

Solar systems of Schweizer:

Mounting instructions

MSP-PR pitched roof photovoltaics mounting system



Legend to mounting instructions



Observe additional information



Audible clicking sound



Caution: check carefully



Mounting direction of part



Correct operation



Tool type / required torque



Incorrect operation



Check potential source of error

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Standards and technical guidelines

During installation the following standards and directives must be observed:

- BGV A1 – Accident prevention regulations - Principles of prevention
- BGV A3 – Accident prevention regulations - Electrical systems, resources and equipment
- BGV C22 – Accident prevention regulations - Construction work
- DIN 18338:2010-04 – VOB Construction contract procedures - Part C: General technical conditions of contract for construction work or services (ATV) - Roofing and roof sealing work
- DIN VDE 0100-410:2007-06 – Low-voltage electrical installations - Part 4-41: Protective measures - Protection against electric shock
- DIN EN 62305-3 supplementary sheet 5:2009-10 – Protection against lightning - Part 3: Protection of buildings and persons - supplementary sheet 5: Lightning and overvoltage protection for photovoltaic power supply systems
- VdS 2023:2001-08 – Electrical systems and installations in buildings with predominantly flammable materials - Directives and guidelines for the prevention of damage

Intended correct use

The Schweizer MSP-PR mounting system is suitable for fastening photovoltaic modules to pitched roofs.

Use for any other purpose is deemed contrary to the intended use.

Intended use also includes observance of the points listed in these installation instructions.

If the software Schweizer proMSP is used, all additional notes that are contained in the software report must also be observed.

Schweizer is not liable for damage, loss or injury resulting from failure to observe the installation instructions, especially the safety instructions, or from misuse of the product.

Responsibilities of the customer and installer

The operator of the facility or installation has the following safety-relevant responsibilities and, accordingly, is obliged to:

- Ensure that all relevant accident prevention and industrial safety regulations are observed.
- Ensure that the mounting system is installed only by qualified persons.
- Ensure that the persons entrusted with the work are in a position to properly assess the tasks and to identify possible risks or hazards.
- Ensure that the persons entrusted with the work are familiar with the parts of the system.
- Ensure that the installation instructions are available for reference during the installation work. The installation instructions form an integral part of the product.
- Ensure that the installation instructions and, in particular, the safety precautions, are read and understood in advance by the persons entrusted with the work.
- Ensure that locally applicable working and operating conditions or requirements are observed. Schweizer is not liable for damage, loss or injury resulting from overstepping or failing to observe these conditions or requirements.
- Ensure that the installation is carried out in accordance with the instructions and that the necessary tools are available for use.
- Ensure the security and durability of the connections made and that the parts of the system are fastened correctly.
- Ensure that suitable lifting equipment is used at all stages of the installation procedure.
- Ensure that components with visible signs of damage are not used.
- Ensure that only genuine Schweizer components or suitable components of equivalent quality are used in the event of components being exchanged or replaced. Any warranty is otherwise null and void.



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- Ensure that the function of the roof or its covering is not adversely affected (e.g. loadbearing capacity, structural soundness or weather sealing).
- Ensure that all local regulations, including those concerning earthing/grounding and equipotential bonding are checked and adhered to.

Basic safety instructions

The following basic safety instructions and warnings form an important integral part of these installation instructions and are of fundamental significance for the handling and use of the product:

- Wear working clothing in compliance with national regulations.
- Observe the applicable industrial safety regulations.
- Ensure that all electrical work is carried out only by trained and qualified electrical specialists. Observe all relevant regulations and requirements.
- A second person who can provide assistance in the event of an accident must be present for the entire duration of the installation procedure.
- A copy of these instructions must be kept at hand in the immediate vicinity of the facility or installation and made available to the persons carrying out the work.

On-site conditions

The Schweizer MSP-PR mounting system is designed to withstand the usual loads and stresses exerted by wind and snow.

It is intended for use in the following situations:

- With framed photovoltaic modules
- Roof covering: the usual interlocking or plain roof tiles
- Roof structure: the roof pitch and rafter spacing possible depend on the expected loads (snow, wind and the weight of the modules)
- Load combination: the loads possible (snow and wind) depend on the roof design (roof pitch and rafter spacing)

The software Schweizer proMSP Solar calculates the utilization of all mounting structure components and considers roof design parameters (pitch and rafter spacing) and the expected loads (snow, wind and the weight of the modules).

The project report from Schweizer proMSP Solar contains:

- layout
- input data
- load combinations
- cut plan
- bill of materials
- instructions for use
- requirements and notes
- standards for design loads

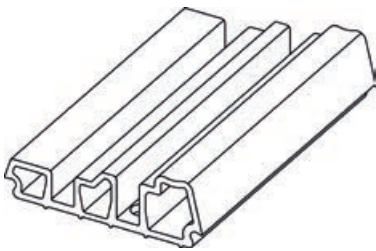
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Preparations for installation

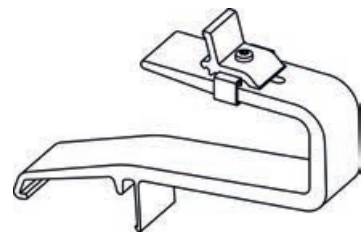
1. Suitability of the roof for use of the MSP-PR system must be checked before the planned installation work is started. The roof structure at the position where installation is planned must be suitable for fastening the solar mounting system. The roof structure, in particular, must be capable of taking up the forces occurring at the fastening points. Roof suitability must be checked by the customer for each project. The assumptions made and constraints in terms of structural design must be checked on the spot by the customer.
2. Check the roof for damage. Any damage and how it is to be repaired must be clarified before starting the installation work.
3. Check that the plans (including the assumed loads) are in conformity with the situation on site. If the actual on-site situation is found to differ from the expected conditions, please contact Schweizer Service before making use of the MSP-PR installation system.



MSP-PR-BP 39 mm
MSP-PR-BP 45 mm



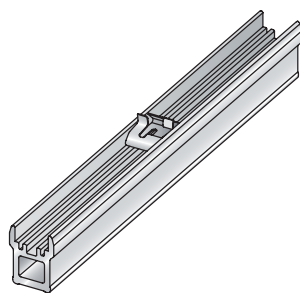
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MSP-PR-HS 8x120 A2
MSP-PR-HS 8x140 A2
MSP-PR-HS 8x160 A2



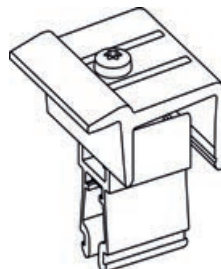
MSP-PR-RHF
MSP-PR-RHA
MSP-PR-RHC
MSP-PR-RHL



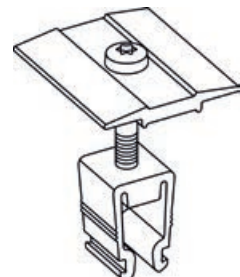
MSP-PR-CH 3.3 m
MSP-PR-CH 6 m
MSP-PR-CH 6.3 m



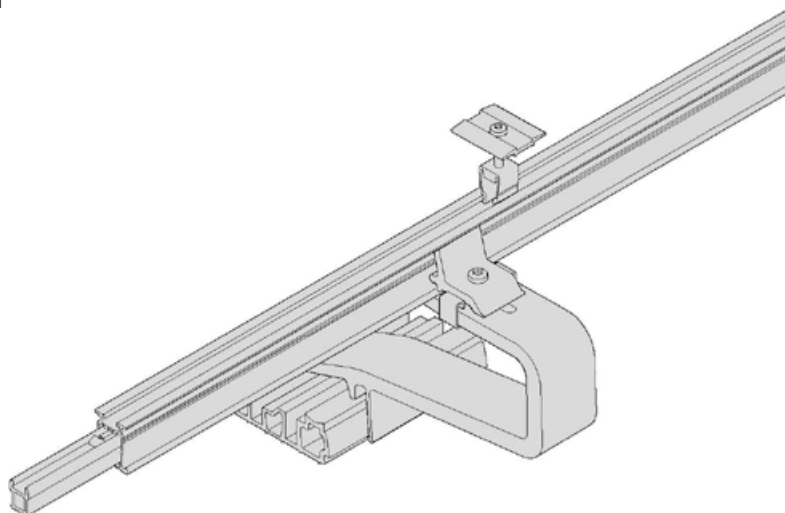
MSP-PR-SL



MSP-PR-EC
30-50 mm



MSP-PR-MC
30-50 mm



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Installation MSP-PR

Fig. 1: Position the base plate on the rafter.

Note: Check that it's positioned correctly at the right distance from the end face and top edge of the tile.

Fig. 2: Fasten the base plate to the rafter.

Note: Check that the screws are not too close to the edge of the rafter.

Fig. 2.1: Ensure that the screws are driven to adequate depth.

Fig. 3: Click the roof hook into position on the base plate.

Note: Observe the maximum distance between the roof hook and the edge of the rafter. The roof hook must not project beyond the edge of the base plate.

Fig. 4: Slide the roof tile over the roof hook.

Note: Care must be taken to ensure that the roof hook passes between the tiles in accordance with the principles of good roofing practice, i.e. it should not interfere with the function of the roof or the roof covering.

Fig. 5A: Check that the distance between the roof hook and the tiles is adequate at all points. The tile must be able to lift up freely, e.g. it may not be fixed with concrete.

Fig. 5B: Adjust the height-adjustable roof hook and then tighten the screws to the specified torque. Check that the distance between the roof hook and the tiles is adequate at all points. The tile must be able to lift up freely, e.g. it may not be fixed with concrete.

Fig. 6: Click the channel into position in the roof hook clamp.

Fig. 7: Tighten the roof hook clamp to the specified torque.

Fig. 8: Push the channel connector into the channel.

Note: For further information consider the IFU for the channel connector MSP-PR-SL.

Fig. 9A, 9B: Click the module clamps into position in the channel.

Note: Use a middle clamp (MC) for 2 neighbouring modules. Otherwise use an end clamp (EC).

Fig. 10A, 10B: Tighten the module clamps to the specified torque.

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Installation MSP-PR-SL

Fig. 1: Push the channel connector into the channel until the end stop of the locking leaf spring.

Fig. 2: Push the second channel onto the channel connector.

Fig. 2A: Fix connection: Push the second channel until the end stop of the locking leaf spring.

Fig. 2B: Sliding connection: Keep a gap of 25 mm between both channels.

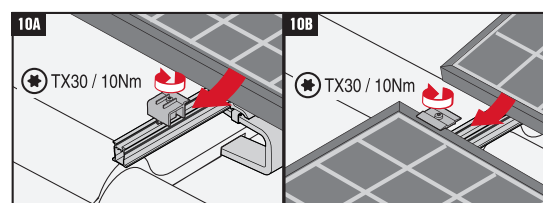
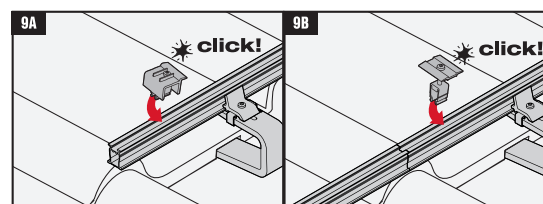
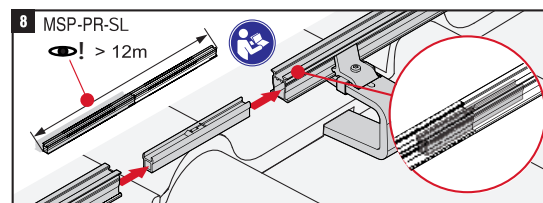
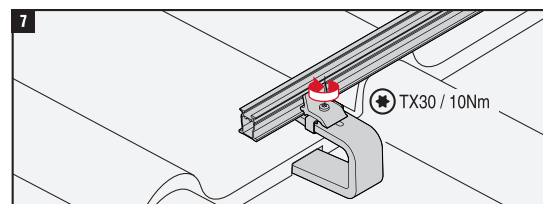
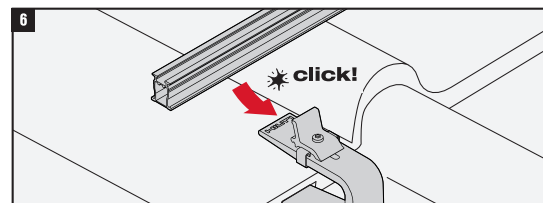
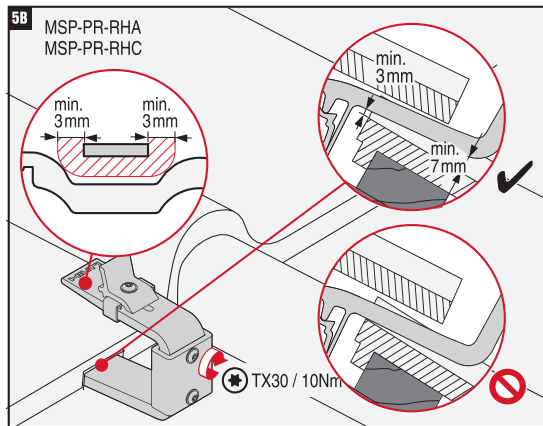
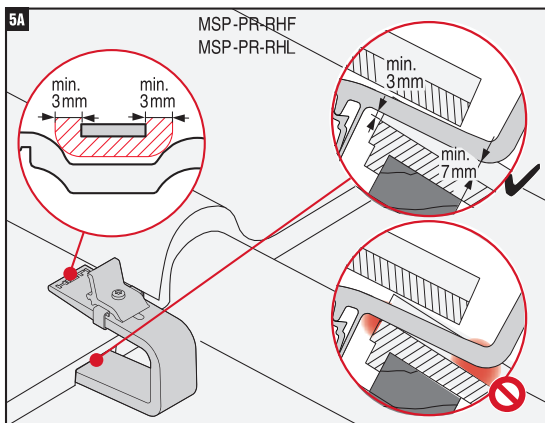
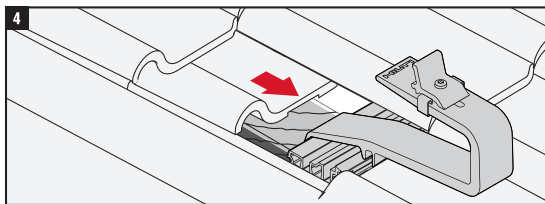
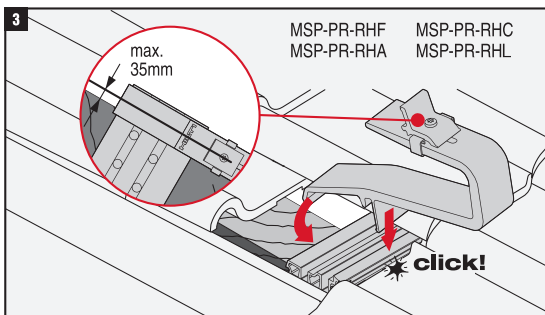
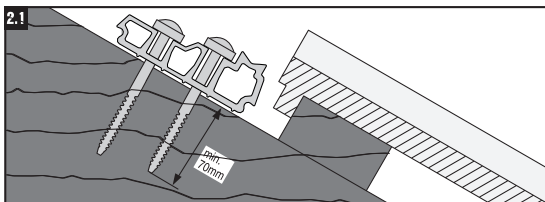
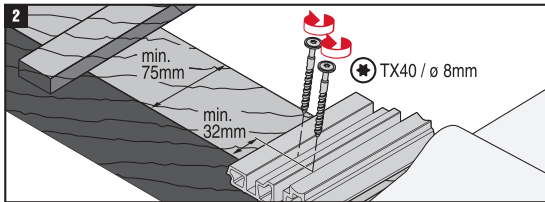
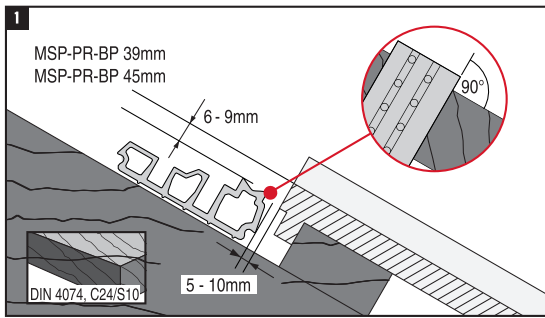
Fig. 3: Every distance of max. 12,60 m you have to install a sliding connection.

Fig. 4: The channel connections must be located in the quarter points between to fixing points.

Fig. 5: Modules can be installed over fixed connections. Modules may not be installed over sliding connections. Here you need to use two end clamps.

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