

We care! Since 1975.

POLYCRYSTALLINE SOLAR MODULES

KD145 · KD195 · KD220 · KD245 · KD250 · KD255



Apartment house, Germany

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
- 60-cell modules: reinforced with two support bars on the rear side – minimises the risk of micro-cracks (μ-cracks); mech. load capacity of **8,000 N/m²**, tested by TÜV Rheinland according to IEC 61215 (IEC standard: 2,400 N/m²)

▶ Junction box:

- Incl. bypass diodes
- **Encapsulated**, prevents penetration of moisture
- Highest fireproof class 5VA in accordance with UL94
- pre-configured with connection wires and SMK plug connectors

▶ 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 000023299

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	KD145GH-4FU KD145GH-4YU	KD195GH-4FU KD195GH-4YU	KD220GH-4FU KD220GH-4YU	KD245GH-4FB2 KD245GH-4YB2	KD250GH-4FB2 KD250GH-4YB2	KD255GH-4FB2 KD255GH-4YB2
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At 1000 W/m² (STC)⁽¹⁾

Maximum Power [W]	145	195	220	245	250	255
Maximum System Voltage [V]	1000	1000	1000	1000	1000	1000
Maximum Power Voltage [V]	17.9	23.6	26.6	29.8	29.8	30.4
Maximum Power Current [A]	8.11	8.27	8.28	8.23	8.39	8.39
Open Circuit Voltage (V _{oc}) [V]	22.3	29.5	33.2	36.9	36.9	37.6
Short Circuit Current (I _{sc}) [A]	8.78	9.05	8.98	8.91	9.09	9.09
Efficiency [%]	14.4	14.7	14.8	14.8	15.1	15.4

At 800 W/m² (NOCT)⁽²⁾

Maximum Power [W]	104	140	158	176	180	184
Maximum Power Voltage [V]	16.1	21.3	24.0	26.8	26.8	27.4
Maximum Power Current [A]	6.46	6.58	6.63	6.58	6.72	6.72
Open Circuit Voltage (V _{oc}) [V]	20.4	27.0	30.4	33.7	33.7	34.4
Short Circuit Current (I _{sc}) [A]	7.11	7.33	7.27	7.21	7.36	7.36
NOCT [°C]	45	45	45	45	45	45

Power Tolerance [%]	+5/-5	+5/-5	+5/-3	+5/-3	+5/-3	+5/-3
Maximum Reverse Current I _r [A]	15	15	15	15	15	15
Series Fuse Rating [A]	15	15	15	15	15	15
Temperature Coefficient of V _{oc} [%/K]	-0.36	-0.36	-0.36	-0.36	-0.36	-0.36
Temperature Coefficient of I _{sc} [%/K]	0.06	0.06	0.06	0.06	0.06	0.06
Temperature Coefficient of Max. Power [%/K]	-0.46	-0.46	-0.46	-0.46	-0.46	-0.46
Reduction of Efficiency (from 1000 W/m ² to 200 W/m ²) [%]	4.9	5.0	6.0	6.6	6.7	6.3

DIMENSIONS

Length [mm]	1500 (±2.5)	1338 (±2.5)	1500 (±2.5)	1662 (±2.5)	1662 (±2.5)	1662 (±2.5)
Width [mm]	668 (±2.5)	990 (±2.5)	990 (±2.5)	990 (±2.5)	990 (±2.5)	990 (±2.5)
Depth / incl. Junction Box [mm]	46	46	46	46	46	46
Weight [kg]	12.5	16	18	20	20	20
Cable [mm]	(+)1010 / (-)840	(+)1030 / (-)840	(+)1100 / (-)900	(+)1190 / (-)960	(+)1190 / (-)960	(+)1190 / (-)960
Connection Type	PV-03 (SMK)	PV-03 (SMK)	PV-03 (SMK)	PV-03 (SMK)	PV-03 (SMK)	PV-03 (SMK)
Junction Box [mm]	123 × 91.6 × 16	123 × 91.6 × 16	123 × 91.6 × 16	123 × 91.6 × 16	123 × 91.6 × 16	123 × 91.6 × 16
Number of bypass diodes	2	3	3	3	3	3
IP Code	IP65 / IP67	IP65 / IP67	IP65 / IP67	IP65 / IP67	IP65 / IP67	IP65 / IP67

CELLS

Number per Module	36	48	54	60	60	60
Cell Technology	polycrystalline	polycrystalline	polycrystalline	polycrystalline	polycrystalline	polycrystalline
Cell Shape (square) [mm]	156 × 156	156 × 156	156 × 156	156 × 156	156 × 156	156 × 156
Cell Bonding	3-busbar	3-busbar	3-busbar	3-busbar	3-busbar	3-busbar

GENERAL INFORMATION

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

Your local Kyocera dealer:



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