

We care! Since 1975.

KD190GH-2PU

High efficiency multicrystal photovoltaic module



Apartment house, Austria

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
- 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 (≥380 Wp for 2 × KD190GH-2PU)

► 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.

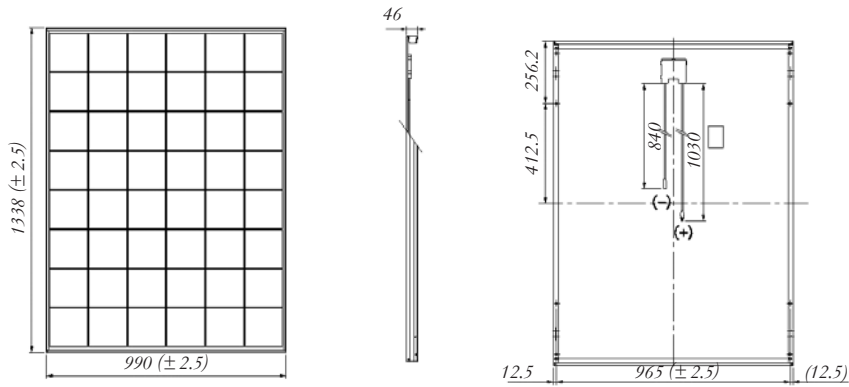


TUVdotCOM Service: Internet platform for tested quality and service
 TUVdotCOM-ID: 0000023299
 IEC 61215 ed. 2, IEC 61730 and Safety Class II
 Kyocera is ISO 9001, ISO 14001 and OHSAS18001 certified and registered.



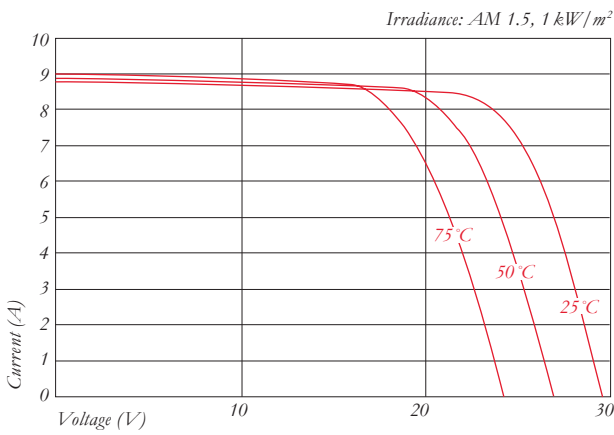
SPECIFICATIONS

in mm

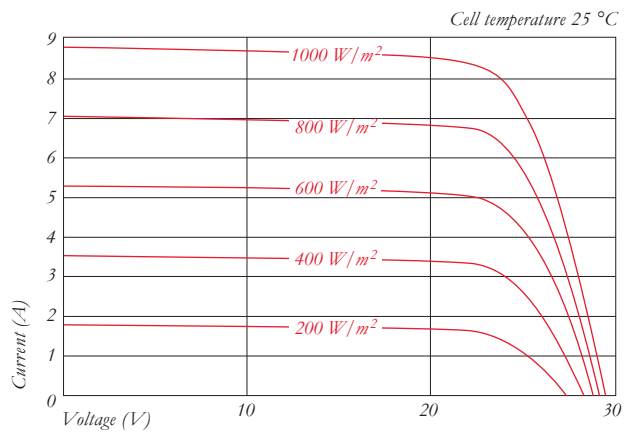


ELECTRICAL CHARACTERISTICS

Current-Voltage characteristics at various cell temperatures



Current-Voltage characteristics at various irradiance levels



ELECTRICAL PERFORMANCE

| PV Module Type | KD190GH-2PU | |
|--|-------------|------|
| At 1000 W/m² (STC)* | | |
| Maximum Power | [W] | 190 |
| Maximum System Voltage | [V] | 1000 |
| Maximum Power Voltage | [V] | 23.6 |
| Maximum Power Current | [A] | 8.06 |
| Open Circuit Voltage (V _{OC}) | [V] | 29.5 |
| Short Circuit Current (I _{SC}) | [A] | 8.82 |
| Efficiency | [%] | 14.3 |

At 800 W/m² (NOCT)**

| | | |
|--|------|------|
| Maximum Power | [W] | 137 |
| Maximum Power Voltage | [V] | 21.3 |
| Maximum Power Current | [A] | 6.45 |
| Open Circuit Voltage (V _{OC}) | [V] | 27 |
| Short Circuit Current (I _{SC}) | [A] | 7.14 |
| 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) | [%] | 5.3 |

DIMENSIONS

| | | |
|----------------------------|-------------------------|------------------|
| Length | [mm] | 1338 (± 2.5) |
| Width | [mm] | 990 (± 2.5) |
| Depth / incl. Junction Box | [mm] | 46 |
| Weight | [kg] | 16 |
| Cable | [mm] | (+)1030 / (-)840 |
| 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 | 48 |
| 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/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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