

# Schüco SMAU-1 Series

Monocrystalline Photovoltaic Module



## Highest quality PV module

The SMAU-1 series of Schüco PV modules are distinguished by monocrystalline solar cells with a cell efficiency of up to 16.8 % for high outputs per square metre of module area. The output tolerance of an SMAU-1 module is +3 / -3 %, only modules of the highest quality provide this level of reliability.

## Comprehensive guarantee

Schüco SMAU-1 modules have a 5-year 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 SMAU-1 module is manufactured according to current quality standards.

## Optimised labeling

Prior to delivery, each SMAU-1 module is subject to a visual and electrical quality test. The performance 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

Schüco SMAU-1 modules have a connecting box on the reverse of the module that is fitted with three bypass diode bridges. This prevents individual solar cells from overheating (hot-spot effect) and ensures the reliable operation of the overall system from module field and inverter. The connecting box, solar cables and plug systems are of the highest quality and are also certified as individual components.

## Attractive and robust

The module frame made from torsion-proof, anodised aluminium meets the highest requirements in terms of stability and corrosion resistance. The aluminum frame was structurally optimised; the use of drainage holes inside the frame prevents possible damage due to frost.

SMAU-1 modules can be installed with installation components from the Schüco SolarEZ Mounting System.

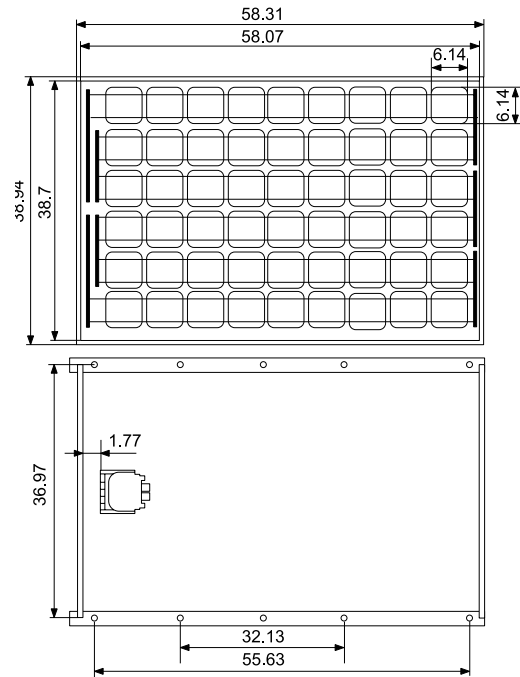
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# Technical Data

Electrical specifications	Module output classes	
Power output under standard test conditions (STC)*	SPV 200 SMAU-1	SPV 210 SMAU-1
Rated power ( $P_{mpp}$ )	200 W	210 W
Effective output tolerance ( $\Delta P_{mpp}$ )	+ 3 % / - 3 %	+ 3 % / - 3 %
Guaranteed minimum output ( $P_{mpp\ min}$ )	194 W <sub>p</sub>	203.7 W <sub>p</sub>
Number, layout and size of cells	54 (6x9) 6" monocrystalline cells	
Rated voltage ( $U_{mpp}$ )	25.38 V	26.3 V
Rated current ( $I_{mpp}$ )	7.89 A	7.98 A
Open-circuit voltage ( $U_{oc}$ )	33.53 V	33.68 V
Short circuit current ( $I_{sc}$ )	8.24 A	8.35 A
Cell efficiency	16.0%	16.8%
Module efficiency	14.2%	14.9%
Temperature coefficient $\alpha$ ( $P_{mpp}$ )	-0.5028 % / K	-0.5028 % / K
Temperature coefficient $\beta$ ( $I_{sc}$ )	+0.03456 % / K	0.03456 % / K
Temperature coefficient $\chi$ ( $U_{oc}$ )	-0.3313 % / K	-0.3313 % / K
Temperature coefficient $\delta$ ( $I_{mpp}$ )	+ 0.03456 % / K	+ 0.03456 % / K
Temperature coefficient $\xi$ ( $U_{mpp}$ )	-0.3313 % / K	-0.3313 % / K
Normal Operating Cell Temperature (NOCT)**	109.4 °F (+/-35.6 °F) / 43° C (+/- 2°C)	109.4 °F (+/-35.6 °F) / 43° C (+/- 2°C)
Maximum system voltage permitted	600 V	600 V
Series fuse rating	15 A	15 A

\* Irradiance 1,000 W/m<sup>2</sup>, Air Mass 1.5, cell temperature 77 °F

\*\* Irradiance 800 W/m<sup>2</sup>, ambient temperature 66 °F, wind speed 0.62mph



Mechanical specifications	
Outer dimensions (L x B x H)	58.307 x 38.937 x 1.87 in. (1,481 x 989 x 47.5 mm)
Aluminum frame	anodized, black
Front glass	Tempered safety glass
Weight	37.92 lbs. (17.2 kg)
Connection system / diameter of cable	Tyco Solarlok / 4mm <sup>2</sup> / 12 AWG
Lengths: plus / minus cable	39.37 (+/- 1.969) / 39.37 (+/- 1.969) in (100 cm +/- 5 cm / 100 cm +/- 5 cm)

Miscellaneous	
Weight of packing unit	35 kg / 77 lbs
Schüco Art.-No. SPV 200 SMAU-1	232935
Schüco Art.-No. SPV 210 SMAU-1	232936
Packing unit	2 modules

Qualification and guarantees	
Electrical classification	Safety Class II
Product standard	UL 1703 / IEC 61215-2
Extended product guarantee	5 years
Output guarantee to 90% performance $P_{mpp\ min}$	12 years
Output guarantee to 80% performance $P_{mpp\ min}$	25 years

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