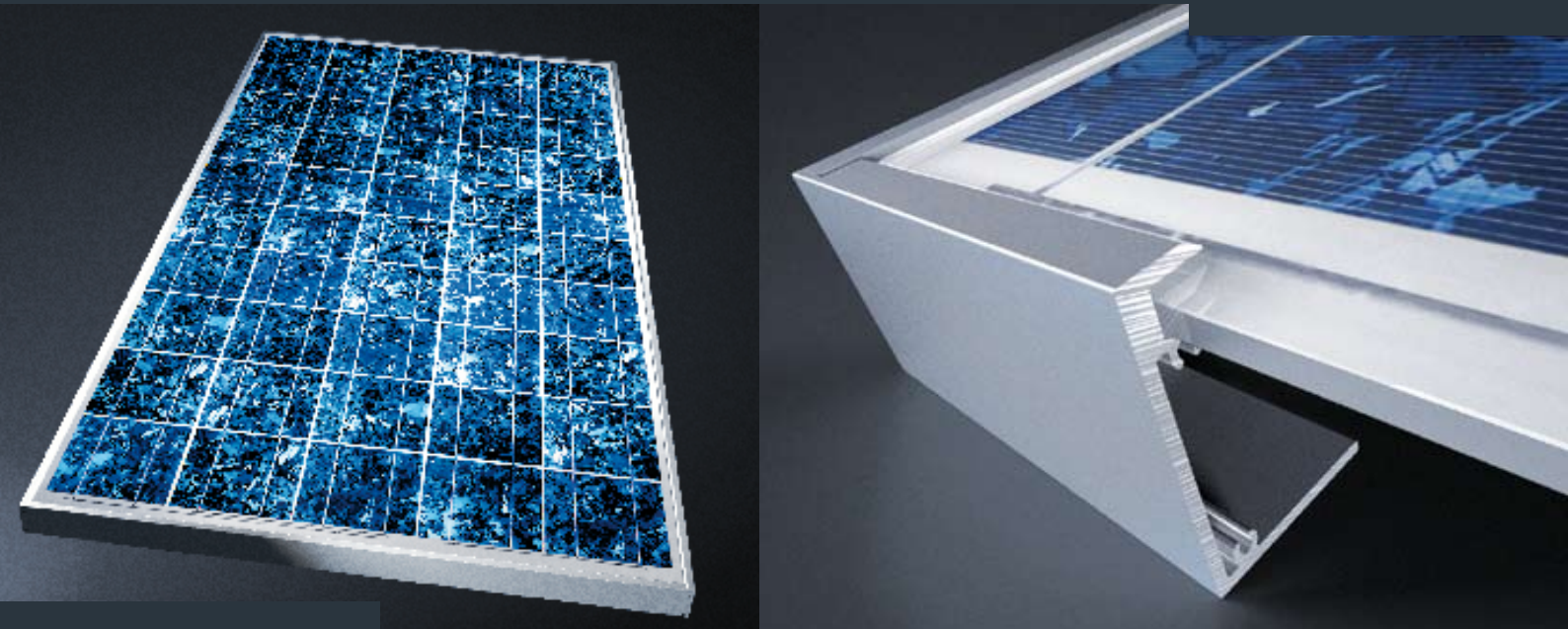


# Schüco photovoltaic modules in the SP-4 series

Technical information on the output classes 120 to 130 Wp



## **PV module of the highest quality**

The SP-4 series of Schüco PV modules are distinguished by polycrystalline solar cells with a cell efficiency of up to 14,8% for high outputs per square metre of module area. The output tolerance of an SP-4 module is +5/-0 %, only modules of the highest quality provide this level of reliability. The rated output is always achieved or exceeded.

## **Comprehensive guarantee**

Schüco SP-4 modules have a 5-year extended product guarantee. In fact, the guarantee on output values is considerably longer – after 25 years, the Schüco module will still provide at least 80% of its rated output. Every SP-4 module is manufactured according to current quality standards.

## **Optimised labelling**

Prior to delivery, each SP-4 module is subject to a visual and electrical quality test. The output data measured is indicated on the back of the module and on the packaging. Homogeneous module fields can be grouped together quickly and effectively during installation.

## **High level of operational reliability**

Two connecting boxes with two bypass diode bridges on the reverse of the module prevent individual solar cells from overheating (hot-spot effect). This ensures the reliable operation of the whole system from module fields to inverters.

## **Environmental protection**

The use of lead-free solder in the manufacture of SP-4 modules results in a saving of 36 grams of lead per module, which makes a considerable contribution to environmental protection.

## **Attractive and robust**

The module frame made from torsion-proof, anodised aluminium meets the highest standards in terms of stability and corrosion resistance.

SP-4 modules can be installed with installation components from the Schüco PV Light installation system.

# Schüco photovoltaic modules in the SP-4 series

Key electrical data	Module output categories		
	S 120-SP-4	S 125-SP-4	S 130-SP-4
Output data (except NOCT) under Standard Test Conditions (STC)*:			
Rated output (P <sub>mpp</sub> )	120 Wp	125 Wp	130 Wp
Output tolerance (Δ P <sub>mpp</sub> )	+5% /-0%	+5% /-0%	+5% /-0%
Guaranteed minimum output (P <sub>mpp min.</sub> )	120 W	125 W	130 W
Rated voltage (U <sub>mpp</sub> )	17,20 V	17,30 V	17,40 V
Rated current (I <sub>mpp</sub> )	6,99 A	7,23 A	7,47 A
Open circuit voltage (U <sub>oc</sub> )	21,60 V	21,80 V	21,90 V
Short circuit current (I <sub>sc</sub> )	7,75 A	7,90 A	8,05 A
Cell efficiency	13,70%	14,30%	14,80%
Module efficiency	11,90%	12,40%	12,90%
Temperature coefficient α (P <sub>mpp</sub> )	-0,452% / °C	-0,452% / °C	-0,452% / °C
Temperature coefficient β (I <sub>sc</sub> )	+0,054% / °C	+0,054% / °C	+0,054% / °C
Temperature coefficient γ (U <sub>oc</sub> )	-0,343% / °C	-0,343% / °C	-0,343% / °C
Temperature coefficient δ (I <sub>mpp</sub> )	+0,057% / °C	+0,057% / °C	+0,057% / °C
Temperature coefficient ε (U <sub>mpp</sub> )	-0,346% / °C	-0,346% / °C	-0,346% / °C
Normal Operating Cell Temperature (NOCT)**	46,20 °C	46,25 °C	46,25 °C
Max. permissible system voltage	1.000 V	1.000 V	1.000 V
Number of cells	36 (4x9)	36 (4x9)	36 (4x9)
Cell size	156 x 156 mm (6"+)	156 x 156 mm (6"+)	156 x 156 mm (6"+)

\* Intensity of solar radiation 1000 W/m<sup>2</sup>, air mass 1.5, cell temperature 25°C

\*\* Intensity of solar radiation 800 W/m<sup>2</sup>, ambient temperature 20 °C, wind speed 1 m/s

Key mechanical data	
Outer dimensions (l x w x h)	1495 x 674 x 46 mm
Design of aluminium frame	Anodised, silver (similar to RAL 7035)
Front glass	Toughened safety glass (TSG)
Weight	13,5 kg
Connection system / cross section of solar cable	Schüco / 4 mm <sup>2</sup> (MC-T4 compatible)
Lengths: Positive cable / negative cable	80 cm ± 5 cm / 125 cm ± 5 cm

Miscellaneous	
Weight of packing unit	29 kg
Schüco installation system	PV-Light
Schüco Art.-No. End clip	Typ 6-1
Schüco Art.-No. Intermediate clip	Typ 6-2
Schüco Art.-No. S 120 SP-4	256397
Schüco Art.-No. S 125 SP-4	256437
Schüco Art.-No. S 130 SP-4	256438
Packing unit	2 modules

Qualification and guarantees	
Electrical classification	Safety class II
Product standard	IEC 61215, EN 61730
Extended product guarantee	5 years
Output guarantee to 90 % P <sub>mpp min.</sub>	12 years
Output guarantee to 80 % P <sub>mpp min.</sub>	25 years

Output	
120 to 130 Wp	▶ Maximum outputs with a compact module surface area
Positive output tolerance	▶ Rated output is achieved or exceeded
Design and production	
Optimised labelling	▶ Individual rated output data on module and packaging
Use of lead-free solder	▶ Active environmental protection thanks to saving of 36 g of lead per module
Anodised aluminium frame	▶ Meets highest standards in terms of stability and corrosion resistance
Bypass diodes	▶ Reliable prevention of the "hot-spot effect"
Highest Schüco quality	
Manufactured in accordance with current quality standards	▶ Tests to determine performance data; data listed for each module
Extended product guarantee and output guarantee	▶ Investment security and reliable system operation