

# GMS<sup>®</sup> FLEX

**Adjustable and flexible as the nature**



- / Versatile mounting system for open-terrain PV power plants**
- / Adaptable to terrain: Variable module tilt angle and lateral tilt, various foundation types for any ground**
- / Cost-saving by using high-quality components**
- / Short project execution time: Rapid delivery, fast installation**

# GMS® FLEX

Based on the experience gained from many projects, our engineers know what it takes to build solar parks. With this practice-oriented approach in mind, they have developed the GMS® flex system: A modular system which addresses practically all project conditions. Using standard profile elements which are suitable for various system types. With flexible installation solutions ensuring uncomplicated, rapid installation on site. And with sophisticated detail solutions such as the patented adjustment disc and intelligent cable routing. These are a few of the reasons why GMS® flex has enjoyed such success all over the world for many years.

Fast, professional service, economical large-scale production and continuous development aligned with the requirements of the market have made GMS® flex your system of choice – today and for the future.

## THE BENEFITS AT A GLANCE

### **/ Flexible module system**

5 main components which can be used as needed, as well as tried and tested accessories – GMS® flex offers a suitable solution for standard installations and special challenges alike.

### **/ Unique height adjustment**

The patented adjustment disc enables continuously variable height adjustment. It also prevents the system from slipping under load in any orientation. And it is extremely simple to handle, saving valuable installation time.

### **/ Optimal adaptation to any terrain**

The flexible clamping elements enable the system to be tilted sideways by up to  $\pm 15^\circ$  to adapt to the ground profile – quickly and simply on site, with no preparatory work in production.

### **/ Lightweight yet stable components**

The statically calculated profile elements conserve materials and offer well designed multiple benefits. This system has shown its worth over many years right around the globe.

### **/ Durable corrosion protection**

GMS® flex uses high-quality materials: Steel parts are hot-dip galvanized, purlins are optionally available in aluminium.

### **/ Optimal cable routing**

Wiring harnesses can be fitted easily in the cable ducts and inspected afterwards without any additional effort. Feed lines are routed up from the ground inside the open posts for optimum protection.

### **/ Suitable for any ground type**

Rammed, screwed or concrete foundations: GMS® flex supports solutions for any soil type.

### **/ Secure statics**

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

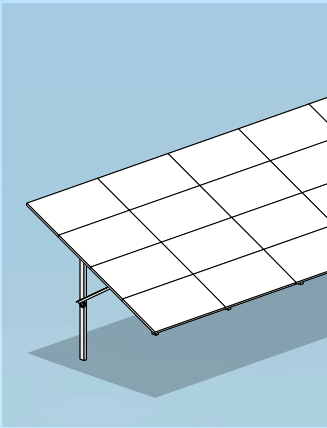
### **/ Rapid commissioning**

Short delivery periods, low weight, the use of just 5 main components, fast assembly with tolerance-insensitive construction: We have optimised GMS® flex in every respect for short project turnaround times.

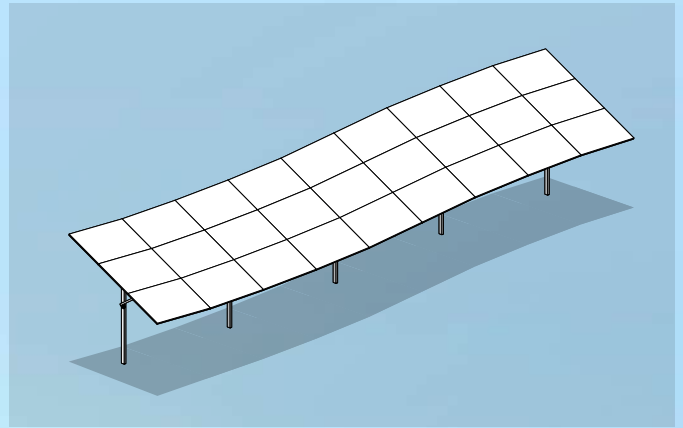
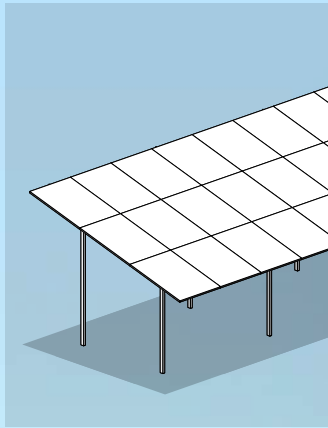
### **/ Inexpensive**

High volume production enables us to keep item costs low.

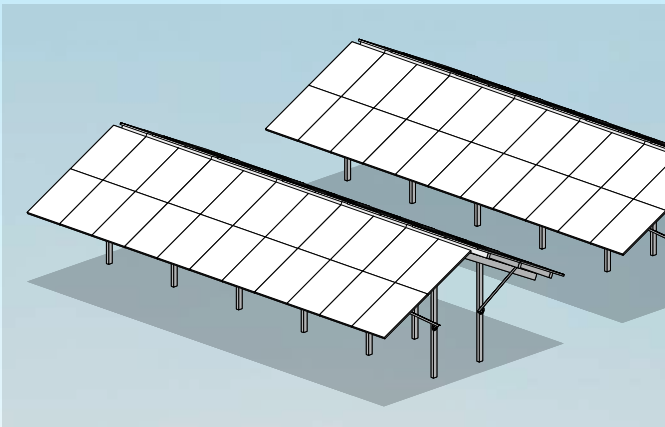
# 1000 POSSIBILITIES



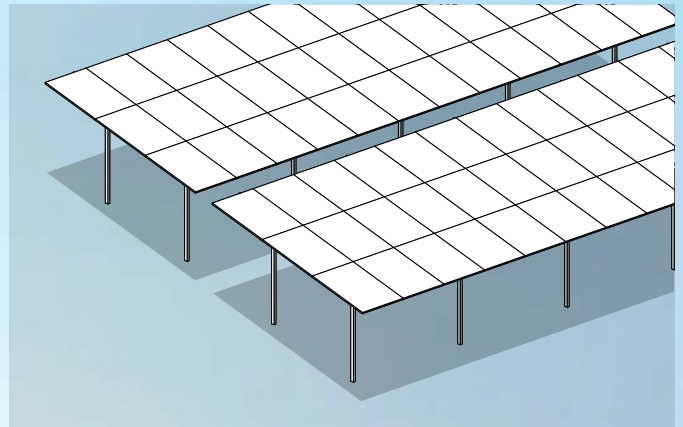
1 to 4 module rows, horizontal or vertical



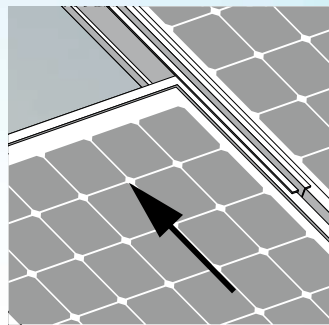
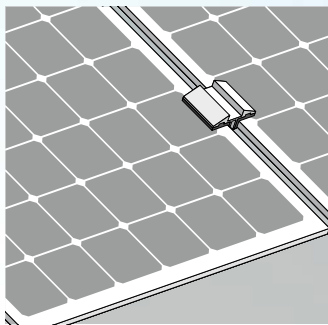
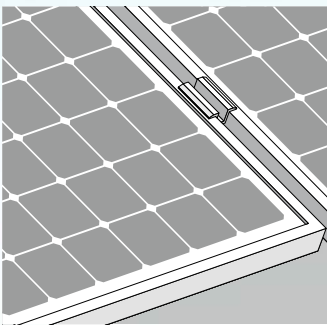
Flexible adaptation to the ground profile



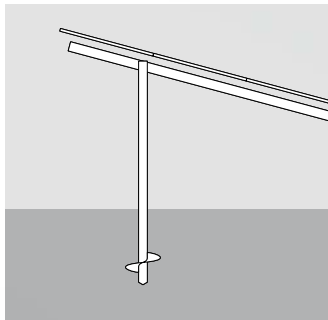
East-west systems



Slope parallel systems



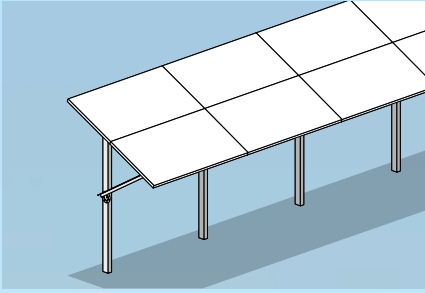
Mounting types: framed / unframed panels with clamps, insertion assembly



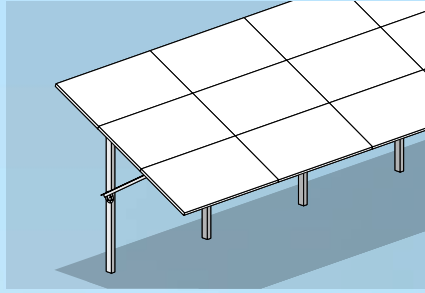
Suitable for use on any ground with various foundation types: ram foundation, screw foundation, concrete foundation, drill-hole (in rocky ground)

# MAIN VARIANTS

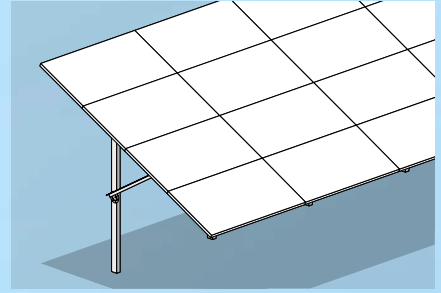
## Horizontal orientation



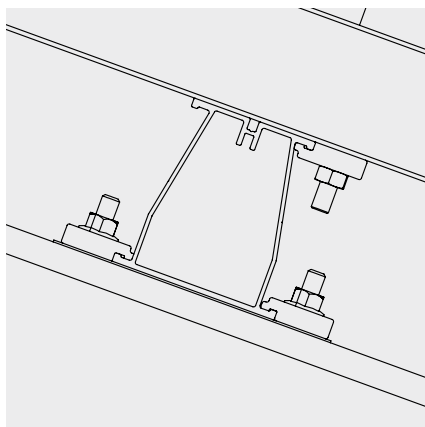
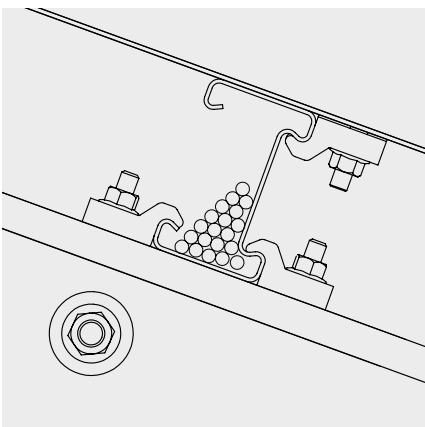
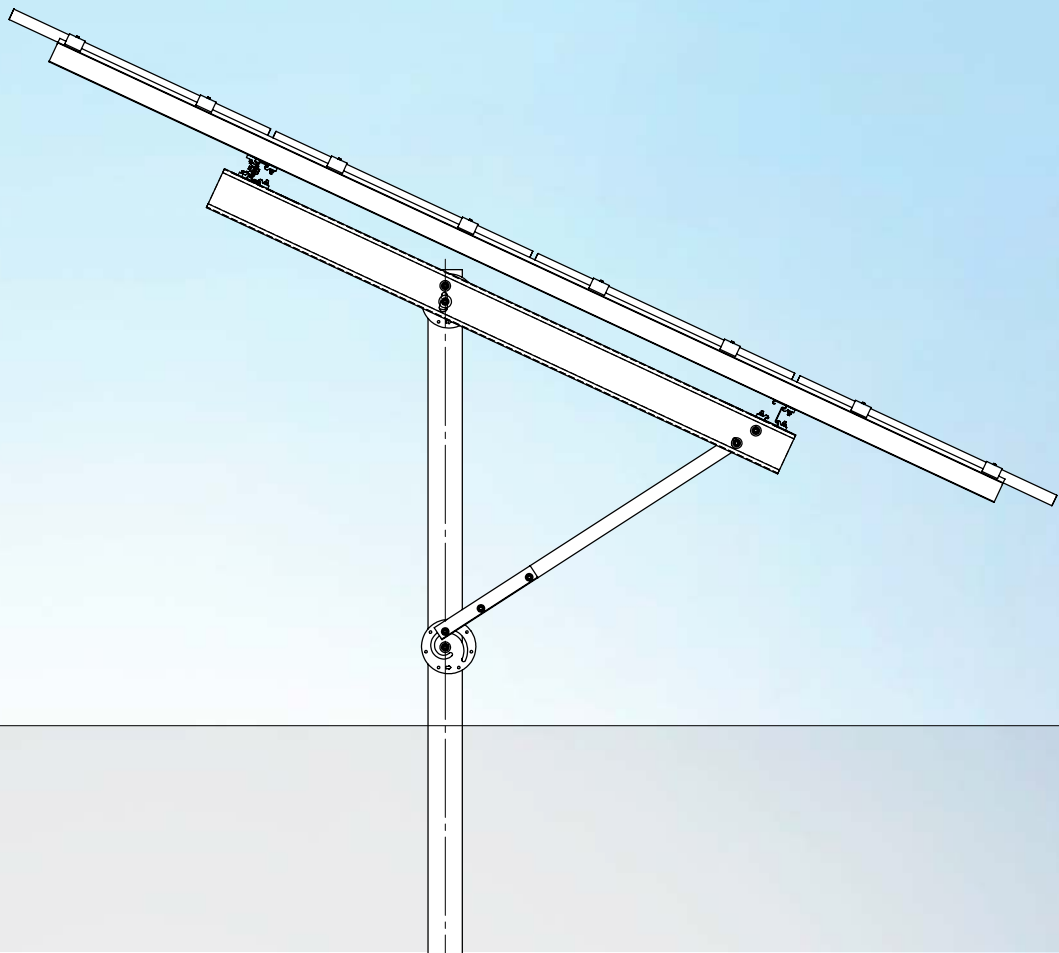
GMS I flex 2H



GMS I flex 3H



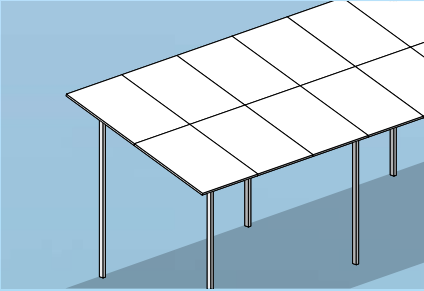
GMS I flex 4H



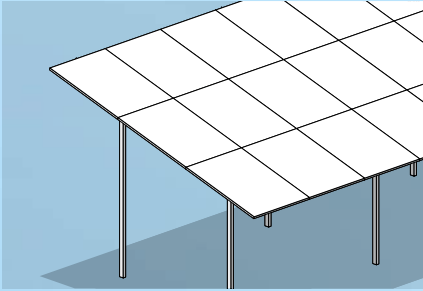
left  
GMS I flex 4H-St, steel purlins, with  
integral cable duct

right  
GMS I flex 4H-Al, aluminium purlins

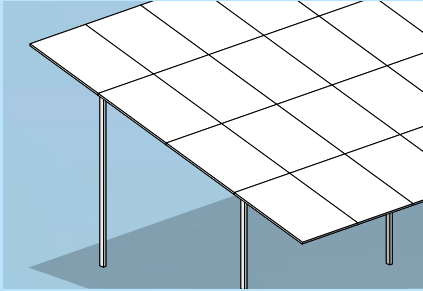
# Vertical orientation



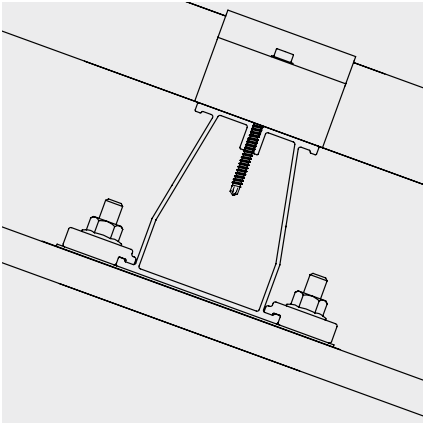
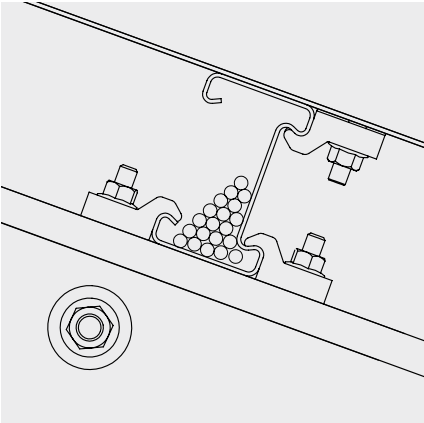
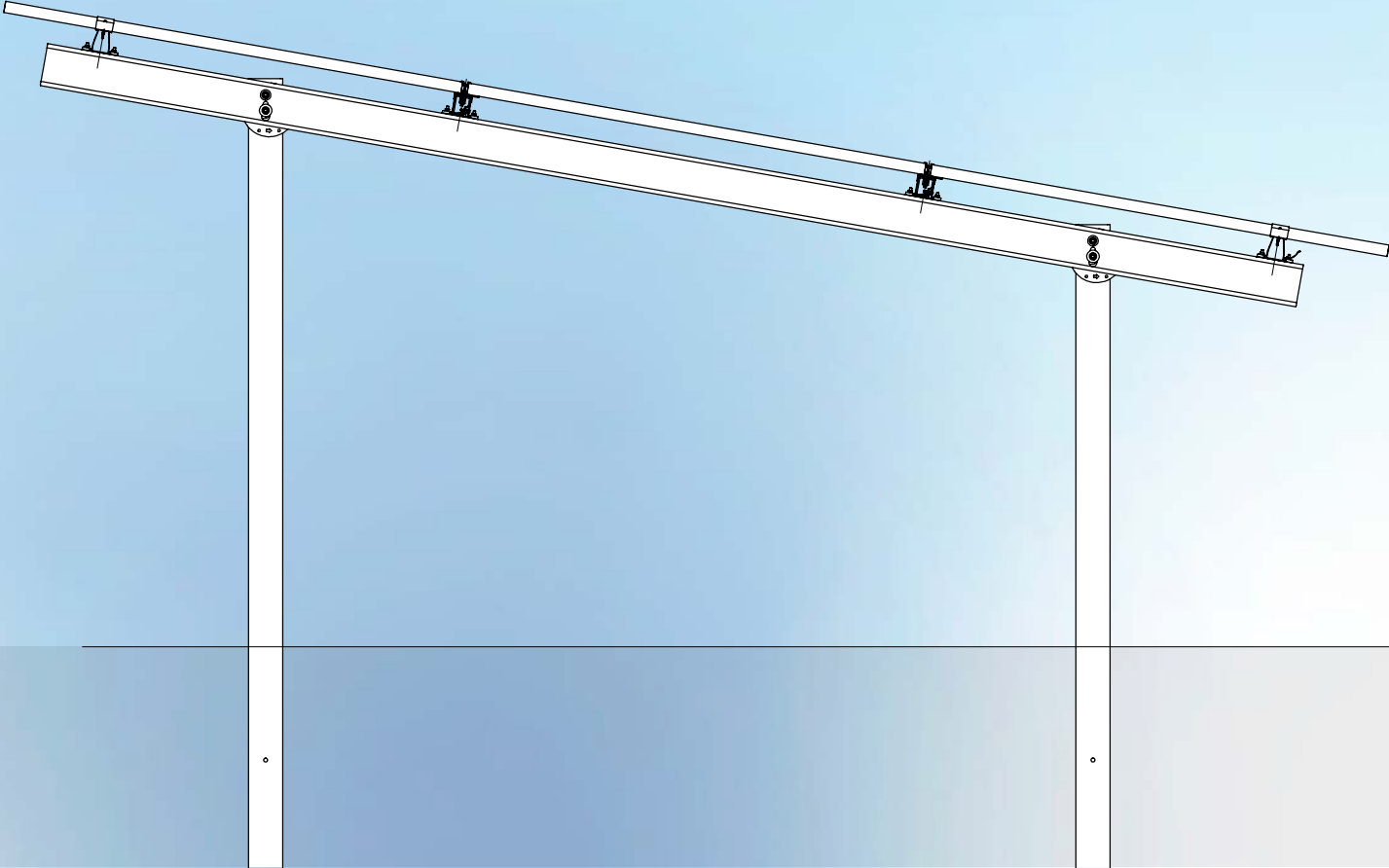
GMS II flex 2V



GMS II flex 3V



GMS II flex 4V



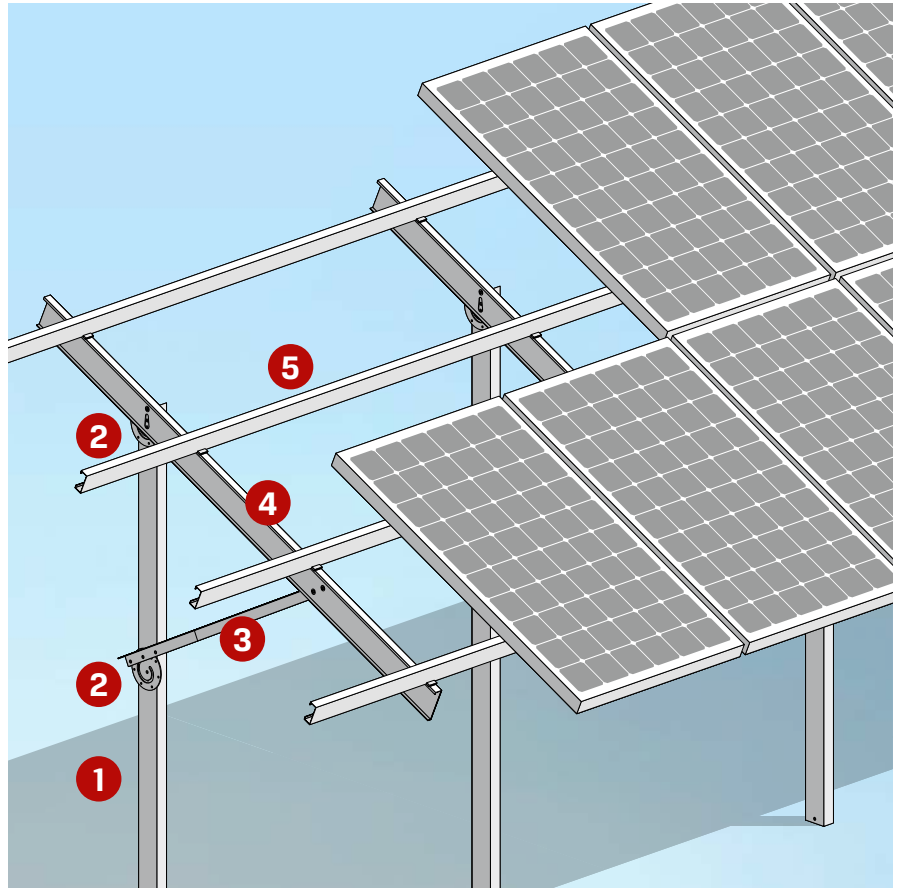
left  
GMS II flex 3V-St, steel purlins, with  
integral cable duct

right  
GMS II flex 3V-Al, aluminium purlins

# SYSTEM COMPONENTS

## Main components

- 1 Posts
- 2 Adjustment discs
- 3 Struts
- 4 Main beams
- 5 Purlins
- 6 Module carrier (for horizontal alignment)



left  
GMS® flex substructure,  
with additional rails for slide-in  
installation



right  
Flexible clamping elements hold  
the purlins within a tolerance  
range of  $\pm 15^\circ$ , thus enabling  
simple adaptation to the terrain  
profile



left  
Purlins made of steel, with  
integral, open cable duct



right  
Feed lines are routed upwards  
from the ground inside the  
post profiles

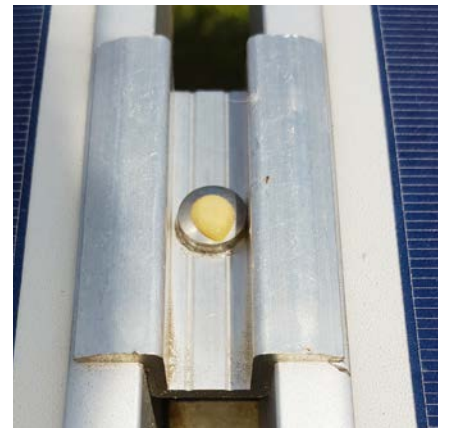
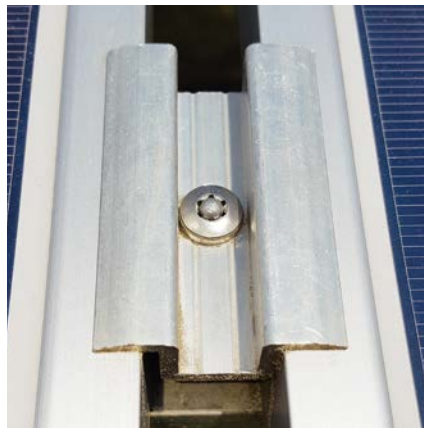


## Accessories

"Mesh cable tray light" for aluminium purlins

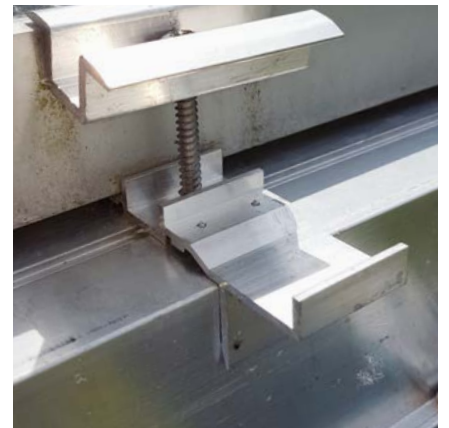


left  
Theft prevention: Aluminium ball for closing the screw head; enabled by interior screw drive



right  
Screw head retainer with two-component adhesive

left  
Bridging strap for potential equalisation / lightning protection (manufacturer: Dehn)



right  
Module earthing adapter

Standardized fastening equipment for combiner boxes and inverters with cable protection



# TECHNICAL DATA

|                             |   |
|-----------------------------|---|
| <b>Foundation</b>           | <ul style="list-style-type: none"><li>• Rammed posts</li><li>• Screw foundation</li><li>• Concrete foundation</li></ul>   |
| <b>Construction</b>         | Construction kit system of highest flexibility, continuous and safe by self-locking height adjustment   |
| <b>Material</b>             | <ul style="list-style-type: none"><li>• Posts, main beams, struts: steel, hot-dip galvanized (EN ISO 1461)</li><li>• Purlins: steel, pre-galvanized / hot-dip galvanized, or aluminium EN AW 6063 T66</li><li>• Module carriers: aluminium EN AW 6063 T66</li><li>• Disc: steel, hot-dip galvanized (EN ISO 1461)</li><li>• Fastening elements: stainless steel 1.4301 / steel hot-dip galvanized (EN ISO 1461)</li></ul> |
| <b>Static calculation</b>   | Project specific, complies with DIN 1055, DIN 18800, DIN 4113, Eurocode DIN EN 1991, wind tunnel test   |
| <b>Type of modules</b>      | Framed and unframed   |
| <b>Module orientation</b>   | Vertical: 1 to 4 module rows<br>Horizontal: 1 to 6 module rows  |
| <b>Angle of inclination</b> | Flexible angle of inclination<br>Standard: 5° to 40° (other angles on request)  |
| <b>Terrain adaption</b>     | North/south-inclination: up to ± 45°<br>East/west-inclination: up to ± 15°  |
| <b>Accessories</b>          | <ul style="list-style-type: none"><li>• Cable channel</li><li>• Cable fasteners</li><li>• Anti-theft device</li><li>• Module earthing adapter</li><li>• Fixation for inverter</li></ul>   |

Technical data subject to change without notice