OPES
SOLAR MOBILITY

O.Motion Series

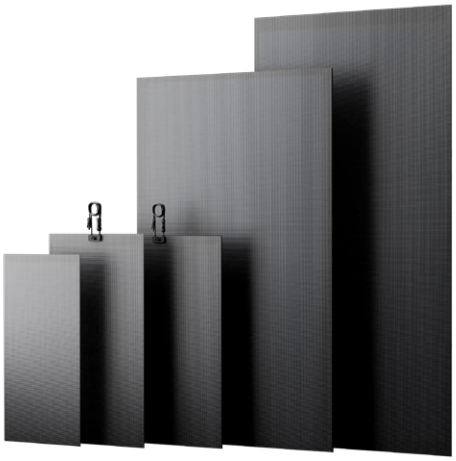
Made for the road

The O.Motion Series is developed with a unique vehicle-first philosophy, ensuring reliability and top-tier performance both on and off the road.
The automotive-grade solar panels are designed for vehicles from geometry to cell interconnection to lamination structure and manufacturing process.

Solar panels on trucks, semi-trailers, camper vans and buses face specific challenges, such as vibrations or compliance with strict vehicle standards.

We understand the distinct requirements of commercial vehicles. With renowned industry and research partners and in-house testing facilities, we not only meet industry standards, we define them.

O.Motion is equally feasable for semi or full integration into the vehicle body.



Made in Germany

- Best performance during partial shading
- Highest watt per square meter
- Lead-free connections
- Scratch-resistant embossed surface
- Vibration-proof and long-lasting

PRELIMINARY DATASHEET

OPES SOLAR MOBILITY

www.opes-mobility.com
Pereser Höhe 1, 04442 Zwenkau, Germany
info@opes-mobility.com

	OMO 095R	OMO 125F	OMO 165F	OMO 460R	OMO 500R
Electrical Specifications					
Power Output-Pmax (Wp)	95	125	165	460	500
Voltage at Pmax-Vmp (V)	8.61	10.47	18.71	35.33	37.79
Current at Pmax-Imp (A)	11.03	11.94	8.82	13.02	13.23
Open Circuit Voltage-Voc (V)	11.20	13.30	24.50	45.50	50.26
Short Circuit Current-Isc (A)	11.43	12.56	9.15	13.71	13.72
Cell Type	Monocrystalline, Matrix Technology				
Cell Efficiency	25%				
Electrical Tolerance	-5~+10%				
Standard Test Conditions	Irradiance 1000 W/m², Cell Temperature 25 °C, Air Mass AM 1.5; Measuring tolerance: ±3 %				
Mechanical Data					
Module Weight (kg)	2.1	2.7	3.4	8.8	9.8
Module Dimensions (mm)	1000 x 515 x 3	1105 x 617 x 3	1100 x 790 x 3	1940 x 1230 x 3	2235 x1160 x 3
Junction box	Rear	Front	Front	Rear	Rear
Cable	1.1m; 2x4mm²	1.1m; 2x4mm²	1.1m; 2x4mm²	No cable	1.1m; 2x4mm²
Connector	MC4	MC4	MC4	Bipolar connector	No connector
Bending Radius	25°				
Operational Temperature	-40°C to +85°C				
Quality					
Product Warranty	3 Years				
Power Warranty	10 Years / 80%				
Specific Tests	Vibration, bonding, salt spray, hail, pressure cleaning, UV aging, thermal cycle, damp heat, humidity freeze and other specific tests				
Certificates	IEC 61215, IEC 61730, ISO 9001, ISO 14001, ISO 45001 pending, IMDS listing on request				
System Solutions					
OSM HV 850 (1.5 KW)* (No. of Strings x No. of serial connected Modules)*	3x5 or 4x5	3x4	3x2 or 4x2 or 5x2	3x1	3x1
Max PV Power (W) 3 Ports	1,425	1,500	990	1,380	1,500
Max PV Power (W) 3 Ports + 1 Y Connector	1,900	NA	1,320	NA	NA
Max PV Power (W) 3 Ports + 2 Y Connector	NA	NA	1,650	NA	NA

*Multiple devices can be installed to increase the total kWp output. Other system solutions are possible. For further information, please contact our sales team.
Note: Please read the safety and installation manual before using the product. Electrical values at standard test conditions (STC). Specifications subject to technical changes.
OPES Solar Mobility GmbH. All rights reserved. © OPES O.Motion_3_2025-01-13

SOLAR PANELS MADE FOR VEHICLES

Material Compatibility

The bond between the module and the vehicle surface is crucial for performance. To ensure optimal impact resistance, ventilation, and response to temperature, we conduct extensive testing of our panels in combination with different materials.

Cell Connections

Resistance to vibrations is a key factor in the extended lifespan of our flexible solar panels compared to conventional flexible solar panels. In the O.Motion series, the cells are connected with a matrix and a significant larger bonding area.

Partial Shading Protection

With the Matrix-Technology, only the cells exposed to partial shading work less. The current flows around obstructed areas. Up to 90% more energy yield compared to regular solar modules in partial shading conditions of the module area.

Lightweight & Thickness

Our thin and lightweight solar panels comply with automotive regulations and offer excellent performance. In comparison to thin-film technology, they deliver up to 70% more power per m2 while still benefitting from minimal drag. The vehicle height is barely affected.

OPES Solar Mobility
As a leading manufacturer of solar solutions for vehicles, we serve OEMs and Tier-1 suppliers worldwide from our factory in Germany, enabling the integration of solar technology both directly as component in OEM´s production and via retrofitting.

With the extensive photovoltaic expertise of the OPES Group, we are setting new standards in the automotive industry and beyond. Together with OPES Solutions, we are shaping the future of off-grid solar energy, making clean electricity available wherever it's needed.