



Article number: 231 471
Description: S 165-SP

Module

Module type: Standard module
Frame: Aluminium anodised silver (similar to RAL 7035, light grey)
Size (W x H): 1580 x 800 mm
Frame height: 46 mm
Height of connecting box: 11.5 mm
Weight: 15.5 kg
Configuration: 50 cells (10 x 5)
Cell connection arrangement: In series

Cell

Cell type: Polycrystalline
Colour: Light blue
Size: 150 x 150 mm
Horizontal gap between cells: 2.0 mm
Vertical gap between cells: 2.0 mm
Distance from edge horizontally: 29.5 mm
Distance from edge vertically: 13.0 mm
Strip conductors: Vertical

Input and output values (STC: 1000 W/m²; 25°C; AM 1.5)

Nominal output: P_{MPP} 165 Wp
Output tolerance: -0/+5 %
Nominal voltage: U_{MPP} 24.2 V
Nominal current: I_{MPP} 6.83 A
Open-circuit voltage: U_{oc} 30.4 V
Short-circuit current: I_{sc} 7.36 A
Max. system voltage (SKL II): U_{sys} 780 V

Module design

Front glass: 3.2 mm opal glass
Space between cells: EVA with solar cells
Reverse side: PVF-PET-PVF foil

Connection

Connecting boxes with 3 bypass diodes.
Fitted connecting cable 0.8/1.25 m with MC-T3 plug system.

Packing unit

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PV module: S 165-SP

Thanks to intensive research, continual development of the production process and a new type of highly automated manufacture, the latest generation of polycrystalline **Schüco solar modules** achieve an exceptional standard of quality and a remarkably high level of efficiency. The embedded high performance solar cells with a basic size of 150 x 150 mm achieve an efficiency level of 14.7 % and guarantee an extremely high annual energy yield from the solar modules.

To protect them against the harshest of climatic conditions, the cells are embedded between a toughened glass covering and EVA (ethylene vinyl acetate) laminate, and are sealed on the reverse with PVF-PET-PVF foil. The polycrystalline module has an optimised power density. It consists of 50 series-connected polycrystalline silicon solar cells (10 x 5 cells). The use, for the first time in the PV industry worldwide, of a lead-free solder saves 47 g of lead per module and as such makes an additional contribution to environmental protection.

The module is enclosed in a torsion-proof, anodised aluminium frame, and therefore fulfils the highest standards of stability and resistance to corrosion. The frame allows modules to be fixed using the universal Schüco PV Light installation systems and covers the almost flush connecting box on the reverse of the solar module so that there are no additional installation depths or gaps to take into account.

In order to avoid overheating of individual solar cells (hot spot effect) and to guarantee reliable operation of the entire PV system, three bypass diodes are integrated into the connecting box.

Each module is quality controlled and the measured performance data are indicated on the reverse of the module and on the packaging.

Features

- Performance guarantee: 25 years: 80% of P_{Min}
12 years: 90% of P_{Min}
- JIS (Japanese Industrial Standard)
- IEC 61215, International Electrotechnical Commission, Worldwide Standard (TÜV / Rhineland)
- DIN VDE protection class II (TÜV / Rhineland)
- Measured performance data on the reverse of the module