

We care! Since 1975.

# KD235GH-2PB

High efficiency multicrystal photovoltaic module



Factory Building, Germany

## 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/m<sup>2</sup>
- Reinforced on rear side with 2 cross struts
- Interior drainage openings to protect against frost damage
- Flexible assembly (horizontal and upright)

### ▶ Junction box:

- Incl. bypass diodes
- Encapsulated
- Highest fireproof class 5V-A in accordance with UL94
- Over-voltage proof Si-p/n bypass diodes
- Pre-configured with connection wires and original multi-contact plug connectors

### ▶ Pairing:

- Sorting procedure: Nominal output is achieved by two paired modules (≥470 Wp for 2 × KD235GH-2PB)

### ▶ 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.

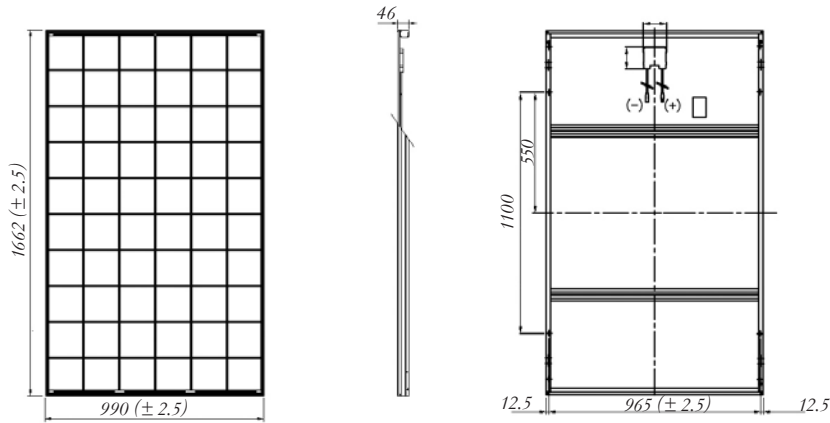


TUVdotCOM Service: Internet platform for tested quality and service  
 TUVdotCOM-ID: 0000023299  
 IEC 61215 ed. 2, IEC 61730 and Safety Class II  
 Kyocera is ISO 9001, ISO 14001 and OHSAS18001 certified and registered.



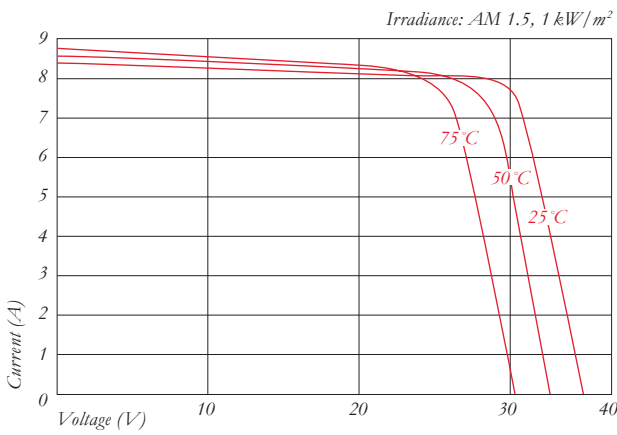
## SPECIFICATIONS

in mm

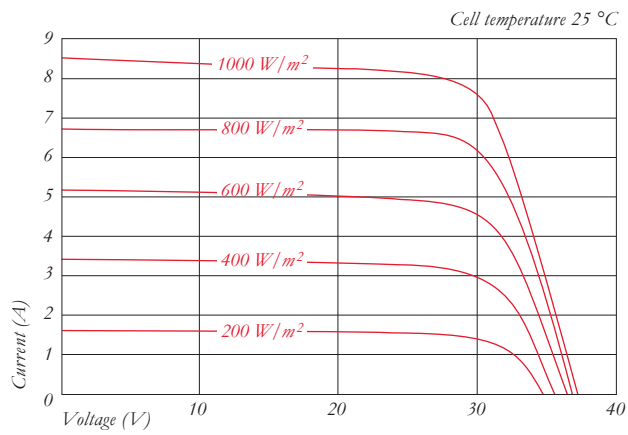


## ELECTRICAL CHARACTERISTICS

Current-Voltage characteristics at various cell temperatures



Current-Voltage characteristics at various irradiance levels



## ELECTRICAL PERFORMANCE

PV Module Type KD235GH-2PB

### At 1000 W/m<sup>2</sup> (STC)\*

Maximum Power	[W]	235
Maximum System Voltage	[V]	1000
Maximum Power Voltage	[V]	29.8
Maximum Power Current	[A]	7.89
Open Circuit Voltage (V <sub>OC</sub> )	[V]	36.9
Short Circuit Current (I <sub>SC</sub> )	[A]	8.55
Efficiency	[%]	14.2

### At 800 W/m<sup>2</sup> (NOCT)\*\*

Maximum Power	[W]	169
Maximum Power Voltage	[V]	26.8
Maximum Power Current	[A]	6.31
Open Circuit Voltage (V <sub>OC</sub> )	[V]	33.7
Short Circuit Current (I <sub>SC</sub> )	[A]	6.92
NOCT	[°C]	45

Power Tolerance	[%]	+5 / -3
Maximum Reverse Current I <sub>R</sub>	[A]	15
Series Fuse Rating	[A]	15
Temperature Coefficient of V <sub>OC</sub>	[%/K]	-0.36
Temperature Coefficient of I <sub>SC</sub>	[%/K]	0.06
Temperature Coefficient of Max. Power	[%/K]	-0.46
Reduction of Efficiency (from 1000 W/m <sup>2</sup> to 200 W/m <sup>2</sup> )	[%]	6.0

## DIMENSIONS

Length	[mm]	1662 (± 2.5)
Width	[mm]	990 (± 2.5)
Depth / incl. Junction Box	[mm]	46
Weight	[kg]	21
Cable	[mm]	(+)1190 / (-)960
Connection Type		MC PV-KBT3 / MC PV-KST3
Junction Box	[mm]	113 × 82 × 15
Number of bypass diodes		3
IP Code		IP65

## CELLS

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

## GENERAL INFORMATION

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

\* Electrical values under standard test conditions (STC): irradiation of 1000 W/m<sup>2</sup>, airmass AM 1.5 and cell temperature of 25 °C

\*\* Electrical values under normal operating cell temperature (NOCT): irradiation of 800 W/m<sup>2</sup>, 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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