TPA-R

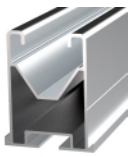
PRODUCT DESCRIPTION

- Pre-assembled and adjustable aluminium triangle

CHARACTERISTICS

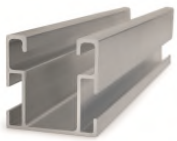
- Inclined structure for installation of roof-mounted solar panels.
- Pre-assembled product.
- Includes two long profiles that make up the structure, an upper section and a base, both manufactured from EN AW 6005-T6 extruded aluminium.
- Includes two base support sections, both manufactured from EN AW 6005-T6 extruded aluminium.
- Includes three **DIN-6921 M8x50** bolts and three **DIN-6923 M8** nuts in A2-70 stainless steel.
- For outside use.
- Designed for **triangular aluminium systems** with **PSE-A and PSE-C** format continuous profiles.
- Three assembly positions with 25°, 30° and 35° inclinations.
- Secure folding position with incorporated fixture.
- Optimum strength with an inclination of 25°.
- Option of vertically mounting solar panels to a height of up to two metres.
- Central upper profile groove compatible with SW13 hexagonal socket.
- Option for triangles in sizes manufactured to order on request.

APPLICATIONS/MOUNTING ACCESSORIES



PSE-A

KFSFLM08

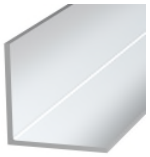


PSE-C

KFSFCM08

These are used in **triangular aluminium installation systems** as an inclined structural element onto which continuous profiles can be mounted. Solar panels are finally attached to and supported by these profiles.

- To attach **PSE-A** profiles to triangles, two **KFSFLM08** “cross connector for lateral fixing” are used.
- To attach **PSE-C** profiles to triangles, two **KFSFCM08** “cross connector for lateral fixing” are used.



TPA-P

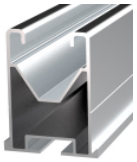
ABEI5519

If it is necessary to install braces between adjoining triangles, **TPA-P** “strut profiles for pre-assembled aluminium triangles” should be used. Strut profiles are diagonally attached to profile bars of the two corresponding triangles using **ABEI5519** A2-70 stainless steel self-drilling screws.

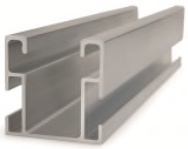
FIXING SYSTEM/ASSEMBLY ACCESSORIES

Mounting on profile structures/Application example 1

FIXING SYSTEM

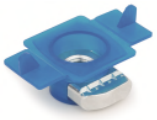


PSE-A
Aluminium profile for assembled fixing



PSE-C
Aluminium profile for assembled fixing

ACCESSORIES



TURXA208
INDEXTRUT quick nut

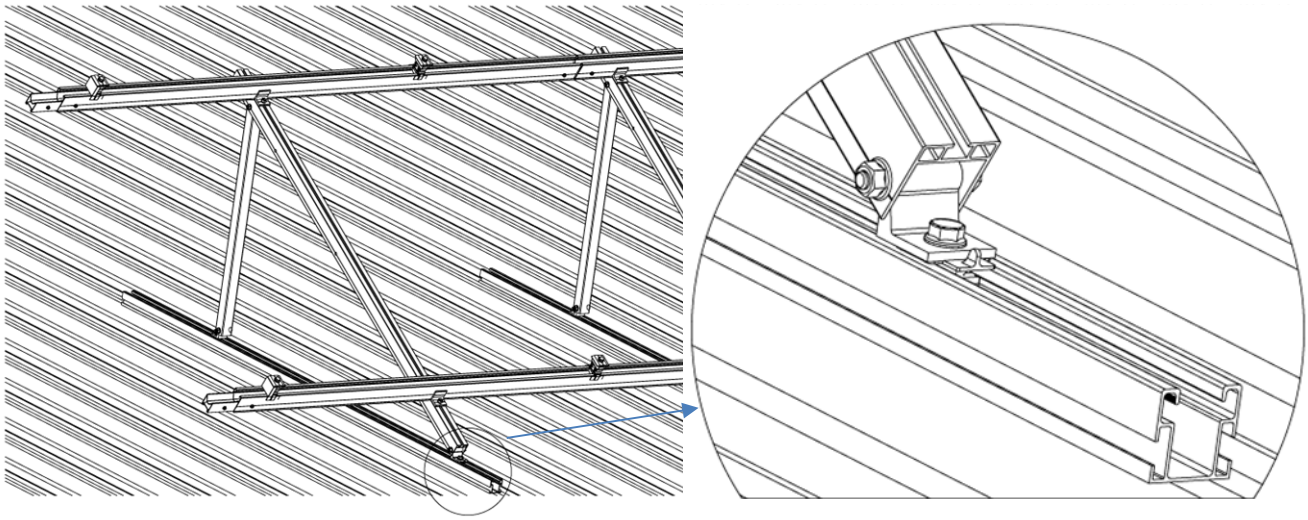
6921I08020
A2 stainless steel DIN-6921 bolt

BASE MATERIAL/DIRECT MOUNTING

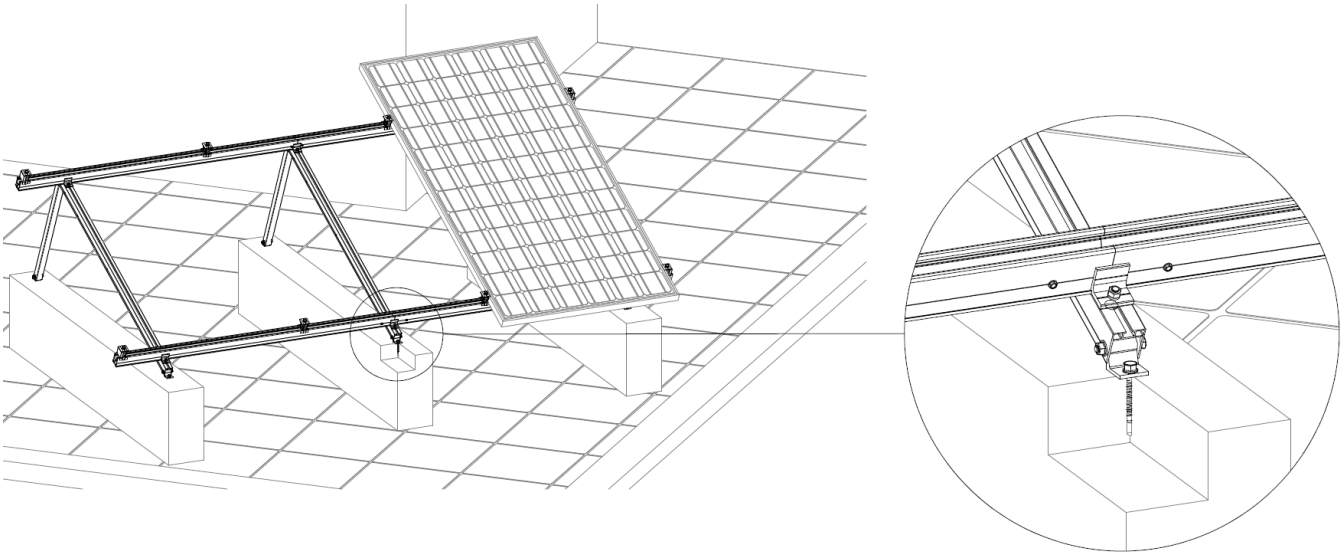
See technical data sheet:

- ST-PSE triangular installation system with PSE-A aluminium profile
- ST-PSC triangular installation system with PSE-C aluminium profile

APPLICATION EXAMPLES



Application example 1: Assembly on PSE-C profile attached to sandwich panel roof sub-structure



Application example 2: Direct mounting on concrete tie beams

1. RANGE

ITEM	CODE	PHOTO	DESCRIPTION	ANGLE	LENGTH	MATERIAL
1	**TPAR251500**		Pre-assembled and adjustable aluminium triangle	25° 30° 35°	1500 mm	AW 6005-T6 A2-70

2. INSTALLATION INFORMATION

2.1 TPA-R

Pre-assembled and adjustable aluminium triangle

Materials		Compatible	Assembly accessories	
AW 6005-T6	A2-70	PSE-A PSE-C Aluminium profile for assembled fixing.	KFSFLM08 KFSFCM08 Cross connector for lateral fixing.	ABEI5519 A2 DIN-7504K stainless steel TPA-P Strut profile for TPA-R

Fixing systems		Assembly accessories
PSE-A Aluminium profile for assembled fixing	PSE-C Aluminium profile for assembled fixing	6921I08020 A2 DIN-6921 stainless steel TURXA208 Quick nut
PMO / PMO-L Plate for double threaded screws	STR Adjustable support for trapezoidal roof	D603I08016 A2 DIN-603 stainless steel D6923IM08 A2 DIN-6923 stainless steel

BASE MATERIAL/FIXING

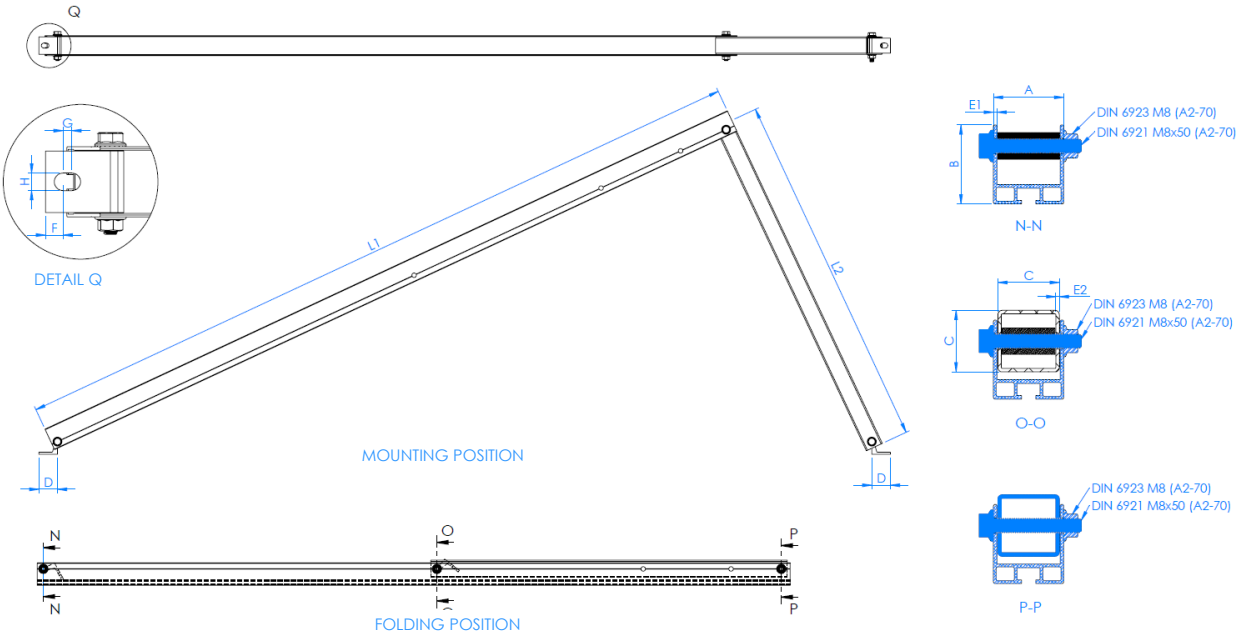
See technical data sheet:

- **ST-PSE**: Triangular installation system with PSE-A aluminium profile.
- **ST-PSC**: Triangular installation system with PSE-C aluminium profile.

Measurement table 1

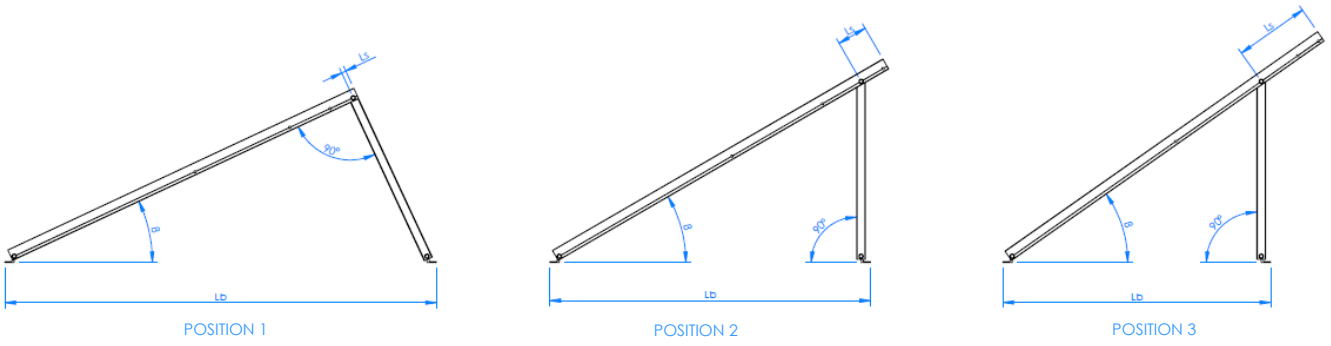
Code	A (mm)	B (mm)	C (mm)	D (mm)	E1 (mm)	E2 (mm)	F (mm)	G (mm)	H (mm)	L1 (mm)	L2 (mm)
TPAR251500	40	45	35	37	2	2	10	5	10	1500	710

Drawing

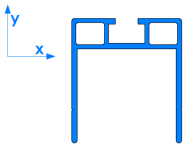
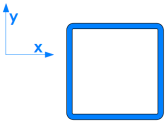


Measurement table 2									
Code	Position 1			Position 2			Position 3		
	ß (°)	Ls (mm)	Lb (mm)	ß (°)	Ls (mm)	Lb (mm)	ß (°)	Ls (mm)	Lb (mm)
TPAR251500	25	18	1696	30	118	1260	35	293	1052

Drawing



Mechanical properties of the material						
	Yield strength $F_{y\,0.2}$ (N/mm²)	Ultimate load F_u (N/mm²)	Elastic modulus E (N/mm²)	Transverse elastic modulus G (N/mm²)	Linear expansion coefficient α_L (µm/C°)	Specific weight ρ (kg/m³)
EN AW6005-T6 aluminium	225	270	69,500	26,200	23.3	2,710
A2-70 stainless steel	450	700	210,000	81,000	17.3	7,850

Mechanical properties of the profile.						
	Area S (cm²)	Moment of inertia I_X (cm4)	Moment of inertia I_Y (cm4)	Section modulus W_X (cm³)	Section modulus W_Y (cm³)	Linear weight W (kg/m)
 Upper profile	3.01	5.15	7.52	1.76	3.76	0.81
 Profile bar	2.59	4.66	4.66	2.66	2.66	0.7
 Profile foot	3.91	3.99	4.66	1.94	1.61	1.04