

POLYCRYSTALLINE SOLAR MODULES

for off-grid applications

KD140 · KD145



Pumping System, Tanzania

CUTTING-EDGE TECHNOLOGY

▶ Cell:

- 156 mm × 156 mm
- Polycrystalline, 3-busbar
- >16% efficiency
- Embedded in EVA film
- Silicon nitride texturing: Minimisation of light reflectivity, homogenous coloration

▶ Frame:

- Aluminium, **black** anodised and coated
- **Screwed** and also adhered
- Load capacity: **5,400 N/m²** (IEC standard: 2,400 N/m²)
- Interior drainage openings to protect against frost damage
- Flexible assembly (horizontal and upright)
- Approved for module inlay systems

▶ Junction box:

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

▶ Production:

- Fully automated and integrated production processes in our own production plants
- Vertical integration = 100% control

▶ Service:

- Professional Europe-wide customer service in Esslingen/Germany (**Service tested by TÜV**)
- Individual maintenance service increases life expectancy of the photovoltaic system

COMPANY

▶ Competence and stability:

Founded in 1959 in Kyoto, Japan, Kyocera is now a globally active, financially powerful corporation with 228 subsidiaries.

▶ Quality:

Kyocera Solar, a pioneer in the photovoltaic sector and collaborator in groundbreaking photovoltaic solutions since 1975, is one of the leading manufacturers of solar energy systems. Kyocera was the first company to introduce the series production of polycrystalline silicon solar cells and the patented 3-busbar cell technology in mass production.

▶ Verified longevity:

The reliability and longevity of the products have been verified by proven long-term solutions. For example, systems installed in Japan and Sweden have been providing excellent yields since 1984.

Kyocera photovoltaic modules meet the highest standards



IEC 61215
IEC 61730



www.tuv.com
ID 0000023299

Salt mist corrosion test, severity 6 according to IEC 61701

Intensified hailstorm test (27.2 m/s; 35 mm) according to IEC 61215 (IEC standard: 23 m/s; 25 mm)



Kyocera is ISO 9001, ISO 14001 and OHSAS 18001 certified and registered.

ELECTRICAL PERFORMANCE

PV Module Type	KD140SX-1YU	KD145SX-1YU	
At 1000 W/m² (STC)⁽¹⁾			
Maximum Power	[W]	140	145
Maximum System Voltage	[V]	750	750
Maximum Power Voltage	[V]	17.7	17.9
Maximum Power Current	[A]	7.91	8.11
Open Circuit Voltage (V _{oc})	[V]	22.1	22.3
Short Circuit Current (I _{sc})	[A]	8.68	8.78
Efficiency	[%]	13.9	14.4
At 800 W/m² (NOCT)⁽²⁾			
Maximum Power	[W]	101	104
Maximum Power Voltage	[V]	16.0	16.1
Maximum Power Current	[A]	6.33	6.46
Open Circuit Voltage (V _{oc})	[V]	20.2	20.4
Short Circuit Current (I _{sc})	[A]	7.03	7.11
NOCT	[°C]	45	45
Power Tolerance	[%]	+5 / -5	+5 / -5
Maximum Reverse Current I _R	[A]	15	15
Series Fuse Rating	[A]	15	15
Temperature Coefficient of V _{oc}	[%/K]	-0.36	-0.36
Temperature Coefficient of I _{sc}	[%/K]	0.06	0.06
Temperature Coefficient of Max. Power	[%/K]	-0.46	-0.46
Reduction of Efficiency (from 1000 W/m ² to 200 W/m ²)	[%]	5.3	4.9

DIMENSIONS

Length	[mm]	1500 (±2.5)	1500 (±2.5)
Width	[mm]	668 (±2.5)	668 (±2.5)
Depth / incl. Junction Box	[mm]	46	46
Weight	[kg]	12.5	12.5
Connection Type		Screw terminals	Screw terminals
Junction Box	[mm]	140 × 150 × 37.2	140 × 150 × 37.2
Number of bypass diodes		2	2
IP Code		IP65	IP65

CELLS

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

GENERAL INFORMATION

Performance Guarantee		10 ⁽³⁾ / 25 years ⁽⁴⁾	10 ⁽³⁾ / 25 years ⁽⁴⁾
Warranty		5 years ⁽⁵⁾	5 years ⁽⁵⁾

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

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

(3) 10 years on 90% of the minimally specified power P under standard test conditions (STC).

(4) 25 years on 80% of the minimally specified power P under standard test conditions (STC).

(5) In the case of Europe.

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