

GMS[®] MAX

Optimised for 4-6 horizontal modules



- / Maximum component standardisation
- / Maximum utilisation of ground area
- / Maximum fast assembly
- / Maximum cost savings

GMS[®] MAX

The demands made of open-land photovoltaic systems have changed. The falling price of solar modules means that land, assembly and work expenditure now make up a larger share of the overall system costs. This results in ever denser construction; the horizontal alignment of modules is preferred in order to reduce loss from the system's own shadow. Larger constructions with 4 to 6 module rows reduce the frame costs per module.

We have developed the GMS[®] max mounting system for this cost-sensitive market sector. Horizontal and vertical supports, fixed on two rows of posts: More is not required to obtain a stable, cost-effective substructure. Our special carrier heads together with various clamps guarantee the necessary flexibility for designing the project-specific GMS[®] max system and assembling it rapidly on site.

THE BENEFITS AT A GLANCE

/ Standardised components

Maximum reduction: GMS[®] max is focused on configurations with 4–6 rows of horizontally aligned modules as our commonplace today in solar parks. The 4 main components of the GMS[®] max system have been developed with this particular application in mind, resulting in a solution which offers unbeatable value for money.

/ Maximum use of space

The GMS[®] max system requires just minimal row spacing. Temporary losses from the system's own shadow are reduced thanks to horizontal module alignment and flatter angles of inclination. As such, GMS[®] max enables the almost uninterrupted use of space – a factor which, given the rising price of land, is growing in importance.

/ Safe height adjustment

The carrier head of the GMS[®] max system adapts to the specific angle of inclination and compensates for height differences between the posts. Reliable interlocking prevents the system from slipping. The overall system is very simple to operate which saves valuable assembly time on site.

/ Open cable installations

The lines are fixed in place using clips and bundled using wire bows. Supply lines from the ground are installed inside the open posts to ensure they are well protected. This lightweight installation solution is highly cost-effective and enables the lines to be checked later on without any expense.

/ Adaptation to the terrain

The flexible clamping elements enable the system to be inclined to the side and thus adapted to the profile of the ground – simply and quickly on site, without any preparatory work during production.

/ Suitable for any ground type

Rammed or concrete foundations: GMS[®] max supports solutions for any soil type.

/ Durable corrosion protection

GMS[®] max uses high-quality materials: Steel parts are batch galvanised, module carriers are made of aluminium, for the screw connections only stainless steel is used.

/ Secure statics

Project-specific statics calculation in compliance with the applicable norms ensures unfailing safety under static load as well.

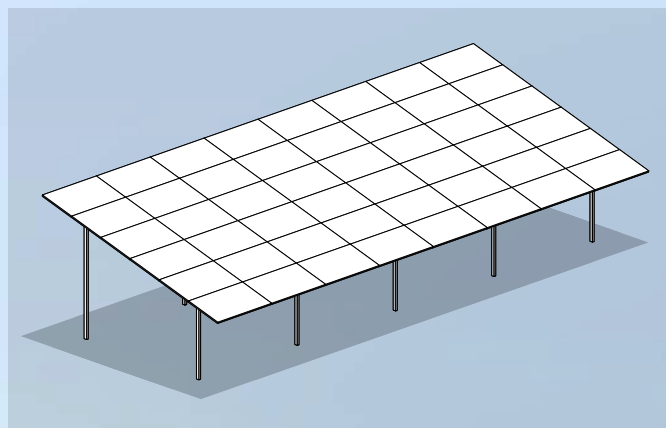
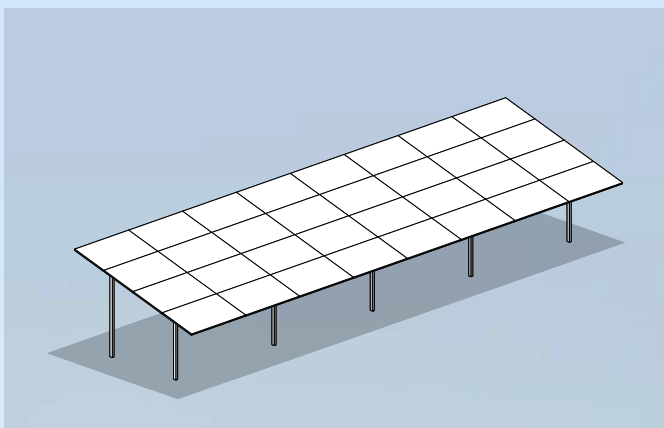
/ Rapid commissioning

Short delivery times, low weight, the use of just 4 main components, fast assembly with tolerance-insensitive construction: We have optimised all aspects of the GMS[®] max to achieve the shortest possible project times.

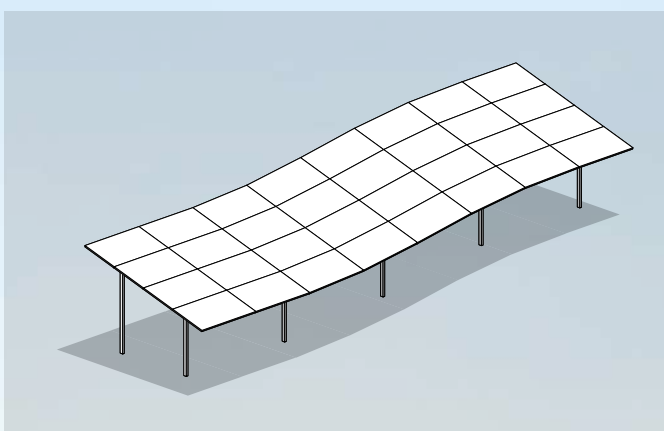
/ Inexpensive

High volume production enables us to keep item costs low.

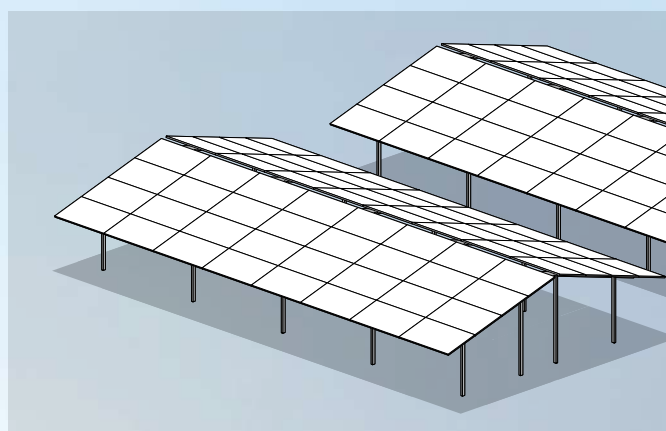
APPLICATIONS



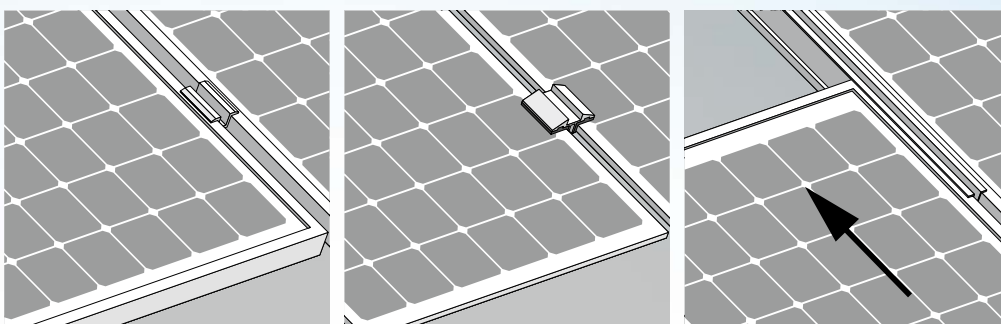
South facing systems with 2 post rows and 4-6 horizontal module rows



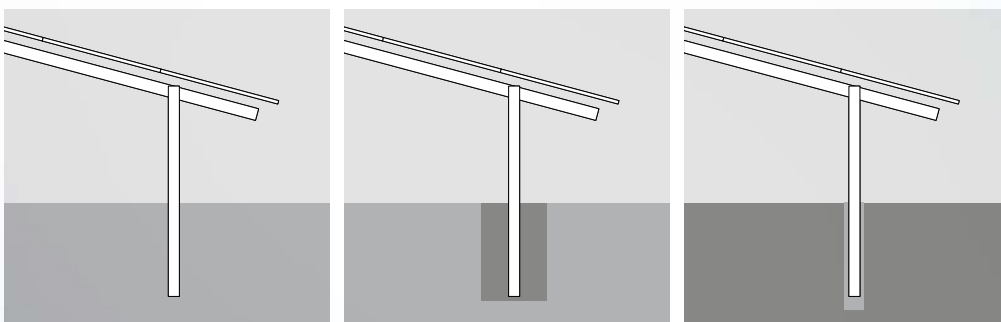
Adaptation to the ground profile



East-west systems



Mounting types: framed / unframed panels with clamps, insertion assembly



Suitable for use on any ground with various foundation types: ram foundation, concrete foundation, drill-holes (in rocky ground)

MAIN VARIANTS

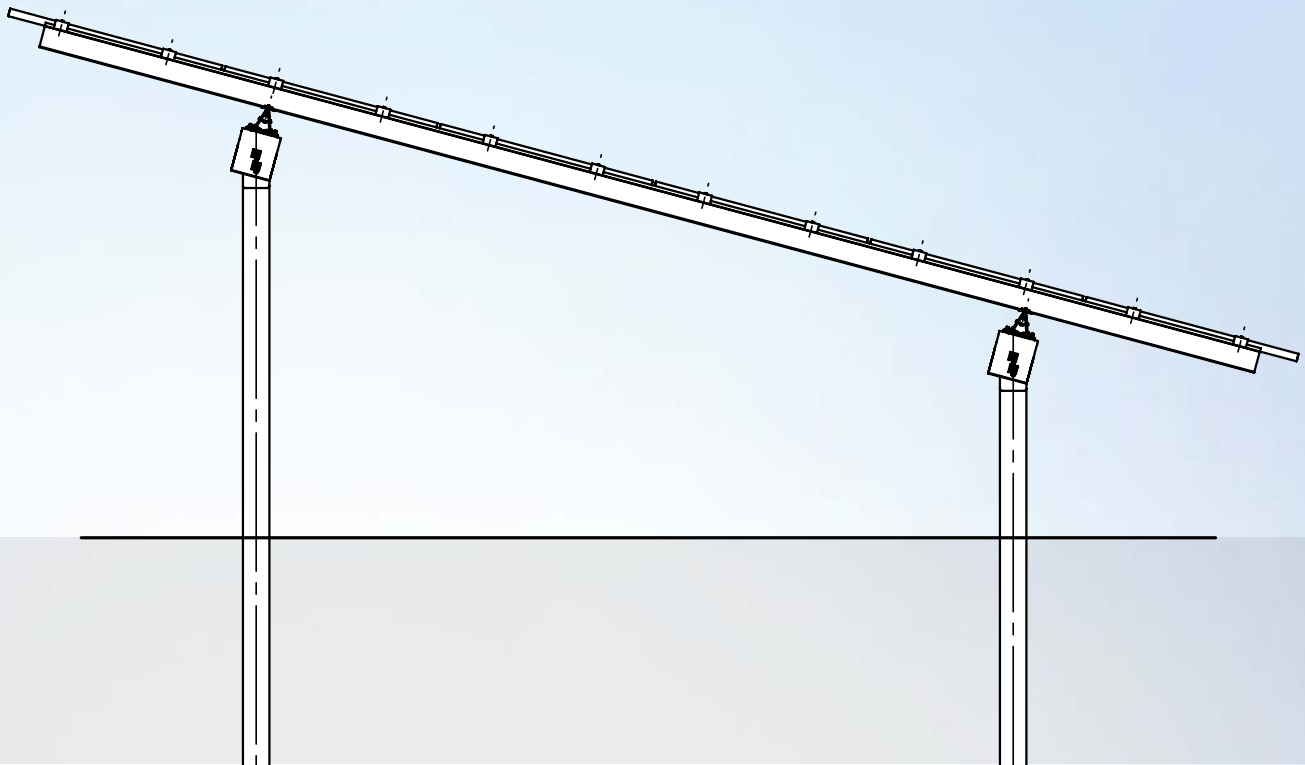
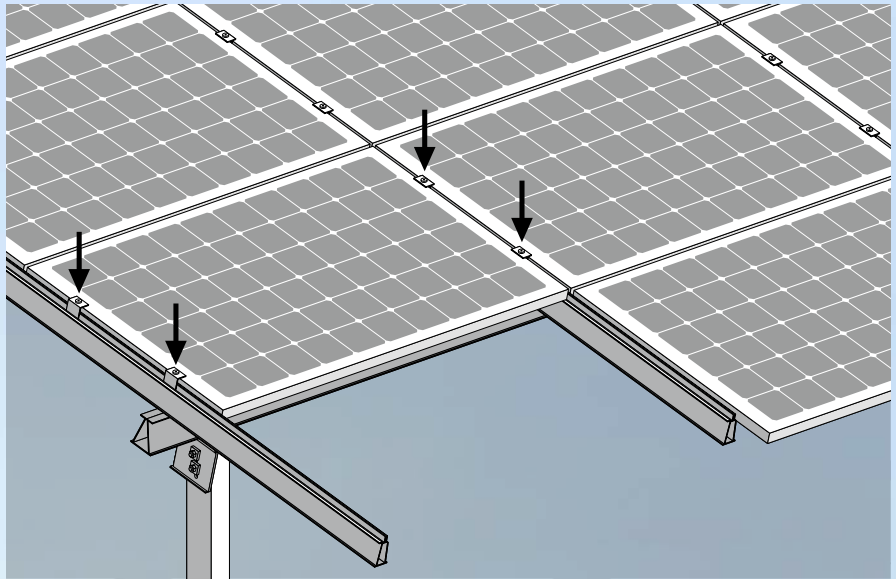
S version: For lesser loads

The modules are supported on the left and right by special carriers. They are thus secured on the short module side („S") using clamps or via push-in assembly.

Given the low material expenditure, this is the most cost-effective version. However, its application depends on a number of factors:

- Local wind and snow loads
- Module manufacturer specifications
- Sufficient cable length (see below)

Our planning team would be delighted to assist you with your system design.



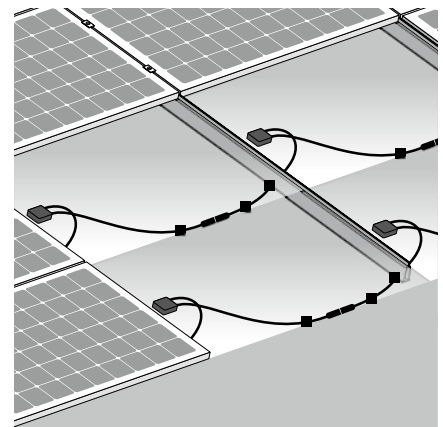
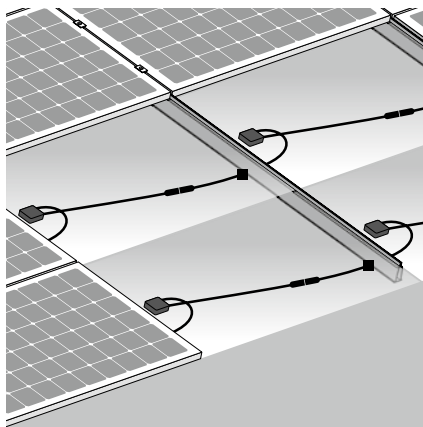
Cable fixation

left

Exposed cable with 1 fixation point on the module carriers. Required cable length: With a module width of 170 cm (60 cells) at least 100 cm; with 200 cm (72 cells) at least 120 cm.

right

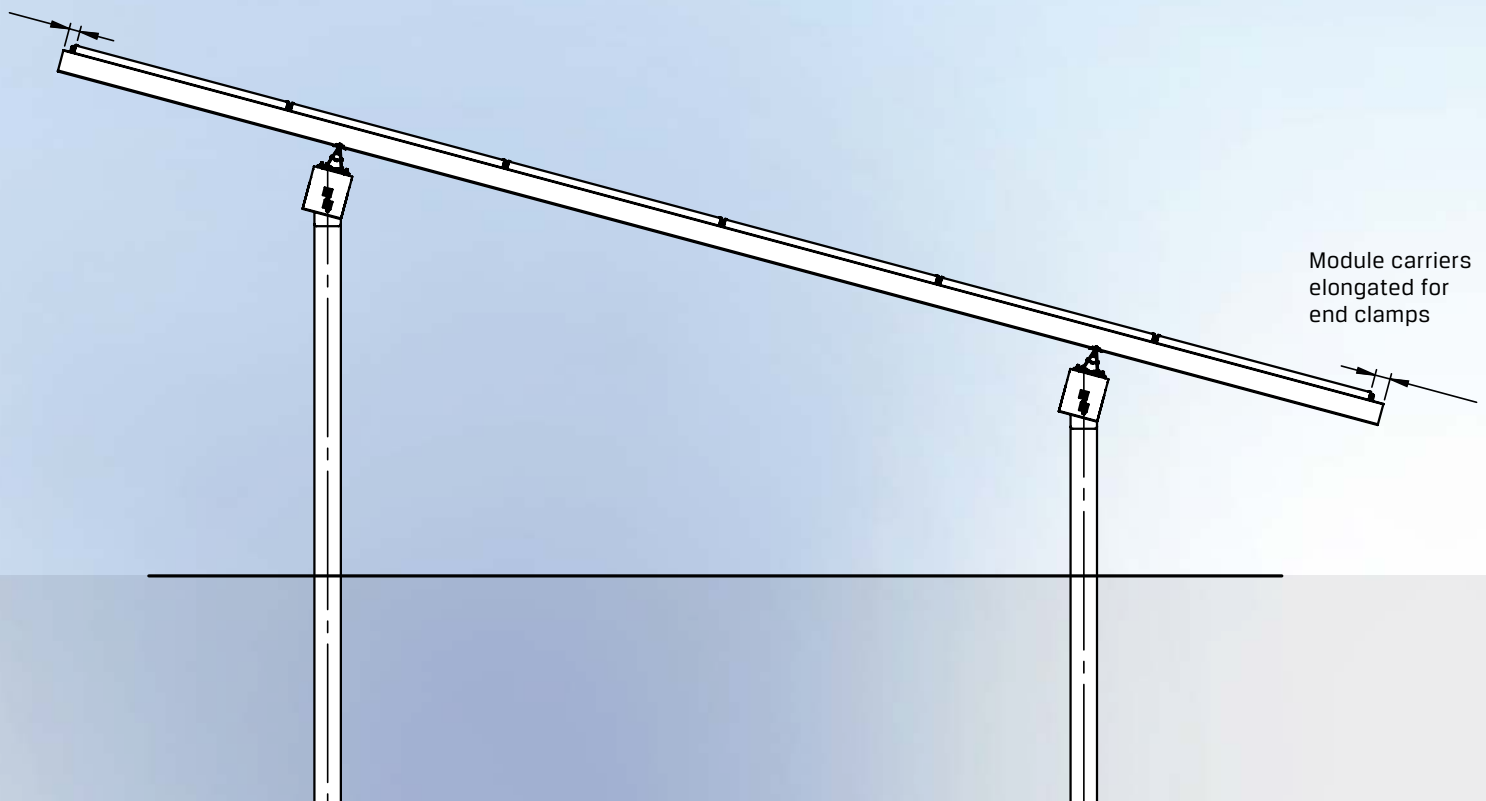
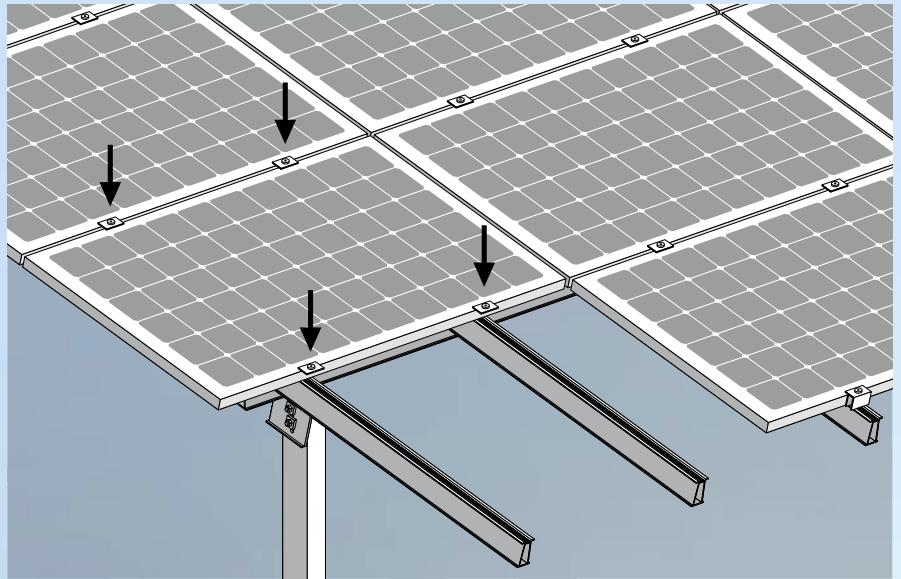
2 or 3 fixation points on the module frames. Required cable length: With a module width of 170 cm (60 cells) at least 120 cm; with 200 cm (72 cells) at least 135 cm.



L version: For greater loads

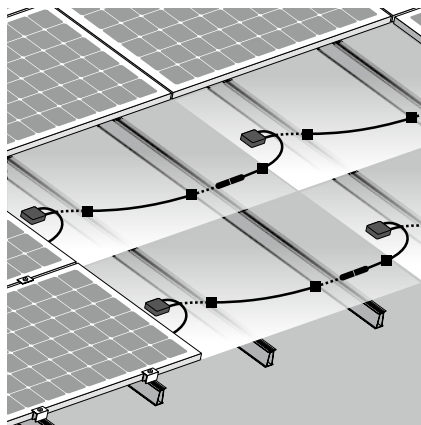
The modules are supported by two carriers. These are fixed to the long module side („L") using clamps.

This version is able to absorb module loads more effectively and enables better adaptation to the terrain. As such, it is normally used for loads in excess of 2400 Pa and for hilly terrain.

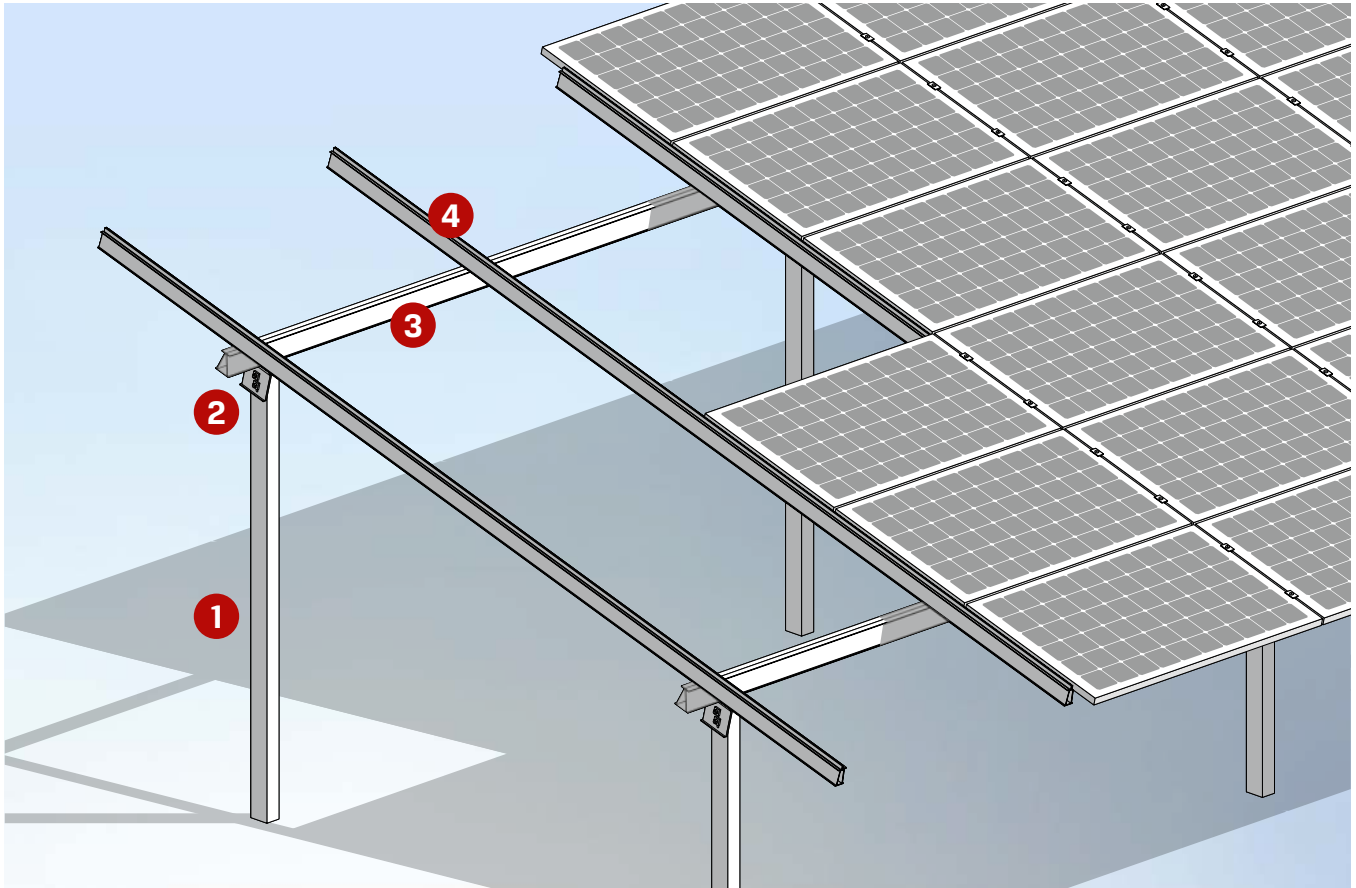


Cable fixation

The L version offers two fixation points to the module carriers. Required cable length: With a module width of 170 cm (60 cells) at least 100 cm; with a module width of 200 cm (72 cells) at least 120 cm.



SYSTEM COMPONENTS



Main components

- | | |
|------------------------|---|
| 1 Posts | 3 Purlins |
| 2 Carrier heads | 4 Module carriers; different profiles for S and L versions |

left

The ribbed structure of the special carrier head used in the GMS® max system enables variable and safe height adjustment on posts from approx. 50 mm.



right

The aluminium module carrier for the S version, with bearing areas on the right and left as well as integrated drainage for the solar modules. The profile's conical shape makes it more stable.



left

Outer edge of the module and end clamps with S assembly. The end clamps adapt flexibly to module thicknesses ranging from 30 to 40 mm.



right

View of cabling and transition into the accumulator



Accessories

left

Cable clips act as a „light“ cable channel

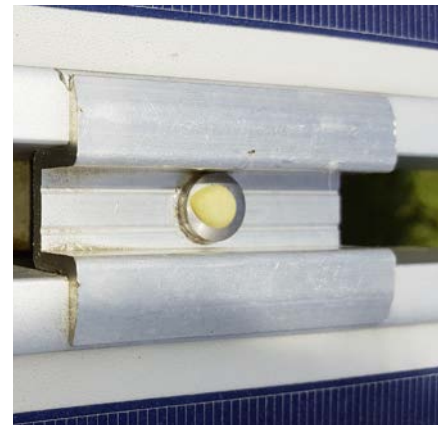


right

The lines are secured onto the carrier edges using cable clips made of UV-stable plastic

left

Theft prevention: Aluminium balls to cover the screw head; possible thanks to internal screw drive



right

Screw head protection with dual-component adhesive

Bridging strap for potential equalisation / lighting protection; expert report available for GMS® max (manufacturer: Dehn)



Standardised fastening materials for accumulator and inverter, with cable protection



TECHNICAL DATA

Foundation	• Rammed posts • Concrete foundation • Drill holes (in rocky ground)
Construction	Modular system, optimised for horizontal module alignment
Material	• Posts: hot-galvanised steel (batch galvanised – EN ISO 1461) • Purlins, module carriers: aluminium EN AW 6063 T66 • Fastening elements: stainless steel 1.4301
Static calculation	Project specific, complies with DIN 1055, DIN 18800, DIN 4113, Eurocode DIN EN 1991, wind tunnel test
Type of modules	60 and 72 cells, framed and unframed
Module orientation	Horizontal, 4 to 6 module rows
Angle of inclination	Flexible angle of inclination Standard: 5° to 20° (other angles on request)
Terrain adaption	North/south-inclination: up to $\pm 45^\circ$ East/west-inclination: up to $\pm 15^\circ$
Accessories	• Cable channel • Cable fasteners • Anti-theft device • Module earthing straps • Fixation for inverter

Technical data subject to change without notice