

SCHOTT Solar polycrystalline solar modules with EFG™ cells

SCHOTT EFG™ 155/160/165/170

The long-established German company SCHOTT Solar is a world leader in the photovoltaic industry and has more than 50 years of experience in the development and production of components for solar applications.

SCHOTT Solar polycrystalline modules are specifically designed for both roof- and ground-mounted applications. Due to strict internal quality standards, all modules benefit from exceptionally long durability, which results in maximised profitability. The polycrystalline cells within each module are sorted to particularly narrow performance tolerances, thereby allowing series interconnections with minimal mismatch losses.

Double of the required standard: SCHOTT Solar tests its modules for twice as long as is required by the IEC.

High resistance to mechanical loads: The solid anodised aluminium frame ensures superior torsional resistance. SCHOTT Solar polycrystalline modules are also tested to an extreme loading pressure of 5,400 Pa – which equates to 550 kg per square metre and a reassuring level of security for your investment.

Environmentally friendly EFG™ technology: Thanks to the resource-optimised EFG™ process, material wastage is kept to a minimum. This highly efficient production process results in a much faster energy payback time and a reduced carbon footprint.

High performance output: All SCHOTT Solar polycrystalline modules hold a positive tolerance of their nominal power rating. This ensures a stable high-energy output and a quick return on investment.

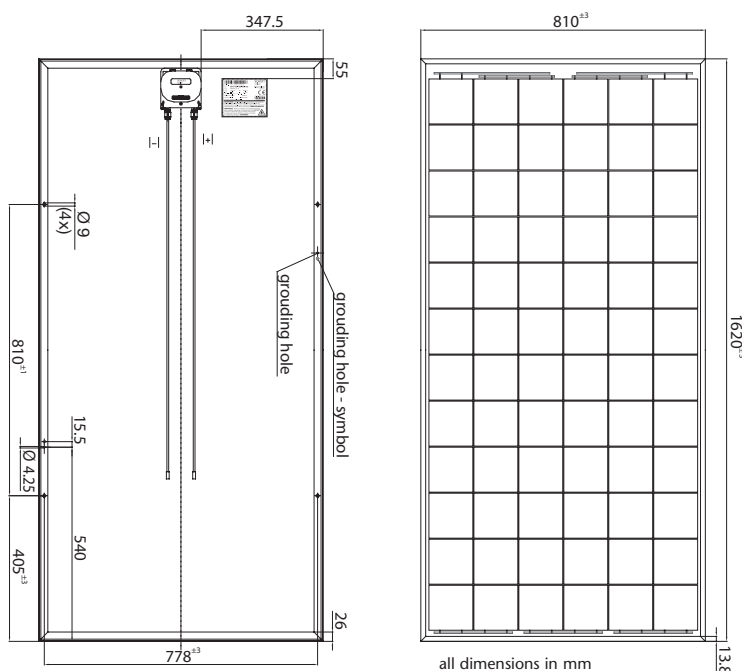
Long-term reliability: SCHOTT Solar offers a power output guarantee of 25 years and a product warranty of five years.

Increased resistance to reverse current: SCHOTT Solar polycrystalline modules have a high resistance to reverse current, minimising the wiring costs.

- Double of the required standard
- High resistance to mechanical loads
- Environmentally friendly EFG™ technology
- High performance output
- Long-term reliability
- Increased resistance to reverse current



SCHOTT EFG™ 155/160/165/170



SCHOTT
solar

Technical Data

Electrical data

Electrical data refer to Standard Test Conditions (STC):
Irradiance 1000 W/m², spectrum Air Mass 1.5 and cell temperature 25°C



Module type		SCHOTT EFG™ 155	SCHOTT EFG™ 160	SCHOTT EFG™ 165	SCHOTT EFG™ 170
Nominal power [Wp]	P _{mpp}	≥ 155	≥ 160	≥ 165	≥ 170
Sorting tolerance		-0 %	-0 %	-0 %	-0 %
Voltage at nominal power [V]	U _{mpp}	33.3	33.6	33.8	34.0
Current at nominal power [A]	I _{mpp}	4.66	4.77	4.88	5.00
Open-circuit voltage [V]	U _{oc}	42.2	42.8	43.1	43.3
Short-circuit current [A]	I _{sc}	5.15	5.23	5.32	5.41
Module efficiency level (%)	η	11.8	12.2	12.6	13.0

Sorting of module performance by flash data report (-0 %, positive tolerance only)
Rating tolerance for power output is ± 4 % and rating tolerance for all other parameters is ± 10 %.

Data at normal operating cell temperature (NOCT)

Irradiance 800 W/m², spectrum Air Mass 1.5, windspeed 1 m/s and ambient temperature 20°C



Nominal power [Wp]	P _{mpp}	111	115	119	122
Voltage at nominal power [V]	U _{mpp}	29.7	29.9	30.1	30.3
Open-circuit voltage [V]	U _{oc}	38.9	39.5	39.8	40.0
Short-circuit current [A]	I _{sc}	4.15	4.22	4.29	4.36
Temperature [°C]	T _{NOCT}	47.5	47.5	47.5	47.5

Rating tolerance for power output is ± 4 % and rating tolerance for all other parameters is ± 10 %.

Temperature coefficients



Power [%/K]	T _K (P _n)	-0.45	-0.45	-0.45	-0.45
Open-circuit voltage [mV/K]	T _K (U)	-136	-138	-139	-140
Short-circuit current [mA/K]	T _K (I)	1.80	1.83	1.86	1.89

Characteristic data



Solar cells per module	72
Cell type	EFG™ Iso (polycrystalline silicon, 125 x 125 mm ² , full-square)
Connection	Junction box IP65 with 3 bypass diodes, solar cable (length: 1 m, diameter: 4 mm ²) with Tyco Solarlok Interconnection
Dimensions	
junction box [mm]	110 x 115 x 25
Front panel	low iron solar glass 3.2 mm
Frame material	anodised aluminium

Dimensions and weight



Dimensions [mm]	1,620 x 810 (tolerance ± 3 mm)
Thickness [mm]	50 (tolerance ± 1 mm)
Weight [kg]	15.5

Limits



System voltage [V _{DC}]	1000
Maximum reverse current I _R [A]*	17
Operating module temperature [°C]	-40... +85
Maximum load (to IEC 61215 Ed. 2)	Pressure: 5,400 N/m ² or 550 kg/m ²
Application classification (to IEC 61730)	A
Fire classification (to IEC 61730)	C

* No external voltage in excess of U_{oc} shall be applied to the module.

Permission and certificates



The modules are certified to IEC 61215 ed. 2 and IEC 61730, Electrical Protection Class II and the CE-guidelines.

The **installation manual** contains additional information on installation and operation.

All information complies with the requirements of the standard EN 50380.



SCHOTT Solar AG
Carl-Zeiss-Strasse 4
63755 Alzenau
Germany

Phone: +49 (0) 60 23 / 91 - 1712
Fax: +49 (0) 60 23 / 91 - 1700
solar.sales@schottsolar.com
www.schottsolar.com

SCHOTT
solar