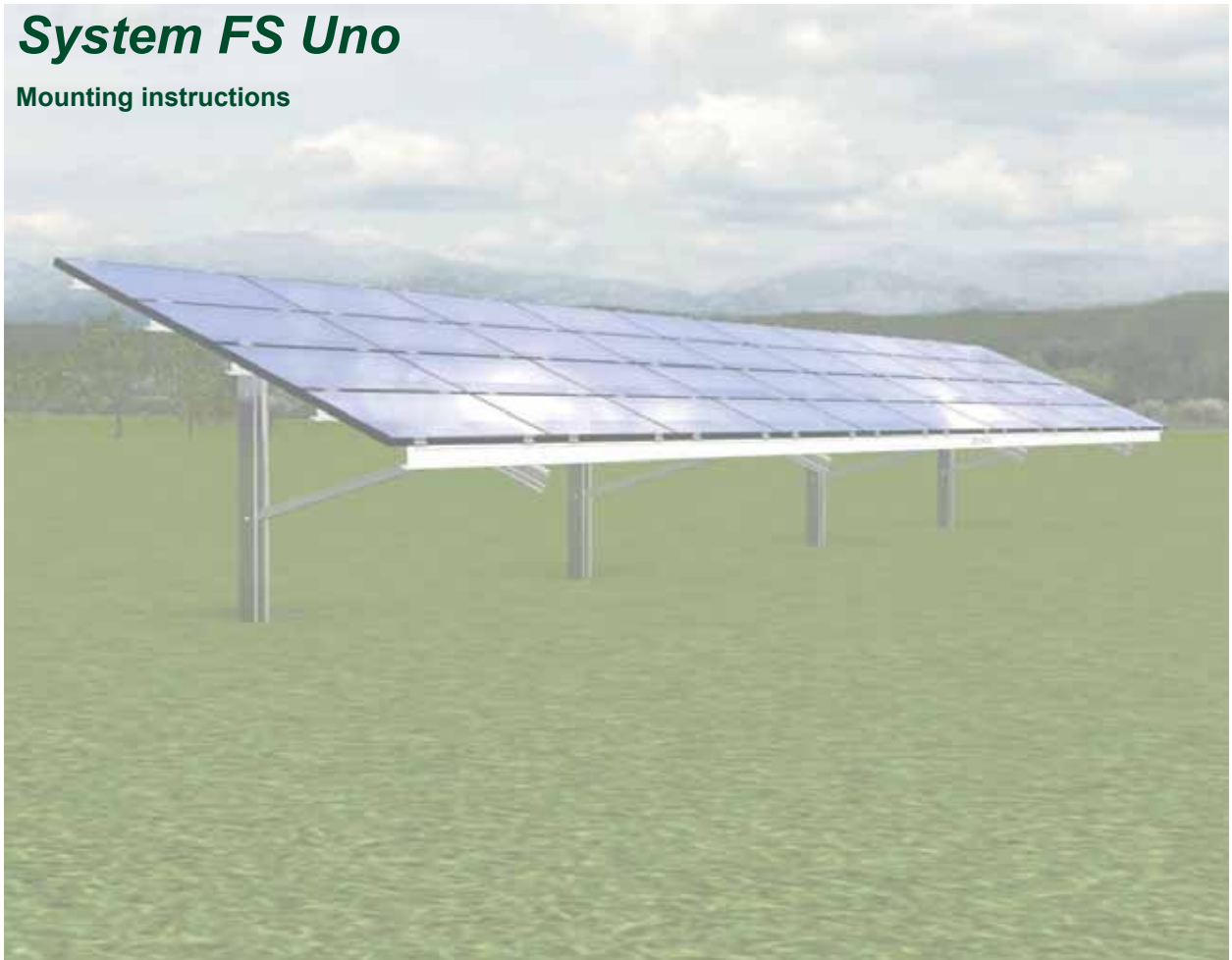


System FS Uno

Mounting instructions



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1 General

1.1 Information

The FS open area system is customized to each individual location. A corresponding detailed structural analysis must be carried out to determine the cross section, as well as a geotechnical report to identify the depth required for pile driving.

1.2 Planning

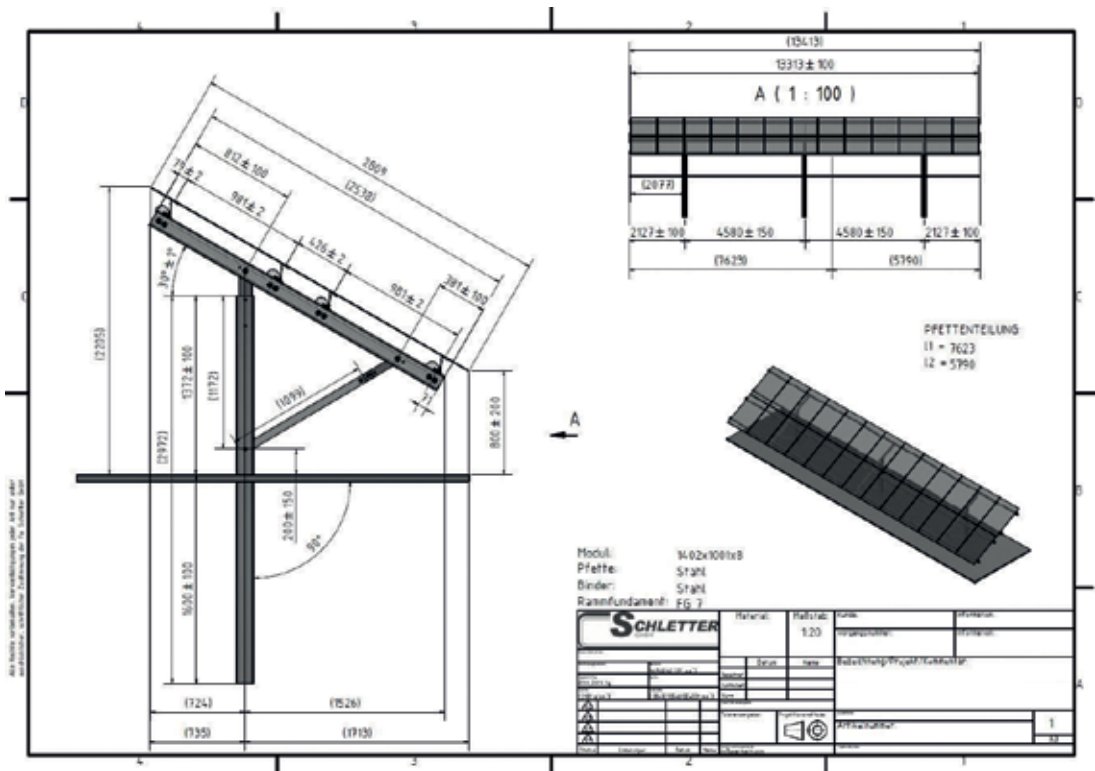
A general layout drawing and a screw layout plan are drawn up for each system prior to delivery. Defined measurements and the position of individual components and connecting materials must all be discernible on these drawings. The respective torques are also listed on the plans.

In the overview drawing, the cross sections of the components must be displayed and defined by name. A parts list is supplied along with the drawing. Items, quantities and article numbers can therefore be referenced both on the delivery note and on the detail drawing.

Example parts list

Benennung	Artikelnummer	Material	DIN
Stahlplatte RaFu-BinderV3-1	100000-000	S460 MC	
Haken V15	100000-000	S460 MC	
Binder	100000-000	S500 MC	
Binder	100000-000	S500 MC	
Verbinder_PF_B_15_Fräskell	100000-000	EN AW 6031-T98	
Plette	100000-000	S500 MC	
Plette	100000-000	S500 MC	
Plettenverbinder	100000-000	S460 MC	
Sonderschraube Stahlgestell M12x30	100000-000	1.5535 23MnB4	
Stahlplatte Strebe-BinderV5-2	100000-000	S460 MC	
Strebe	100000-000	S235 JR	
Rammfundament FG7	143007-000		
Endklemme Laminat Eco 6 gesägt	130002-050		
Mittelklemme Laminat Eco 6 gesägt geböhrt	130002-001		
Sechskantschraube DIN933 - M10x30	943610-030		933
Sechskantschraube DIN933 - M12x30	943612-030		933
Sechskantmutter DIN923 - M10	943912-010		9923

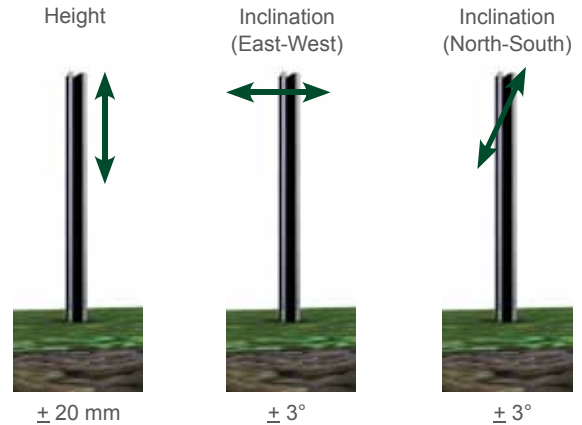
Example general layout drawing



2 Pile driving

2.1 Positioning

Pile driving work must be undertaken by specialist companies. To ensure a smooth workflow, pile-driving plans must be generated based on our rack drawings. These plans must be available at least one week prior to the beginning of the pile-driving operations. These plans must include the positions of the piles and their corresponding dimensions. The position of the first and last pile of each row must be marked on the terrain with a wooden stake. If a row length exceeds 50 meters, additional stakes must be used to mark out the row.



2.2 Pile-driving on difficult subsoil

- Irregular pile-driven profiles must be clearly identified and documented in a pile driving plan.
- Inconsistencies in the terrain which could hinder pile driving efforts must be documented, (e.g. slant position, deceleration and subsequent sudden acceleration of the penetration speed, swift penetration of the pile while pile-driving etc.).
- All pile-driving procedures derogating from the specifications must be approved by Schletter GmbH.
- If pile-driving operations are impeded by unexpected obstacles (blocks, solid rock on the site), the following procedure must be implemented:
 1. Pre-drill to the target pile-driving depth.
 2. If possible, vacuum the drill cuttings out of the borehole. Alternatively, the remaining cuttings should be compacted.
 3. The borehole must be filled in layers with compressed concrete of strength C16/20 then compacted.
 4. The pile should then be driven without delay.

3 Mounting the individual assembly groups

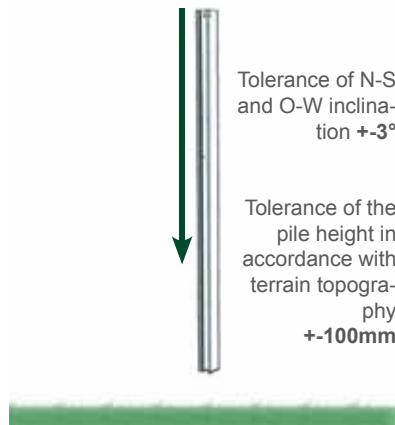
1. Drive the piles and coat with a zinc dust primer



Test for stability of the piles prior to mounting the racks!



Zinc dust primer is the only coating approved, according to the standards, to provide the required protection. Basic zinc spray coatings do not provide long-term protection.

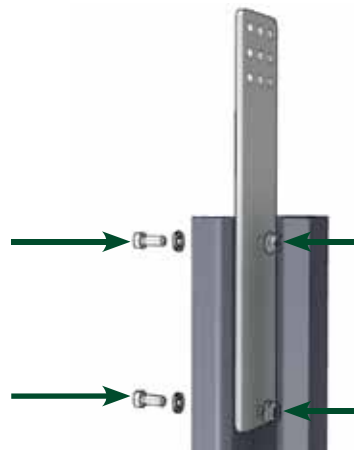


A zinc dust primer should be used to coat the top 3cm of the profile, inside and out

2. Mount and adjust the head



Components must be accurately adjusted to avoid cumulative tension in the module. The foundation heads are aligned with the help of a string line. Once the head assembly has been aligned, please verify the torque of the bolts!



Align foundation collar to the inner side of the pile-driven support and bolt together



Mounted head assembly with multiple holes for flexible adjustment

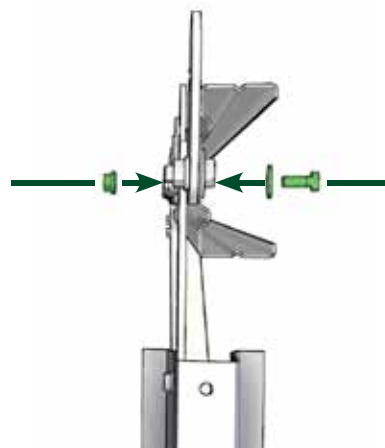
3. Mount the girders



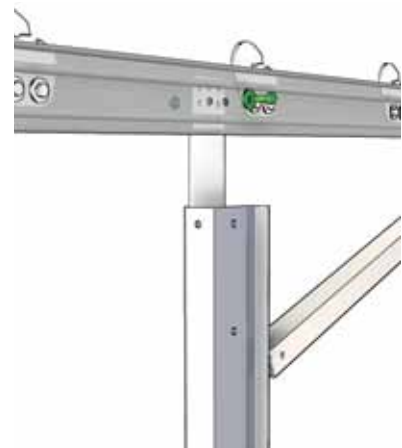
Verify the torque of all screws!



Do not fully tighten the bolt on the foundation collar. The connector must be loose for mounting the strut.

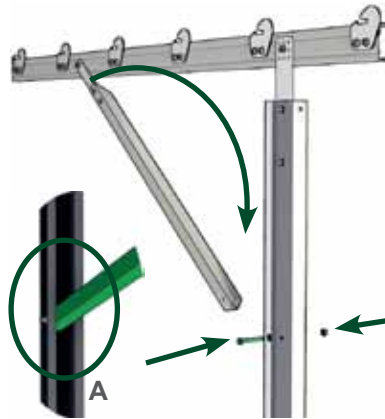


Feed the M12 bolts through the pre-drilled hole in the strut and tighten loosely with nut and washer to the foundation collar

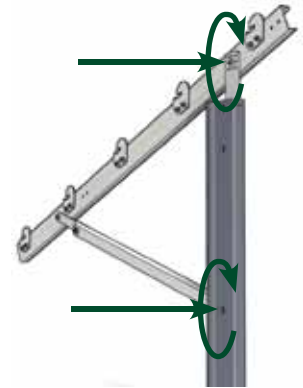


Side view

- ⚠ The strut must be slotted into the open side of the pile-driven profile and secured. (See detailed view A)



Fold out the strut and fasten to the pile-driven support with an M12 bolt, washer and M12 nut

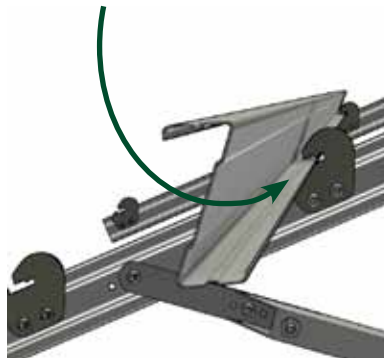


Tighten bolts on the foundation collar and strut according to torque specifications

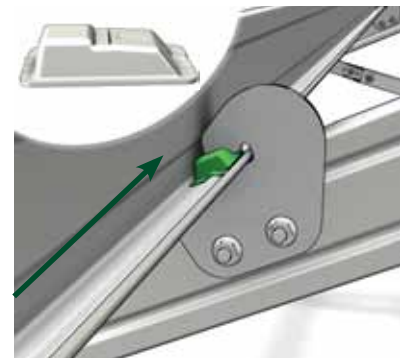
5. Mount purlins

- ⚠ Please note that the purlin must be mounted at a 90°-angle to the girder!
The distances between purlins must be observed as specified in the drawing!

- ⚠ We advise you to use a hammer to drive in the fastening device!



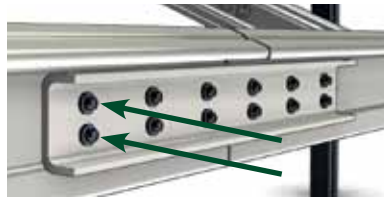
Insert purlins into pre-assembled connector hooks



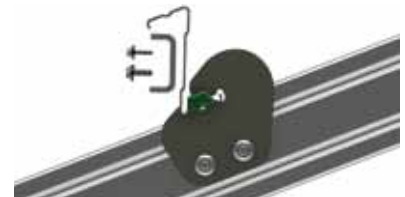
Hammer in the fastening device

6. Mount connectors (optional)

- ⚠ Mount all connectors on the same side! Fasten connectors with the open side facing downwards.



Secure the connectors with 12 EJOT bolts (6 bolts per purlin)

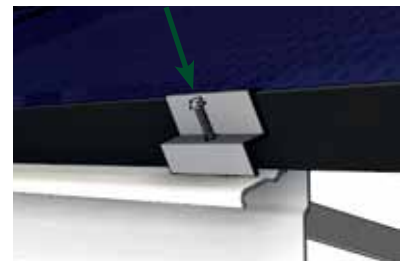
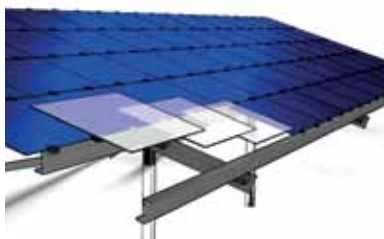


Side view

7. Module mounting

- ⚠ Please observe the manufacturer stipulations regarding clamping points when mounting modules!

- ⚠ Verify stability of all mounted module clamps!



Secure the module clamps with EJOT bolts

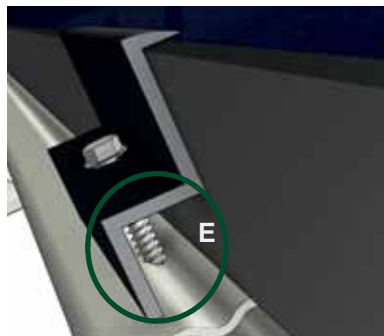
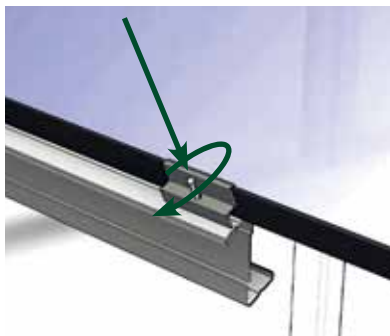
4 Torque specifications

Image	Name	Tightening torque (MA-Nm)
	Hexagon head bolt DIN 933 - M12x30 Hexagon nut DIN6923 - M12 Washer DIN125 - M12	93 Nm
	Hexagon head bolt DIN 933 - M12x30 Hexagon nut DIN6923 - M12 Washer DIN125 - M12	93 Nm
	Hexagon head bolt DIN 933 - M12x30 Hexagon nut DIN6923 - M12 Washer DIN125 - M12	93 Nm

When checking preload of the bolts, care must be taken that constraints and frictional forces cannot lead to a loss of tension. This is taken into account when compiling the tightening torque specification. When tested, the nut must retain its scheduled torque to 50% if the connection is twisted.

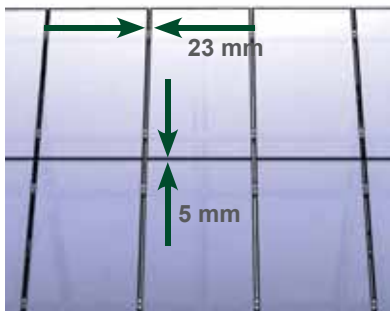
5 Module mounting

Modules are mounted according to the drawing, using the supplied module clamps.



Modules are fastened to the module-bearing profile using end- and middle clamps. Position the module clamps at the clamping point and secure with Ejoy bolts.

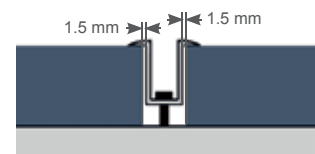
Afix the bolt at the purlin corrugation! (See detailed view E)



The distance between modules can deviate from the standard value. Tolerated variance is 23 mm on the clamped side and 5 mm on the unclamped side.

Potential variance from the standard is outlined with a detail drawing in the overview plan.

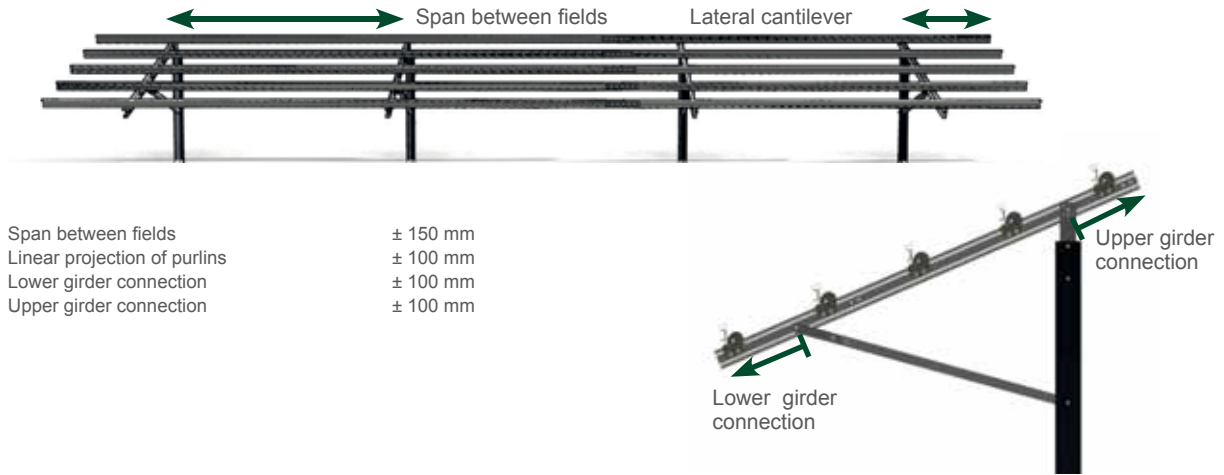
When mounting modules, please observe the clamping points specified by the module manufacturer!



Please ensure a joint clearance of 1.5 mm!

6 Tolerances

Schletter mounting racks for open area plants are always explicitly dimensioned for the wind and snow loads at the target location. In the interest of economic efficiency, the maximum capacity potential of individual components is generally exploited. To achieve this, however, the racks must be mounted with the utmost precision. Significant deviation from the mounting plans can lead to mechanical tension in the cells. Adherence to the specified tolerances is therefore essential to the structural safety.



In the event of deviation, this must be communicated to Schletter immediately!