

The new SCHOTT Solar InDaX™ series



SCHOTT INDAX®
214/225

At a glance

- Flexible and quick assembly
- Certified rainproof
- Maximized earnings yield
- Aesthetics
- Certifications
- Double the required standard
- Long-term reliability

SCHOTT INDAX® 214/225

The long-established German company SCHOTT Solar has offered innovative and certified roof integrated PV solutions since 2003 based on the proven crystalline technology. The 4th generation of InDaX™ solar elements completely replace the conventional roof building materials and fulfill a dual function: clean, solar electricity generation and a secure roof covering. Everything from a single source: SCHOTT Solar also makes the covering frame available in addition to the InDaX™ module, with proven technology from the roof light industry.

Flexible and quick assembly: A simple and quick installation is ensured by a minimum number of parts and a low system weight. The flexible installation sequence also supports a quick assembly. The separate rain gutters between the modules allow for the simple correction of roof irregularities.

Certified rainproof: The InDaX™ system can be used with a roof pitch between 12° and 65°. SCHOTT Solar warrants the rain proofing for 10 years when the original parts have been used and installed in accordance with the installation instructions. The company also tests this beyond the standard (DIN EN 15601). In special wind tunnel tests, with a wind speed of up to 130 km/h the InDaX™ system is exposed to varying intensities of wind and rain in order to ascertain rain proofing.

Maximized earnings yield: The modules are arranged in a shingled array and a specially developed frame ensures an optimized rear-ventilation of each individual module and thereby ensures high-energy yields.

Aesthetics: Based on the extremely low height and the black frame the new InDaX™ system by SCHOTT Solar fulfills high architectural requirements and integrates perfectly into the roof surface.

Certifications: The InDaX™ module as a replacement to the conventional roof covering fulfill the protective functions of roofing with regard to rainfall, wind load, snow load as well as flying sparks and radiating heat. Moreover, the modules are approved for a heightened surface area load of 550 kg per square meter.

Double the required standard: The SCHOTT Solar internal quality standard also corresponds to the InDaX™ system module with a test length that is for twice as long as is required by the IEC.

Long-term reliability: Operators of an in roof facility of SCHOTT Solar receive a power output guarantee of 25 years and a product warranty of five years.

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Technical Data

Data at standard test conditions (STC)

Module type		SCHOTT InDaX® 214	SCHOTT InDaX® 225
Nominal power [Wp]	P_{mpp}	≥ 214	≥ 225
Voltage at nominal power [V]	U_{mpp}	29.5	29.8
Current at nominal power [A]	I_{mpp}	7.26	7.55
Open-circuit voltage [V]	U_{oc}	36.3	36.7
Short-circuit current [A]	I_{sc}	8.04	8.24
Module efficiency (%)	η	12.5	13.1

STC (1000 W/m²; AM 1.5; cell temperature 25°C)

Power tolerance (as measured by flasher): -0 W / +10.99 W

Power measurement accuracy: $\pm 4\%$

Data at normal operating cell temperature (NOCT)

Nominal power [Wp]	P_{mpp}	154	161
Voltage at nominal power [V]	U_{mpp}	26.6	26.9
Open-circuit voltage [V]	U_{oc}	33.1	33.5
Short-circuit current [A]	I_{sc}	6.44	6.60
Temperature [°C]	T_{NOCT}	47.2	47.2

NOCT (800 W/m², AM 1.5, windspeed 1 m/s, ambient temperature 20°C)

Power measurement accuracy: $\pm 4\%$

Data at low irradiation

At a low irradiation intensity of 200 W/m² (AM 1.5 and cell temperature 25°C) 97 % of the STC module efficiency (1000 W/m²) will be achieved.

Temperature coefficients

Power [%/K]	P_{mpp}	-0.45
Open-circuit voltage [%/K]	U_{oc}	-0.33
Short-circuit current [%/K]	I_{sc}	+0.04

Characteristic data

Solar cells per module	60
Cell type	MAIN-iso (multicrystalline, 156 mm x 156 mm)
Junction box	IP65 with three bypass diodes
Connector	Tyco-Connector IP67
Dimensions junction box [mm]	110 x 115 x 25
Front panel	low iron solar glass 4.0 mm
Backside panel	foil
Frame material	anodised aluminium, black

Dimensions and weight

Dimensions [mm]	1,769 x 999
Dimensions of the installed module, visible [mm]	1,720 x 999
Thickness [mm]	75
Weight [kg]	approx. 24.0
Surface weight [kg/m ²]	approx. 13.5

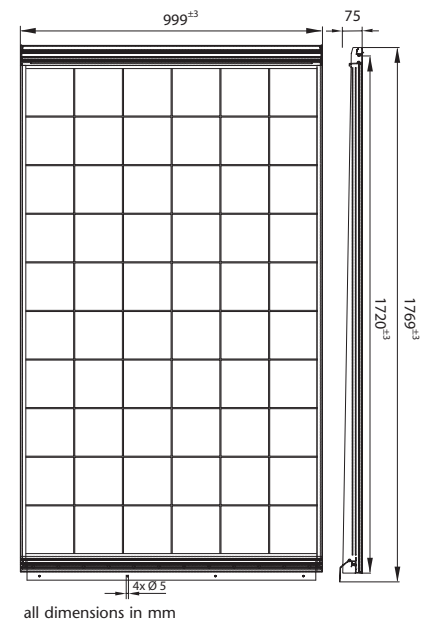
Limits

Maximum system voltage [V _{DC}]	1000
Maximum reverse current I_R [A]*	20
Operating module temperature [°C]	-40 ... +85
Maximum load (to IEC 61215 ed. 2)	pressure: 5,400 N/m ² or 550 kg/m ² suction: 2,400 N/m ² or 245 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, IEC 61730, DIN EN 15601 and DIN V EN V 1187 part 1 and part 3, the Electrical Protection Class II and the CE-guidelines. Moreover SCHOTT Solar is certified and registered to ISO 9001 and ISO 14001.



The **installation manual** contains additional information on installation and operation. All information complies with the requirements of the standard EN 50380.



SCHOTT Solar AG
Hattenbergstrasse 10
55122 Mainz
Germany

Phone: +49 (0)6131/66-14099
Fax: +49 (0)6023/91-1700
solar.sales@schottsolar.com
www.schottsolar.com

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solar