

eFlex - Flexible CIGS Solar PV modules



Description

The eFlex is a range of flexible and lightweight CIGS solar PV modules specifically designed for application on buildings and transportation platforms (such as buses, vans and trucks).

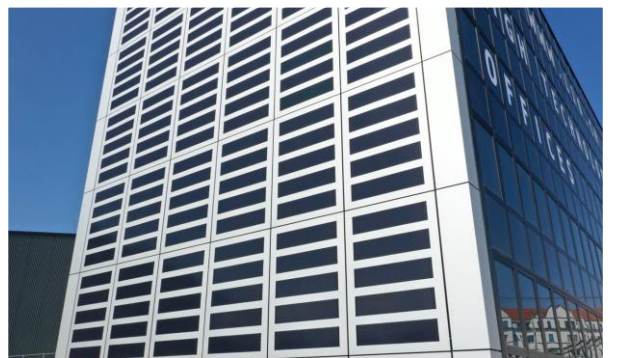
The modules can be applied on surfaces with limited load bearing capacity, on curved surfaces, on membranes that need to keep their waterproofing and should not be penetrated, or where aesthetics are critical such as facades and residential roofs.

The modules come in different sizes which can be used to cover entire surfaces.

The modules are made of high quality materials which give a lasting performance and are based on a unique technology developed in Switzerland to deliver high performance in targeted applications.

Features

- Ultra-low weight, < 2kg/m²
- Applicable on curved surfaces – bendable on a 20cm radius
- Super thin (<2mm) & aerodynamic
- High energy yield due to shadow tolerance and temperature stability
- Special adhesive option for easy installation on various surfaces
- Beautiful aesthetics - uniform full black design
- Robust and vibration resistant - micro cracks free
- Multiple length options (~1m to ~6m) to meet different needs
- Low environmental footprint
- Swiss technology, made in Europe



Dimensions

Length	[mm]	4571 ±2
Width	[mm]	411 ±1
Thickness of module		
without backside adhesive	[mm]	1.5 ± 0.2
with backside adhesive		2.2 ± 0.2
Thickness at J-Box	[mm]	20 ± 1
Weight		
without backside adhesive	[Kg]	3.6
with backside adhesive		5.3



Electrical characteristics at STC ¹			165W
Model number			
Nominal power	P _{mpp}	[W]	165
Tolerance*		[%]	-10/ +10
Voltage at nom. power	V _{mpp}	[V]	35.1
Current at nom. power	I _{mpp}	[A]	4.71
Open circuit voltage	V _{oc}	[V]	49.0
Short circuit current	I _{sc}	[A]	5.18
Max. system voltage	IEC	[V]	1000
Max. serial fuse rating	I	[A]	10

*Average power over all modules shipped to any customer shall be 165W or above. Modules will be sorted into boxes of 5W/10W increments depending on the project size.

Thermal Characteristics

Temperature coefficient	V _{oc}	[%/°C]	-0.30
Temperature coefficient	I _{sc}	[%/°C]	0.01
Temperature coefficient	P _{mpp}	[%/°C]	-0.35

Operating Conditions

Temperature range	[°C]	-40 to +85
Max. mechanical load ²		2400 Pa, 245 kg/m ²

Additional Information

Cell type	Flexible CIGS on Polyimide
Junction box	Front side including bypass diode, IP68 for box, MC4 type connectors, 400mm long stranded wire 2.5 mm ²
Encapsulation	Fluoropolymer front sheet / plastic back sheet
Customization	Possible on request
Packaging	Shipped rolled on Euro pallets in boxes of 6 pcs without backside adhesive or 3 pcs with backside adhesive – max. 72/ 36 per pallet

Warranty & Certification

Performance guarantee	10 years on 90% of P _{mpp} under STC ¹ & 20 year on 80% of P _{mpp} under STC ¹
Warranty	5 years' workmanship after delivery date
Certification	IEC 61215:2016 testing underway; IEC 61730:2016 testing underway;
Safety class	II

Notes

¹ STC: 1000 W/m², AM1.5G, 25°C, stabilized module state. We continuously develop our products. Electrical and physical properties are subject to change without prior notice.

² Higher load ratings can be met with additional support, subject to testing.