

PV CARPORTS FROM THE MARKET LEADER FOR TRANSPARENT PV ROOFS

ATTRACTIVE SOLUTIONS FOR PARKING AREAS (WITHOUT CONCRETE FOUNDATIONS)

CERTIFIED DOUBLE GLASS MODULES ACCORDING TO EN12600 FOR OVERHEAD MOUNTING



20[★] YEARS WARRANTY

MULTIFUNCTIONAL HALLS: CLIMATE PROTECTION & ENERGY YIELD



Engineered in Germany



06/2023

GRID PARITY
next generation photovoltaic
www.gridparity.ag

WE KNOW WHAT MAKES A SOLAR CARPORT

UNIQUE...



1

Design as single carport, double carport or row carport or large carport

2

Foundations without excavator destruction!

3

Light transmission: „let the sunshine in!“

4

Waterproof module mounting without 2nd roof skin

5

High stability: snow loads >5400 Pa & wind loads >2400 Pa

6

Integrated LED lighting (optional)

7

Easy assembly with detailed assembly instructions

8

**Single entry & exit entry
width per parking space: 5, 6 or 7 m,
depth: 5 or 6 m, for all types of vehicles**

9

**Particularly light constructions,
per parking area e.g.:**
- Wood: only ca.. 210 kg, steel: ca. 180-260 kg
- Modules: approx. 160kg

10

**Extremely stable steel columns (a) with
variable height (also for trucks).
Due to the downstand beam, the columns
can be variably shifted in width.**

11

100% recyclable materials „cradle to cradle“.

12

**Hi-Tech „Designed in Germany“,
patent pending**



MATERIAL QUALITY



EXCLUSIVELY HIGH-QUALITY BUILDING MATERIALS TESTED FOR HARMFUL SUBSTANCES. OUR WOOD IS OBTAINED EXCLUSIVELY FROM SUSTAINABLE FORESTRY. FOR US, THIS ALSO INCLUDES PLANTING 100 TREES FOR EACH KIT.

The entire production chain is monitored internally as well as externally according to strict quality specifications. GridParity AG is certified according to ISO9001 and ISO14001. In addition, all kits can be disassembled. This means they can be reused elsewhere or recycled - in line with the motto „cradle to cradle“.



PROCESSING

OUR PV SYSTEMS ARE PLANNED, TESTED AND INSTALLED ACCORDING TO GERMAN STANDARDS. GRIDPARITY IS THE MARKET LEADER IN TRANSPARENT PV ROOFS WITH OVER 500 INSTALLATIONS.



WITHOUT DESTRUCTION

THE FOUNDATIONS OF THE GRIDPARITY CARPORTS ARE INSTALLED WITHOUT DESTROYING THE PARKING AREA (SEE PAGE 13).



SIMPLE ASSEMBLY

NUMBERED PARTS, MILLED GROOVES IN WOODEN PROFILES AND INTELLIGENT CONNECTING PARTS MAKE ASSEMBLY EASY!



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in Germany

CERTIFIED DOUBLE GLASS MODULES ACCORDING TO EN12600 FOR OVERHEAD MOUNTING

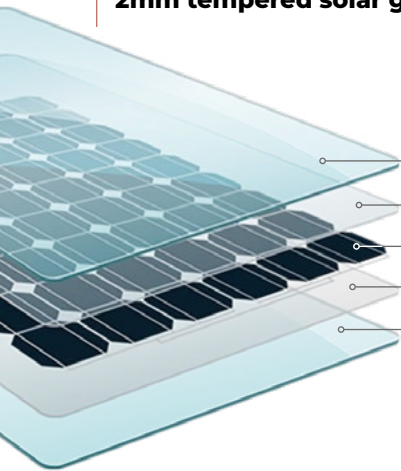
PREMIUM QUALITY

Modern, semi-transparent double glass modules

Extreme stability & durability

European quality product

2mm tempered solar glass with extremely durable anti-reflective coating

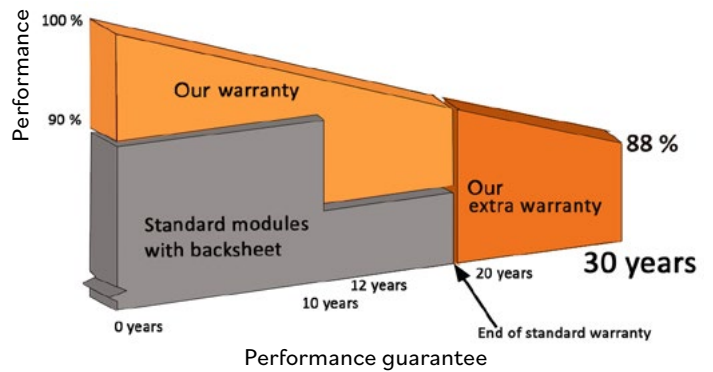


- < 2mm tempered solar glass
- POE (polyolefin encapsulant)
- Solar cell
- POE (polyolefin encapsulant)
- < 2mm tempered solar glass



Outstanding features of our modules

- Slim Module Design - Ultra Thin - Ultralight
- Highly transparent double glass design
- Excellent wind / snow load properties
- Resistant to environmental influences
- Self-cleaning or easy cleaning
- Microcrack-free
- Extreme fire resistance
- Superior low light performance
- Extended warranty: 30-year performance guarantee
- Positive power tolerance (plus sorting)
- PID free



Waterproof module mounting

For more information on module installation, request our Premium Module Installation Guide

upper aluminum profile with integrated rubber lips

Edge profile with integrated rubber lips



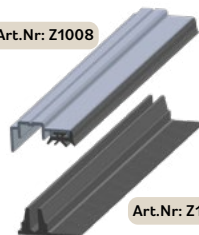
Art.Nr: Z1006

Art.Nr: Z1008

Art.Nr: Z1004

Art.Nr: Z1005

Art.Nr: Z7000



lower rubber profile

lower rubber profile

Rubber sealing profile (D)

Flat rubber (F)

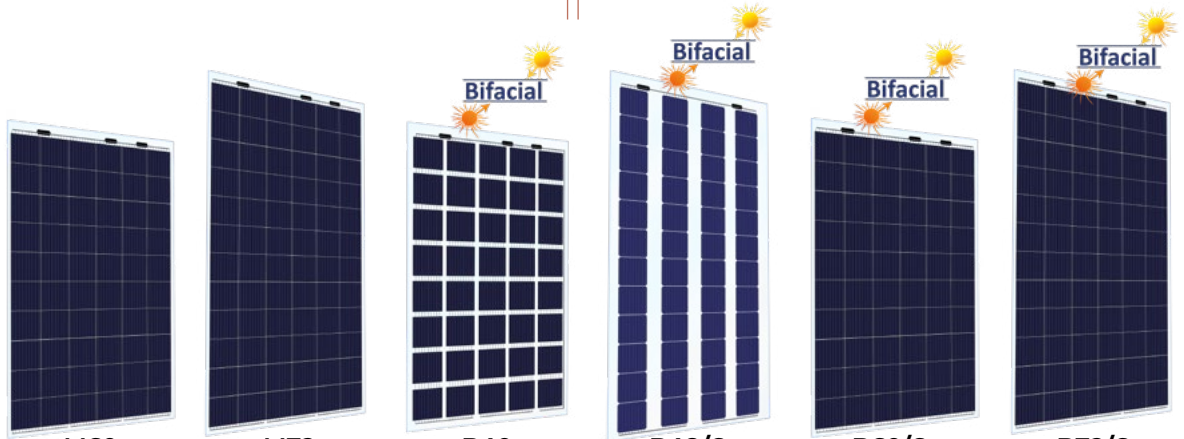
„DachDicht“ Sealant

CERTIFIED DOUBLE GLASS MODULES ACCORDING TO EN12600 FOR OVERHEAD MOUNTING



Module package size 1 & 2:

Module package size 1/6 & 2/6:



	M60	M72	B40	B48/6	B60/6	B72/6
Electrical specification	320 Wp	380 Wp	250 Wp	300 Wp	370 Wp	450 Wp
Maximum power (Pmax)	320 W	380 W	250 W	300 W	370 W	450 W
Optimum operating voltage (Vmp)	33.2 V	39.6 V	24.8 V	29.7 V	36.9 V	44.5 V
Optimum operating current (Imp)	9.64 A	9.60 A	10.08 A	10.11 A	10.03 A	10.11 A
Open circuit voltage (Voc)	40.7 V	48.5 V	28.4 V	34.2 V	42.2 V	50.8 V
Short circuit current (Isc)	10.05 A	10.07 A	11.1 A	11.26 A	11.25 A	11.29 A
Maximum System Voltage	1500 V DC (IEC)	1500 V DC (IEC)	1500 V DC (IEC)	1500 V DC (IEC)	1500 V DC (IEC)	1500 V DC (IEC)
Operating temperature	-40 °C to +85 °C	-40 °C to +85 °C	-40 °C to +85 °C	-40 °C to +85 °C	-40 °C to +85 °C	-40 °C to +85 °C
Max. permissible series fuse	20 A	20 A	20A	20 A	20 A	20 A
Power tolerance	0 ~ +5 W	0 ~ +5 W	0 ~ +5 W	0 ~ +5 W	0 ~ +5 W	0 ~ +5 W
Dimensions [mm], ca.	1684 x 1002 x 5	2000 x 1002 x 5	1684 x 1002 x 5	2105 x 1043 x 5	1765 x 1043 x 5	2105 x 1043 x 5
Transparency, ca.	5%	5%	35%	40%	5%	5%

Our module production



Highly modern module factory in Slovakia

according to the latest standards, high-quality double-glazed modules, as well as frame modules, have been produced in our AGORA factory in Slovakia since May 2023.



Engineered in Germany

PARKING LOT ROWS

ARBITRARILY EXPANDABLE



Without destruction of the parking area by concrete foundations



PARKING FACILITIES

FOR COMMUTERS AND E-CHARGING AREAS



Due to the PV obligation, parking lots with PV systems must be covered. It is therefore no longer sufficient to simply asphalt fallow land and divide it into parking bays. In addition, due to the requirements of electromobility, more planning effort must be made, e.g. because power lines must be laid. If one considers the use of a commuter parking lot, then it is obvious to integrate small supply units there, such as a kiosk with a range of drinks and newspapers, so that waiting times for visitors can be bridged more comfortably. Also, a variable use of the valuable covered traffic areas could take place, with the implementation of different markets (e.g. also a (children's) flea market on Sundays). Even pop-up sports areas, e.g. for yoga or badminton, are conceivable.



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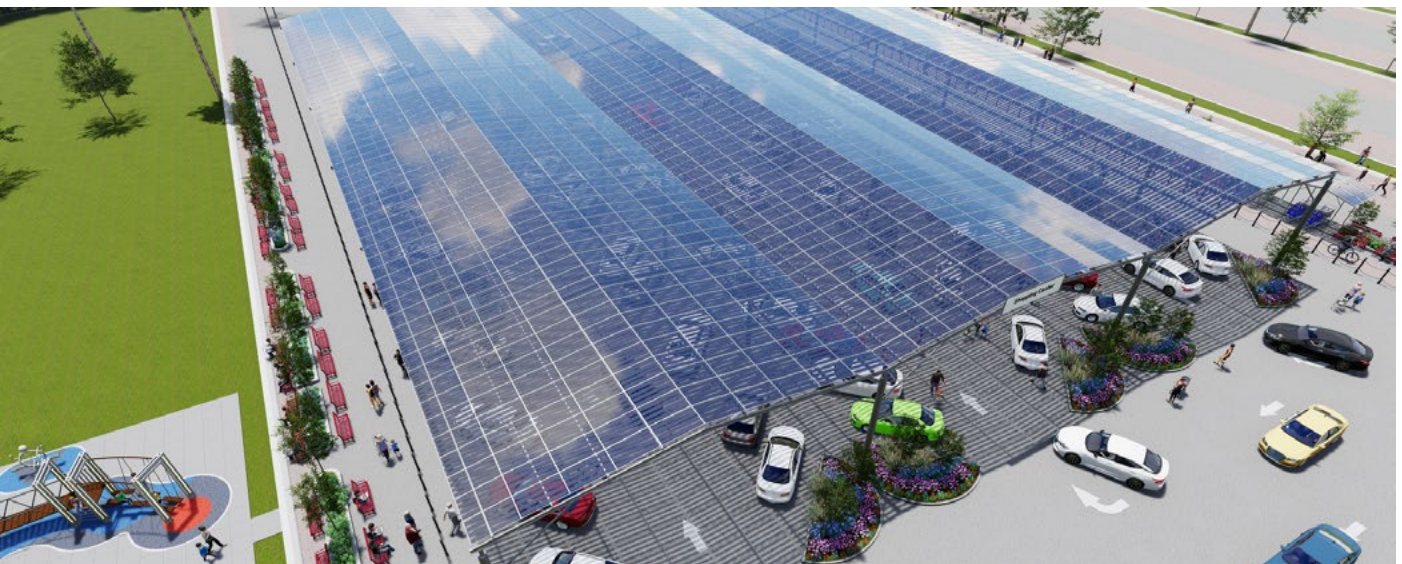
LARGE PARKING LOTS

OPEN CONSTRUCTION WITH SEMI-TRANSPARENT PV MODULES



GROßCARPORTANLAGEN

CLOSED CONSTRUCTION WITH SEMI-TRANSPARENT PV MODULES



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MULTIFUNCTION HALLS

CONSTRUCTION MARKETS, MARKET HALLS, EXHIBITION HALLS



SPORTS FIELD ROOFING

FOR OUTDOOR ACTIVITIES IN ANY WEATHER!



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DESIGNS FOR ANY PARKING SPACE

PLANNING SERVICE INCLUDED.

Basic structural analysis included - individual structural documentation for an additional charge.



ATTRACTIVE SOLUTIONS FOR ANY PARKING SPACE



FOUNDATIONS

WITHOUT DESTRUCTION OF THE PARKING AREA!

The fear of many investors is the closure of parking spaces for months, combined with massive drops in customer frequencies. This is unavoidable with conventional concrete block foundations (see the following picture examples).



Patented foundation technology

Our patent-pending technology makes it possible to set the foundations without destroying and closing the parking area for months, as the following pictures of the construction of approx. 120 PV parking spaces at the *Aqua Magis Bad* in Plettenberg, Germany show.



Parking areas can be used during the entire construction period.



Small opening instead of dredging holes

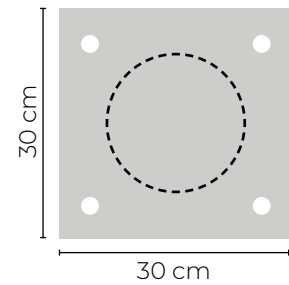


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SECURELY ON A STABLE FOUNDATION

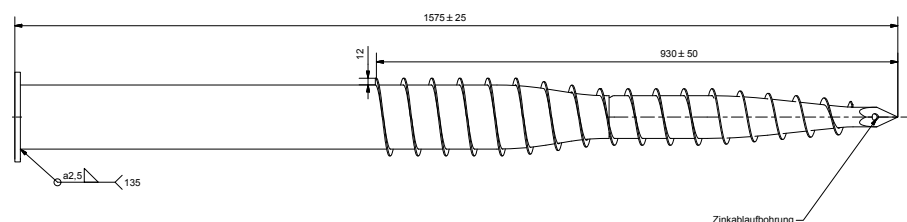
Variant 1: base plates welded with supports with holes provided.

Pour a foundation of approx. 60 x 60 cm or \varnothing 600 mm with a depth of 80 cm. allow the foundation to harden completely. Now place the supports centrally on the finished foundation points and align them straight. Then screw the supports to the concrete foundation at the designated points using concrete dowels.



Column diameter:
Column 16: \varnothing 16 cm

Variant 2: Screw anchor as foundation



SERIES H

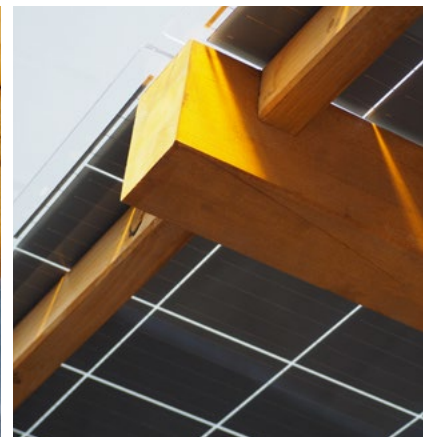
GLULAM (GLUED LAMINATED TIMBER)
ON GALVANIZED COLUMNS MADE OF SPECIAL STEEL

20★
YEARS
WARRANTY

★ ★ ★
ZUM PATENT
ANGEMELDET
★ ★ ★



Wood is a renewable resource and is therefore ideally suited for connection with double-glazed PV modules. The high-quality glued laminated timber (glulam), which we use for the upper structure of the carport systems, is characterized, among other things, by its high stability and load-bearing capacity, so that the modules can be safely installed on the structure.



Wood is primed at the factory and painted with the desired color. It should be repainted during assembly (paint included).

Art.Nr.: FH 11 12 13 15 17
white transp. pine beech teak



Kit with marked positions. Quick and easy assembly. Multiple wood protection



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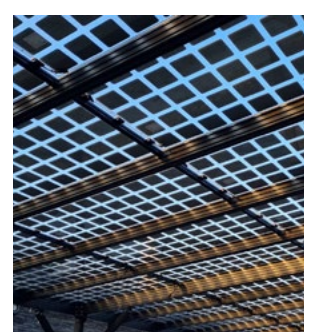
SERIES A

ANODIZED ALUMINUM
ON GALVANIZED SPECIAL STEEL COLUMNS

20[★]
YEARS
WARRANTY



Intelligent connecting parts allow the profiles to be inserted into each other and screwed tightly together. The optionally available dark anthracite color of the profiles gives the carport a modern look and optimally complements architectural structures.



SERIES S

STEEL SUPERSTRUCTURE MADE OF CANTED GALVANIZED
STEEL ON GALVANIZED COLUMNS MADE OF SPECIAL STEEL

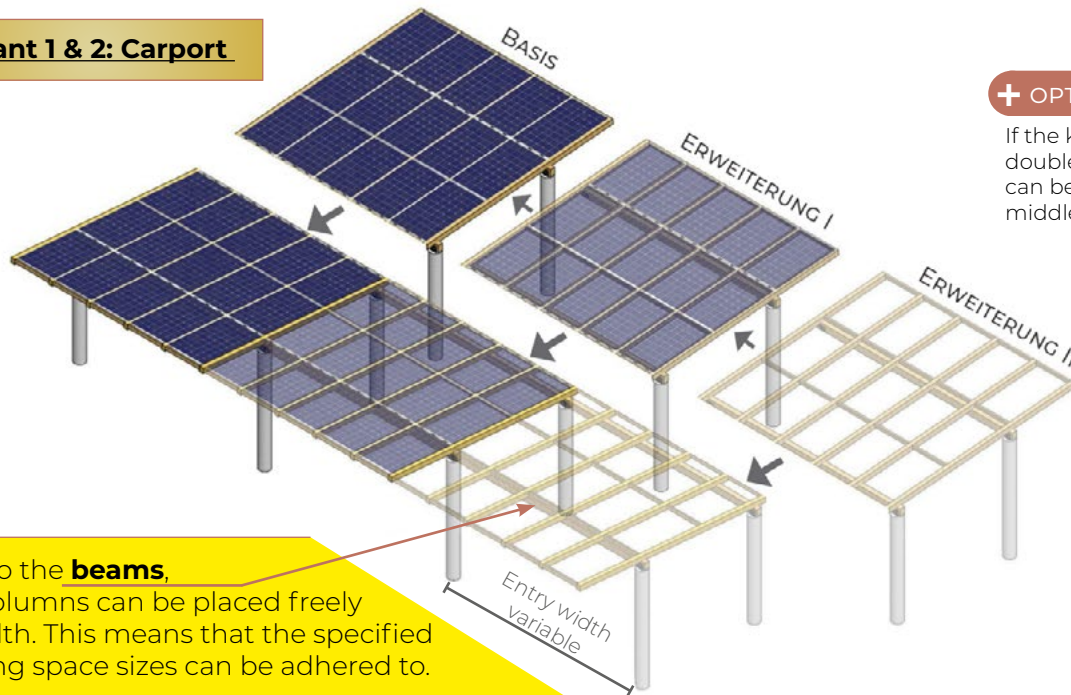
20[★]
YEARS
WARRANTY

LIMITLESS

ALL BASIC KITS CAN BE EXTENDED INDEFINITELY IN LENGTH. THEY CAN ALSO BE SUPPLEMENTED AT THE REAR BY A SECOND KIT.

20[★] YEARS WARRANTY

Variant 1 & 2: Carport



+ OPT. GUTTER

If the kits are installed as double carports, a gutter can be inserted in the middle.

Due to the **beams**, the columns can be placed freely in width. This means that the specified parking space sizes can be adhered to.

Optimal use of space with stable construction. A total of 4 cars fit under one carport combination. The standard construction can be extended individually, so that the parking space can be used optimally. The technical drawings illustrate the dimensions of the carport.

Variant 3: Saddle roof carport



Variant 4: Pent roof carport



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VERSATILE

Variant 1: Carport (for modules: M60 & M72)



V1 L-1
(2,9kW)

V1 XL-1
(3,8kW)

V1 XXL-1
(4,8kW)

V1 3XL-1
(5,8kW)

V1 4XL-1
(6,7kW)

Available with the following entry widths approx:

3,1 m
(Depth: 5,1m)

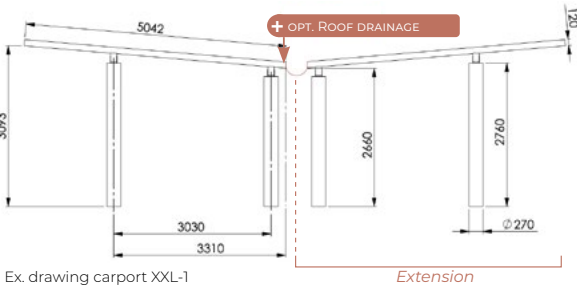
4,1 m
(Depth: 5,1m)

5,1 m
(Depth: 5,1m)

6,1 m
(Depth: 5,1m)

7,1 m
(Depth: 5,1m)

Base (M60)	(H1331) incl. 9 x M60 & fixing material	(H1431) incl. 12 x M60 & fixing material	(H1531) incl. 15 x M60 & fixing material	(H1631) incl. 18 x M60 & fixing material	(H1731) incl. 21 x M60 & fixing material
Ext. (M60)	(H1391) incl. 9 x M60 & fixing material	(H1491) incl. 12 x M60 & fixing material	(H1591) incl. 15 x M60 & fixing material	(H1691) incl. 18 x M60 & fixing material	(H1791) incl. 21 x M60 & fixing material
opt. metal sheet*			(ZH001)	(ZH003)	(ZH005)



Ex. drawing carport XXL-1

Extension

* optional sheet metal cladding, which includes the cost of connecting two carports, as well as roof drainage.

All dimensions are approximate

V1 L-2
(3,4kW)

V1 XL-2
(4,6kW)

V1 XXL-2
(5,7kW)

V1 3XL-2
(6,8kW)

V1 4XL-2
(8,0kW)

Available with the following entry widths approx:

3,1 m
(Depth: 6,1m)

4,1 m
(Depth: 6,1m)

5,1 m
(Depth: 6,1m)

6,1 m
(Depth: 6,1m)

7,1 m
(Depth: 6,1m)

Base (M72)	(H1342) incl. 9 x M72 & fixing material	(H1442) incl. 12 x M72 & fixing material	(H1542) incl. 15 x M72 & fixing material	(H1642) incl. 18 x M72 & fixing material	(H1742) incl. 21 x M72 & fixing material
Ext. (M72)	(H1392) incl. 9 x M72 & fixing material	(H1492) incl. 12 x M72 & fixing material	(H1592) incl. 15 x M72 & fixing material	(H1692) incl. 18 x M72 & fixing material	(H1792) incl. 21 x M72 & fixing material
opt. metal sheet*			(ZH002)	(ZH004)	(ZH006)

Variant 2: Carport (for modules: B60/6 & B72/6)



V2 L-1/6
(3,3kW)

V2 XL-1/6
(4,4kW)

V2 XXL-1/6
(5,6kW)

V2 3XL-1/6
(6,7kW)

V2 4XL-1/6
(7,8kW)

Available with the following entry widths approx:

3,1 m
(Depth: 5,4m)

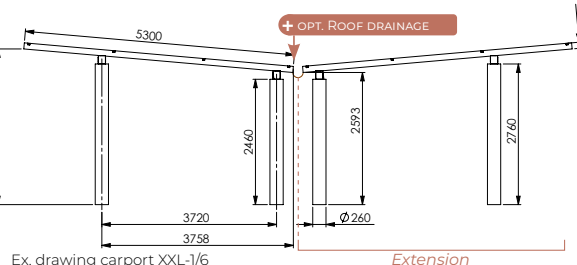
4,1 m
(Depth: 5,4m)

5,1 m
(Depth: 5,4m)

6,1 m
(Depth: 5,4m)

7,1 m
(Depth: 5,4m)

Base (B60/6)	(H1333) incl. 9 x B60/6 & fixing material	(H1433) incl. 12 x B60/6 & fixing material	(H1533) incl. 15 x B60/6 & fixing material	(H1633) incl. 18 x B60/6 & fixing material	(H1733) incl. 21 x B60/6 & fixing material
Ext. (B60/6)	(H1393) incl. 9 x B60/6 & fixing material	(H1493) incl. 12 x B60/6 & fixing material	(H1593) incl. 15 x B60/6 & fixing material	(H1693) incl. 18 x B60/6 & fixing material	(H1793) incl. 21 x B60/6 & fixing material
opt. metal sheet*			(ZH001)	(ZH003)	(ZH005)



Ex. drawing carport XXL-1/6

Extension

* optional sheet metal cladding, which includes the cost of connecting two carports, as well as roof drainage.

All dimensions are approximate

V2 L-2/6
(4,1kW)

V2 XL-2/6
(5,4kW)

V2 XXL-2/6
(6,8kW)

V2 3XL-2/6
(8,1kW)

V2 4XL-2/6
(9,5kW)

Available with the following entry widths approx:

3,1 m
(Depth: 6,4m)

4,1 m
(Depth: 6,4m)

5,1 m
(Depth: 6,4m)

6,1 m
(Depth: 6,4m)

7,1 m
(Depth: 6,4m)

Base (B72/6)	(H1314) incl. 9 x B72/6 & fixing material	(H1414) incl. 12 x B72/6 & fixing material	(H1514) incl. 15 x B72/6 & fixing material	(H1614) incl. 18 x B72/6 & fixing material	(H1714) incl. 21 x B72/6 & fixing material
Ext. (B72/6)	(H1394) incl. 9 x B72/6 & fixing material	(H1494) incl. 12 x B72/6 & fixing material	(H1594) incl. 15 x B72/6 & fixing material	(H1694) incl. 18 x B72/6 & fixing material	(H1794) incl. 21 x B72/6 & fixing material
opt. metal sheet*			(ZH002)	(ZH004)	(ZH006)

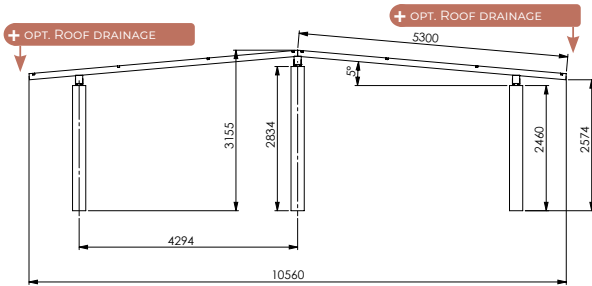
Variant 3: Saddle roof double carport (for modules: B60/6 & B72/6)

Bifacial	V3 L-1/6 (6,7kW)	V3 XL-1/6 (8,9kW)	V3 XXL-1/6 (11,1kW)	V3 3XL-1/6 (13,3kW)	V3 4XL-1/6 (15,5kW)
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Available with the following entry widths approx:

	3,1 m (Depth: 10,6m)	4,1 m (Depth: 10,6m)	5,1 m (Depth: 10,6m)	6,1 m (Depth: 10,6m)	7,1 m (Depth: 10,6m)
Base (B60/6)	(H5313) incl. 18 x B60/6 & fixing material	(H5413) incl. 24 x B60/6 & fixing material	(H5513) incl. 30 x B60/6 & fixing material	(H5613) incl. 36 x B60/6 & fixing material	(H5713) incl. 42 x B60/6 & fixing material
Ext. (B60/6)	(H5393) incl. 18 x B60/6 & fixing material	(H5493) incl. 24 x B60/6 & fixing material	(H5593) incl. 30 x B60/6 & fixing material	(H5693) incl. 36 x B60/6 & fixing material	(H5793) incl. 42 x B60/6 & fixing material



All dimensions are approximate

V3 L-2/6 (8,1kW)	V3 XL-2/6 (10,8kW)	V3 XXL-2/6 (13,5kW)	V3 3XL-2/6 (16,2kW)	V3 4XL-2/6 (18,9kW)
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Available with the following entry widths approx:

	3,1 m (Depth: 12,6m)	4,1 m (Depth: 12,6m)	5,1 m (Depth: 12,6m)	6,1 m (Depth: 12,6m)	7,1 m (Depth: 12,6m)
Base (B72/6)	(H5314) incl. 18 x B72/6 & fixing material	(H5414) incl. 24 x B72/6 & fixing material	(H5514) incl. 30 x B72/6 & fixing material	(H5614) incl. 36 x B72/6 & fixing material	(H5714) incl. 42 x B72/6 & fixing material
Ext. (B72/6)	(H5394) incl. 18 x B72/6 & fixing material	(H5494) incl. 24 x B72/6 & fixing material	(H5594) incl. 30 x B72/6 & fixing material	(H5694) incl. 36 x B72/6 & fixing material	(H5794) incl. 42 x B72/6 & fixing material

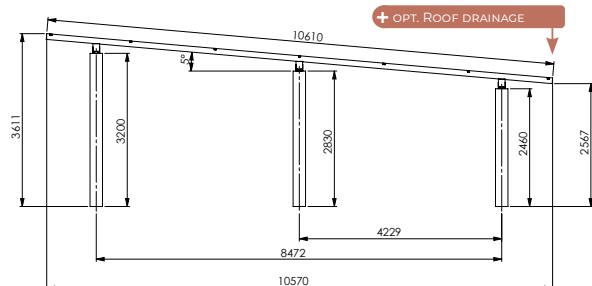
Variant 4: Pent roof double carport (for modules: B72/6)

Bifacial	V4 L-1/6 (6,8kW)	V4 XL-1/6 (9,0kW)	V4 XXL-1/6 (11,3kW)	V4 3XL-1/6 (13,5kW)	V4 4XL-1/6 (15,8kW)
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Available with the following entry widths approx:

	3,1 m (Depth: 10,6m)	4,1 m (Depth: 10,6m)	5,1 m (Depth: 10,6m)	6,1 m (Depth: 10,6m)	7,1 m (Depth: 10,6m)
Base (B72/6)	(H6314) incl. 15 x B72/6 & fixing material	(H6414) incl. 20 x B72/6 & fixing material	(H6514) incl. 25 x B72/6 & fixing material	(H6614) incl. 30 x B72/6 & fixing material	(H6714) incl. 35 x B72/6 & fixing material
Ext. (B72/6)	(H6394) incl. 15 x B72/6 & fixing material	(H6494) incl. 20 x B72/6 & fixing material	(H6594) incl. 25 x B72/6 & fixing material	(H6694) incl. 30 x B72/6 & fixing material	(H6794) incl. 35 x B72/6 & fixing material



All dimensions are approximate

V4 L-2/6 (8,1kW)	V4 XL-2/6 (10,8kW)	V4 XXL-2/6 (13,5kW)	V4 3XL-2/6 (16,2kW)	V4 4XL-2/6 (18,9kW)
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Available with the following entry widths approx:

	3,1 m (Depth: 12,6m)	4,1 m (Depth: 12,6m)	5,1 m (Depth: 12,6m)	6,1 m (Depth: 12,6m)	7,1 m (Depth: 12,6m)
Base (B72/6)	(H6314) incl. 15 x B72/6 & fixing material	(H6414) incl. 20 x B72/6 & fixing material	(H6514) incl. 25 x B72/6 & fixing material	(H6614) incl. 30 x B72/6 & fixing material	(H6714) incl. 35 x B72/6 & fixing material
Ext. (B72/6)	(H6394) incl. 15 x B72/6 & fixing material	(H6494) incl. 20 x B72/6 & fixing material	(H6594) incl. 25 x B72/6 & fixing material	(H6694) incl. 30 x B72/6 & fixing material	(H6794) incl. 35 x B72/6 & fixing material

Shade roof / Bikeport (for modules: B60/6 & B72/6)

Bifacial	BP4-1 (2,6kW)	BP5-1 (3,2kW)	BP6-1 (3,8kW)
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Alle Maße sind ca.-Angaben

Wide	4,2 m (Depth: 3,4m)	5,3 m (Depth: 3,4m)	6,4 m (Depth: 3,4m)
Base (M60)	(H0513) incl. 8 x B60/6 & fixing	(H0613) incl. 10 x B60/6 & fixing	(H0713) incl. 12 x B60/6 & fixing
Ext. (M60)	(H0593) incl. 8 x B60/6 & fixing	(H0693) incl. 10 x B60/6 & fixing	(H0793) incl. 12 x B60/6 & fixing

BP4-4 (3,6kW)	BP5-4 (4,5kW)	BP6-4 (5,4kW)
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Breite	4,2 m (Depth: 4,2m)	5,3 m (Depth: 4,2m)	6,4 m (Depth: 4,2m)
Base (B60/6)	(H0514) incl. 8 x B72/6 & fixing	(H0614) incl. 10 x B72/6 & fixing	(H0714) incl. 12 x B72/6 & fixing
Ext. (B60/6)	(H0594) incl. 8 x B72/6 & fixing	(H0694) incl. 10 x B72/6 & fixing	(H0794) incl. 12 x B72/6 & fixing



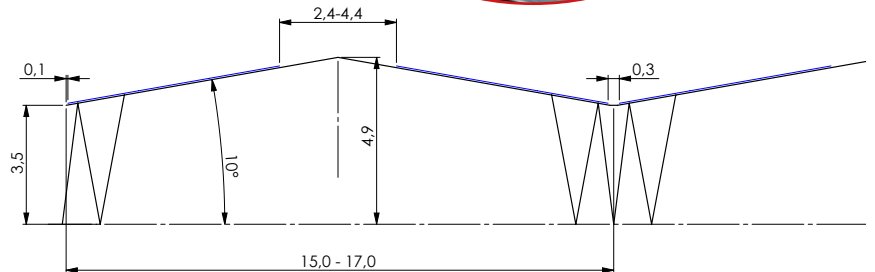
Engineered
in Germany

SERIES SLB

OPEN STEEL CONSTRUCTION IN STABLE LIGHTWEIGHT DESIGN
WITH SEMI-TRANSPARENT PV MODULES



OPEN DESIGN



Standard design and calculation of the power open version

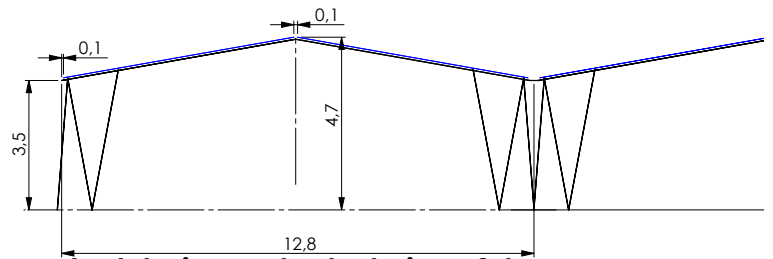
Field: 8 module rows (length approx. 8.5 m)

Width: $2 \times 3 = 6$ modules B72/6

Free field in the middle: 2.4 - 4.4 m

Power: 48 modules \times 450Wp = 21.6 kWp

CLOSED CONSTRUCTION XL



Standard design and calculation of the power closed version

Field: 8 module rows (length approx. 8.5 m)

Width: $2 \times 3 = 6$ modules B72/6

Power: 48 modules \times 450Wp = 21.6 kWp

Bright halls instead of dark caves

A decisive factor for the attractiveness of the new development is the light character of the carports by dispensing with a closed sheet steel cover. This is made possible by the use of attractive semi-transparent double-glazed modules with overhead approval and watertight assembly. This has resulted in a solution that combines aesthetics with functionality, favorable prime costs and short construction times. The design is convincing. Entry widths of up to 17 m without supports are already provided for in the basic design, with a clear height outside of 3.5 m and inside of 4.9 m. In the roof area, variable openings are provided centrally up to 4.4 m, but also a closed design. The interior layout is completely variable so that sloping parking is of course also possible. The power production is similar to that of conventional roof surfaces: On average, up to 4 kWp can be installed per parking space. On a system with 1,000 parking spaces, this results in 4 megawatts. With semi-transparent modules, however, less.

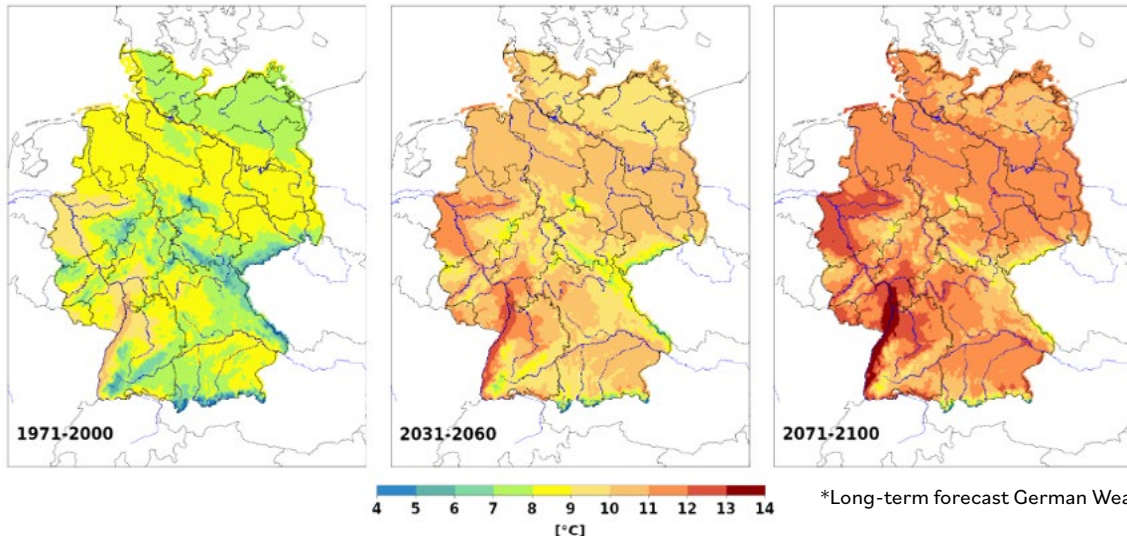
MULTIFUNCTIONAL HALLS



Fruit and vegetables can be marketed less and less without refrigeration in view of rising temperatures. Apples and potatoes, for example, are refrigerated for an average of 3-6 months and only then sold in stores. Storage by consumers, which used to be common, has almost completely ceased. The energy consumption required for months of refrigeration makes the products massively more expensive. One solution is to generate electricity directly in processing and marketing halls, including local markets whose PV-covered stalls generate enough electricity to power the cold storage.



CLIMATE CHANGE REQUIRES SHADOW ZONES



Climate change in Germany - stronger than expected

The forecast of the German Weather Service (DWD)* shows a temperature increase in Germany of 3.1 °C to 4.7 °C for the period starting in 2071 (current evaluation of climate projections for the climate scenario RCP8.5).

Europe is warming particularly fast - a 1.5°C increase is no longer realistic!

The temperature increase in Europe is significantly higher than in the rest of the world. This is due to the fact that the European region consists primarily of land masses. Over land, global warming is proceeding faster than over the oceans. There are also many feedbacks between the Arctic, which is warming even faster, and the European region. According to the climate report of the UN's World Meteorological Organization (WMO) and the EU's Copernicus Climate Change Service, temperatures in Europe have risen more than twice as fast as the global average over the past 30 years. **This means that Europe has the highest value of all continents, the WMO announced. Some areas of Italy and Spain expect a climate like today's in the Sahel in 2050.** Then, exceptional heat, wildfires and floods would further damage populations, economies and ecosystems, the report's authors predict. So far, we notice little of global warming because the global atmosphere still contains a lot of aerosols from industrial emissions. They dampen warming considerably, possibly by half. So, unintentionally, humanity is delaying global warming, but with each major economic crisis or well-intentioned political decision to reduce fuel consumption, this aerosol haze may disappear - and global warming may accelerate dramatically.

Temperature changes in the Mediterranean region

The Mediterranean region is seen as the most important hotspot of future climate change in Europe, along with northeastern Europe, with a significant risk of droughts and heat waves. Most model projections show a 4°C increase in Mediterranean summer temperatures by the end of the century, well above the global average, with some as high as 6°C. The model calculations are based on IPCC scenario A1B. One reason is the sharp decrease in summer precipitation by 25% or more and the associated drying of the soil, which intensifies the warming. More than the average temperatures, the high daytime temperatures are likely to increase. These temperatures are expected to increase by up to 7 °C by 2100 according to scenario A2, and by as much as 8.5 °C for the 5% highest daily maxima. Here, too, desiccation of the soil plays a clearly amplifying role. Since the coastal areas now already have relatively high temperatures in summer compared to the higher inland areas, there is a particular threat of many days here when temperatures exceed a very dangerous threshold, which can be seen at around 40 °C depending on the humidity.

Source: Christensen, O.B., et.al. Scalability of regional climate change in Europe for high-end scenarios, *Climate Research* 64, 25-38

CO₂ FOOTPRINT

- NOT A MARGINAL PROBLEM



Unlike rooftop systems, for example, PV carports involve considerable resource input for construction measures. These determine the CO₂ footprint. In the usual calculations, however, this is ignored and the CO₂ savings due to the electricity yield are highlighted one-sidedly. Within the scope of a study, different PV carport concepts and their CO₂ emissions for

- Foundations,
- Roof skin and
- Build-up services

are rated.

This showed that the use of solid concrete blocks for the foundation and the material weight of the substructure (including a roof skin) have a major impact on CO₂ emissions.

CO₂ footprint for GridParity PV carports with double glass modules

CO₂ footprint for competition products

The calculation of the CO₂ footprint presented below is based on assumptions. As far as we know, this is the first attempt to evaluate the resource consumption in addition to the yield side.

As a basis for the evaluation, the CO₂ consumption of the materials used was multiplied by the corresponding values for CO₂ emissions.

The detailed figures are expected to be published in a technical article in July 2023 and can be downloaded from the homepage of GridParity AG.

CO ₂ footprint for PV Carports			
	A: GridParity XXL-H1	B: Supplier S	C: Supplier T
Foundation	Bolting technology	Concrete block	Concrete block
Supports	optimized steel tube	V supports steel	V supports steel
Construction	Wood from sustainable cultivation	Steel profiles	Steel profiles
Roof skin	none (double glass modules)	Sheet steel	Sheet steel
Modules	Double glass without frame	Single glass with aluminum frame	Single glass with aluminum frame
Foundation construction and assembly	No civil engineering, kits assembled on site	Civil engineering, complete assembly assembled on site	Civil engineering, complete assembly assembled on site
Evaluation*	2,6	8,8	7,9

*Scale from 1-10 according to CO₂ emission



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Product overview



AgriPV

GridParity products are all about sustainability: we give a recycling guarantee („cradle to cradle“) on all kits, GridParity has been awarded the ISO14001:2015 environmental certificate, we make sure that our logistics partnership the goods in a climate-neutral way and, in addition, you as our customer can actively contribute to climate protection with a joint reforestation project!



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