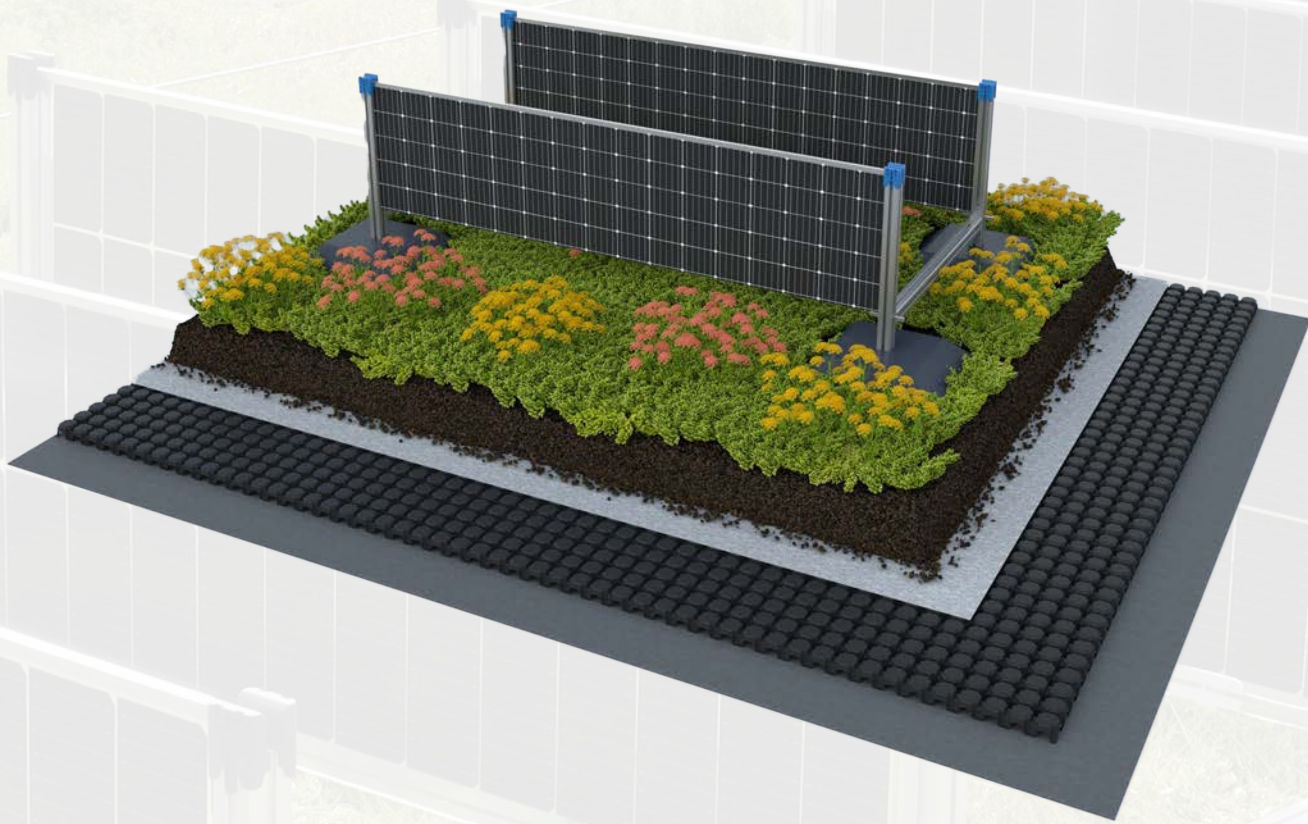


SOLon



*The ecological
system solution for PV on
green roofs*

Green roofs and solar energy: The ideal combination with SOLYCO SOLon

With the SOLYCO SOLon, a real symbiosis of green roofs and solar power generation is finally possible. All the advantages of the green roof are retained without restriction.

SOLYCO SOLon

The solar system SOLon has been developed primarily for green roofs. The special feature of SOLon is the vertical elevation of the solar modules. In contrast to conventional combinations, the roof is evenly rained on and illuminated by the sun. In addition, the system achieves a comparable specific energy yield. Therefore, the ecological benefits of the green roof can be fully reaped and electrical energy can still be generated.

Modules

Transparent double glass modules with special dimensions (2011mm x 415mm) are used. Two rows of cells can be accommodated and are connected in parallel with each other. This greatly reduces the losses caused by self-shading. The high bifacial coefficient of over 80% of the used TOPCon cell technology is fully utilized by the vertical installation. Energy is generated from both sides of the module.

Mounting system

The substructure consists of high-quality aluminium profiles. The vertically arranged module profile has one of 600mm and is connected to the next module profile by a 760mm long cross bracing. A stable and secure connection is made with a profile connector and bolted with M6 cap screws and safety nuts.

This arrangement can be continued as desired to form a series of module profiles. Between two such rows, the solar modules can be inserted vertically into the corresponding grooves of the module profiles and rest on special module supports.

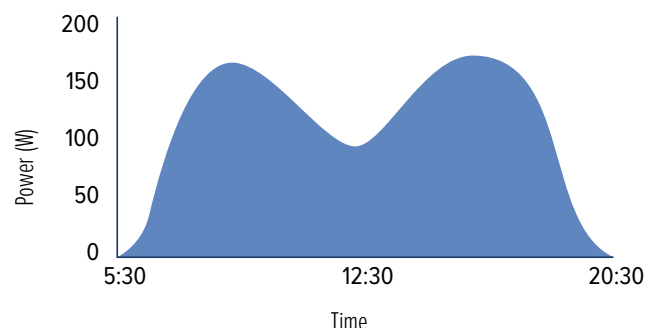
The module profiles are closed with a keystone. This secures the module in the groove of the profile. A wind tunnel test has shown that the wind acting on the vertical modules does not produce the known aerofoil effect. This means that the system

has much less ballast than conventional systems. The wind loads only occur in the first or last row of modules and only have a shifting effect. The modules behind them are not significantly affected by the wind. Therefore, the first and last row is equipped with ballast bases to prevent displacement.

Performance

The two cell rows of the module are interconnected in parallel. The measure makes the module powerful even when self-shading.

The vertical orientation of the modules results in an unusual yield curve. In an East-West uprising, two peaks in performance occur in the morning and in the afternoon. At noon, when the sun is perpendicular over the modules, a valley develops. The energy produced is comparable to conventional systems.



Yield curve over the course of the day

Safety

Mechanical - The system is tested for resistance at a pressure of 1000Pa.

Electrical – The SOLon module is approved for a system voltage of up to 1500V. For maximum electrical safety, it is equipped with one fully encapsulated junction box with protection class IP68.

Reliability

A solar system is a long-lasting investment. All our products undergo an intensive testing program before they are launched on the market. Continuous quality assurance at a high level is the basis for excellent performance over a long period of time. For this reason, we also demonstrate long-term resistance with climate chamber and stress tests. A double-glass module protects the sensitive cells particularly. These lie in the neutral fibre of the composite and are only bent, not stretched or compressed under load.

Certified production facilities - All SOLYCO solar modules are produced in the most modern, highly automated factories with the highest manufacturing standards to ensure consistent quality.

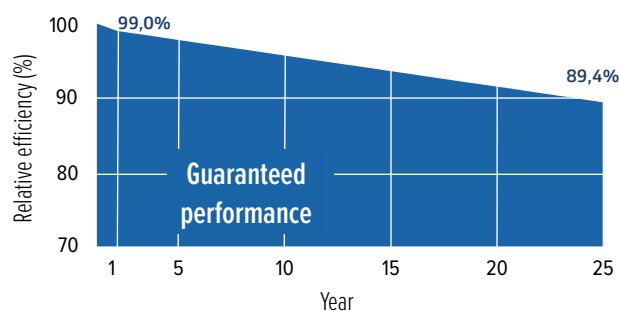
Certifications

- IEC 61215: 2016 (Module reliability)
- IEC 61730: 2016 (Module safety)

Warranty

- 25 year product warranty¹
- 25 years of linear performance guarantee
- Guaranteed plus tolerance

¹with system registration. Otherwise, 15 years.



About SOLYCO

Sustainable energy production with innovative solar modules and systems. We shape the future with our customers.

The SOLYCO team has been active in the field of photovoltaic modules and solar products since 1996. For more than 15 years from 1999 to 2014, we have played a decisive role in shaping the product strategy and quality philosophy of the former German solar group SOLON.

Today, we continue to have high standards of quality and aesthetics and offer high-quality products for the European solar market.

Our mission

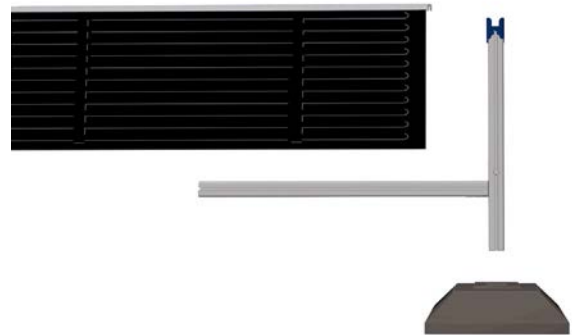
We want to make the production of solar energy on all roofs attractive and competitive. With our system solutions, roof surfaces can be used more efficiently to ensure a sustainable energy supply today and in the future. For this purpose, we offer innovative and aesthetic solar systems and modules for residential and commercial buildings.

SOLon system components

Overall system¹

System weight	<23kg/m ²
Performance per area ²	100W/m ²
Mechanical resilience ³	1000Pa
Cable routing	Within the profiles
Components	Solar module, module profile, cross bracing, ballast base, cable clip, keystone with lid

¹Including module and mounting system; ²According to STC; ³Specified pressure load resistance: 667Pa corresponds to 120km/h wind speed



Overview of system components

Module profile

Dimension [L x W x H]	600mm x 40mm x 40mm
Weight	0.75kg
Material	Aluminium

Cable clip

Dimension [L x W x H]	50mm x 17mm x 10mm
Weight	2g
Material	Spring steel

Cross bracing

Dimension [L x W x H]	760mm x 40mm x 40mm
Weight	1.03kg
Material	Aluminium

Keystone with lid

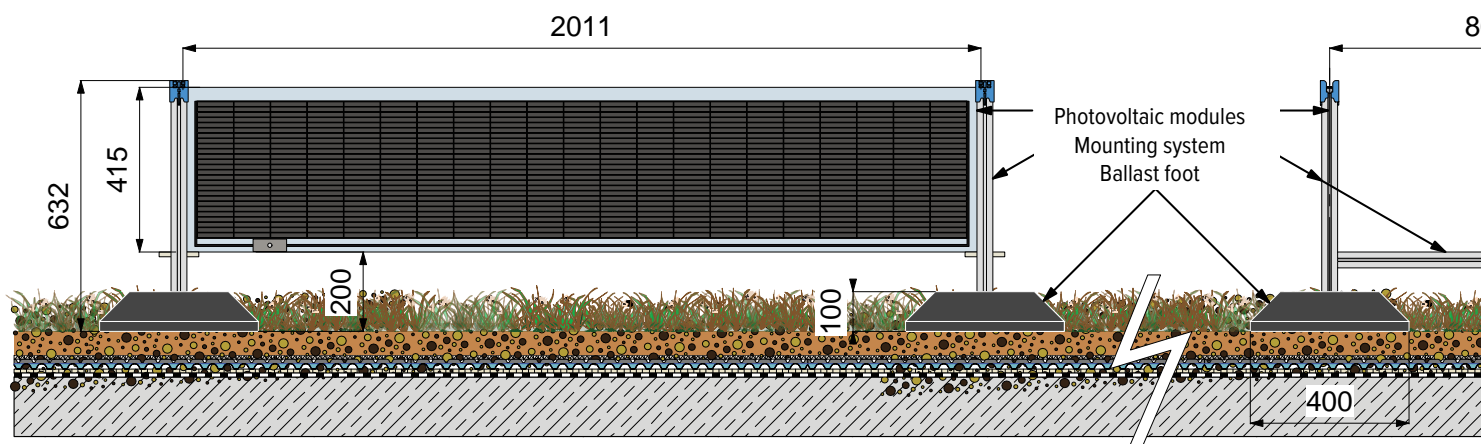
Dimension [L x W x H]	65mm x 64mm x 54mm
Weight	70g
Material	PA6.6 30% fiberglass

Ballast foot

Dimension [L x W x H]	400mm x 400mm x 400mm
Weight	12kg
Material	Recycled plastic

Module and cable with plug

Module type	L-TG 42n.3/160
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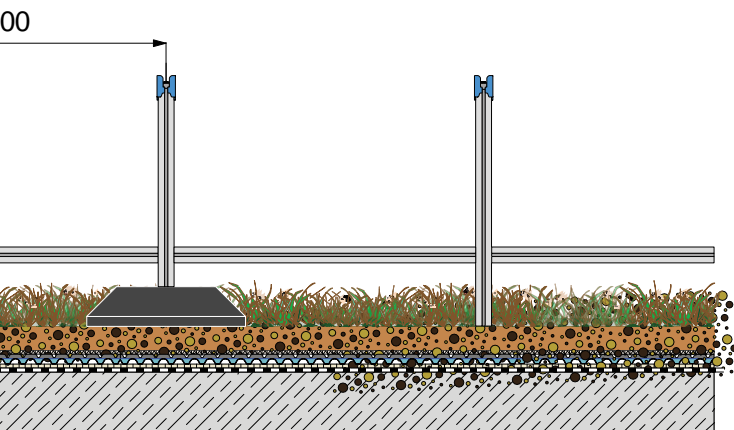
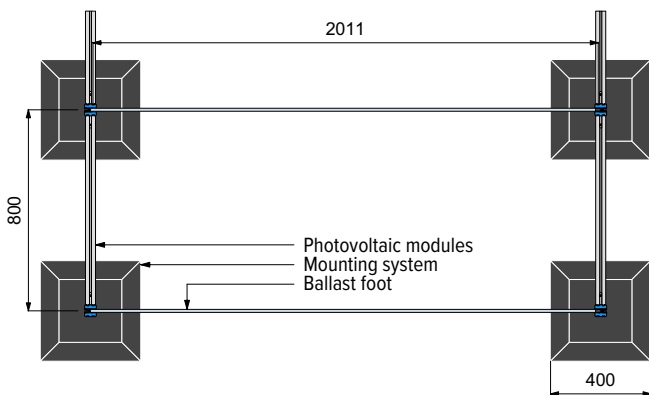
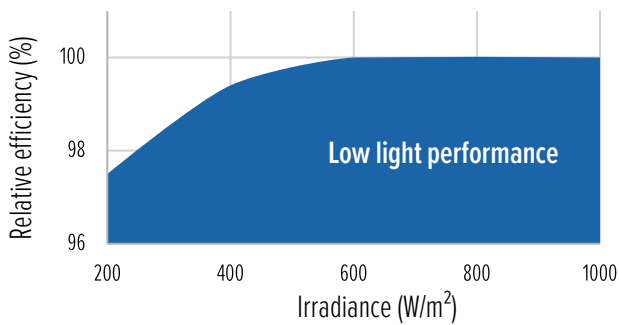


L-TG 42n.3/160

Connection and working conditions

Maximum system voltage	1500V
Temperature range	-40°C ... +85°C
Mechanical resilience ¹	1000Pa
Safety class	II
Reverse current overload	20A

¹Specified pressure load resistance: 667Pa corresponds to 120km/h wind speed



General data

Cell technology	TOPCon, monocrystalline
Cell size and number	182mm x 91mm; 42 pcs.
Module dimensions	2011mm x 415mm x 7.5mm
Module weight	14kg
Frame	Frameless
Front glass	2 x 3.2mm tempered solar glass with anti-reflective coating
Junction box and IP rating	1 pcs. IP68 fully encapsulated

Electrical data (STC)

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

Module type	L-TG 42n.3/160
STC power output Pmax (Wp)	160
Nominal power voltage Vmp (V)	12.65
Nominal power current Imp (A)	12.45
Open circuit voltage Voc (V)	14.66
Short circuit current Isc (A)	13.21
Bifacial coefficient (%)	80 +/- 5
Module efficiency (%)	21.5

Tolerance Pmax: ±3,0%; Voc, Vmp, Isc, Imp tolerances: ±5,0%

Temperature coefficients

TC of the maximum power (Pmax)	-0.32% /°C
TC of open circuit voltage (Voc)	-0.25% /°C
TC of short circuit current (Isc)	+0.045% /°C

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	L-TG 42n.3/160
Solar cell temperature (°C)	45 +/- 2
Power output (Wp)	123
Nominal power voltage Vmp (V)	11.90
Nominal power current Imp (A)	10.36
Open circuit voltage Voc (V)	14.22
Short circuit current Isc (A)	10.87

Tolerance Pmax: ±3,0%; Voc, Vmp, Isc, Imp tolerances: ±5,0%



Superior Solar Solutions

Together with our partners, customers and supporters, we are positively influencing the renewable energy market through our developments.

With innovative products, we enable installers and project engineers to offer tangible added value to the end user. Our systems allow a clear differentiation within the industry and thus offer market advantages that our customers can take advantage of.

Premium Partner

OPTIGRÜN®
DIE DACHBEGRÜNER

DS-LTG-42n.3/160-2023-07_en



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