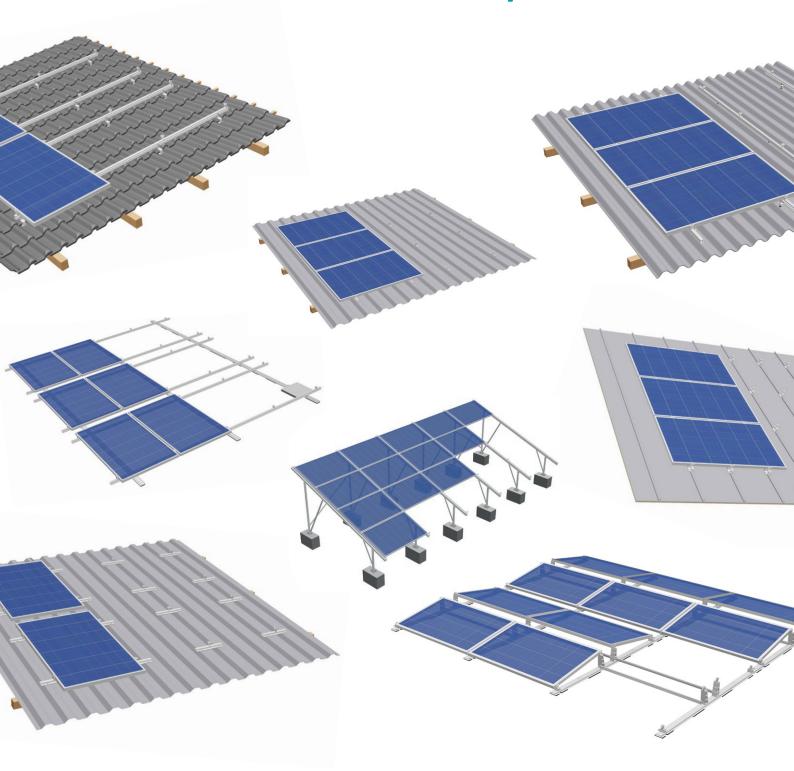


S:FLEX System Solutions



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



Balcony system	
System for balcony power plants	03
Façade and Pitched Roof System	
Insertion system ELS	04
Pitched Roof Systems	
Roof hooks Roof hooks Hybrid/XL Roof hook plain tile Standing seam clamps Standing seam clamps with rails High-bead rail HK 125/172 High-bead rail HK 125 XL 50/100 Bracket for sheet metal High-bead rail Lift Trapezoidal sheet metal rail Lift Trapezoidal sheet metal rail Vario Trapezoidal sheet metal rail Hanger bolts and solar fasteners Flat Direct for foil/bitumen roofs and sandwich elements Flat Direct with assembly posts Delta triangles with trapezoidal sheet metal rails	05 06 07 08 09 10 11 12 13 14 15 16 17 18
Flat Roof Systems	
LEICHTmount RAIL 2.1 S/EW with low ballast Green roof Delta Concrete	22, 23 24 25
Ground-Mount Systems	
Delta Concrete Carport Single / Double LEICHTmount G S / EW with ballast	26 27 28, 29
Accessories for Equipotential Bonding	
Grounding components	30
Contact	
S-FLEX offices internationally	31

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







Metal balcony railings with vertical bars

Fastening:

Mechanical attachment to railing and bars

Module type:

Framed modules with up to 2 m² module surface

Module pitch:

Up to 8° against the parapet

Wind load:

Up to 2.4 kN/m²

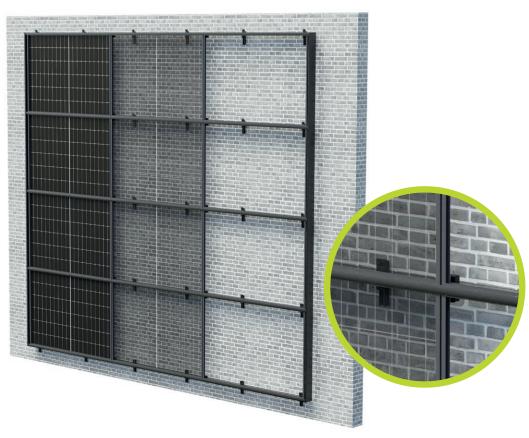
Building height:

25 m max.

- Constructive consideration of the low design loads of balconies
- Particularly easy and risk-free attachment with rails attached to the modules that slide securely into the balcony mounting
- Standard-compliant linear bearing of the PV modules









ELS rail







ELS eaves cladding







ELS cross adapter clamp

Application:

Façades, noise protection walls and massive balustrades or pitched roofs with roof tiles, sheet metal roofs

Fastening:

Façade: on-site

Pitched roof: compatible with all S:FLEX fastening solutions for tiled roofs and metal sheet roofing

Roof pitch:

10 to 75 degrees

Module type:

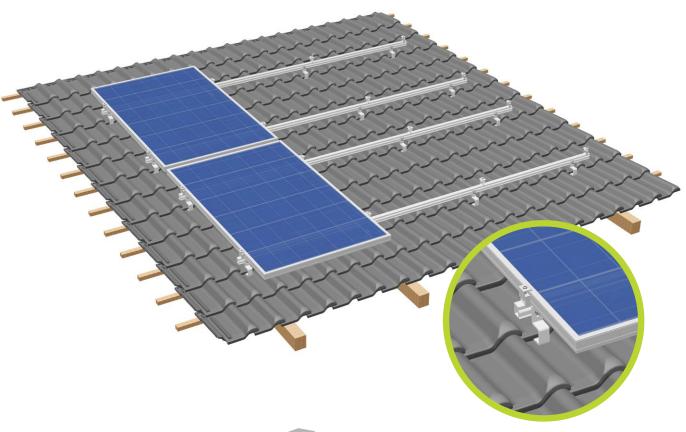
Framed modules, all common sizes

Module orientation:

Portrait/landscape

- Aesthetically pleasing modular surfaces with clean finishes
- All components for a special look available in black
- Suitable for module frame heights of 25 to 45 mm using just one type of insertion rail
- Newly developed module clamps that prevent rattling of the modules and thermally induced glass breakage/cracks
- Simple grounding, optimized service-friendliness







Pitched roof with tiles

Fastening:

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

Roof pitch:

Up to 75 degrees

Module type:

Framed and frameless modules

Module orientation:

Landscape / portrait

Layers of rails:

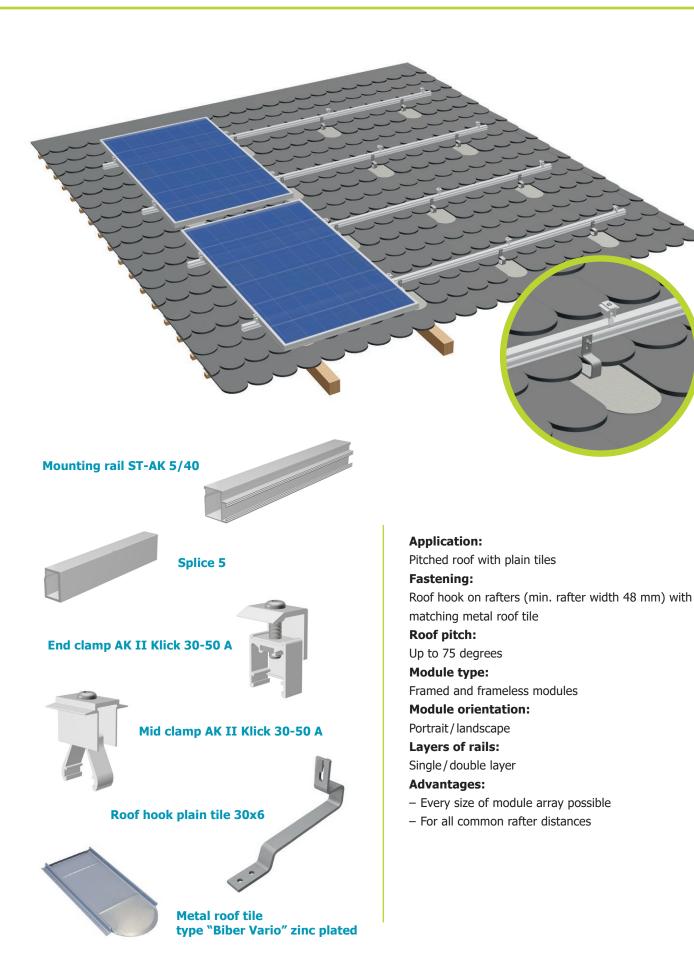
Single / double layer

- 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

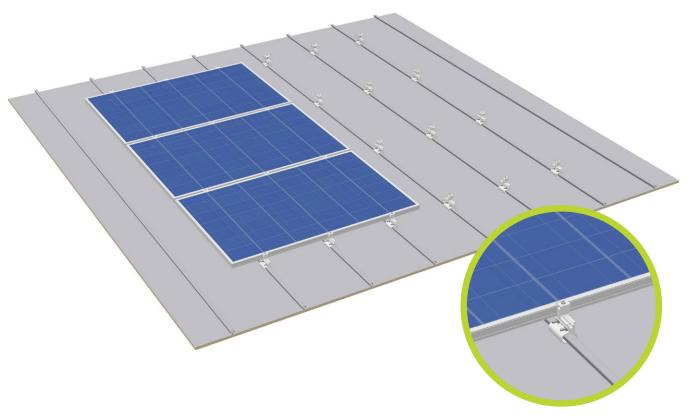














Standing seam clamp 2.1

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:

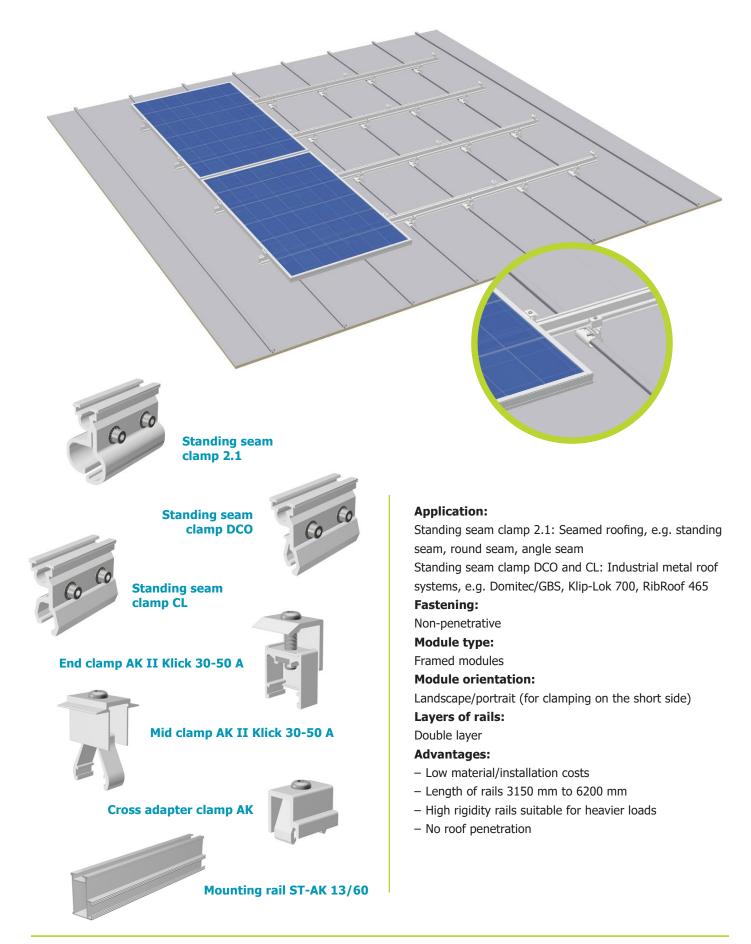
Landscape/portrait (for clamping on the short side)

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:

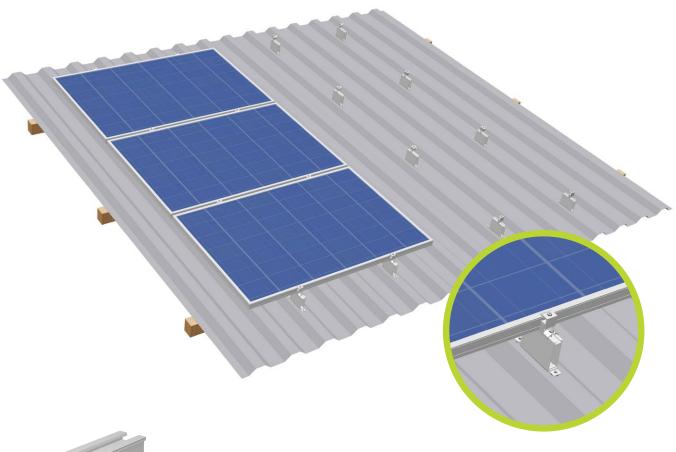
Landscape

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 3300 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:

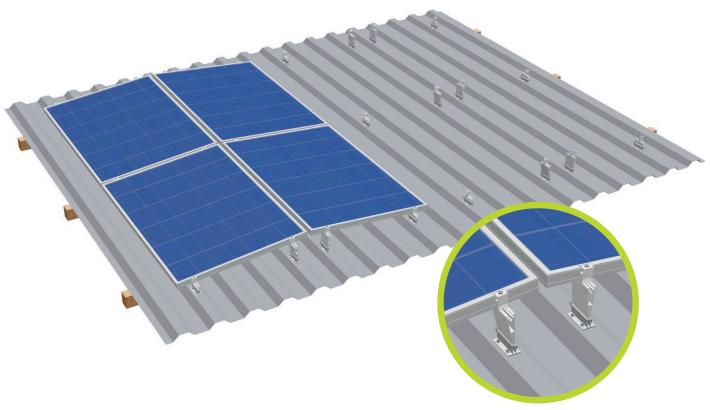
Portrait/landscape

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:

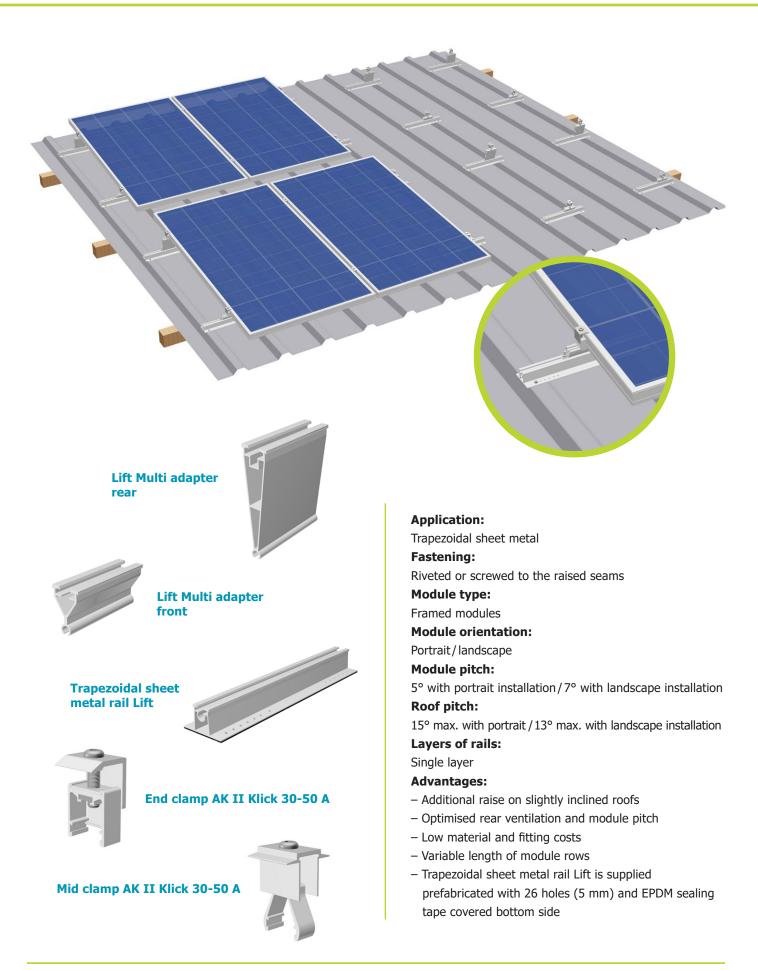
5° with portrait installation/7° with landscape installation

Roof pitch:

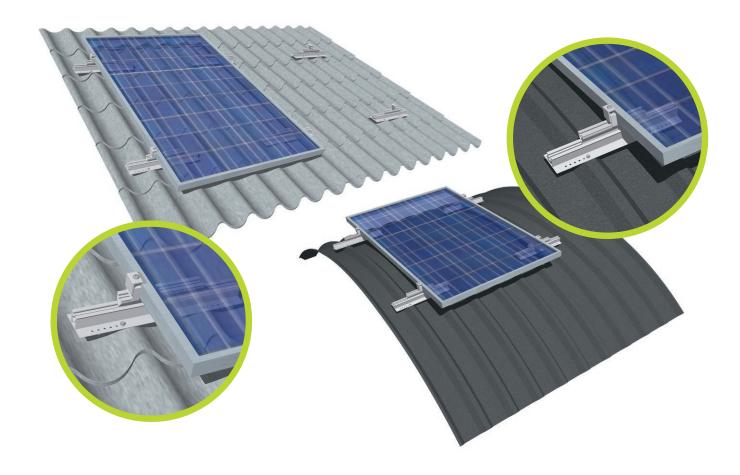
20° max.

- 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:

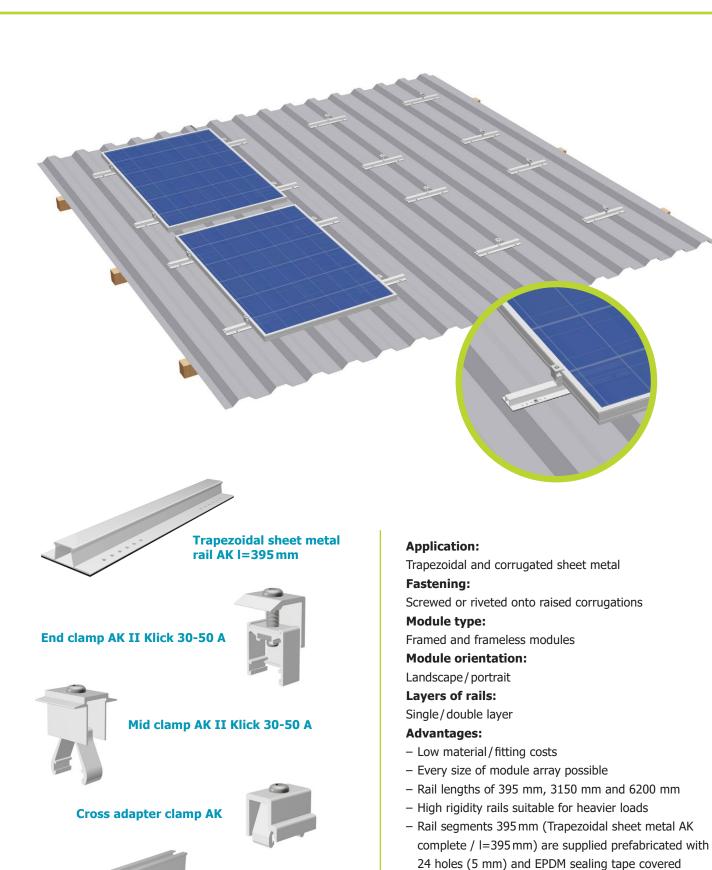
Portrait/landscape

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

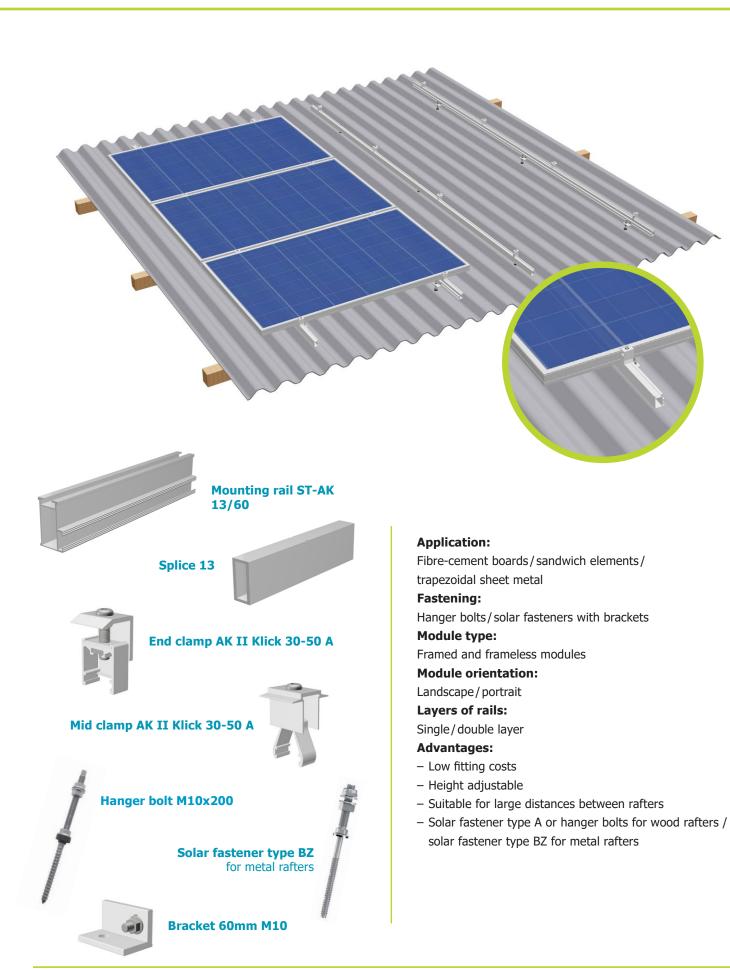




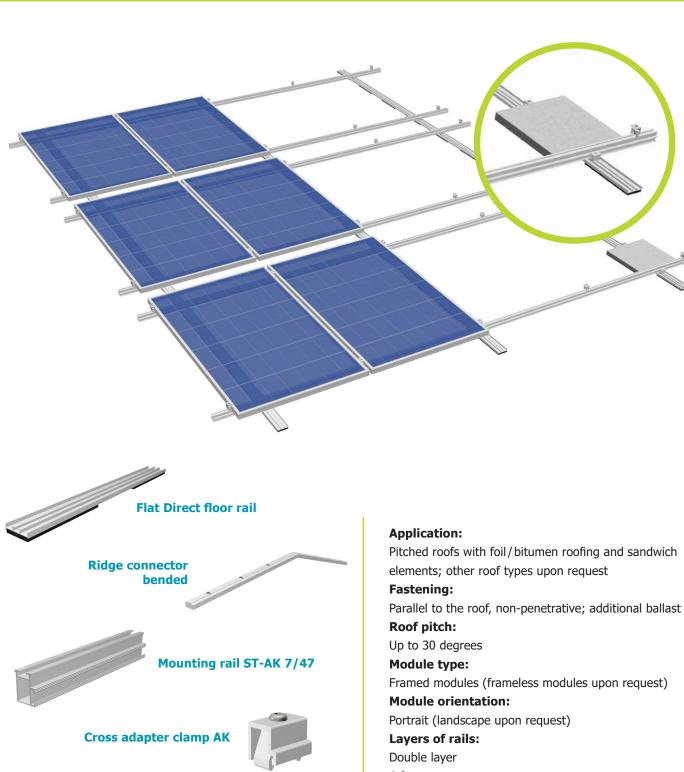
Mounting rail ST-AK 13/60

bottom side











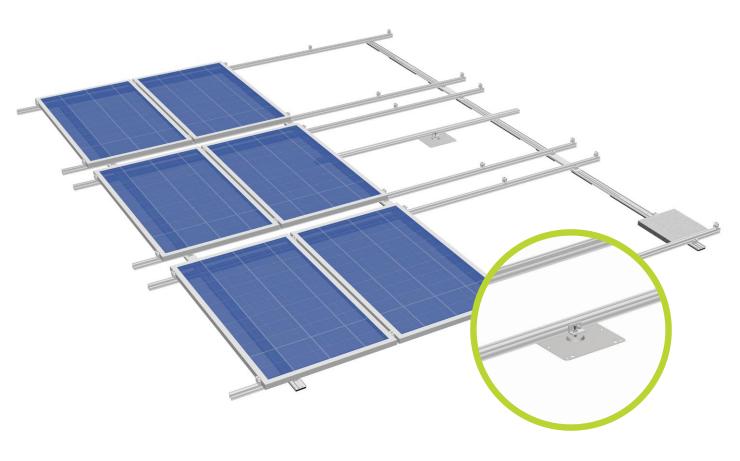
End clamp AK II Klick 30-50 A

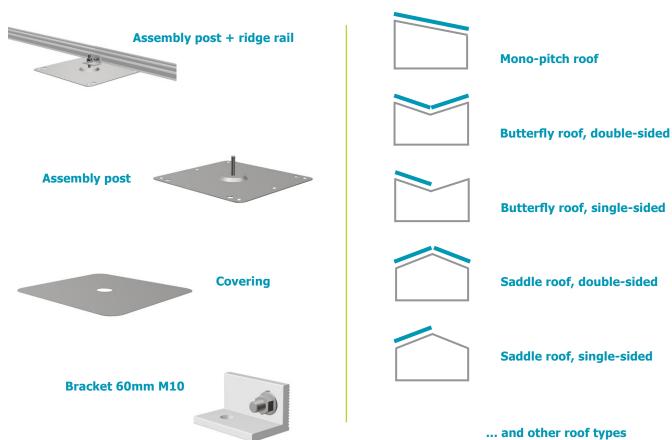
Mid clamp AK II Klick 30-50 A



- 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



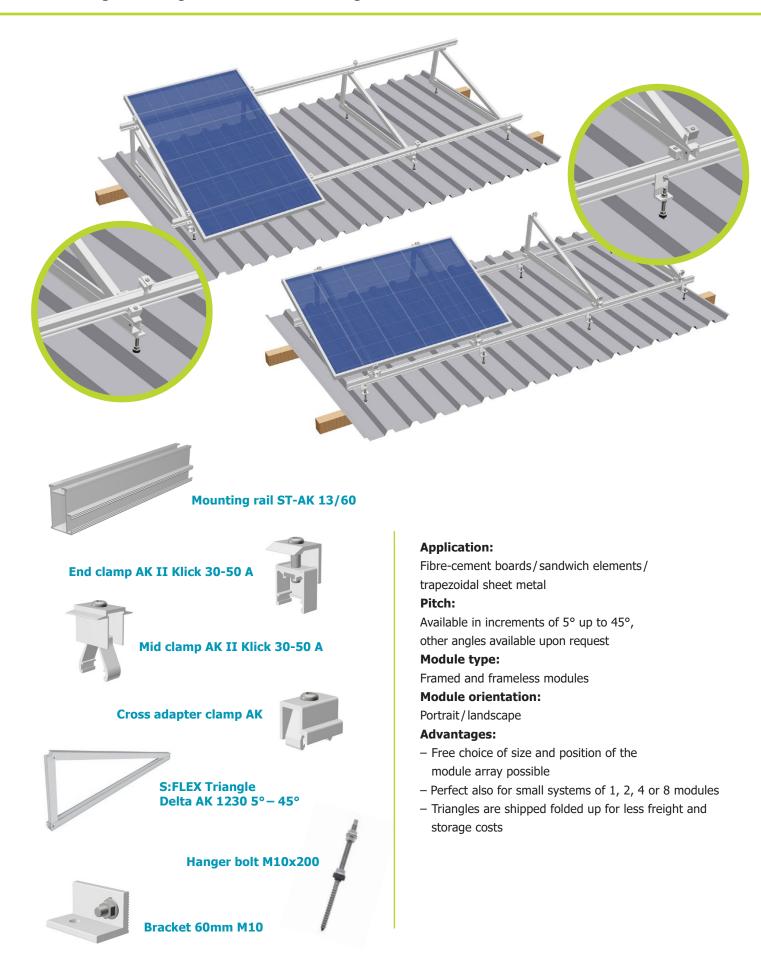




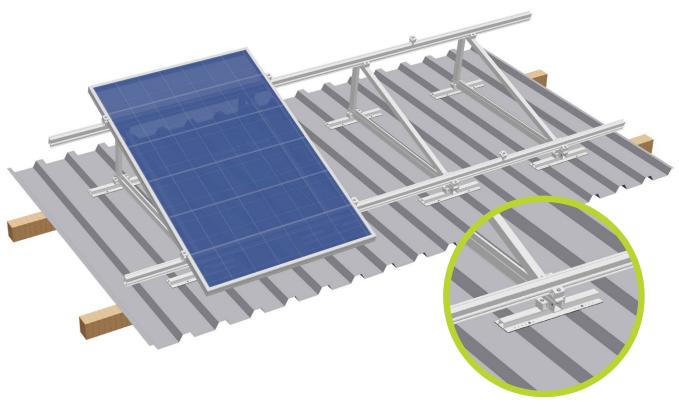
System for fibre-cement, trapezoidal sheet and sandwich roofs

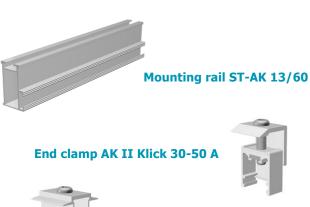
Mounting with hanger bolts and Delta triangle













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:

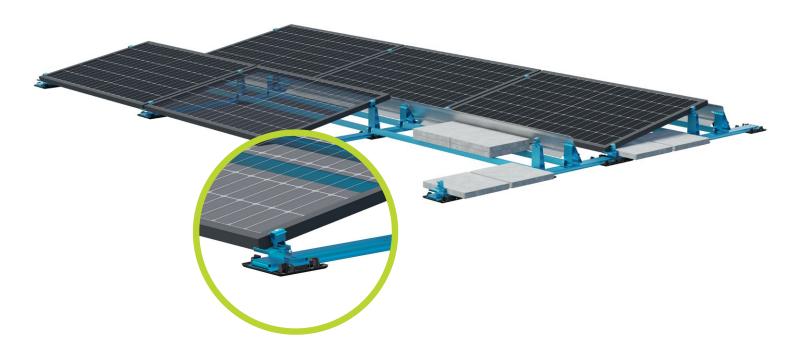
Framed and frameless modules

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









End clamp AK II Klick 30-50 A

Mid clamp AK II Klick 30-50 A



Application:

Flat roof with foil, bitumen, gravel, green roof, concrete

Module orientation:

South

Inclination:

10°/15°

Module type:

Franed modules

Building height:

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

Roof inclination:

5° max. (up to 10° upon request)

Edge clearance:

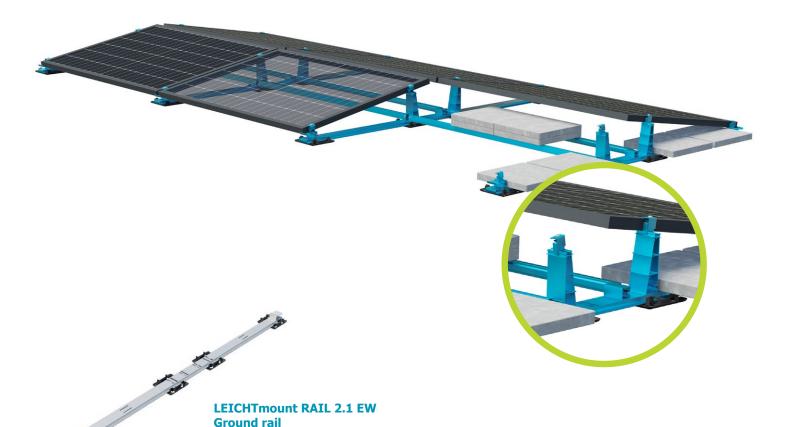
Fitting in the roof edge and corner regions possible

System size:

20x20 m module area max.

- Installation without roof penetration possible
- Low area load / minimised ballast thanks to aerodynamic design
- Optimised load distribution through ground rails/foot plates
- Suitable for all common module sizes
- Has lightning-current-carrying capacity





LEICHTmount RAIL 2.1 Foot plate





LEICHTmount RAIL 2.1 Base







End clamp AK II Klick 30-50 A

Mid clamp AK II Klick 30-50 A



Application:

Flat roof with foil, bitumen, gravel, green roof, concrete

Module orientation:

East-West

Inclination:

10°/15°

Module type:

Franed modules

Building height:

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

Roof inclination:

5° max. (up to 10° upon request)

Edge clearance:

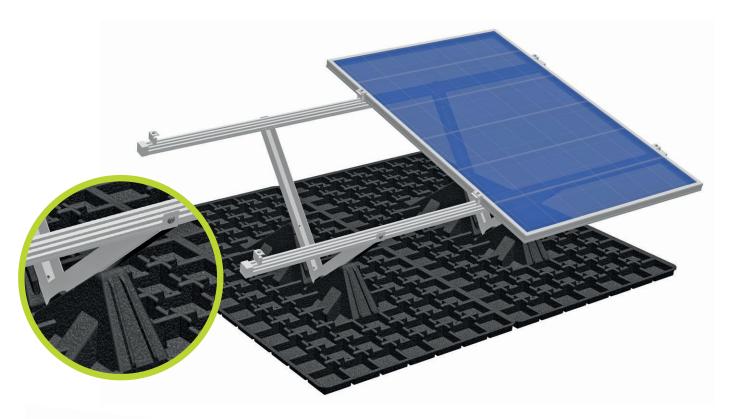
Fitting in the roof edge and corner regions possible

System size:

20x20 m module area max.

- Installation without roof penetration possible
- Low area load / minimised ballast thanks to aerodynamic design
- Optimised load distribution through ground rails/foot plates
- 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:

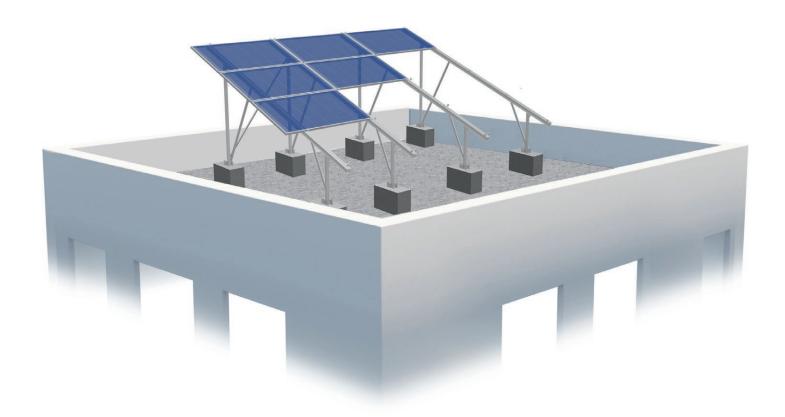
5° max.

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:

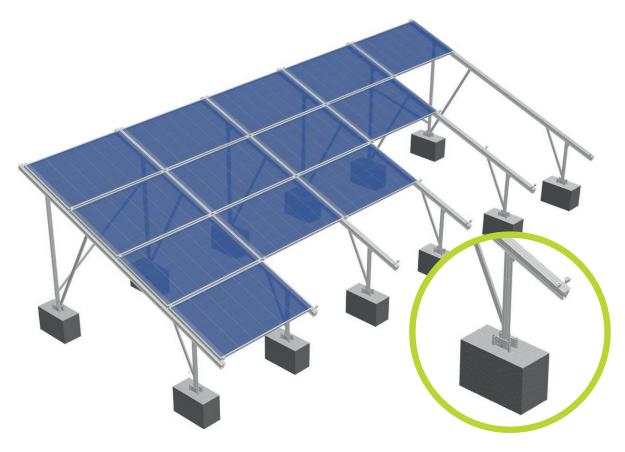
up to 20°

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

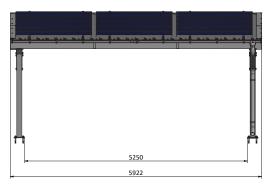




Dimensions – side view



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

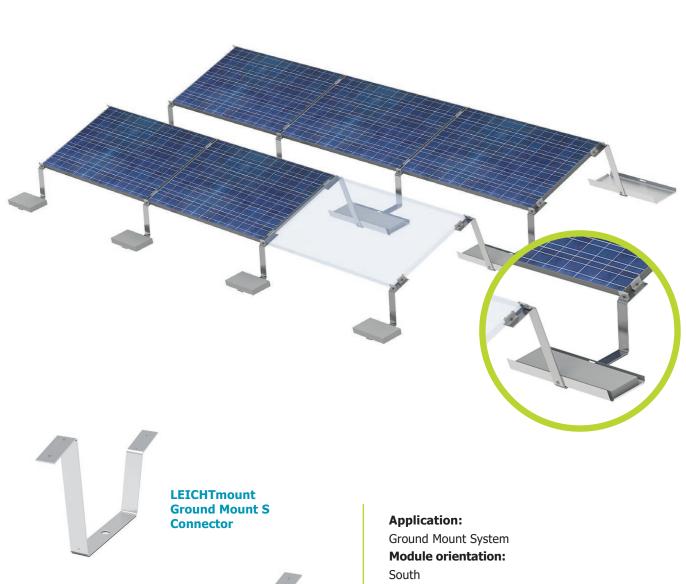
Sheet metal: continuous, 0.75 mm thick

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.

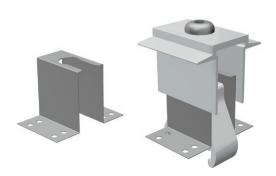
- No pile driving or major excavation work needed
- Suitable for a wide range of surfaces such as earth, gravel, concrete
- Reduced transport and storage costs thanks to low volume packaging













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

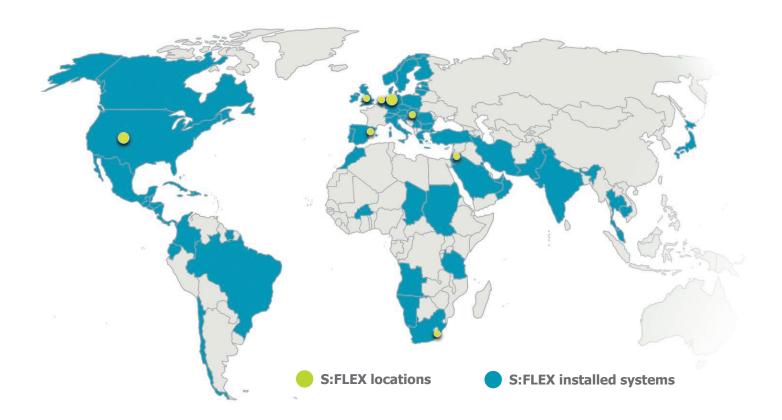
MH AK Klick 30-50 Earthing plate / Earthing plate 4x2

- 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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