

KD135SX-1PU

High efficiency multicrystal photovoltaic module



CUTTING-EDGE TECHNOLOGY

Exhaustive research work and continuous further development of production processes enable the integrated Kyocera high-performance solar cells with a standard size of 156 mm x 156 mm to achieve over 16 % efficiency, guaranteeing an extremely high annual yield of energy from the photovoltaic system.

To protect against the harshest weather conditions, the cells are embedded between a reinforced glass covering and EVA foil, and are sealed with a PET foil backing. The laminate is set in a sturdy aluminium frame which is easy to assemble. The module fulfils test conditions according to IEC 61215 ed. 2 for a surface load of 5,400N/m².

The junction box on the module backside is equipped with bypass diodes that eliminate the risk of the individual solar cells overheating (hot spot effect). The solar cables ensure flexible installation in the junction box which definitely simplifies the installation of standalone solutions in particular.

Kyocera manufactures all the components at its own production sites – without buying in semi-finished products – to ensure consistently high product quality.

EXAMPLES OF APPLICATION

- Stand-alone systems (electrifying remote houses, holiday homes and allotment systems, etc.)
- Supplying electricity to outlying villages and medical institutions in rural areas and development zones
- Emergency power supply, protection against catastrophes
- Pumping systems (drinking water supply and irrigation)
- Telecommunications (mobile phone networks, booster stations, etc.)
- Oil & gas (corrosion proofing, control, monitoring, etc.)



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 and ISO 14001 certified and registered.

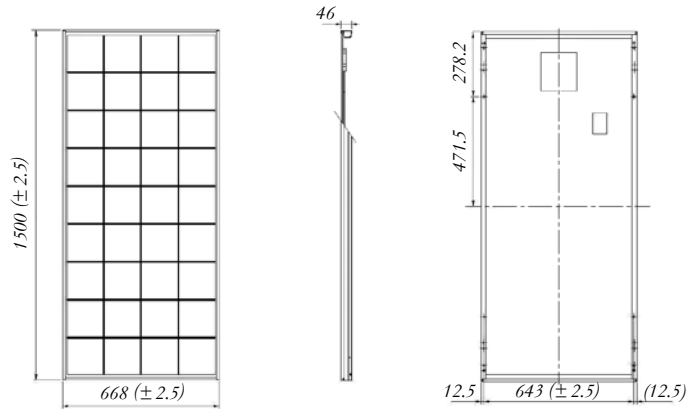


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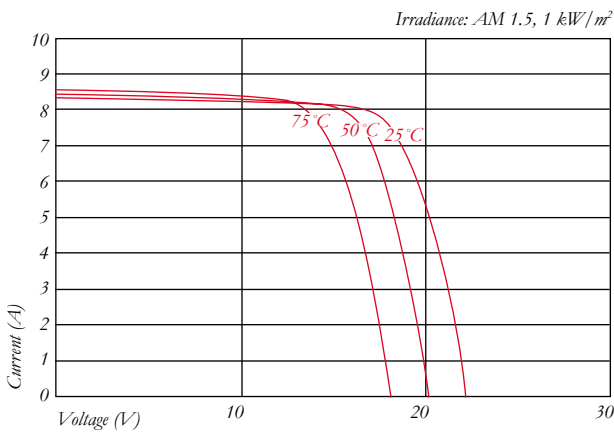
SPECIFICATIONS

in mm

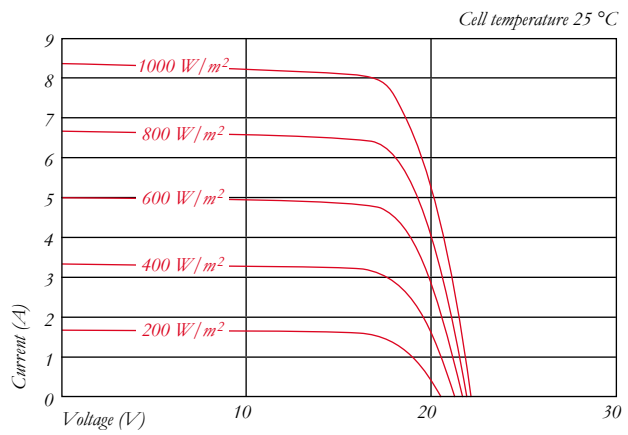


ELECTRICAL CHARACTERISTICS

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 |
| At 800 W/m² (NOCT)** | | |
| Maximum Power | [W] | 95 |
| Maximum Power Voltage | [V] | 15.7 |
| Maximum Power Current | [A] | 6.1 |
| Open Circuit Voltage (V _{OC}) | [V] | 20 |
| Short Circuit Current (I _{SC}) | [A] | 6.79 |
| NOCT | [°C] | 47.9 |
| Power Tolerance | [%] | +5 / -5 |
| Maximum Reverse Current I _R | [A] | 15 |
| Series Fuse Rating | [A] | 15 |
| Temperature Coefficient of V _{OC} | [V/°C] | -0.80x10 ⁻¹ |
| Temperature Coefficient of I _{SC} | [A/°C] | 5.02x10 ⁻³ |
| Temperature Coefficient of Max. Power | [W/°C] | -6.14x10 ⁻¹ |
| 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] | 150x140x37.2 |
| IP Code | IP65 | |

GENERAL INFORMATION

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

CELLS

| | |
|---------------------|-----------------|
| Number per Module | 36 |
| Cell Technology | polycrystalline |
| Cell Shape (square) | [mm] 156x156 |
| Cell Bonding | 3 busbar |

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

** 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

*** 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

Your local Kyocera dealer:

**KYOCERA
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We care!

**KYOCERA Fin ceramics GmbH
Solar Division**
Fritz-Mueller-Straße 27
73730 Esslingen/Germany
Tel: +49 (0)711-93 93 49 99
Fax: +49 (0)711-93 93 49 50
E-Mail: solar@kyocera.de
www.kyocerasolar.de