

System solution for photovoltaic facades

The SOLup standardized PV facade is an attractive way to integrate solar technology (BAPV) into the facades of commercial and residential buildings.

System solution

The design of the system as a ventilated rear facade (vhF) means you can dispense with expensive special designs. SOLup can be easily integrated into all design and thermal protection concepts, and it also functions as an additive retrofit on existing facades. SOLup delivers a holistic solution through the coordinated combination of a robust high-tech PV double-glass module and a flexible substructure, including stability verification.

Certifications & Tests

- EN 12179 and EAD 090062-00-0404 (wind load resistance)
- EN 12600:2011-11, DIN 18008-4:2013-07, EN 14019:2016-06 (Shock resistance)
- IEC 61215, IEC 61730, IEC 61701, IEC TS 62804 (module safety and reliability)
- DIN EN 13501-1 B-s1 d0* (Fire behavior for PV-vhF)

Special requirements of the construction industry

In addition to the required certifications for PV modules, SOLup offers a particularly high degree of compliance with all requirements for facade construction.

SOLup has passed the standard tests for resistance to wind load according to EN 12179 and the proof of impact resistance according to EN 12600, DIN 18008 and EN 14019 as a system structure. It also follows the generally accepted rules of technology in its methods of installation.

Integrative PV solution for architecture

The black module design can be combined and accentuated with all facade claddings such as TRESPA, HPL, metal or fiber cement in the VHF construction, as often not all facade areas are suitable for the installation of photovoltaic systems.

Planning and installation

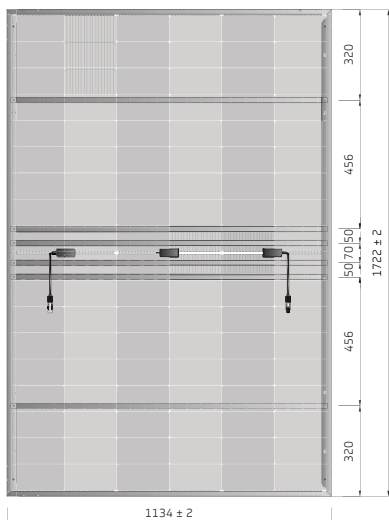
Our system partners, including solar-mw.com, are happy to advise you on the construction of your SOLup BAPV facade and can also provide all the necessary installation services.

System weight	approx. 13kg/m ² incl.
Technology	420Wp / TOPCon / dual-glass
Module dimensions	2m ² (1722mm x 1134mm)
Colour	full-black

SOLup system module

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Technical data



General data

Module and cell technology	F-TG 108n.3/420, n-TOPcon cells
Cell size and number	182mm x 91mm; 108 pcs.
Module dimensions	1722mm x 1134mm x 30mm
Module weight	25.5kg
Frame	Reinforced anodized aluminium (black)
Glass	2 x 2.0mm tempered solar glass with anti-reflective coating
Junction box and IP rating	3 pcs. with one bypass diode each potted junction box, IP68
Connectors	4mm ² solar cable, length 120cm, original STÄUBLI MC4-Evo 2
Packing	36 modules vertical on pallet, 936 / 40ft.

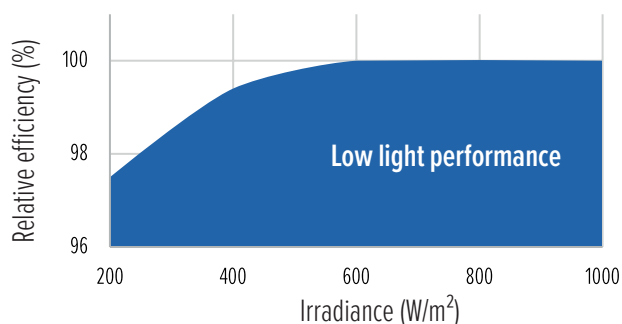
Connection and working conditions

Maximum system voltage	1500V
Temperature range	-40°C to +85°C
Mechanical resilience ¹	Pressure resistance tested at 5400Pa Wind suction load capacity tested at 5400Pa
Safety class	II
Reverse current overload	20A
Fire classes ²	C (UL 790) B _{ROOF} (t1) according to DIN EN 13501-5: 2016 *(open) B according to DIN EN 13501-1 s1 d0 for PV-VHF
Hail resistance	Hailstones up to 25mm in size and at a speed of 23m/s

¹Specified pressure load resistance: 3600Pa and suction load resistance: 1600Pa 1600Pa;
²for all roof slopes

Temperature coefficients

TC of the maximum power (P _{max})	-0.32% /°C
TC of open circuit voltage (V _{oc})	-0.25% /°C
TC of short circuit current (I _{sc})	+0.045% /°C



Electrical data (STC)

Nominal data at standard testing conditions (STC): Irradiance 1000W/m²; Spectrum AM 1.5; module temperature 25°C; sorting for P_{max} 0 to +5W

Module type	F-TG 108n.3/420
STC power output P _{max} (W _p)	420
Nominal power voltage V _{mp} (V)	32.52
Nominal power current I _{mp} (A)	12.92
Open circuit voltage V _{oc} (V)	38.07
Short circuit current I _{sc} (A)	13.55
Bifacial coefficient (%)	80 ± 5
Module efficiency (%)	21.5

Tolerance P_{max}: ±3,0%; V_{oc}, V_{mp}, I_{sc}, I_{mp} tolerances: ±5,0%

Electrical data (NMOT)

Nominal data at NMOT (Nominal Module Operation Temperature): Irradiation intensity 800W/m²; spectral distribution AM 1.5; ambient temperature 20°C; wind velocity 1m/s

Module type	F-TG 108n.3/420
Solar cell temperature (°C)	42 ± 2
Power output (W _p)	317
Nominal power voltage V _{mp} (V)	30.60
Nominal power current I _{mp} (A)	10.36
Open circuit voltage V _{oc} (V)	36.56
Short circuit current I _{sc} (A)	10.87

Tolerance P_{max}: ±3,0%; V_{oc}, V_{mp}, I_{sc}, I_{mp} tolerances: ±5,0%

This data sheet corresponds to DIN EN 50380.
Developed and designed in Germany.

