Photovoltaik-Befestigungssysteme
Photovoltaic Mounting Systems

Assembly Instructions

S:FLEX Balcony Set Basic

PV fastening system for balcony parapets

Sustainable energy – securely anchored.

Read these installation guidelines carefully before installing the S:FLEX mounting system and retain them for future reference!
It must be ensured that only current and complete assembly instructions are used for assembly.

Intended use

The S:FLEX PV fastening system for metal balcony parapets is a frame system for mounting PV modules.

It is designed exclusively for mounting PV modules. The S:FLEX fastening system allows modules to be mounted transversely.
All components are made of aluminium and stainless steel.
The high corrosion resistance guarantees a maximum service life and offers the possibility of complete recycling.

Any use that deviates from this must be considered improper. In particular, compliance with the information in these installation instructions is part of the intended use. S:FLEX GmbH is not liable for damage resulting from non-compliance with the installation instructions or from misuse or improper use of the product.

About this document

The installation instructions are for installing the S:FLEX PV mounting system on metal balcony parapets. The installation instructions are intended for a group of people with the appropriate qualifications who have been instructed by the operator of the PV system. The installation of the S:FLEX PV mounting system on metal balcony parapets requires extensive expertise from the installer, so it is recommended to contact a specialised company for these installations.

User group

All assembly instructions of S:FLEX GmbH are intended for the following persons (user group):

- Qualified personnel
- Instructed personnel

Qualified personnel

Skilled personnel are those who, on the basis of their professional training, are able to carry out assembly, maintenance and disassembly work in a professional manner.

Instructed personnel

An instructed person is one who has been appropriately instructed and trained in the tasks assigned to him/her and the possible hazards of improper behavior. An instructed person must have been instructed about the necessary protective equipment, protective measures, relevant regulations, accident prevention regulations as well as operating conditions and must have proven his competence. The work performed must be approved by qualified personnel.

Warnings

The warning texts provided in these installation guidelines relay safety-related information.
They are:

Unless observed, there is a major risk of injury as well as a risk of death.

Failure to observe this may lead to property damage.

General information – standards and guidelines

Each photovoltaic system must be installed in accordance with the specifications in these installation instructions.

These installation instructions are based on the state of the art and many years of experience in how our systems can be installed on site. It must be ensured that only up-to-date and complete installation instructions are used for installation and that a printout of the installation instructions is kept in the immediate vicinity of the system. We reserve the right to make technical changes.

As individual project-related features must be taken into account for each balcony, expert clarification must always be carried out before installation. Before installation, the PV system installer must ensure that the balcony parapet is designed for the additional loads that will occur. The installer must check the condition, quality and maximum load-bearing capacity of the balcony parapet.

Contact a specialist tradesman or structural engineer directly on site.

When installing the PV systems, the module manufacturer‘s installation instructions must always be observed. In particular, it must be checked whether the module manufacturer‘s specifications regarding the module clamping specifications (number of clamping points, clamping surface and clamping area on the module) are adhered to. If this is not the case, the module manufacturer‘s declaration of consent must be obtained on site before installation or the frame must be adapted to the module manufacturer‘s specifications.

The requirements for lightning and surge protection of mounting systems for PV systems must be produced in accordance with DIN and VDE regulations. The specifications of the responsible energy supply company must be complied with.

Care must be taken to ensure that the PV system to be installed does not impair the effect of the existing lightning protection system. It must also be ensured that the PV system is designed in such a way that it can be included in the protection area of the building's lightning protection system. Separation distances between the PV system and the lightning protection system must be taken from the relevant regulations and complied with.

The applicable fire protection regulations must be observed during installation. Fire protection walls must not be built over, fire protection sections must be observed and appropriate spacing rules must be adhered to.

Before installation, the installer of the photovoltaic system must ensure that the installation is carried out strictly in accordance with national and site-specific building regulations, occupational safety and accident prevention regulations, standards and environmental protection regulations.

Every person who installs S:FLEX PV mounting systems is obliged to independently inform themselves about all rules and regulations for technically correct planning and installation and to comply with them during installation. This also includes obtaining the current status of the rules and regulations.
The installation of the PV system may only be carried out by appropriately trained specialists.

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The PV system may only be installed by appropriately trained specialists.

All system components must be checked for damage before installation.
Damaged components must not be used!

Installation of the S:FLEX substructure and the PV system may only be carried out by trained specialists. System components must not be used as step ladders. The modules must not be stepped on. When working on roofs, there is a risk of falling off and falling through roofs. A fall can result in injury or death. Ensure that appropriate climbing aids and fall-protection equipment (e.g. scaffolding) are provided as well as protection from falling parts.

Before installation, check the building statics and the structure/condition of the roof substructure.
The specifications in the installation instructions and the project report must be observed during installation. Failure to observe the specifications in the installation instructions and the project report may result in damage to the PV system and the building.

Description of the system

Visually high-quality, technically sophisticated
The module holder for balcony power plants made of high-quality aluminium is becoming increasingly popular on the solar market. Its adjustable design allows it to be adapted to different solar module sizes and installation requirements. With flexible tilt angles of 30, 35, 40, 45 or 50 degrees, it can be adapted to local conditions. The bracket is also robust enough to withstand high wind speeds and snow loads, making it versatile.

The advantages at a glance:
- Quick and easy installation
- Manually adjustable tilt angle for more power generation
- Low weight and attractive appearance
- No additional module clamping and no modifications to the module frame required
- Easy disassembly and simple reinstallation when relocating

System properties S:FLEX Balcony Set Basic

Application:	Metal balcony parapets
Connection:	mechanical attachment to parapet and infill rods
Module type:	framed modules
Module frame height:	30 mm - 50 mm
Module size (LxW)*:	max. 2279 mm x 1134 mm
Module orientation:	horizontal
Angle of attack:	30°, 35°, 40°, 45°, 50°
Wind speed:	up to 180 km/h
Snow load:	up to 1,5 kN/m²
Materials:	aluminum and stainless steel, 100% recyclable
Color:	aluminum, black
Warranty:	10 years on the durability of the materials

*** Check in advance whether the module can be mounted on the bracket**

System components

2x Module support profile

2x Wall profile

2x Angle profile

4x Round steel bracket

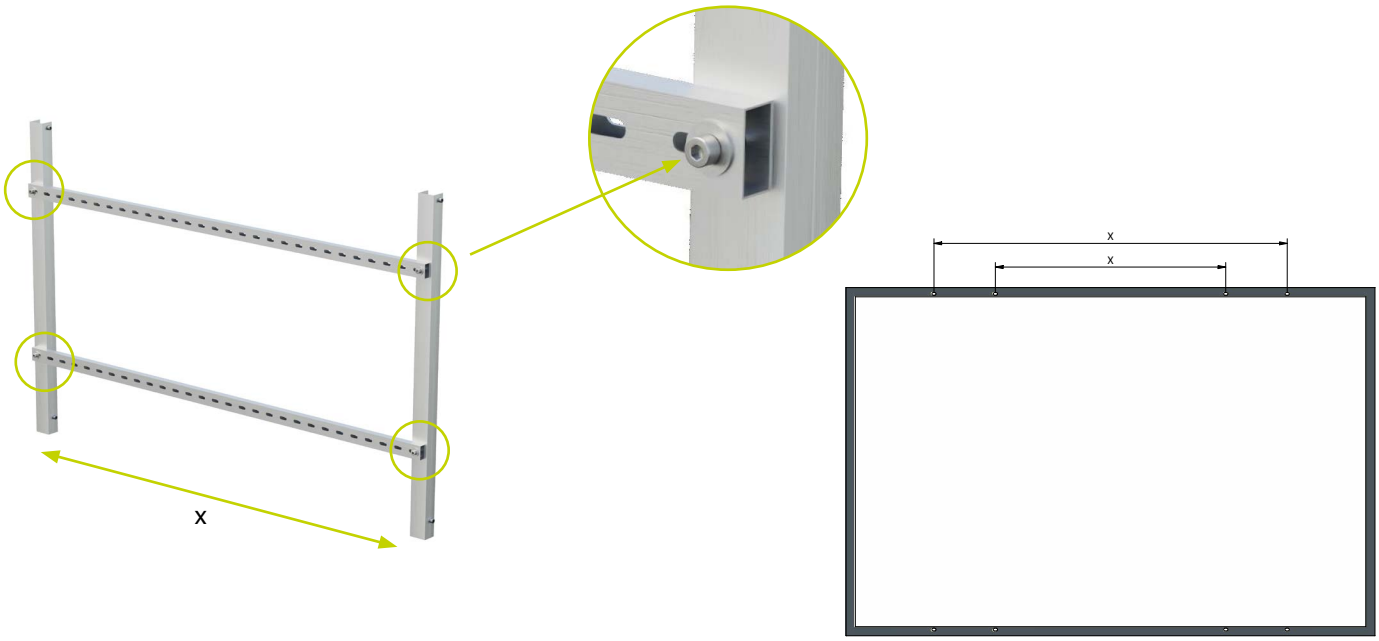
4x Cylinder head screw DIN 912 M8 x 25 A2
4x Cylinder head screw DIN 912 M8 x 45 A2
6x Cylinder head screw DIN 912 M8 x 60 A2
2x Cylinder head screw DIN 912 M8 x 90 A2

4x Washer M8
4x spring washers
4x Hexagon nut M8 DIN 934 A2

12x Lock nut M8 A2 DIN 6923

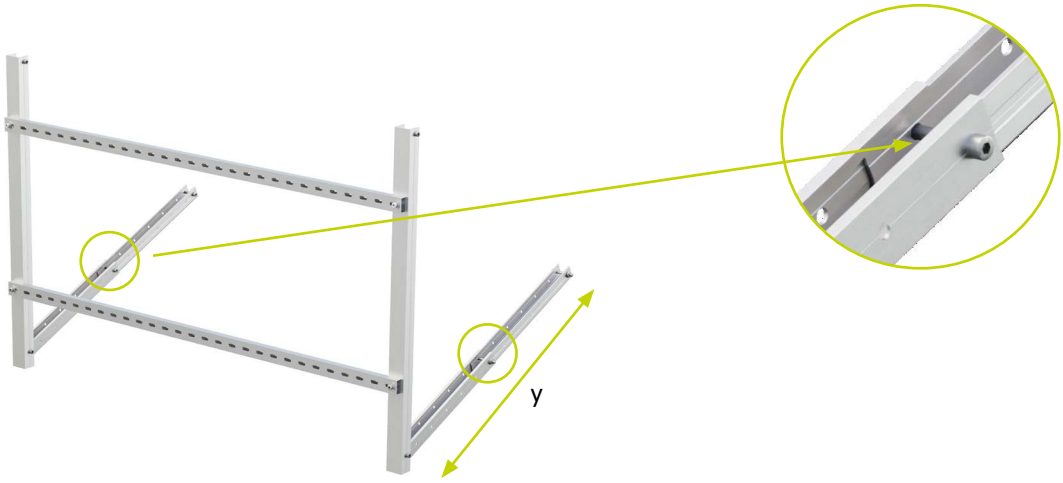
Assembly step 1

Mount the wall profiles and the angle profiles, taking into account the module dimensions and hole spacing (x).
Use the 4 cylinder head screws M8 x 45 with the 4 washers M8, the 4 spring washers and the 4 hexagon nuts M8.



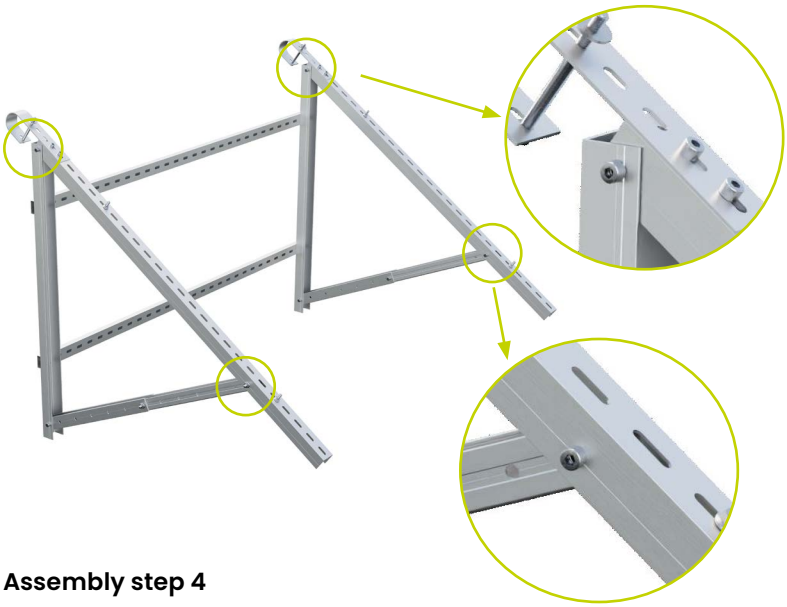
Assembly step 2

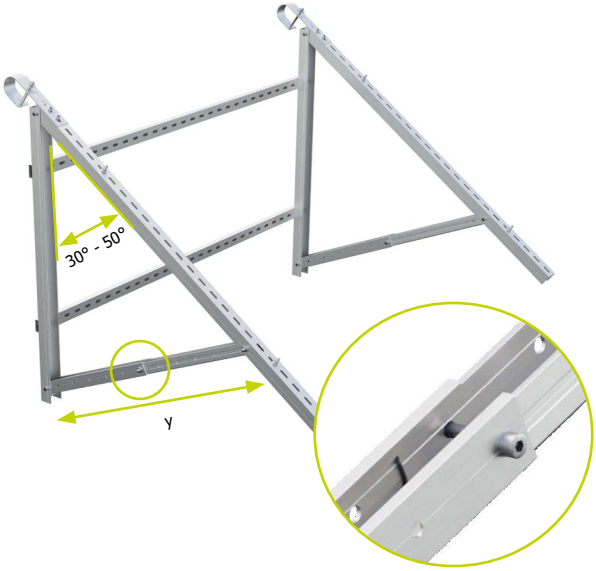
Fold out the angle profile: Screw the area for the angle of inclination (y) hand-tight. Use the 2 cylinder head screws M8 x 60 with the 2 lock nuts M8.



Assembly step 3

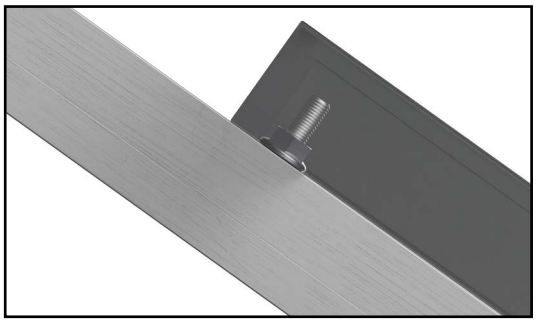
Fit the module support profiles to the frame. Use the 4 cylinder head screws M8 x 60 with the 4 lock nuts M8. Set the range for the angle of inclination (y) to the desired angle of 30°, 35°, 40°, 45° or 50°. To do this, loosen the hand-tight screws, set the angle and tighten the screw.

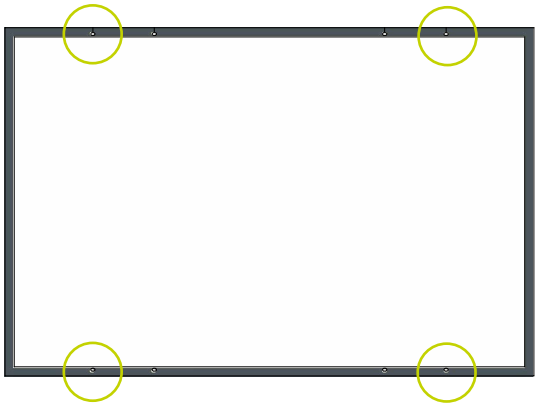




Assembly step 4

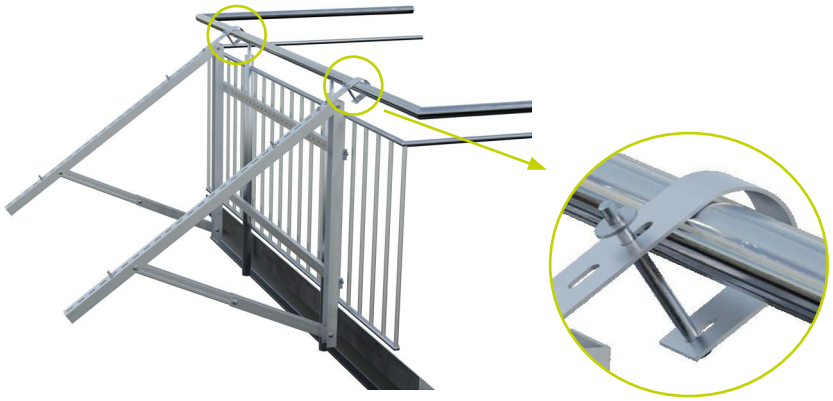
Position the solar module correctly and attach it to the module support profile. To do this, push the screw through the opening in the module bracket and the module frame and then screw it in place with the nut. Use the 4 cylinder head screws M8 x 25 with the 4 locking nuts M8.





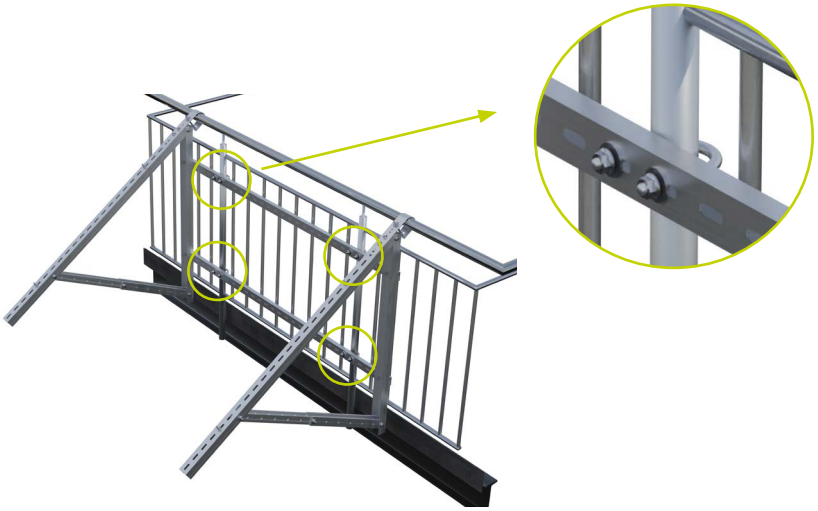
Assembly step 5

Hook in the balcony bracket and attach to the railing. Use the 2 cylinder head screws M8 x 90 with the 2 locking nuts M8. (Solar module hidden)



Assembly step 6

Fix the balcony bracket to the railing using the 4 round steel brackets. (Solar module hidden)



Fully assembled S:FLEX Balcony Set Basic.

Disassembly

Disassembly of the S:FLEX mounting system may only be carried out by trained specialist personnel. Observe the same safety instructions, standards and guidelines as provided for the installation.

In general, disassembly is carried out in reverse order to the described installation.

Disposal

The S:FLEX mounting system is made from aluminium, stainless steel and steel components. These materials can be recycled after disassembly.

The frame system must only be disposed of by a specialist waste management company. Observe the applicable national standards and guidelines.

User agreement for use of the S:FLEX Balkons Set Basic

We expressly point out that the assembly system is sold under a purchase agreement.

Its installation/processing or acquisition by a third party is not carried out in the name of, or on behalf of, S:FLEX GmbH. Installation/processing of the system must be carried out by appropriately qualified personnel and strictly in accordance with the installation instructions.

S:FLEX GmbH is not responsible for the project-related statics of the balcony parapet or for the professional execution.

Defects and damage as well as limited or insufficient functionality of the system due to faulty assembly and/or assembly deviating from the assembly instructions shall exclude a material defect for which S:FLEX GmbH is responsible. In the event of improper processing, the rights of the buyer due to a material defect shall lapse.

The system warranty is only valid if all system components were acquired from S:FLEX GmbH.

Warranty / disclaimer

As an installation company, you are responsible for the correct execution of the installation. S:FLEX GmbH is not liable for the dimensional information contained in commercial system quotations.

As the installation company, you are responsible for the mechanical durability of the installed interface connections on the building envelope, in particular also for their watertightness. The components supplied by the company S:FLEX GmbH are designed for the expected loads and in accordance with the currently available technology.

S:FLEX GmbH is not liable if the installed components are not properly handled. Any use close to the sea needs to be clarified with S:FLEX GmbH directly on a case-by-case basis due to the increased risk of corrosion. Provided that the system is handled properly and dimensioned according to the structural conditions and normal environmental and ambient conditions, the company S:FLEX GmbH provides a warranty from transfer of risk to the warranty holder, which guarantees that the metallic components of the racks will remain free from defects with regard to material and workmanship for a period of 10 years. This warranty does not apply to wear parts. For additional information, please refer to the separate warranty provisions.

This applies within the context of the generally prevalent weather and environmental conditions.