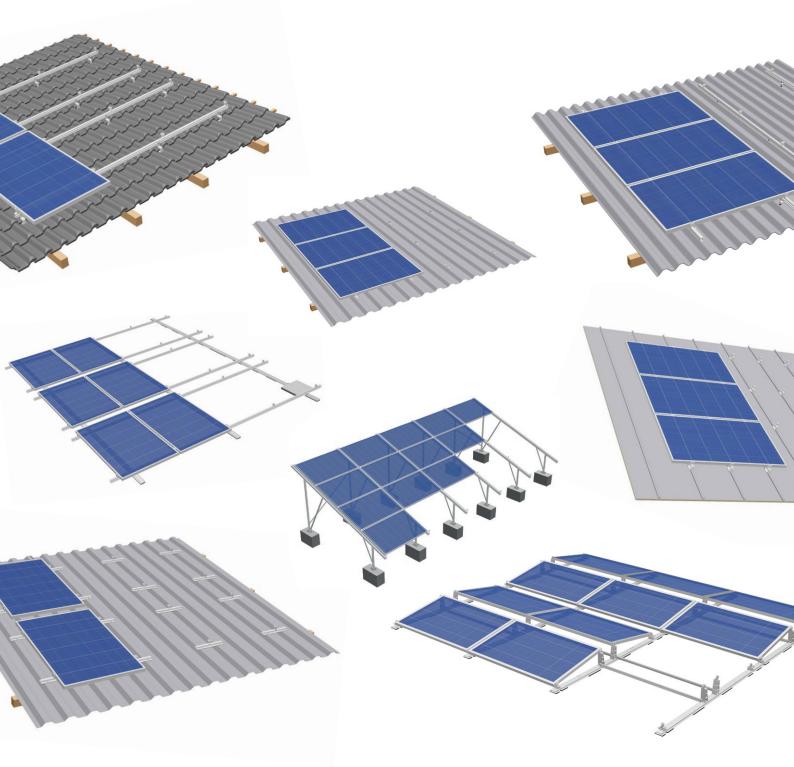


S:FLEX System Solutions



Flat roof, pitched roof and ground mount structures for flexible and fast installations



Pitched roof, flat roof, ground-mounted — system-based mounting solutions by S:FLEX

S:FLEX mounting systems stand for functionality based on simple assembly and largely preconfigured components. They provide flexible solutions for both flat and pitched roofs as well as for ground-mounted installations.

Fast installation, low freight and storage costs, optimal structural values and a long service life — these are the features that we pay attention to when manufacturing our proven components and developing new systems and parts.

Our mounting systems for sheet metal roofing are manufactured in a particularly material-saving manner and with optimal ergonomics. Using our suitably trimmed, pre-drilled trapezoidal sheet metal rail (module mounting in portrait orientation), the HK 125 mounting rail (module mounting in landscape orientation) or the HK 125 XL (for extended roof clearance), PV systems can be installed quickly and cleanly on all common types of trapezoidal sheeting.

For cost-efficient installation of modules without roof penetration on roofs with standing seam profiles, we offer the S:FLEX standing seam clamps. Ideal for direct module mounting with our clickable end and middle clamps, they can also be used in combination with our rails and cross adapter clamps.

Our flexibly adjustable roof hooks for PV installation on pitched roofs with different tile coverings cover all requirements, even for constructions with narrow rafters or to accommodate particularly high loads.

The S:FLEX Flat Direct System for pitched roofs can be installed with minimal ballasting and without roof penetration on pitched roofs with foil or bitumen coverings and sandwich elements. This makes it especially suitable for commercial buildings with low load-bearing capacities. The structural properties of Flat Direct with air gaps between the modules produce a suction effect in the direction of the roof and achieve the best possible rear ventilation. If necessary, special ridge connectors, counterweights or mechanical couplings can be used to ensure additional safety when anchoring.

The S:FLEX Delta Triangle was designed for installing elevated systems on flat and slightly inclined roofs. Available with pitch angles from 5° to 45°, it is delivered pre-assembled, but folded up — thus significantly reducing transport costs. The Delta Concrete system is recommended for installations on concrete surfaces on flat roofs and concrete ground.

And for low-ballast mounting on flat roofs, the aerodynamic LEICHTmount Rail 2.0 is an innovative solution that is available for systems with south as well as east-west orientation.

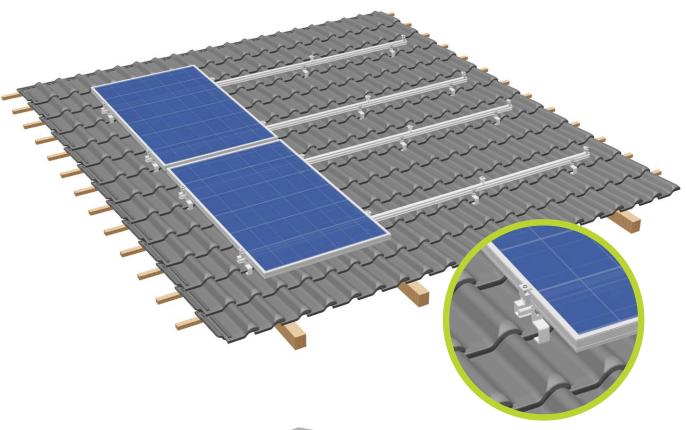
PV frame technology by professionals for practitioners — from pre-assembled components to fully customised solutions!



Pitched Roof Systems

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Pitched roof with tiles

Fastening:

Roof hook on rafters (min. rafter width 36 mm)

Roof pitch:

Up to 60 degrees

Module type:

Framed and frameless modules

Module orientation:

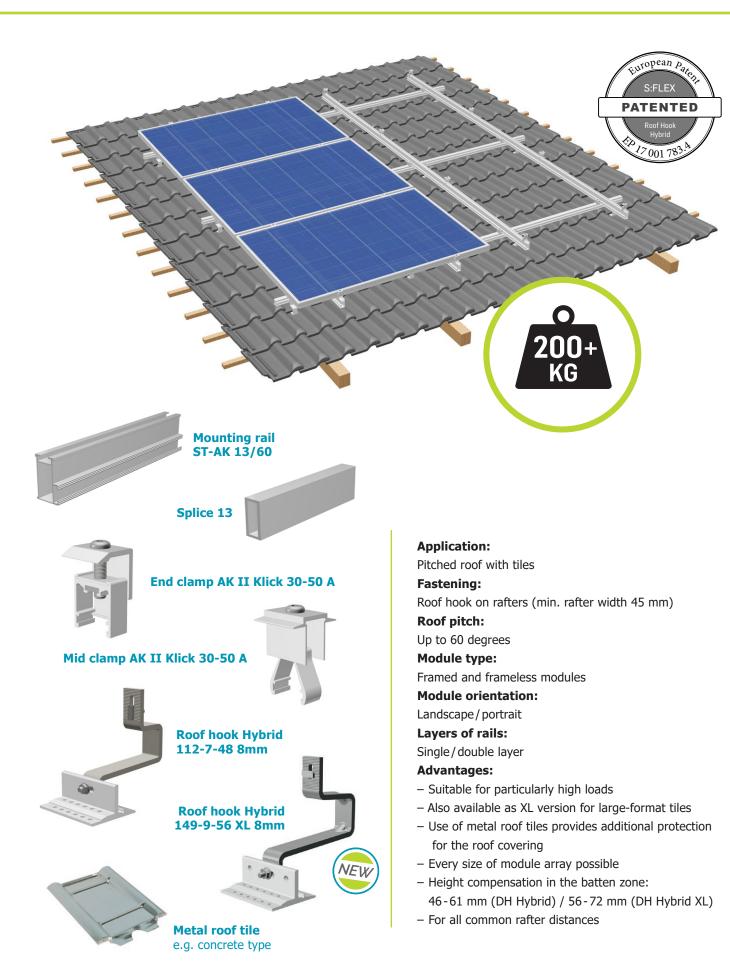
Landscape / portrait

Layers of rails:

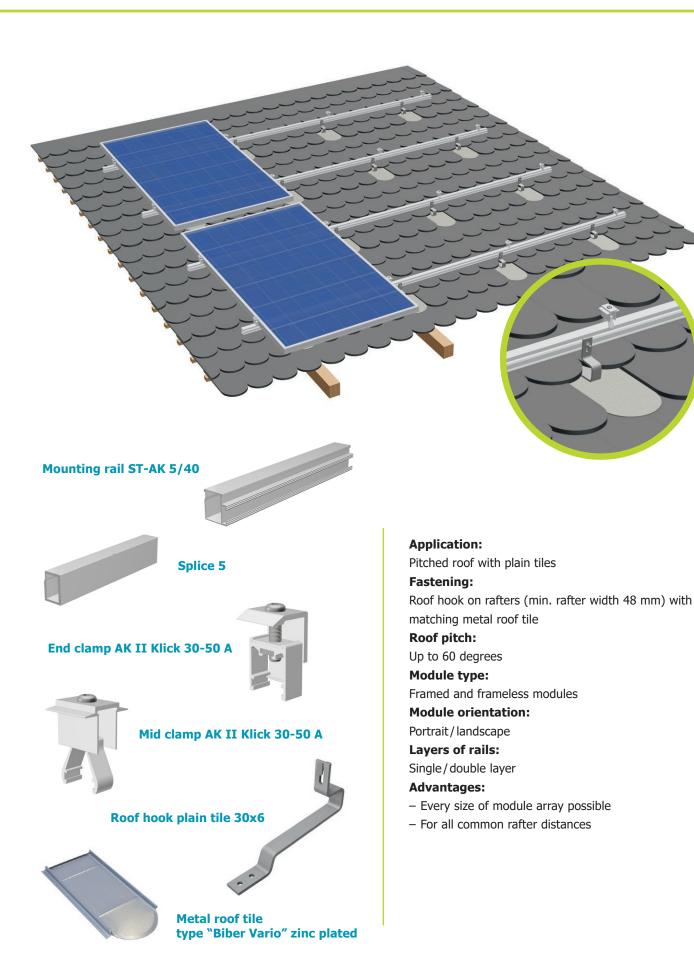
Single / double layer

- Every size of module array possible
- Height compensation: 40-58 mm in the batten zone /
 21 mm in the rail zone
- For all common rafter distances

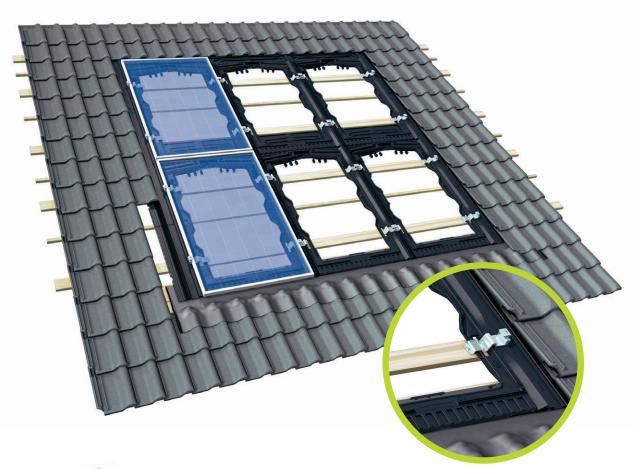


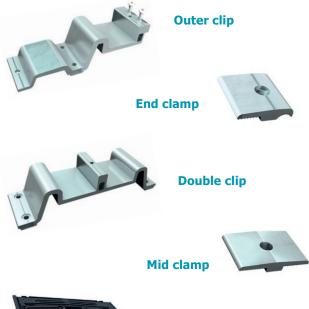












Frame

Application:

Pitched roof with tiles

Fastening:

Module supports on new transverse beams

Roof pitch:

10 to 50 degrees

Module type:

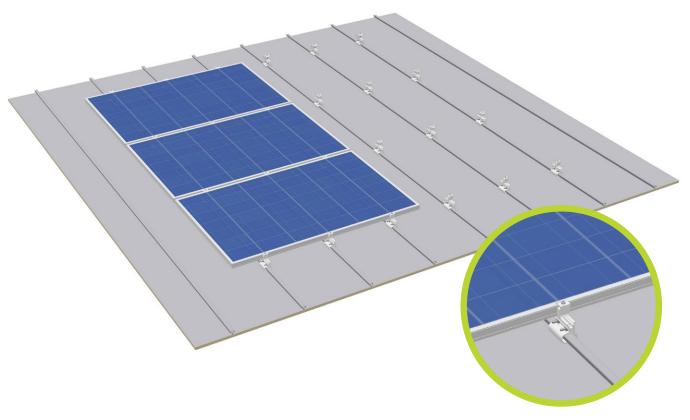
Framed modules

Module orientation:

Portrait/landscape

- Every size of module array possible
- Certified to provide a complete seal to the roof according to CSTB
- For all common rafter distances
- For all common module sizes
- Optionally include module earthing
- Roof edge connections via the system







Standing seam clamp 2.1

Standing seam clamp DCO





Standing seam clamp CL

End clamp AK II Klick 30-50 A





Mid clamp AK II Klick 30-50 A

Application:

Standing seam clamp 2.1: Seamed roofing, e.g. standing seam, round seam, angle seam

Standing seam clamp DCO and CL: Industrial metal roof systems, e.g. Domitec/GBS, Klip-Lok 700, RibRoof 465

Fastening:

Non-penetrative

Module type:

Framed modules

Module orientation:

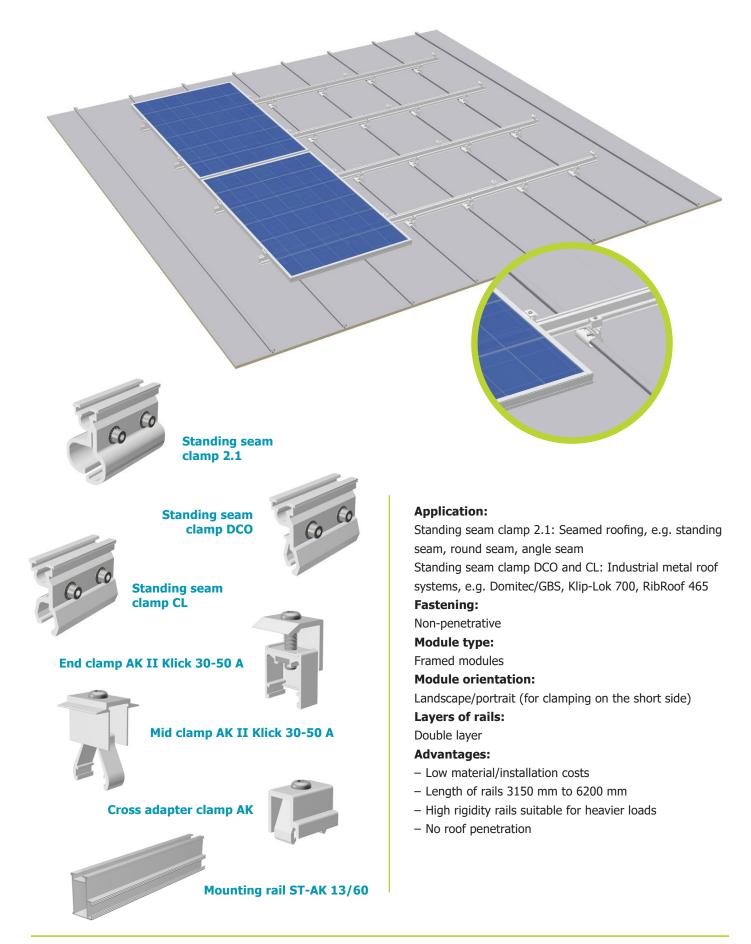
Landscape/portrait (for clamping on the short side)

Layers of rails:

Single layer

- Modules mounted directly to the standing seam clamps
- No rails necessary
- Low material/logistics/installation costs
- Quick mounting
- No roof penetration









Trapezoidal sheet metal

Fastening:

Screwed onto raised corrugations

Module type:

Framed modules

Module orientation:

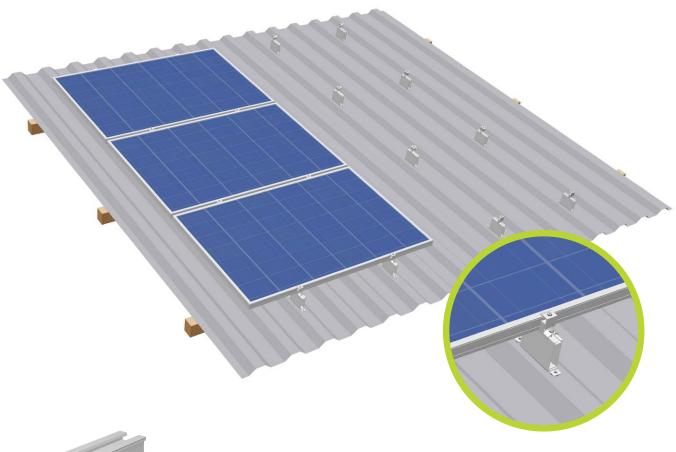
Landscape

Layers of rails:

Single layer

- Low material/fitting costs
- 24 mm height provide better rear ventilation, simplify cable routing, enable installation even on slightly corrugated roof coverings and offer more space for power optimizers or micro-inverters
- Rail lengths of 125 mm, 172 mm, 295 mm and 4600 mm
- High-bead rails HS HK I=125 mm and I=172 mm are supplied pre-fabricated with EPDM sealing tape.
 The 125 mm rail comes with 2x2 holes (5/6 mm), the 172 mm version has 2x4 pre-drilled holes (5/6 mm).











Mid clamp AK II Klick 30-50 A

Trapezoidal sheet metal

Fastening:

Screwed or riveted onto raised corrugations

Module type:

Framed modules

Module orientation:

Landscape

Layers of rails:

Single layer

- Low material/fitting costs
- Rail heights of 50 or 100 mm guarantee a sufficient distance from the roof covering for optimal rear ventilation and use at high temperatures
- Floating mounting with brackets reduces the number of expansion joints and enables optimal use of the roof area
- High-bead rails covered with protective fleece
- Brackets come pre-drilled and with EPDM sealing tape covered bottom side

System for trapezoidal sheet and corrugated sheet roofs





Application:

Trapezoidal and corrugated sheet metal

Screwed or riveted onto raised corrugations

Module type:

Framed and frameless modules

Module orientation:

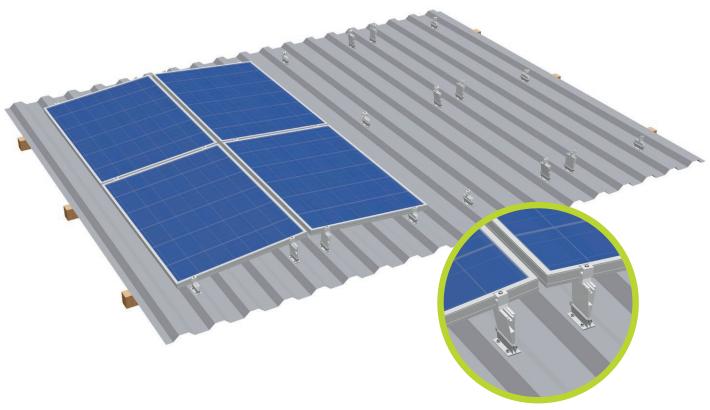
Portrait/landscape

Layers of rails:

Single/double layer

- Low fitting costs
- Every size of module array possible
- Height adjustable via elongated hole in the sheet metal bracket
- Sheet metal brackets are supplied prefabricated with 2 holes (5 mm) and EPDM sealing tape covered bottom side







Front rail with small adapter



Rear rail with large adapter



End clamp AK II Klick 30-50 A



Trapezoidal sheet metal

Fastening:

Screwed with sheet metal screws to the raised seams

Options:

South and East-West orientation

Module type:

Framed and frameless modules, all common sizes

Module orientation:

Portrait/landscape

Module pitch Lift:

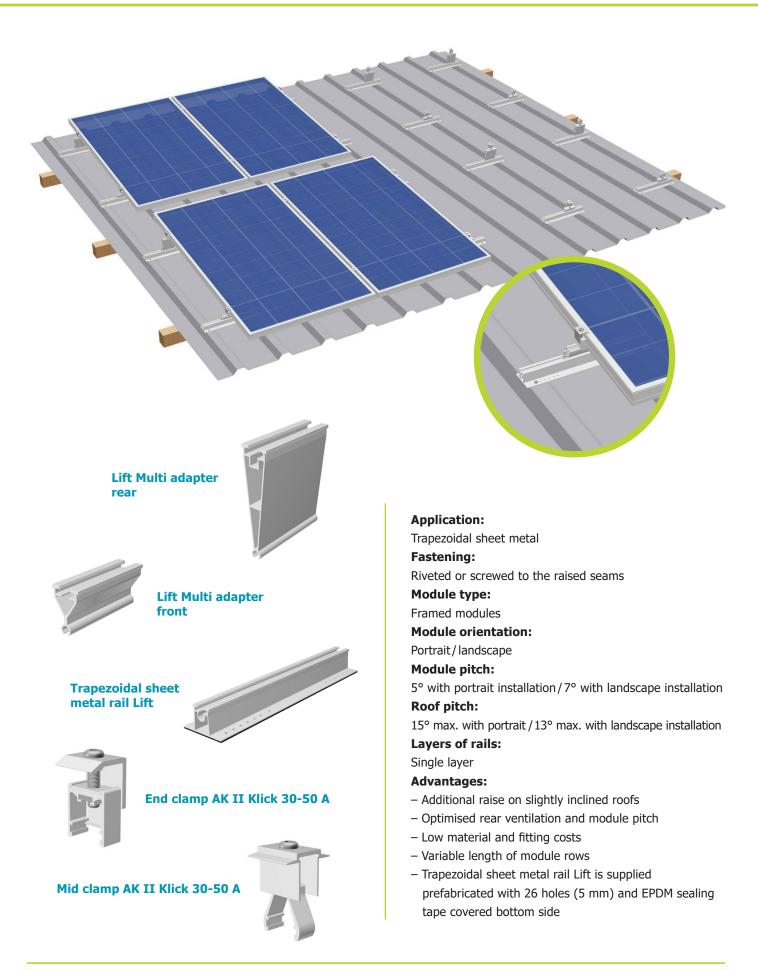
5° with portrait installation/7° with landscape installation

Roof pitch:

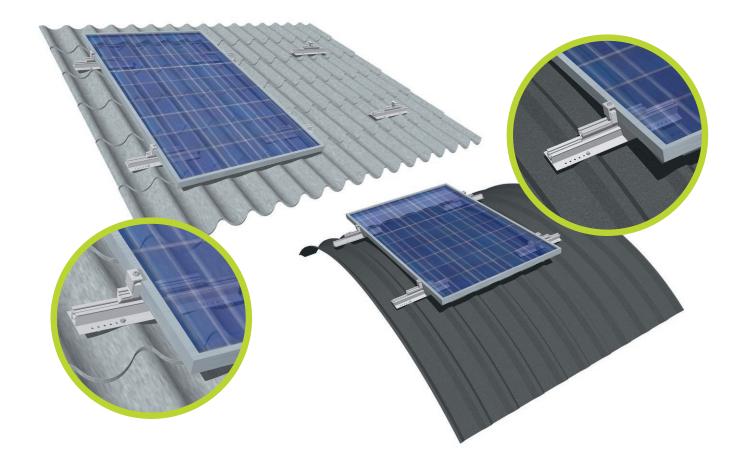
20° max.

- Low material and fitting costs
- Optimised irradiation angles for higher yields
- Better self-cleaning
- Maximum use of space through optional East-West orientation
- prefabricated with holes and EPDM sealing tape

















Mid clamp MH AK II Klick 30-50 A

Application:

Corrugated roof tile and curved trapezoidal sheet metal (barrel roofs with a radius larger than 3.5 m)

Fastening:

Riveted or screwed with sheet metal screws to the raised seams

Module type:

Framed modules

Module orientation:

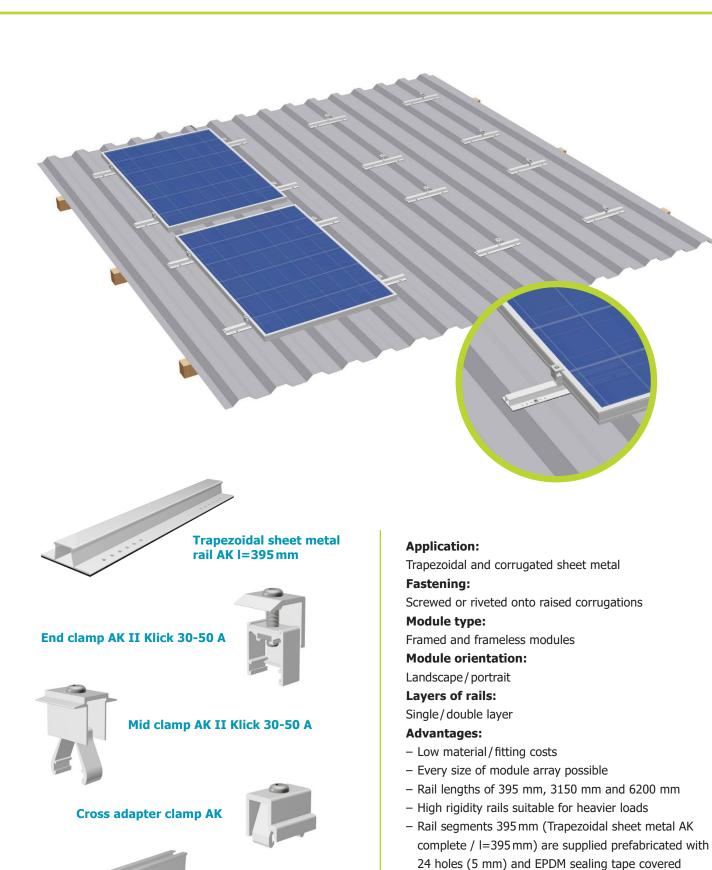
Portrait/landscape

Layers of rails:

Single layer

- Tension-free installation on curved roofs
- Tension-free installation on corrugated roof tiles
- Perfectly adapted to the roof shape
- Trapezoidal sheet metal rail Vario is supplied prefabricated with 26 holes (5 mm) and EPDM sealing tape covered bottom side





Mounting rail ST-AK 13/60

bottom side







Fibre-cement boards/sandwich elements/ trapezoidal sheet metal

Fastening:

Hanger bolts/solar fasteners with brackets

Module type:

Framed and frameless modules

Module orientation:

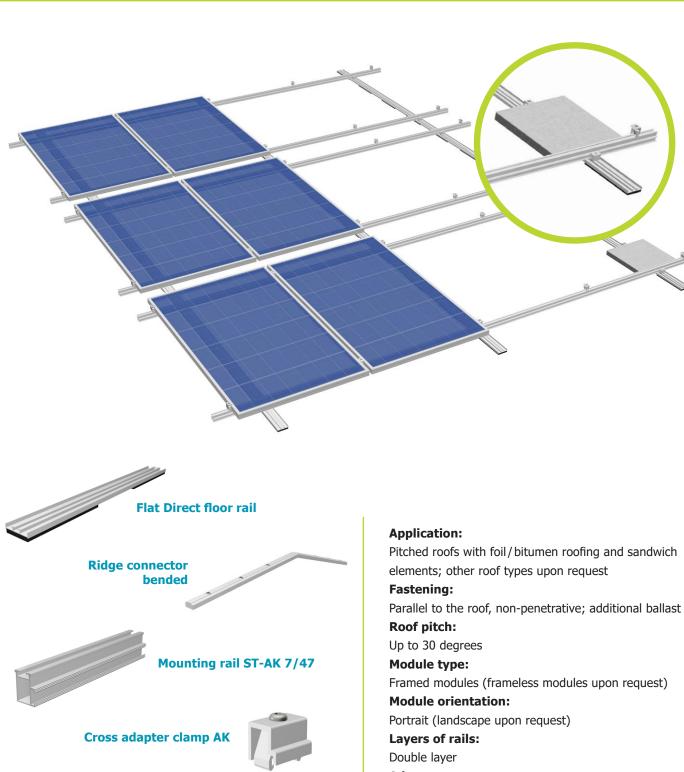
Landscape/portrait

Layers of rails:

Single/double layer

- Low fitting costs
- Height adjustable
- Suitable for large distances between rafters
- Solar fastener type A or hanger bolts for wood rafters / solar fastener type BZ for metal rafters







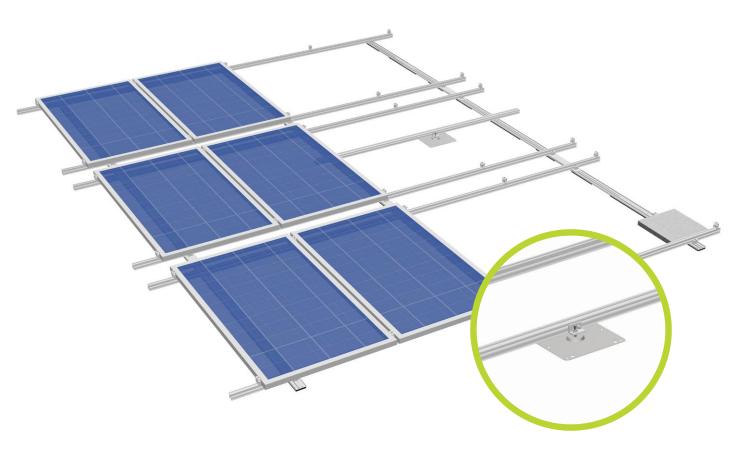
End clamp AK II Klick 30-50 A

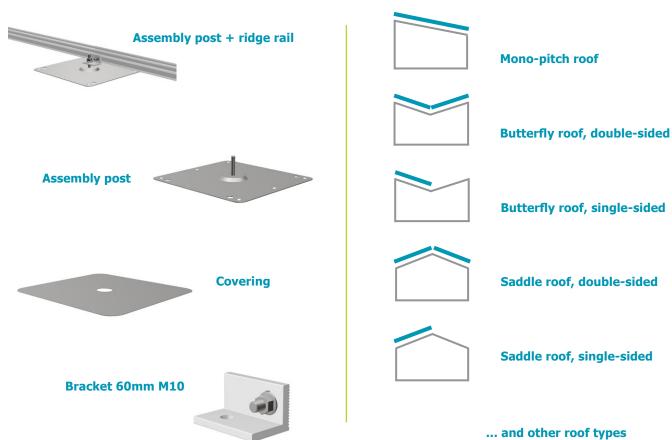
Mid clamp AK II Klick 30-50 A



- No roof penetration
- Minimised additional ballast thanks to aerodynamic optimisation
- Perfect for east-west orientation like saddle roof, double-sided
- Has lightning-current-carrying capacity
- Optional roof connection points extend potential uses



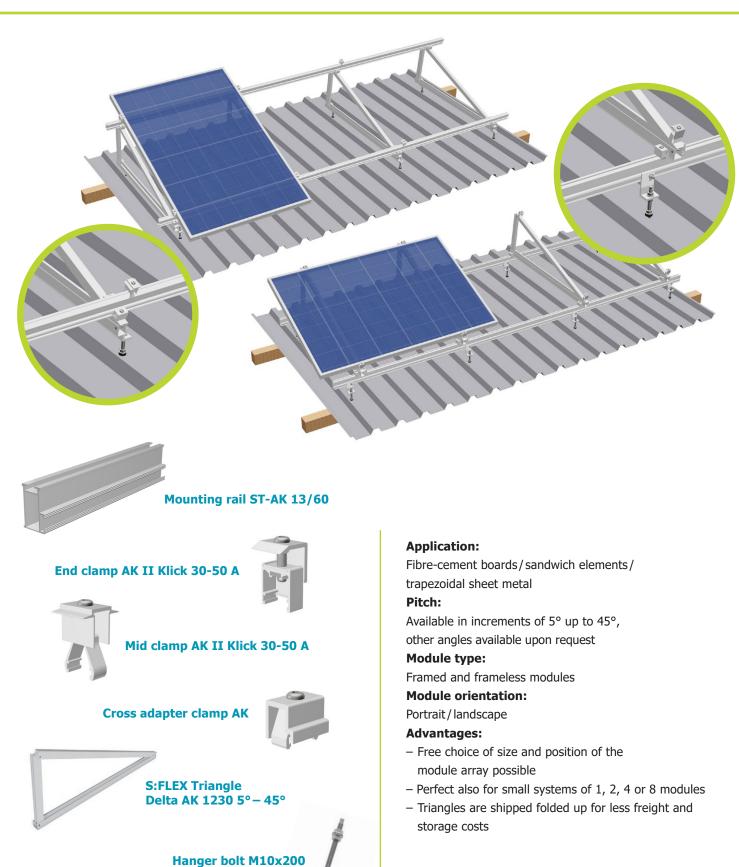




System for fibre-cement, trapezoidal sheet and sandwich roofs

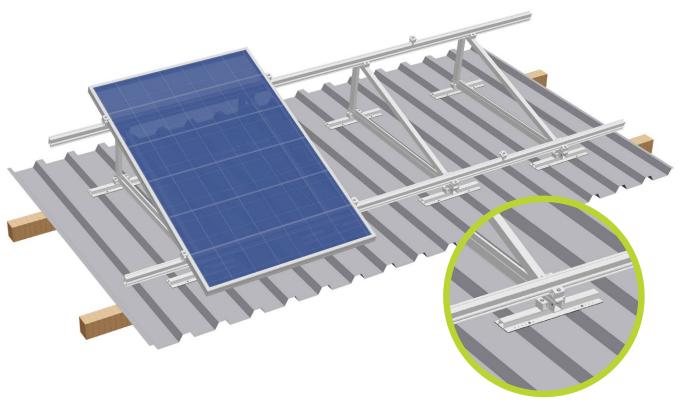
Mounting with hanger bolts and Delta triangle





Bracket 60mm M10









Mid clamp AK II Klick 30-50 A







Application:

Trapezoidal and corrugated sheet metal

Pitch:

Available in increments of 5° up to 45°, other angles available upon request

Module type:

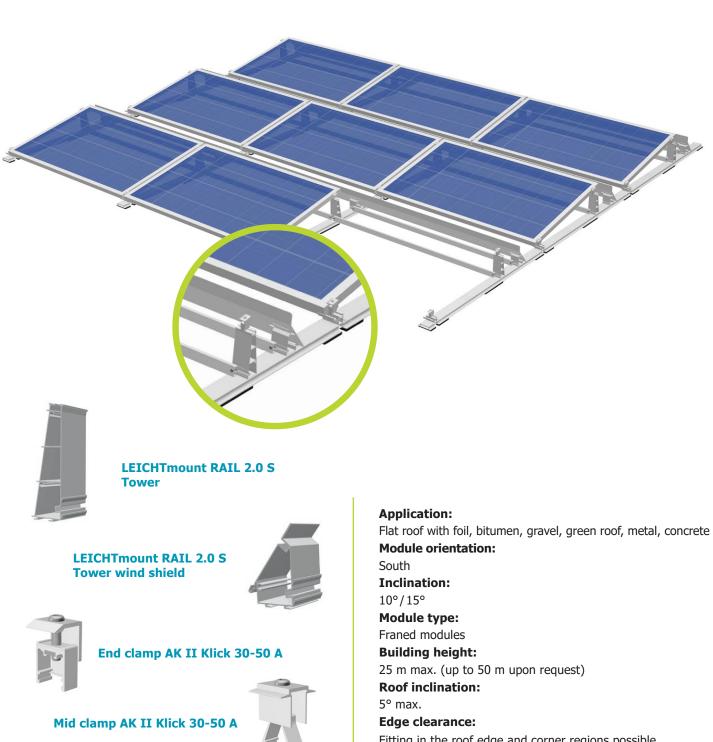
Framed and frameless modules

Module orientation:

Portrait/landscape

- Free choice of size and position of the module array possible
- Perfect also for small systems of 1, 2, 4 or 8 modules
- Triangles are shipped folded up for less freight and storage costs





LEICHTmount RAIL 2.0 S Base 10°

LEICHTmount RAIL 2.0 S Floor rail type 1618-2



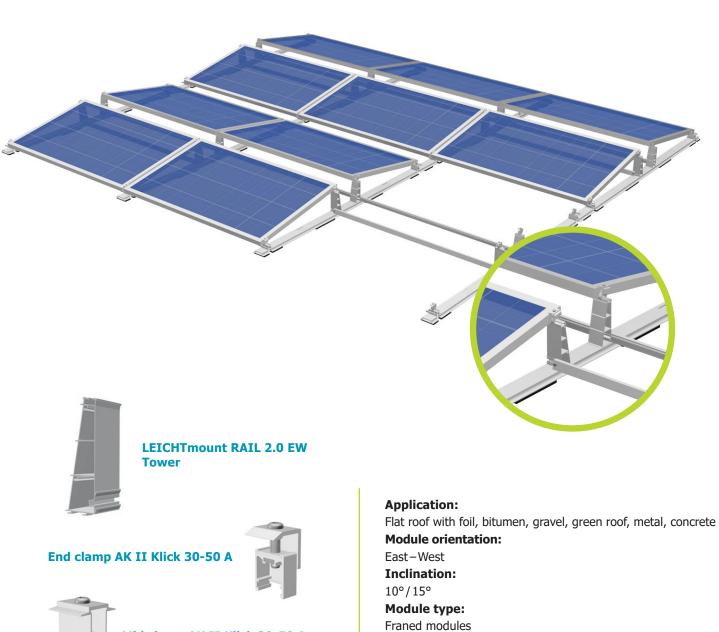
Fitting in the roof edge and corner regions possible

System size:

2 modules min. / 20x20 m module area max.

- No roof penetration
- Low area load / minimised ballast thanks to aerodynamic design
- Optimised load distribution through ground rails
- Suitable for all common module sizes
- Has lightning-current-carrying capacity













LEICHTmount RAIL 2.0 EW Connecting rail



Building height:

25 m max. (up to 50 m upon request)

Roof inclination:

5° max.

Edge clearance:

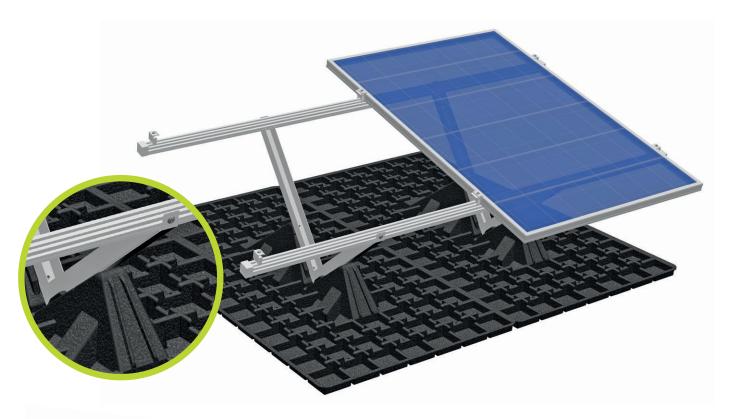
Fitting in the roof edge and corner regions possible

System size:

2 module pairs min. / 20x20 m module area max.

- No roof penetration
- Low area load / minimised ballast thanks to aerodynamic design
- Optimised load distribution through ground rails
- Suitable for all common module sizes
- Has lightning-current-carrying capacity







Green roof (extensive)

Fastening:

Without roof penetration, ballasted

Options:

South and East-West orientation

Module pitch:

10°, 15°, 20°

Module type:

Framed modules

Module orientation:

Landscape/portrait

Roof pitch:

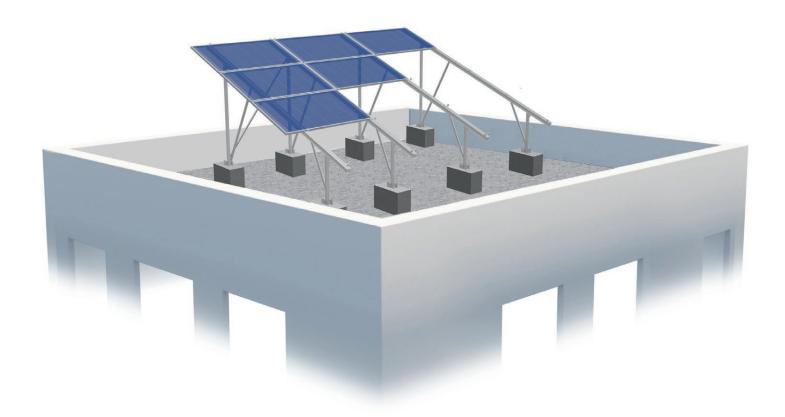
5° max.

System size:

2 modules min.

- No roof penetration
- High water storage volume
- Extremely fast installation
- Suitable for all common module sizes
- Integrated fall protection (optional)







Base Delta Concrete





End clamp Hawk HK 25-45 I=40 Grounding kit

Mid clamp Hawk HK 25-45 I=40 Grounding kit



Application:

Flat roof

Fastening:

Concrete, screw fastening

Options:

South and East-West orientation

Module type:

Framed, frameless (additional horizontal rail), bifacial

Module orientation:

Landscape/portrait

Module pitch:

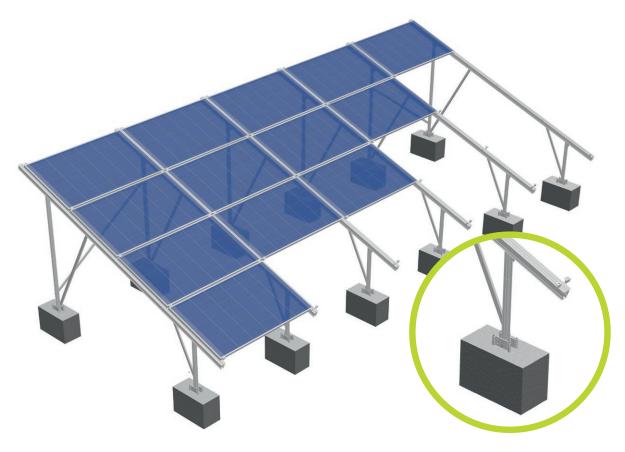
up to 20°

Maximum module field size:

12x4 modules (landscape) / 12x3 modules (portrait)

- Designed to be used on flat concrete roofs
- Excellent rear ventilation ensuring high yields, making it particularly suitable for hot regions
- Light-weight, material-saving design
- Offers the possibility to build over obstacles
- No drilling of aluminium on site









Base Delta Concrete

End clamp Hawk HK 25-45 I=40 Grounding kit





Mid clamp Hawk HK 25-45 I=40 Grounding kit

Application:

Ground mount system

Fastening:

Concrete, screw fastening

Options:

South and East-West orientation

Module type:

Framed, frameless (additional horizontal rail), bifacial

Module orientation:

Landscape/portrait

Module pitch:

up to 20°

Pitch:

N-S: any; E-W: module area 1°/ terrain 10°

Maximum module field size:

12x4 modules (landscape) / 12x3 modules (portrait)

- Designed for ground-mount on concrete foundations
- Light-weight, material-saving design
- Offers the possibility to build over obstacles
- No drilling of aluminium on site

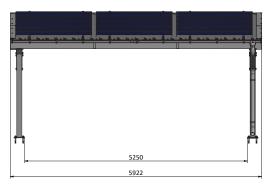




Dimensions – side view



Carport Single dimensions – front view



Carport Double dimensions – front view

Parking lots:

1 or 2 parking spaces, expendable up to 12 freely combinable single/double segments for a maximum of 24 parking spaces

Foundation:

Anchored in the ground/concrete

Height:

Headroom: 2.09 m / Max. height: 2.95 m

Roof area / Module field size:

Single: 22 m²/10 modules; Double: 35 m²/15 modules

Roof pitch:

6°

Module orientation:

Landscape/portrait

Module size:

All common sizes

Materials:

Carport: hot-dip galvanized steel, powder coated

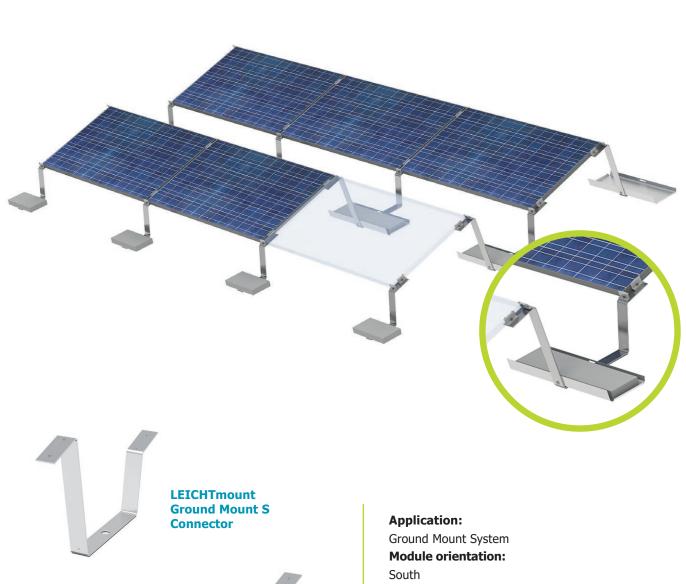
Sheet metal: continuous, 0.75 mm thick

Solar fastening: aluminium

Colour:

Matt black (RAL 9005), anthracite trapezoidal sheet





Module tilt:

15°/20°

Module type:

Framed modules

Max. ground slope:

20°

System size:

2 x 3 modules min.

Advantages:

- No pile driving or major excavation work needed
- Suitable for a wide range of surfaces such as earth, gravel, concrete
- Reduced transport and storage costs thanks to low volume packaging



LEICHTmount G S

End Part

LEICHTmount G S

Front Part







LEICHTmount G EW Front Part





Mid clamp 80mm with grounding pins

Application:

Ground Mount System

Module orientation:

East-West

Module tilt:

10°

Module type:

Framed modules

Max. ground slope:

20°

System size:

2 x 4 modules min.

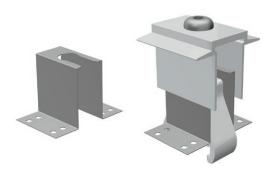
- No pile driving or major excavation work needed
- Suitable for a wide range of surfaces such as earth, gravel, concrete
- Reduced transport and storage costs thanks to low volume packaging













Grounding clamp DEHN Uni

- To integrate the mounting system into the building's equipotential bonding system and to connect it to earth
- Stainless steel to prevent contact corrosion
- Connection by means of hammerhead bolt and locking nut (positive and frictional locking)
- Diameter of clamping area for aluminium round wire:
 8-10 mm / Connection cross-section of equipotential bonding conductor:
 4-50 mm²

OBO equipotential bonding clamp

- For equipotential bonding of the mounting rails by means of aluminium round wire
- Connection by means of hammerhead bolt and locking nut (positive and frictional locking)
- Diameter of clamping area for aluminium round wire: 8-10 mm

Splice 5/7/13 Grounding

 Equipotential bonding between the rails by means of a corresponding connector with stainless steel earthing blades

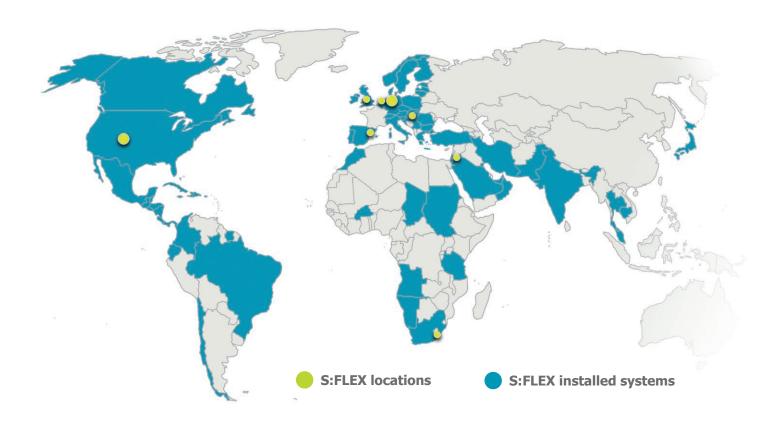
MH AK Klick 30-50 Earthing plate / Earthing plate 4x2

- For integration of the module frames into the equipotential bonding system
- Equipotential bonding between the module frame and substructure
- Breaks through the anodised layer
- Stainless steel
- For pre-assembly and installation on site

Earthing cable clip

- For connection of two metallic components to each other (e.g. rail and module frame or 2 module frames to each other) by means of cables
- For material thickness from 1.5 to 2.5 mm
- For electrical cables with a cross-section of 6 mm²





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