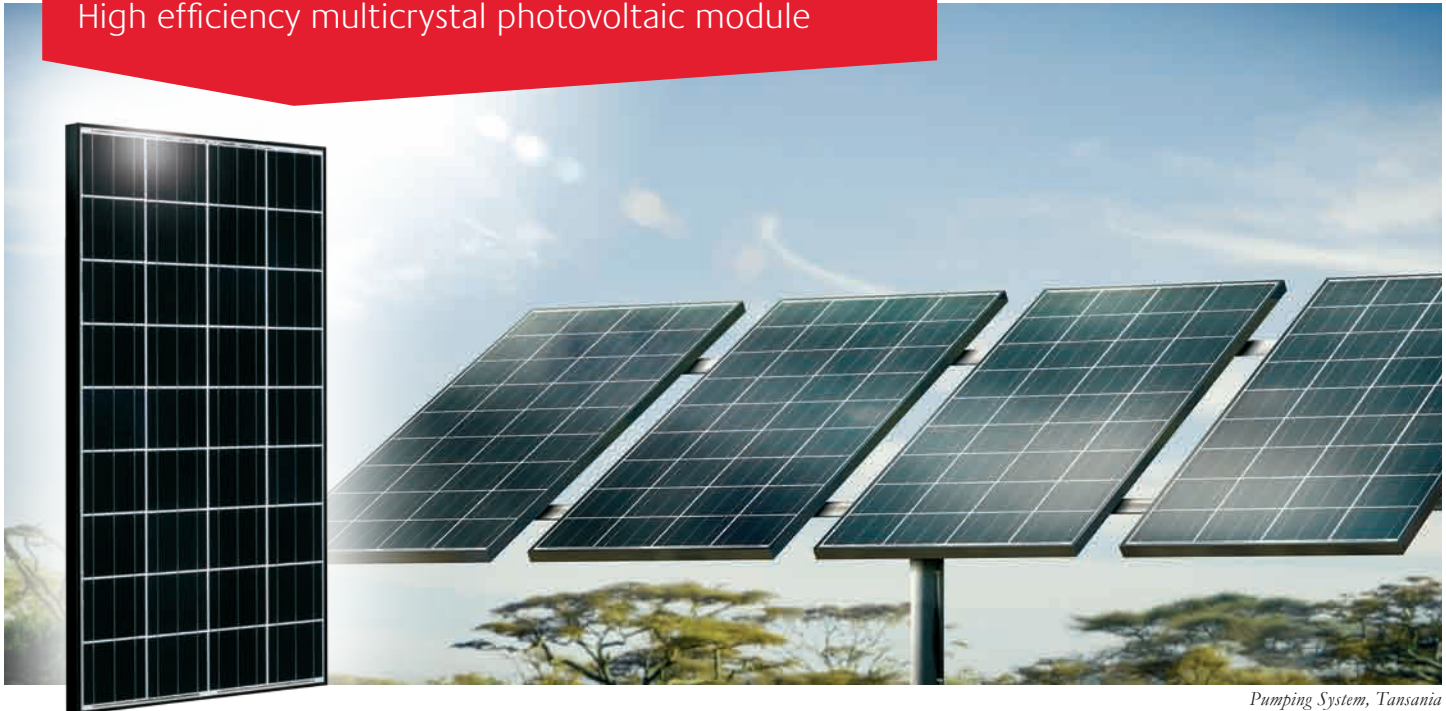


We care! Since 1975.

KD135SX-1PU

High efficiency multicrystal photovoltaic module



Pumping System, Tanzania

CUTTING-EDGE TECHNOLOGY

► Cell:

- 156 mm × 156 mm
- Polycrystalline, 3-busbar
- >16 % efficiency
- Embedded in EVA film
- Patented RIE process: very little light reflection, homogenous dark coloration

► Frame:

- Aluminium, black anodised and coated
- Screwed and also adhered
- Strength: 5,400 N/m²
- Interior drainage openings to protect against frost damage
- Approved for module inlay systems
- Flexible assembly (horizontal and upright)

► Junction box:

- Incl. bypass diodes
- Over-voltage proof Si-p/n bypass diodes
- Accessible junction box for flexible installation

► Pairing:

- Sorting procedure: Nominal output is achieved by two paired modules (≥ 270 Wp for 2 × KD135SX-1PU)

► Production:

- Fully automated and integrated production processes in our own production plants
- No intermediate products are purchased
- 100 % final inspection

► Service:

- Professional Europe-wide customer service in Esslingen/Germany

COMPANY

As a pioneer in the photovoltaic sector, Kyocera Solar can look back on over 35 years of experience. We are also involved in numerous future-oriented solutions across the world. Our focus is on innovation and quality.

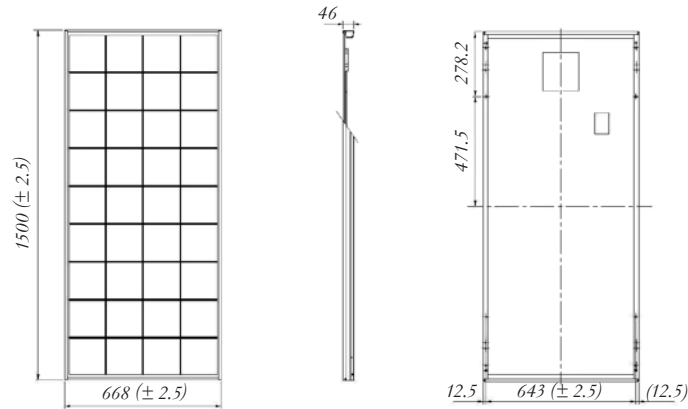
Our vision: To make solar energy accessible to everybody and to ensure a comprehensive sustained energy supply.

TUVdotCOM Service: Internet platform for tested quality and service
 TUVdotCOM-ID: 0000023574
 IEC 61215 ed. 2, IEC 61730 and Safety Class II
 Kyocera is ISO 9001, ISO 14001 and OHSAS18001 certified and registered.



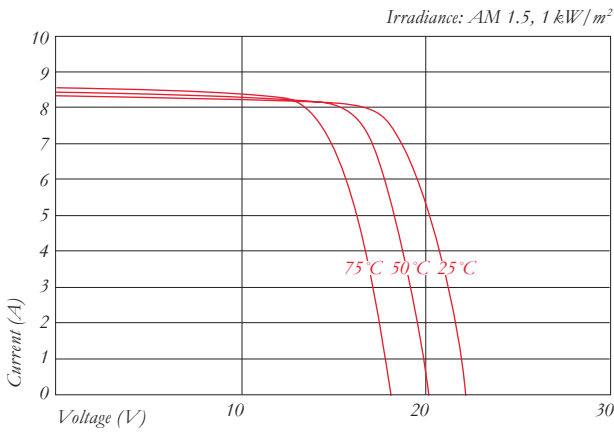
SPECIFICATIONS

in mm

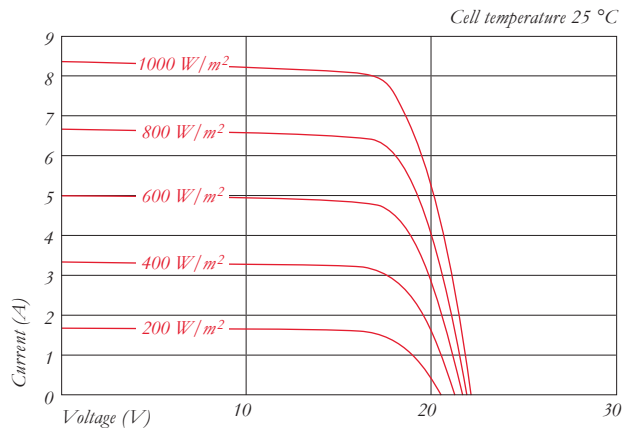


ELECTRICAL CHARACTERISTICS

Current-Voltage characteristics at various cell temperatures



Current-Voltage characteristics at various irradiance levels



ELECTRICAL PERFORMANCE

PV Module Type	KD135SX-1PU	
At 1000 W/m² (STC)*		
Maximum Power	[W]	135
Maximum System Voltage	[V]	750
Maximum Power Voltage	[V]	17.7
Maximum Power Current	[A]	7.63
Open Circuit Voltage (V _{OC})	[V]	22.1
Short Circuit Current (I _{SC})	[A]	8.37
Efficiency	[%]	13.4
At 800 W/m² (NOCT)**		
Maximum Power	[W]	97
Maximum Power Voltage	[V]	16.0
Maximum Power Current	[A]	6.1
Open Circuit Voltage (V _{OC})	[V]	20.2
Short Circuit Current (I _{SC})	[A]	6.78
NOCT	[°C]	45
Power Tolerance	[%]	+5 / -5
Maximum Reverse Current I _R	[A]	15
Series Fuse Rating	[A]	15
Temperature Coefficient of V _{OC}	[%/K]	-0.36
Temperature Coefficient of I _{SC}	[%/K]	0.06
Temperature Coefficient of Max. Power	[%/K]	-0.46
Reduction of Efficiency (from 1000 W/m ² to 200 W/m ²)	[%]	5.8

DIMENSIONS

Length	[mm]	1500 (± 2.5)
Width	[mm]	668 (± 2.5)
Depth / incl. Junction Box	[mm]	46
Weight	[kg]	12.5
Connection Type		Screw Terminals
Junction Box	[mm]	140 × 150 × 37,2
Number of bypass diodes		2
IP Code		IP65

CELLS

Number per Module		36
Cell Technology		polycrystalline
Cell Shape (square)	[mm]	156 × 156
Cell Bonding		3-Busbar

GENERAL INFORMATION

Performance Guarantee		10*** / 20 years ****
Warranty		5 years *****

* Electrical values under standard test conditions (STC): irradiation of 1000 W/m², airmass AM 1.5 and cell temperature of 25 °C

** Electrical values under normal operating cell temperature (NOCT): irradiation of 800 W/m², airmass AM 1.5, wind speed of 1 m/s and ambient temperature of 20 °C

*** 10 years on 90% of the minimally specified power P under standard test conditions (STC)

**** 20 years on 80% of the minimally specified power P under standard test conditions (STC)

***** In the case of Europe

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SOLAR

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