Assembly instructions

WallPV MultiRail

## InsertionRail

Content

Quality tested - multiple certifications

K2 Systems stands for secure connections, highest quality and precision. Our customers and business partners have known that for a long time. Independent institutes have tested, confirmed and certified our capabilities and components.

Please find our quality and product certificates under:
k2-systems.com/en/technical-information
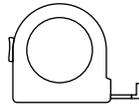
Tools overview
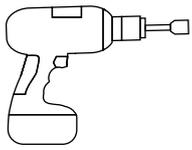
6 mm
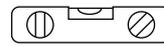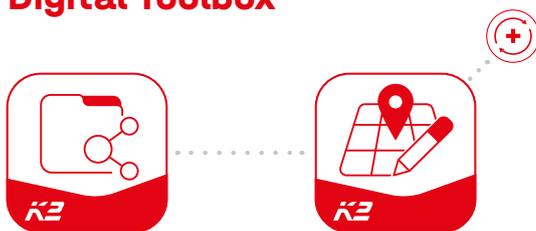
8 mm

6 - 35 Nm
(4,5 - 22,2 lb-ft)

4/6 mm

4/6 mm

≥ 3.0 m

≥ 6.0 m

Digital Toolbox

Do you already know our digital services? Use our K2 DocuApp now and record the first important data directly at the customer or project site.

Simply transfer the data to our online planning software K2 Base. Here you can plan your project easily, safely and quickly. You receive a detailed project report with assembly plan and static report. The K2+ interface enables seamless project data transfer to the planning tools of well-known inverter manufacturers or yield planning tools.

With the K2 DocuApp, project documentation is done quickly and easily – without any annoying paperwork.

Get started and register now:

docuapp.k2-systems.com

base.k2-systems.com

General safety information

Please note that our general mounting instructions must be followed at all times and can be viewed online at k2-systems.com

- The equipment may only be installed and operated by qualified and adequately trained installers.

- Prior to installation, ensure that the product complies with on-site static loading requirements.
For WallPV systems, the load-bearing capacity of the facade must always be checked.

- National and local building regulations and environmental requirements must be adhered to.

- Compliance with health and safety regulations, accident prevention guidelines and applicable standards is required.
  - Protective equipment such as safety helmet, boots and gloves must be worn.
  - Facade works must be in accordance with local regulations and must utilise fall protection safegards when working height exceeds 3m.
  - At least two people must be present for the duration of the installation work in order to provide rapid assistance in the event of an emergency.

- K2 mounting systems are continuously developed and improved and the installation process may thereby change at any time. Prior to installation consult our website at k2-systems.com/en/technical-information for up-to-date instructions.We can send you the latest version on request.

- The assembly instructions of the module manufacturer must be adhered to.

- Equipotential bonding/grounding/earthing between individual parts is to be performed according to country specific standards, as well as national laws and regulations.

- At least one copy of the assembly instructions should be available on site throughout the duration of the installation.

- Failure to adhere to our general safety and assembly instructions and not using all system components, K2 is not liable for any resulting defects or damages. We do not accept liability for any damage resulting in the use of competitor's parts. Warranty is excluded in such cases.

- German law shall apply excluding the UN Convention on CISG. Place of venue is Stuttgart. Our General Terms of Business apply.

- If all safety instructions are adhered to and the system is correctly installed, there is a product warranty entitlement of 12 years! We strongly recommend reviewing our terms of guarantee, which can be viewed at k2-systems.com/en/warranty-terms-and-conditions We will also send this information on request.

- Dismantling of the system is performed in reverse order to the assembly.

- K2 stainless steel components are available in different corrosion resistance classes. Each structure or component must be carefully checked for possible corrosion exposure.

The following guidelines apply

This system can be used without further testing by K2 systems under the following standard conditions. It is also suitable for higher requirements, however if a value exceeds the standard conditions, please contact K2 Systems.

Planning with K2 Base

We recommend our free online software K2 Base for the planning. In five steps, you can plan the right assembly system and get a construction recommendation, parts list and the structural analysis report. Simply register and start planning:
base.k2-systems.com

Facade requirements

- The sufficient holding force of the facade cladding at the support or substructure must be verified on site.

- Thickness trapezoidal sheet metal or corrugated sheet metal ≥ 0.4 mm steel or ≥ 0.5 mm aluminium

- Sheet quality steel at least S235 acc. DIN EN 10025-1

- Minimum tensile strength for aluminium 165 N/mm²

- High crest width ≥ 22 mm, flush area surround hole: ≥ 20 mm

- High bead radius for corrugated sheet metal: r = 22 - 45 mm

Important mounting instructions

- On-site general standards and regulations for lightning protection must be observed and consultation with a specialist to create a lightning protection concept is recommended (use lightning protection clamp if necessary). It should be noted that the installation direction is from bottom to top. Country-specific regulations must be observed.

- After 13.6 m (vertical) and 21.0 m (horizontal) a thermal separation must be installed. Fire protection regulation may specify a value less than 13.6 m (vertical) and 21.0 m (horizontal) and must be adhered to.
  The distance between MultiRails in the direction of the high crests as well as the InsertionRails must be at least 30 mm.

- Each cut-to-size rail section (InsertionRail) must have at least 2 fastening points (CrossConnector).

- Rail cut (InsertionRail) ≥ 1100 mm

- If the trapezoidal sheet is fastened with storm washers, please do not fasten the MultiRails on the storm washers! Spacing must be measured beforehand.

- Fasten the MultiRails to corrugated or trapezoidal sheet metal with thin sheet metal screws approved by the building authorities.

- Horizontal distance between the short sides of the modules must be at least 5 mm (ModuleSafety).

- The country-specific requirements for the modules when mounted on the facade must be observed.
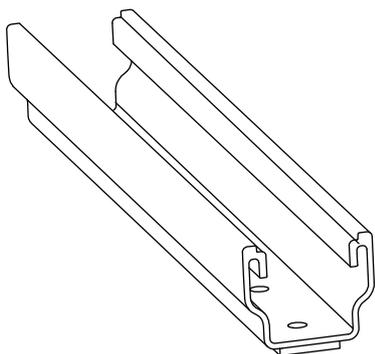
- The country-specific rules for fire protection on the facade must be observed. If necessary, the system must be assessed by a fire protection expert.

- The country-specific rules for rear ventilation of the facade must be observed.
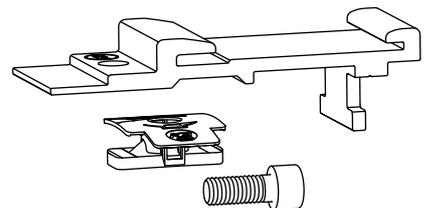
Components

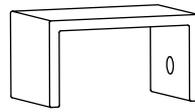## Assembly on trapezoidal sheet metal
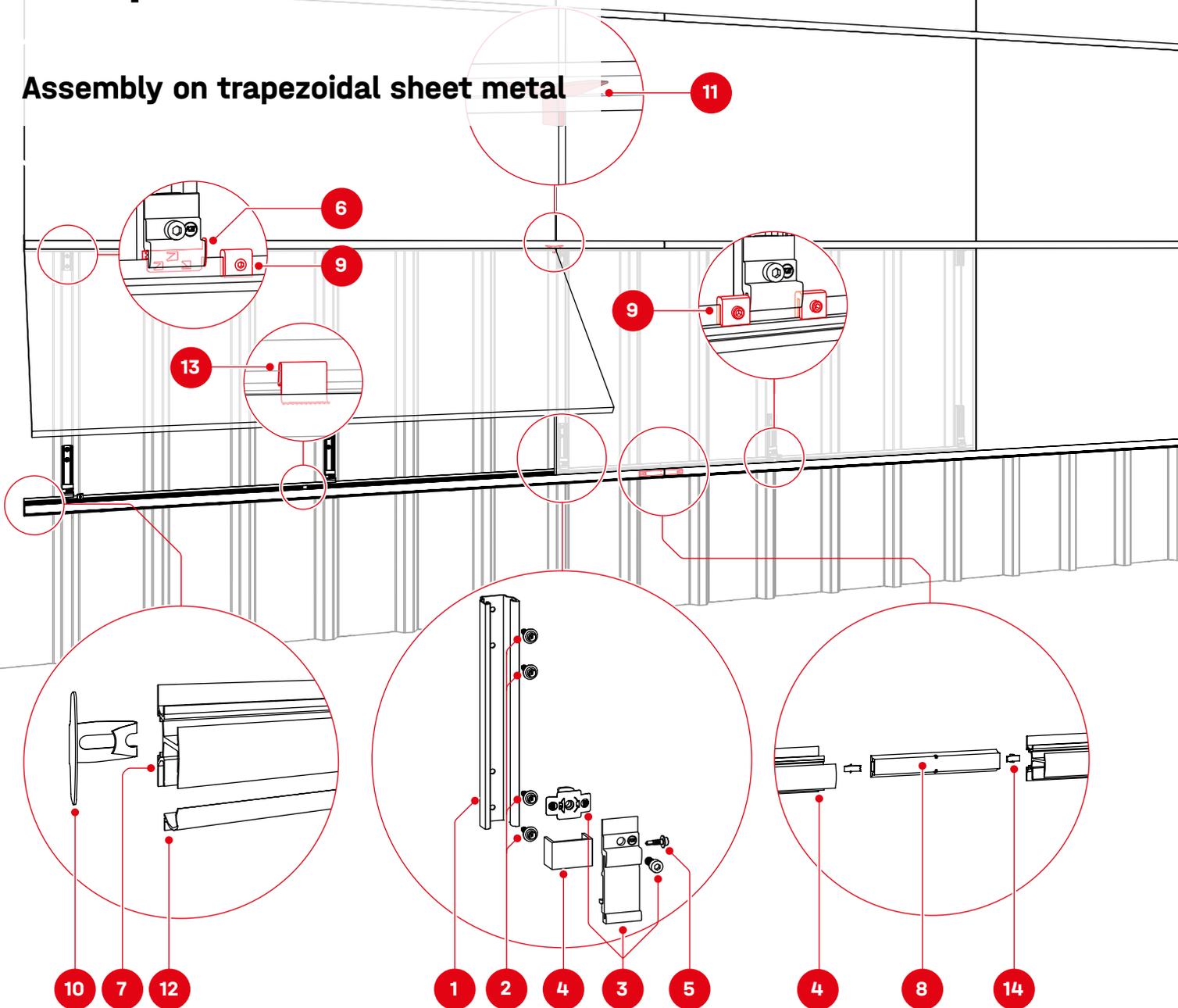
| 1 | 2002793 **MultiRail 25** | 2 | 1005207 **Thread-forming metal screw 6×25** | 3 | 2004812/2004813 **CrossConnector-T Set silver/black** |

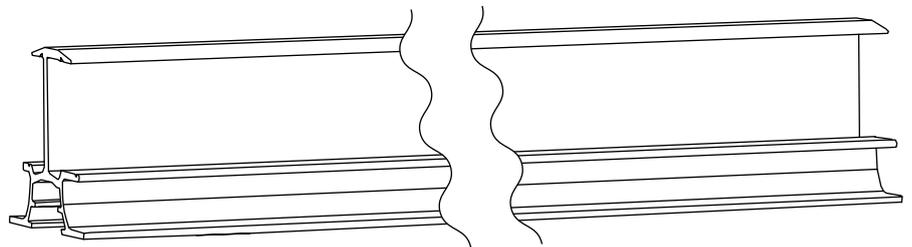**4** 2004289
Rail AntiSlip Clip

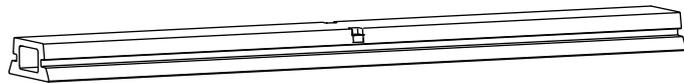**5** 2004432
Self-tapping metal screw 5,5 × 19

6 2004916
CrossConnector Clip

7 Item number system-specific
InsertionRail 2.0 silver/black
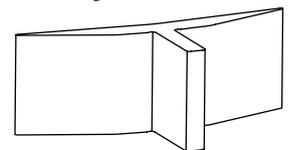
8 2004355/2004322
RailConnector silver/black

9 2004370
FixStop 2.0

10 2004693/2004692
EndStop S silber/schwarz

11 2004290
ModuleSafety

Optional

12 Item number system-specific
InsertionRail 2.0 Cover silver/black
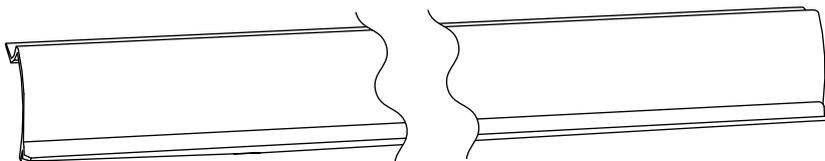
2002870
Cable Manager
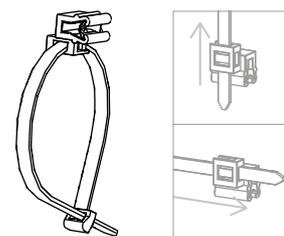
13 2000056
TerraGrif K2U17

14 2004102
TerraGrif PL

Components

Assembly on corrugated sheet metal – additional item
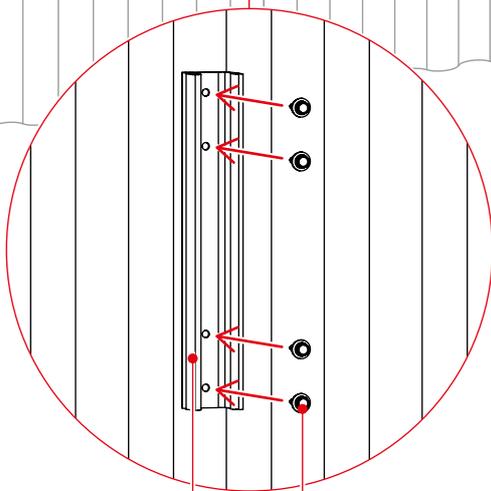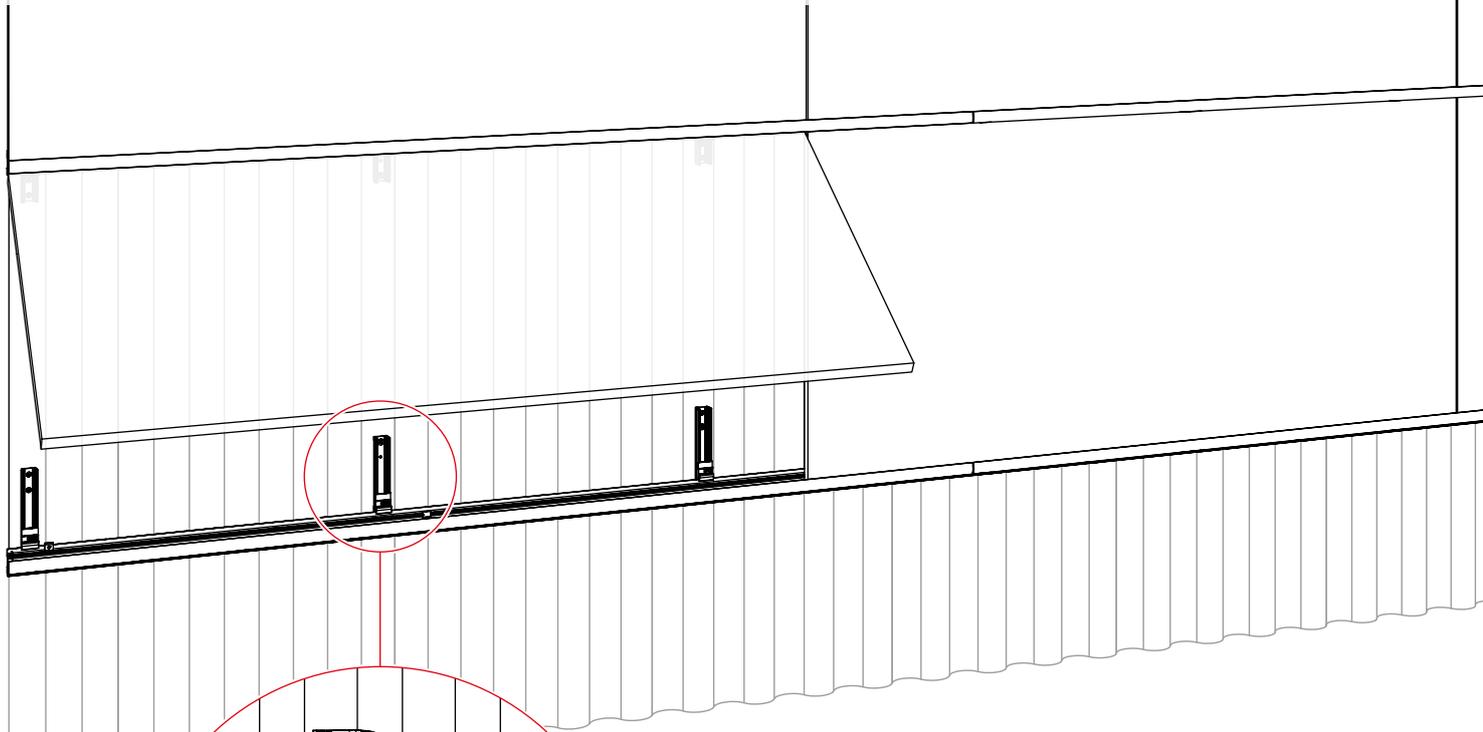
1 2004210
MultiRail 25 CSM

2 1005207
Thread-forming metal screw 6×25

Assembly

Portrait-/Landscape

! Important dimensions for module arrays or blocks and thermal separations

≤ 21.0 m
≥ 30 mm
≤ 13.6 m
≥ 30 mm

Installation MultRail 25 on trapezoidal sheet metal

1a
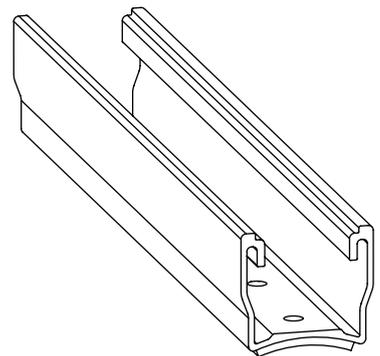
Installation MultRail 25 CSM on corrugated sheet metal

1b
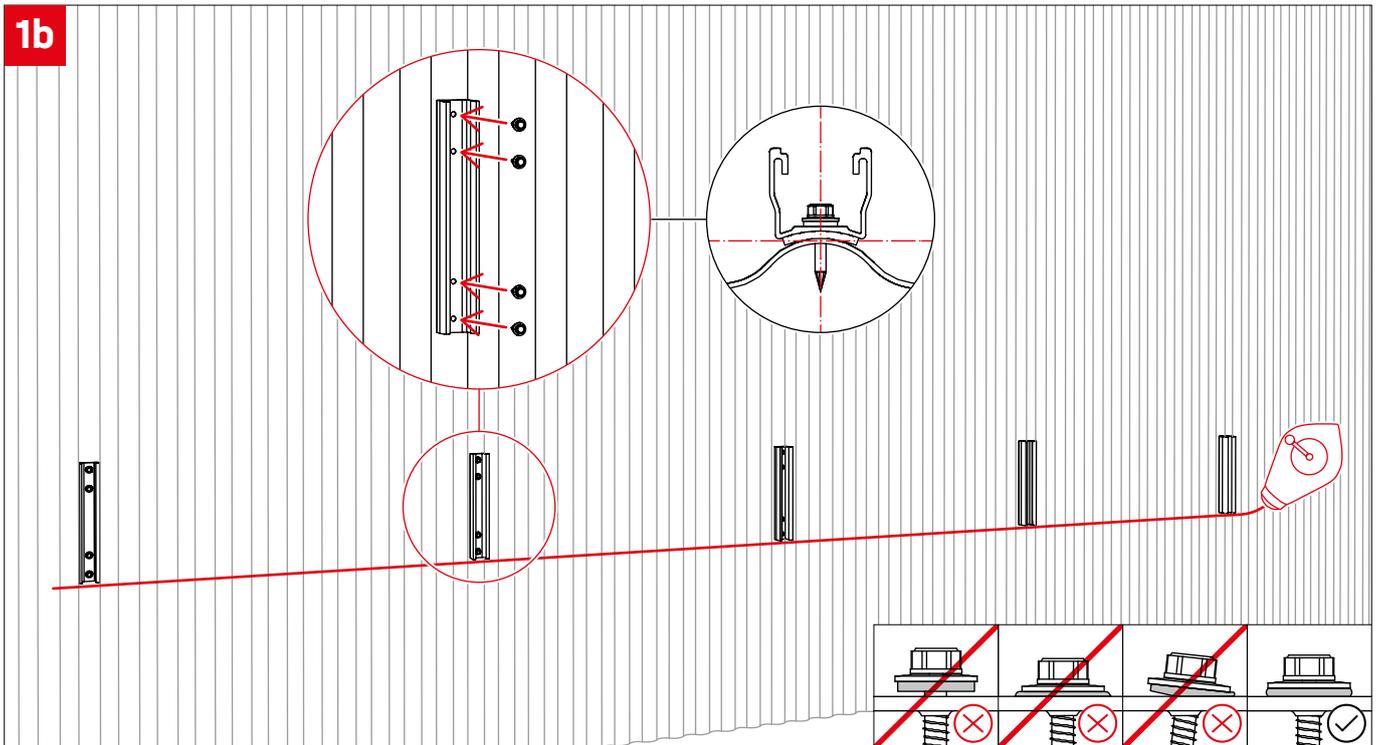
Vertical distances MultiRails

2

The number of MultiRails is specified in the project report.

D_R

D_{R3}

D_{R2}

D_{R2}

D_{R1}

D_{R1} = Width/Length$_{Module}$ - 315,0 mm

D_{R2} = Width/Length$_{Module}$ - 236,0 mm

D_{R3} = Width/Length$_{Module}$ - 307,5 mm
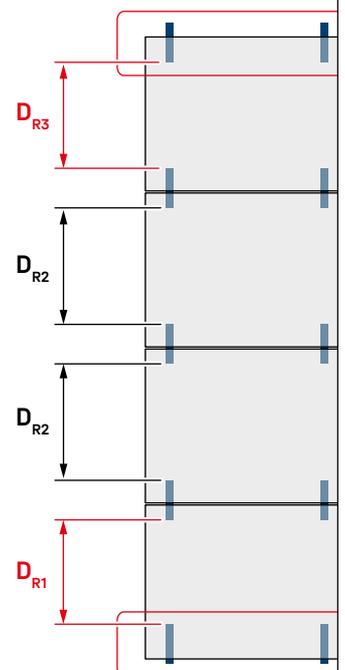
CrossConnector T assembly

3a

3b

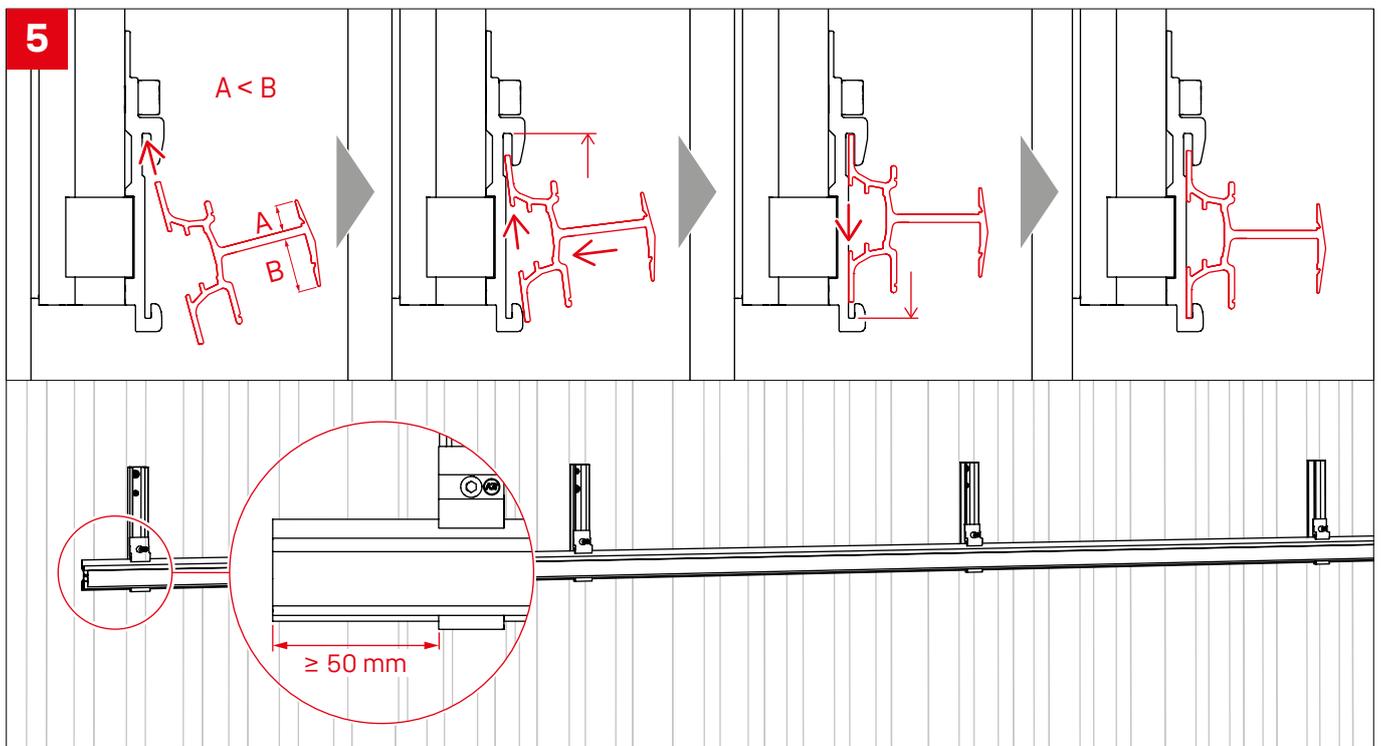**!** Install Rail AntiSlip Clips in the bottom row of each module block.
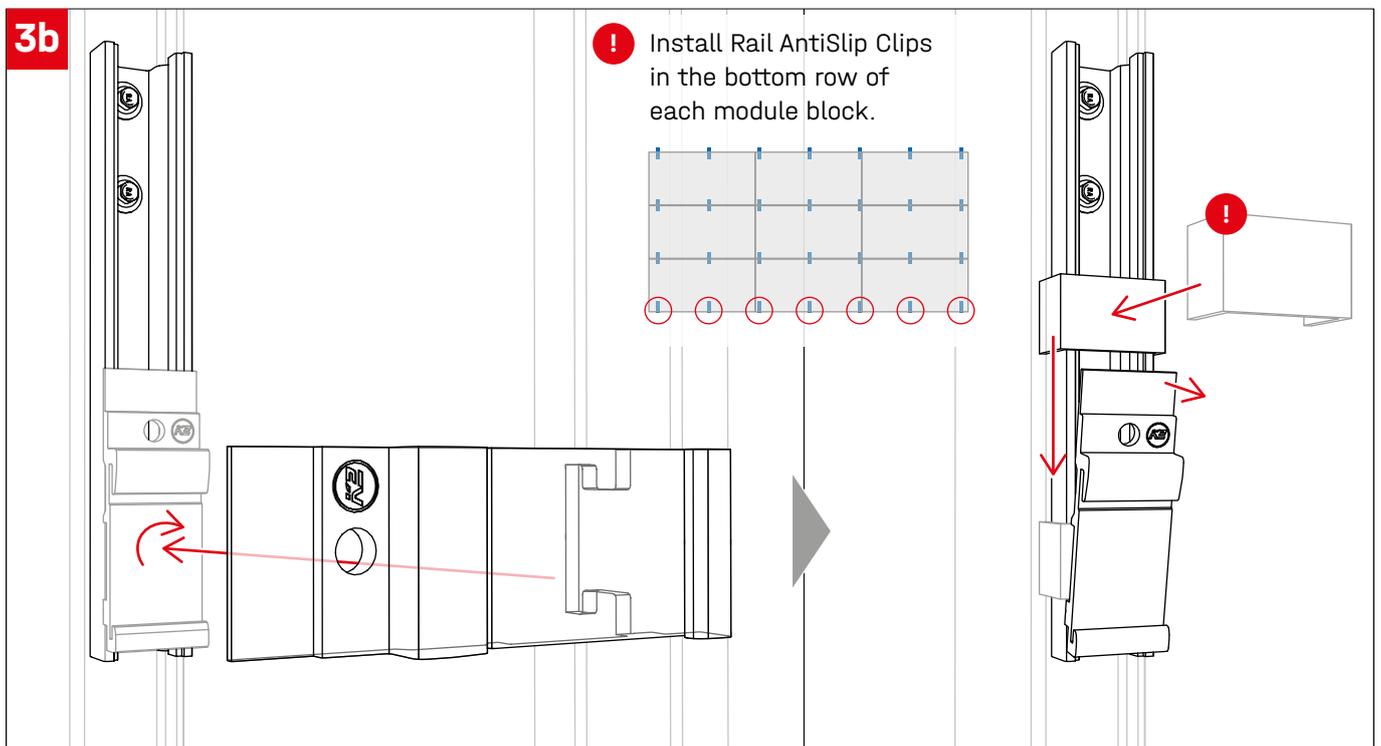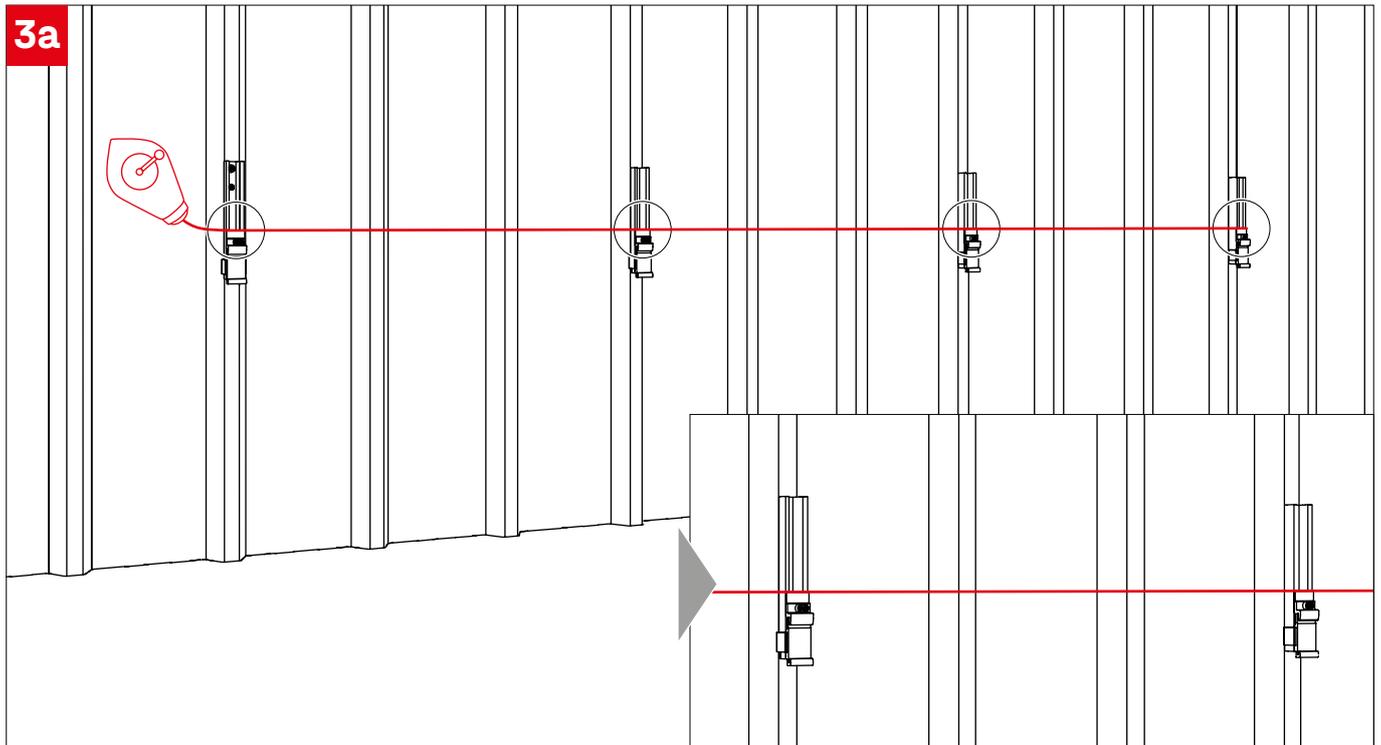
3c
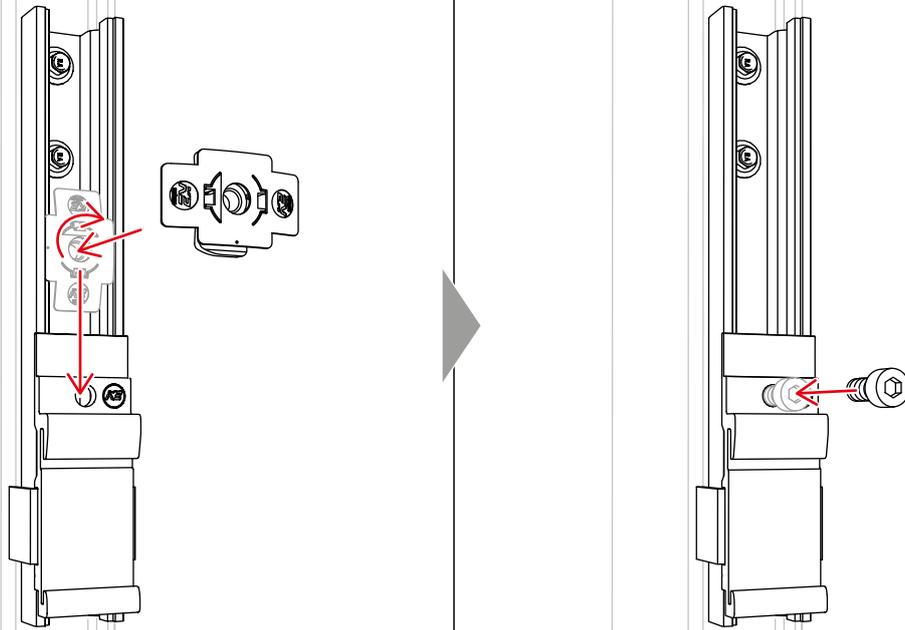
3d
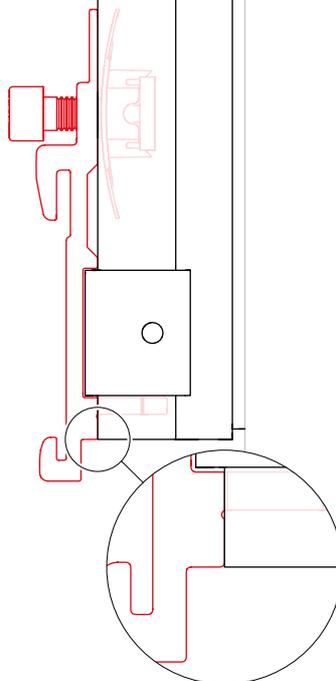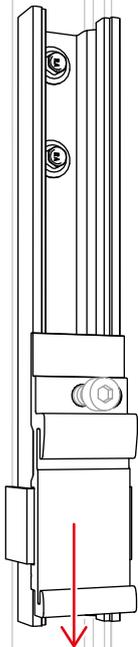
! 16 Nm

2 Before fastening the Rail AntiSlip Clip screw, make sure that the CrossConnectors are precisely aligned horizontally!
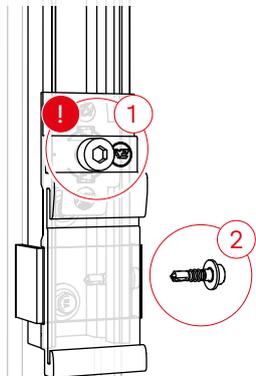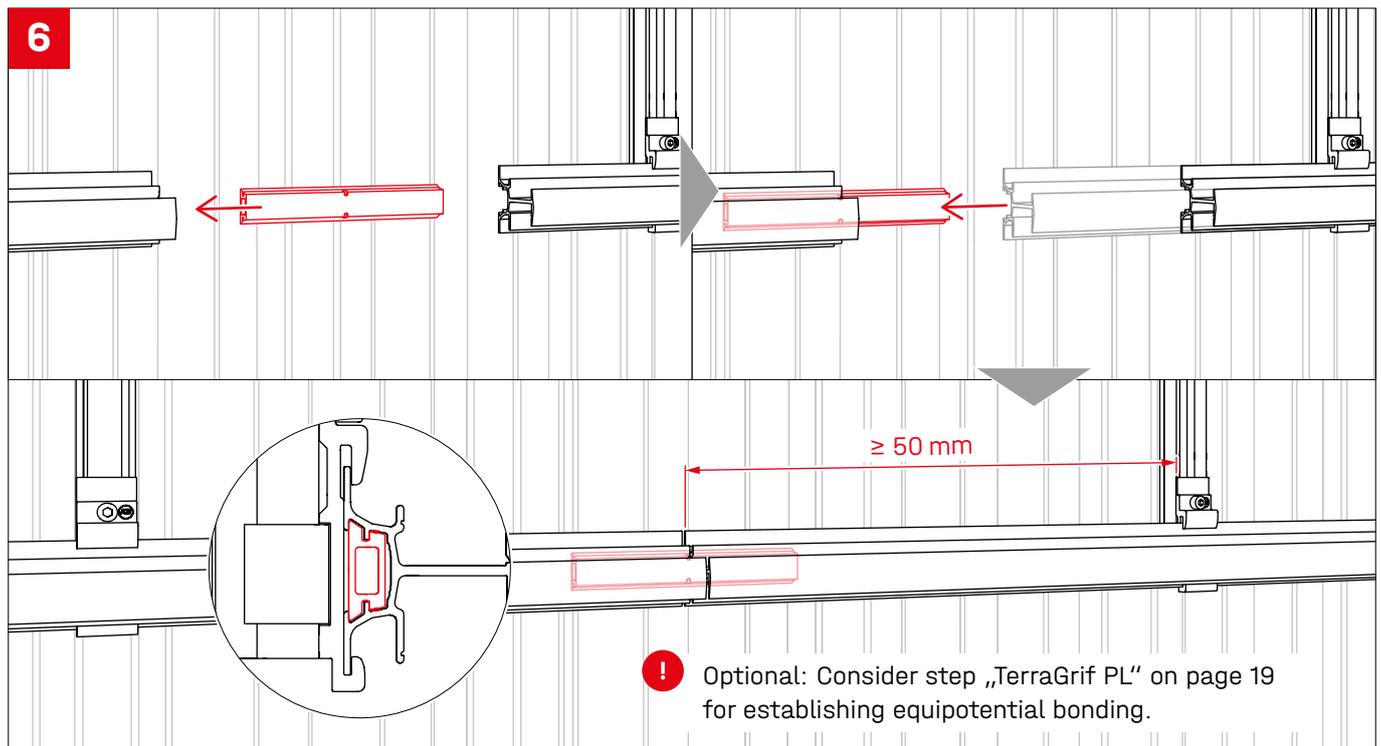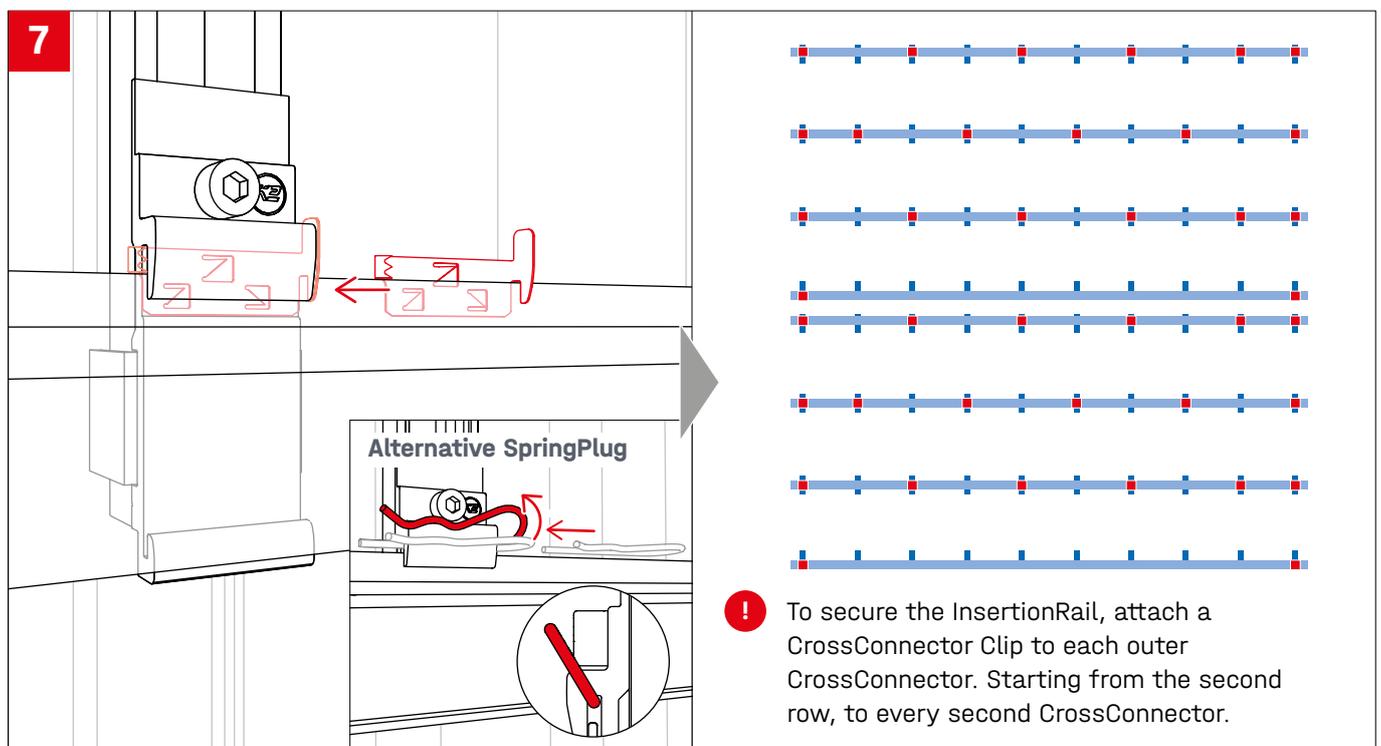
Vertical distance CrossConnector T

4

$$D_C = \text{Width}/\text{Length}_{\text{Module}} - 99 \, \text{mm}$$
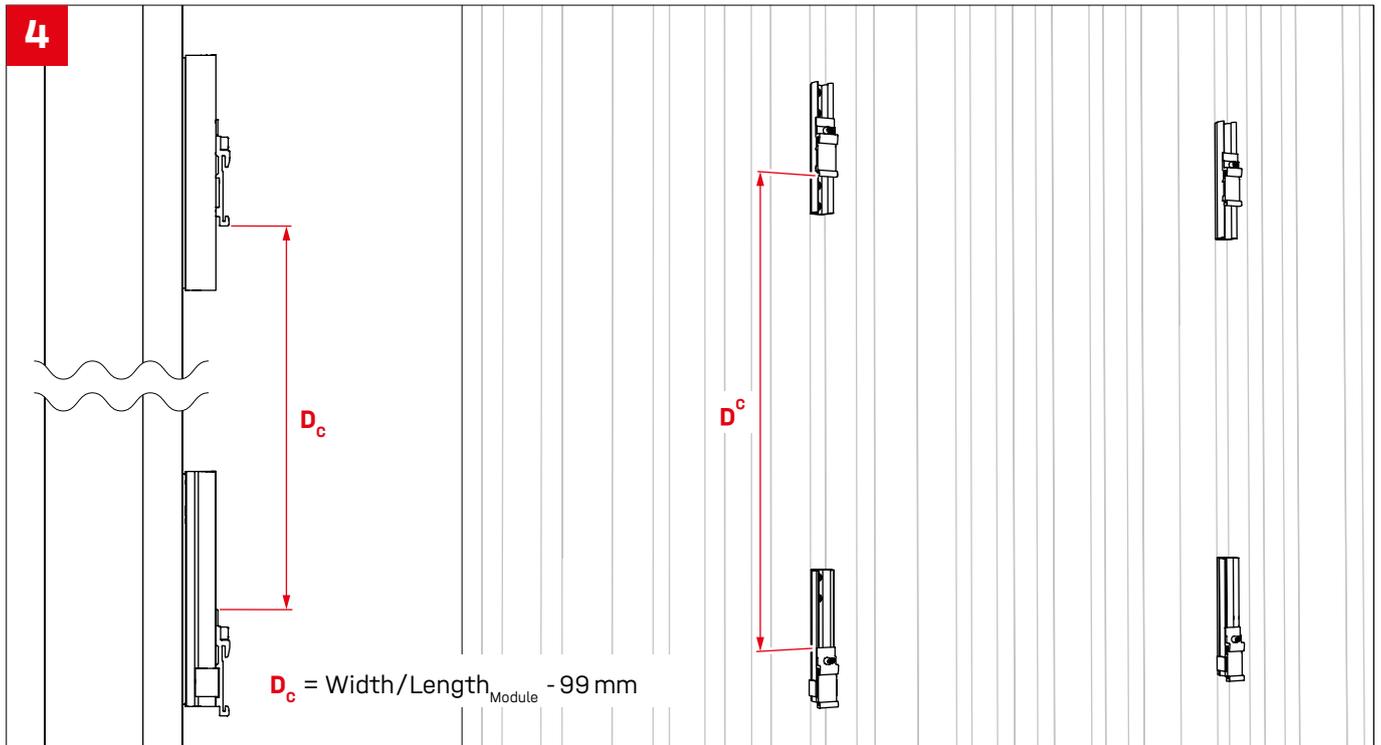
Insert InsertionRail

5

A < B

≥ 50 mm

Connect InsertionRails with InsertionRail RailConnector

6

≥ 50 mm

! Optional: Consider step „TerraGrif PL'' on page 19 for establishing equipotential bonding.

Fixing InsertionRail with CrossConnector Clip

7

Alternative SpringPlug

! To secure the InsertionRail, attach a CrossConnector Clip to each outer CrossConnector. Starting from the second row, to every second CrossConnector.

Positioning and assembly FixStop

8a

One InsertionRail: 2 × FixStop

(1) (1.1) (1.2)
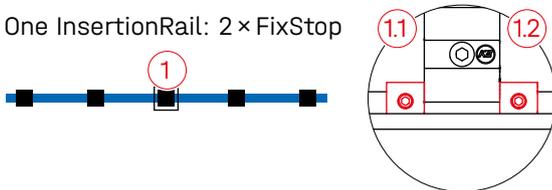
Multiple InsertionRails: 4 × FixStop

(2) (3) (4)
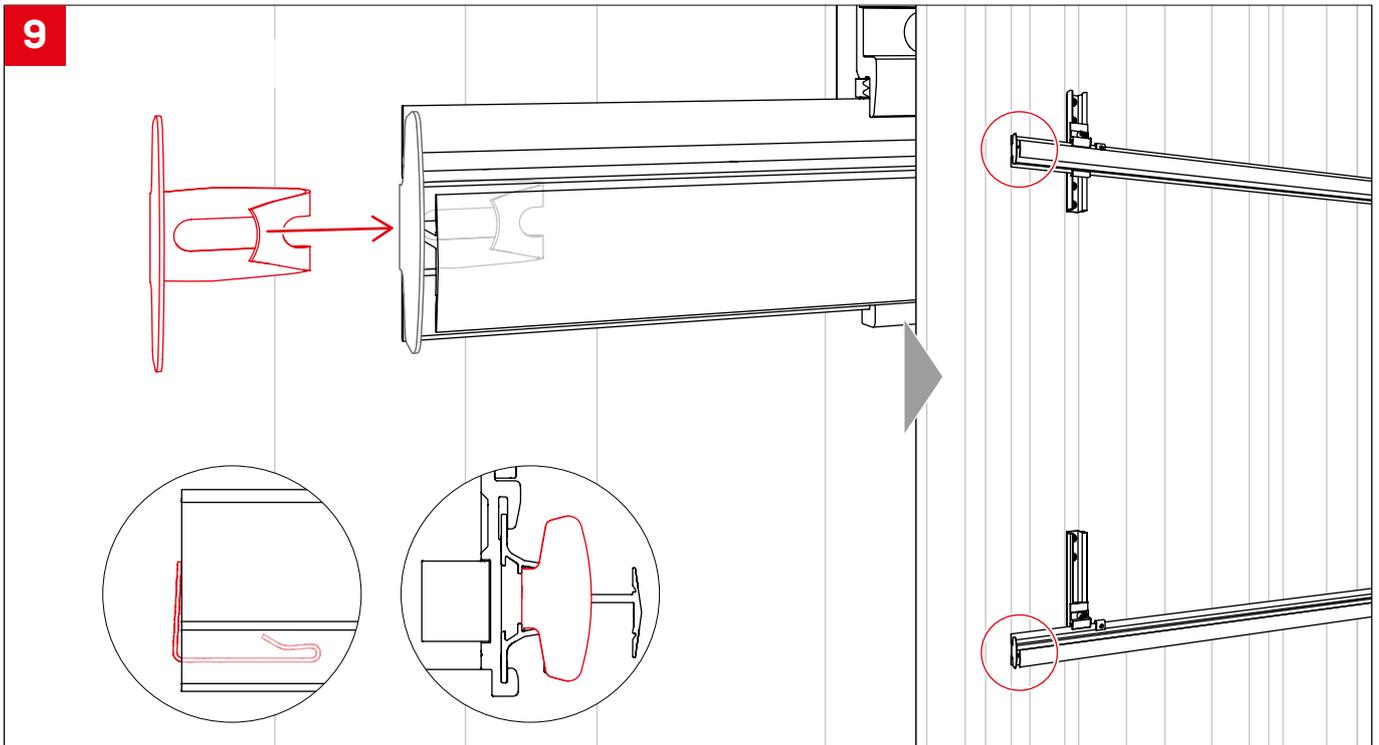
(2) 10 – 15 mm (3.1) (3.2) 10 – 15 mm (4)
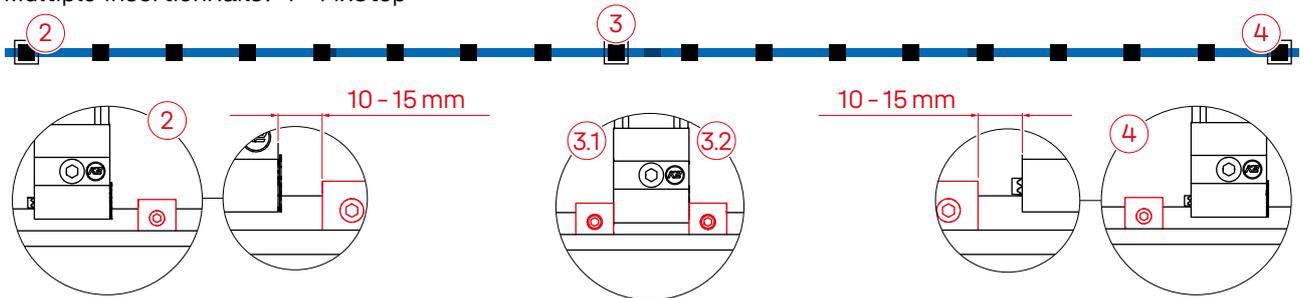
■ CrossConnector + FixStop   ■ CrossConnector   ▬ RailConnector   ▬ InsertionRail

8b (!) 8 Nm
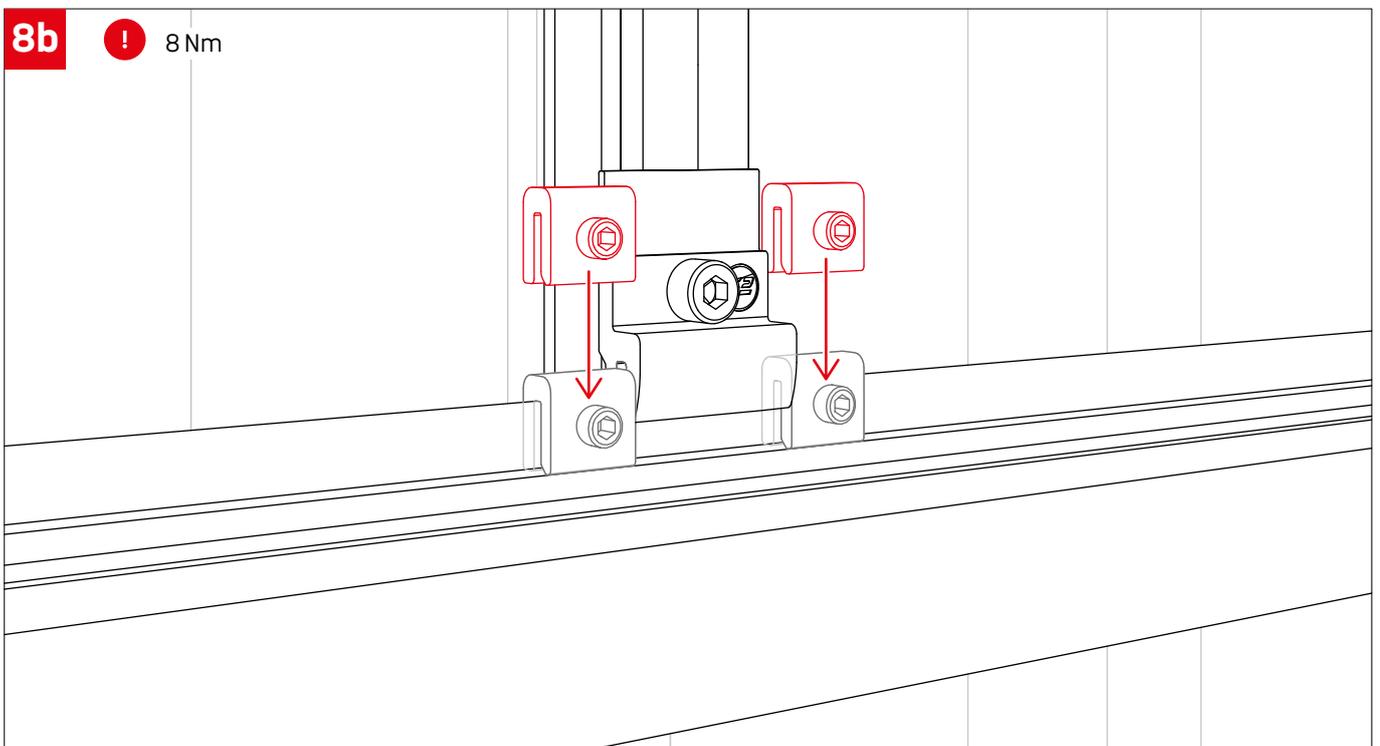
Side guarding with EndStop S - start of rail

9

Insert modules

10

⚠ Optional: Consider step „TerraGrif K2U17''
on page 18 for module frame earthing.
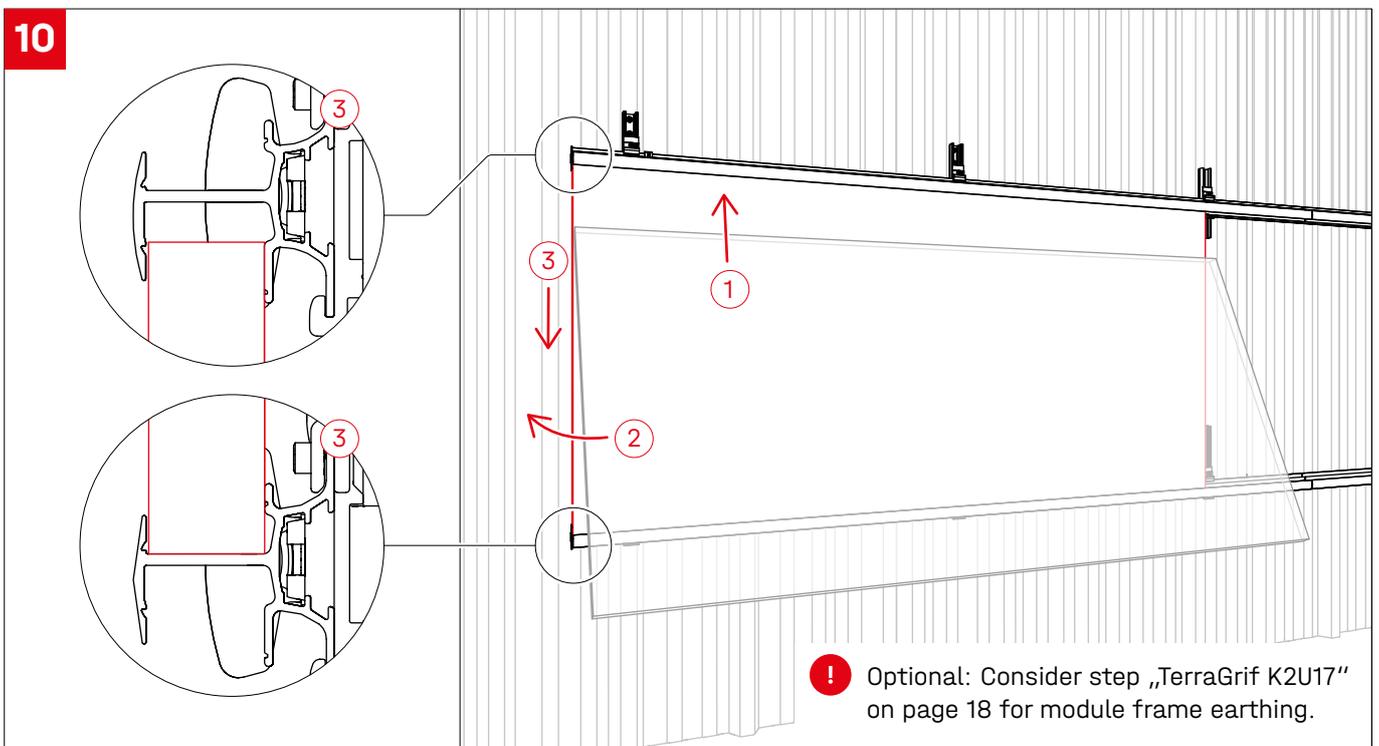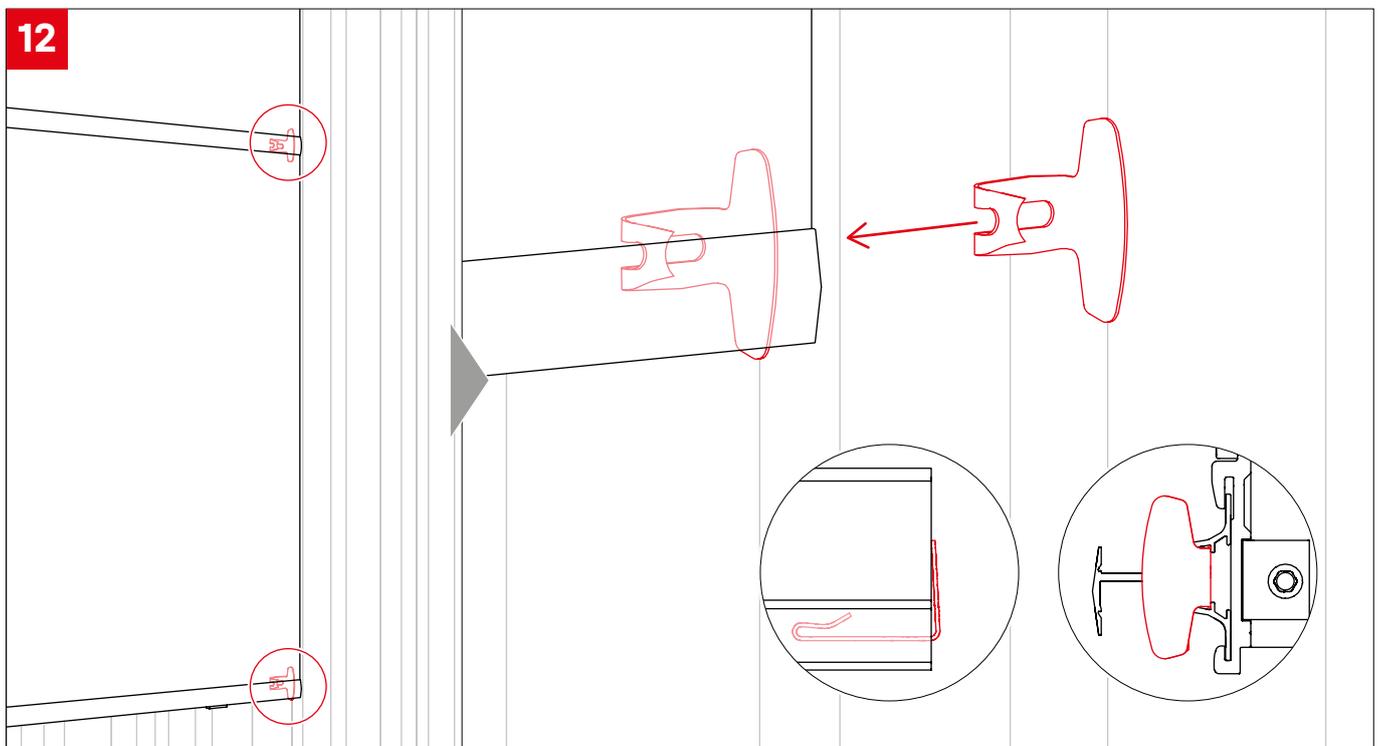
Maintain module spacing with ModuleSafety

11
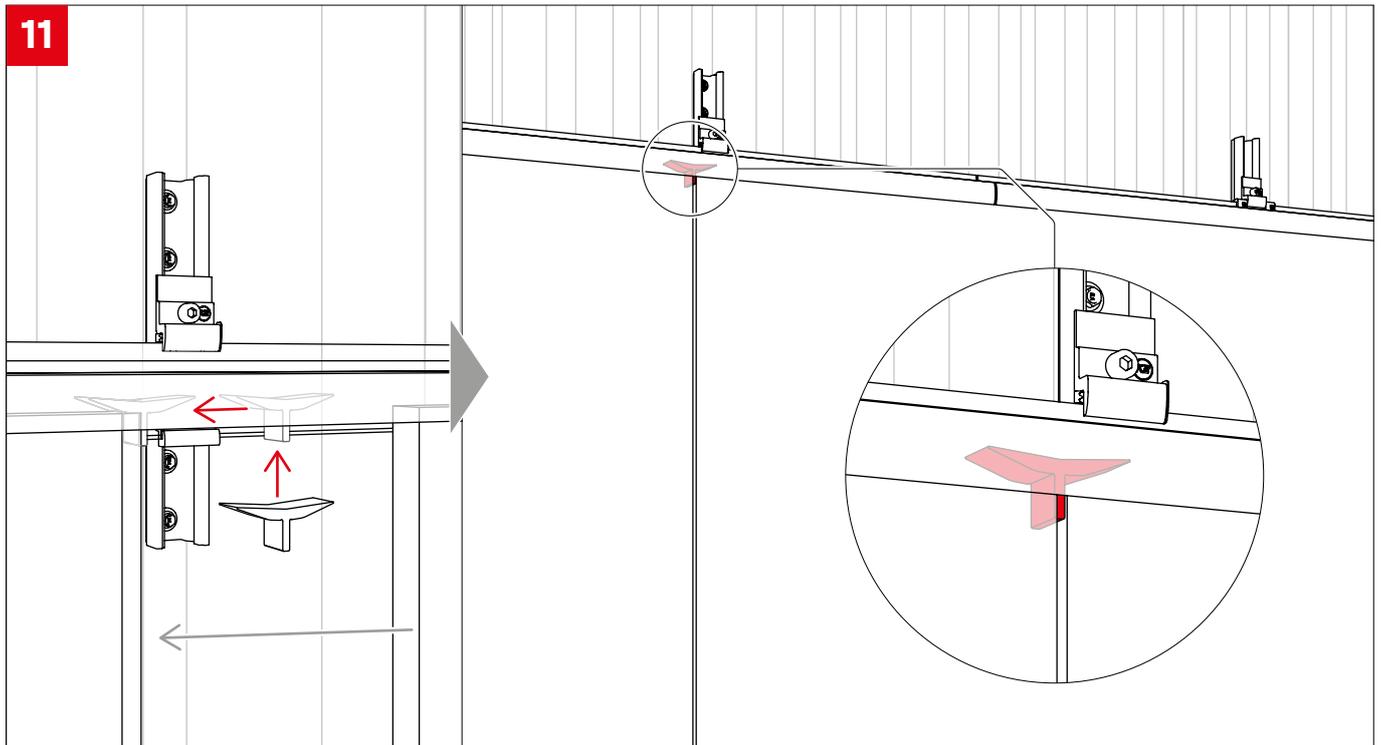
Side guarding with EndStop S - end of rail

12
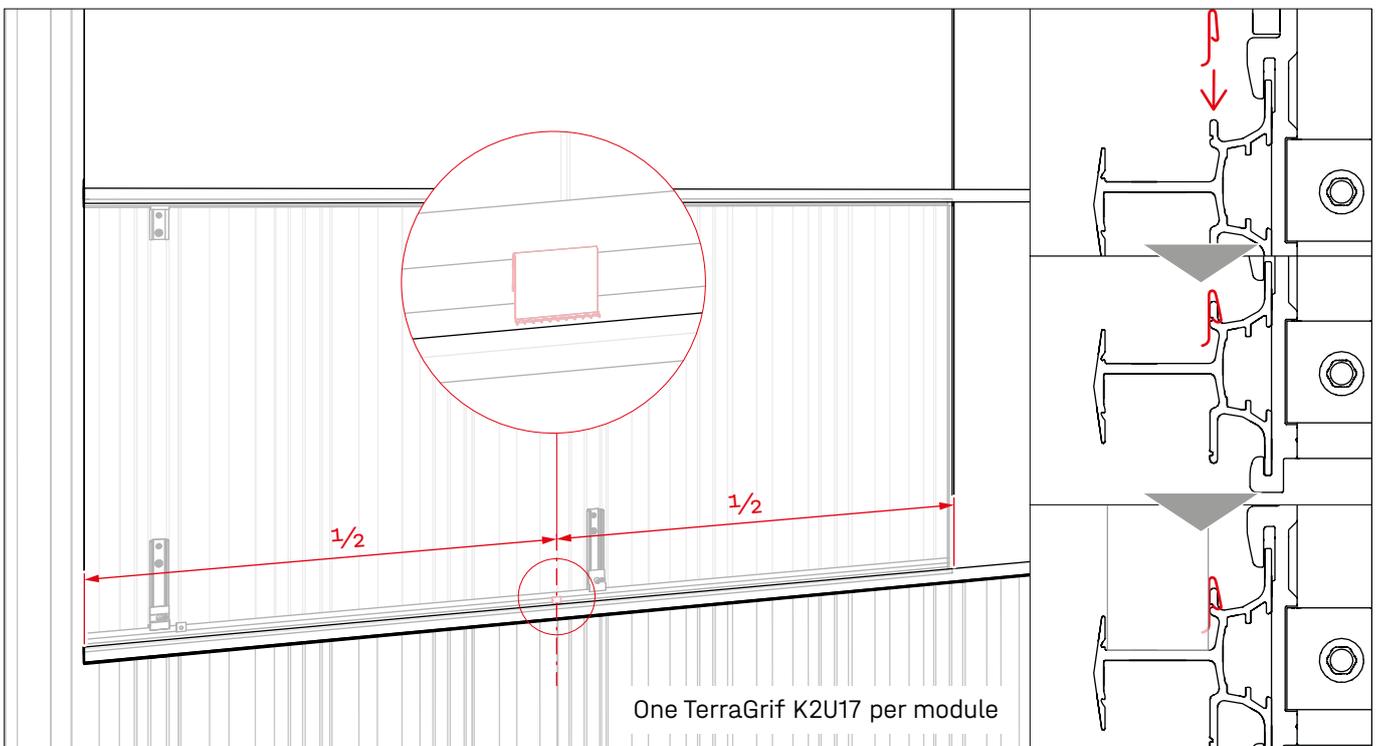
Optional

InsertionRail Cover
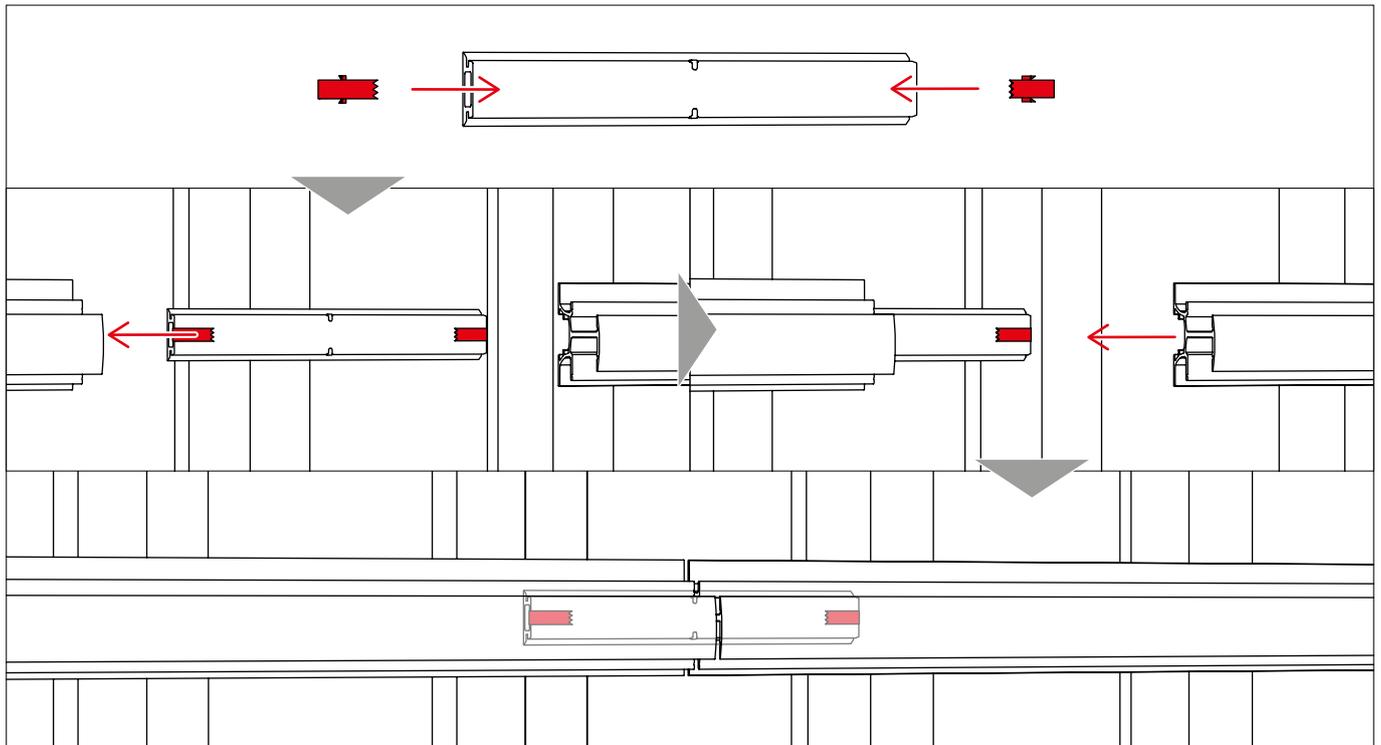

TerraGrif K2U17

One TerraGrif K2U17 per module
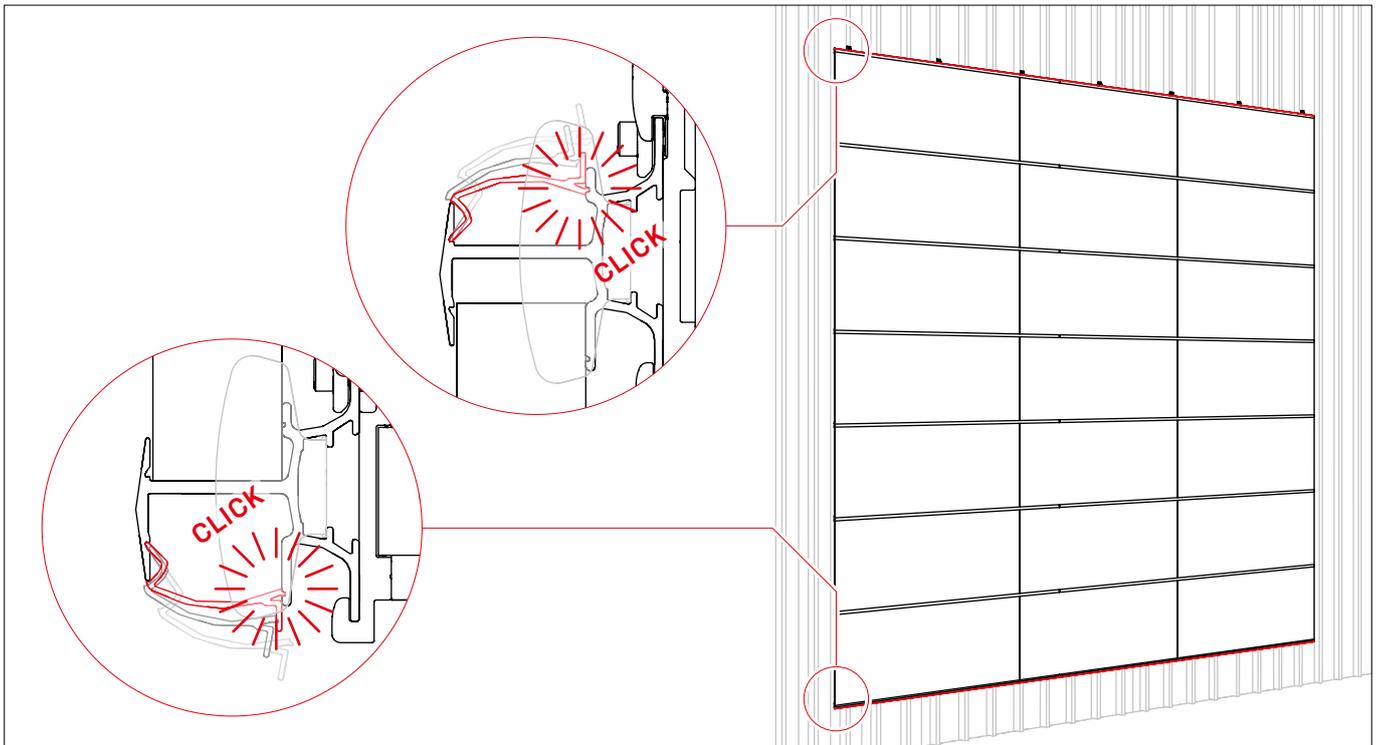
TerraGrif PL

Connecting Strength

Thank you for choosing a K2 mounting system.

Mounting ystems from K2 Systems are quick and easy to install. We hope these instructions have helped. Please contact us with any questions or suggestions for improvement. Our contact data:

- **k2-systems.com/en/contact**

- **Service Hotline: +49 (0)7159 42059-0**

Our General Terms of Business apply. Please refer: k2-systems.com