development of technology and reliability from renowned institutes.

GUARANTEE

- 5 years on material and workmanship
- 20 years performance guarantee on 90% of rated power in the first 10 years; on 80% over 20 years

SAFEGUARDED COLLECTION AND RECYCLING PROGRAMME BY PV CYCLE*

- the product was developed with the consideration of future recycling
- 100% collection and recycling of the modules at the end of their service life
- free of charge for the purchaser

CERTIFIED AND TESTED BY LEADING TEST INSTITUTES

- SGS Germany - IEC 61646 & IEC 61730
- MCS approval (in final testing)
- UL1703 (in the preparation stage)
- TÜV Rheinland - ammonia test, performance test (in the preparatory stage)
- PI Berlin – Damp Heat plus negative voltage

TRIED AND TESTED, WELL ESTABLISHED MODULE FORMAT

- 1200 x 600mm lightweight 12kg module surface
- Outstanding use of space owing to the small module format

IHR DIREKTER ANSPRECHPARTNER ZUR SONNE
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