

Schüco PV Modules MPE in the PS 04 series

Technical information on the output categories 220 to 240 W_p



PV module of the highest quality

Schüco MPE PV modules in the PS 04 series are distinguished by polycrystalline solar cells with high cell efficiency. The three busbars further enhance efficiency and as a result, the highest possible overall outputs can be achieved. Due to the positive output tolerance of $+5/-0\%$, the rated output is always achieved or exceeded.

Comprehensive guarantee

The modules have an extended 5-year product guarantee. In fact, the guarantee on performance values is considerably longer – after 25 years, a Schüco MPE PV module in the PS 04 series will still provide at least 80% of its rated output.* Every module is manufactured according to current quality standards.

Optimum labelling

Prior to delivery, every 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

Schüco PV MPE modules in the PS 04 series 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). This then ensures the reliable operation of the whole system, from module fields to inverters. The connecting box, solar cables and plug systems are of the highest quality and are also certified as individual components.

New retaining clamp concept

The innovative retaining clamp groove in the frame ensures an optimised interlock, thereby reducing the load on the retaining clamp.

Attractive and robust

The module frame made from torsion-proof, anodised aluminium meets the highest standards in terms of stability and corrosion resistance. Two cross struts in the frame on the reverse increase the load-bearing capacity of the module. Schüco MPE PV modules in the PS 04 series can be installed using components from the Schüco MSE 210 mounting system.

* In accordance with the Schüco International KG conditions of warranty



Schüco PV module MPE in the PS 04 series*

Key electrical data	Module output categories				
Performance data (except NOCT) under Standard Test Conditions (STC) ¹⁾ :	MPE 220 PS 04	MPE 225 PS 04	MPE 230 PS 04	MPE 235 PS 04	MPE 240 PS 04
Rated output (P_{mpp})	220 W _p	225 W _p	230 W _p	235 W _p	240 W _p
Output tolerance (ΔP_{mpp})	+5%/-0%	+5%/-0%	+5%/-0%	+5%/-0%	+5%/-0%
Guaranteed minimum output ($P_{mpp\ min}$)	220 W _p	225 W _p	230 W _p	235 W _p	240 W _p
Rated voltage (U_{mpp})	29.30 V	29.50 V	29.80 V	30.10 V	30.40 V
Rated current (I_{mpp})	7.52 A	7.63 A	7.71 A	7.82 A	7.91 A
Open-circuit voltage (U_{oc})	36.60 V	36.70 V	36.80 V	36.90 V	37.00 V
Short circuit current (I_{sc})	8.09 A	8.19 A	8.34 A	8.47 A	8.61 A
Cell efficiency	15.4 %	16.0 %	16.1 %	16.7 %	17.1 %
Module efficiency	13.7 %	14.0 %	14.3 %	14.6 %	14.9 %
Temperature coefficient α (P_{mpp})	-0.45 %/°C	-0.45 %/°C	-0.45 %/°C	-0.45 %/°C	-0.45 %/°C
Temperature coefficient β (I_{sc})	+0.06 %/°C	+0.06 %/°C	+0.06 %/°C	+0.06 %/°C	+0.06 %/°C
Temperature coefficient χ (U_{oc})	-0.35 %/°C	-0.35 %/°C	-0.35 %/°C	-0.35 %/°C	-0.35 %/°C
Temperature coefficient δ (I_{mpp})	+0.06 %/°C	+0.06 %/°C	+0.06 %/°C	+0.06 %/°C	+0.06 %/°C
Temperature coefficient ε (U_{mpp})	-0.35 %/°C	-0.35 %/°C	-0.35 %/°C	-0.35 %/°C	-0.35 %/°C
Normal Operating Cell Temperature (NOCT) ²⁾	45 °C (± 2 °C)	45 °C (± 2 °C)	45 °C (± 2 °C)	45 °C (± 2 °C)	45 °C (± 2 °C)
Max. permissible system voltage	1000 V	1000 V	1000 V	1000 V	1000 V
Number of cells	60 (6 x 10)	60 (6 x 10)	60 (6 x 10)	60 (6 x 10)	60 (6 x 10)
Cell size	156 x 156 mm	156 x 156 mm	156 x 156 mm	156 x 156 mm	156 x 156 mm

¹⁾ Intensity of solar radiation 1000 W/m², air mass 1.5, cell temperature 25 °C. PV modules show electrical performance degradation over time. This occurs after commissioning, initially on a decreasing scale, then later in a linear progression.

²⁾ Intensity of solar radiation 800 W/m², ambient temperature 20 °C, wind speed 1 m/s

Key mechanical data	
Outer dimensions (L x W x H)	1639 x 983 x 42 mm
Design of aluminium frame	Anodised, silver (similar to RAL 7035)
Front glass	Toughened safety glass (TSG)
Weight	18 kg
Connection system / cross section solar cable	Schüco / 4 mm ² (MC-T4 compatible)
Lengths: positive cable / negative cable	100 cm \pm 5 cm / 100 cm \pm 5 cm

Qualification and guarantees ³⁾	
Electrical classification	Safety class II
Product standard	IEC 61215, EN 61730
Tested snow and wind loads	Up to 5.4 kN/m ²
Extended product guarantee	5 years
Output guarantee to 90% $P_{mpp\ min}$	12 years
Output guarantee to 80% $P_{mpp\ min}$	25 years

Miscellaneous	PS 04-2 Series
Weight of packing unit	37 kg
Schüco mounting system	MSE 210
Schüco retaining clamps	Type 43
Art. No. Schüco MPE 220 PS 04	271 280
Art. No. Schüco MPE 225 PS 04	271 281
Art. No. Schüco MPE 230 PS 04	271 282
Art. No. Schüco MPE 235 PS 04	271 283
Art. No. Schüco MPE 240 PS 04	271 308
Packing unit	2 modules

³⁾ In accordance with the Schüco International KG conditions of warranty

Subject to change

Output	
220 to 240 W _p	► Maximum outputs with a compact module surface area
Positive output tolerance	► Rated output is achieved or exceeded
Design and production	
Optimum labelling	► Individual output data on module and packaging
Innovative retaining clamp groove	► Streamlined look and optimised interlock
Anodised aluminium frame	► Meets highest standards in terms of stability and corrosion resistance
Bypass diodes	► Reliable prevention of "hot-spot effect"
Highest Schüco quality	
Manufactured to current quality standards	► Output data tested and results listed for each module
Extended product and output guarantee	► Investment security and reliable system operation

* Availability of the performance class will be checked on request.