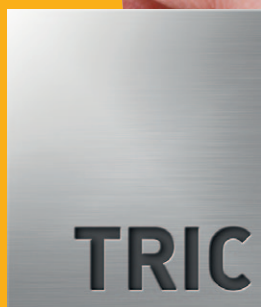


# TRIC Mounting Systems

Fast, clever, versatile





From the first passive-house office building in Europe to energy self-sufficient production, we have shown for 45 years how innovative energy concepts can be successfully implemented for ecological building management.

## Power. Heat. Future

As first hour solar pioneers we have collaborated successfully with the sun since 1979. We are a one-stop systems supplier and offer solar power, solar heat, mounting systems and sustainable energy technology solutions with a constantly expanding international distribution network.

### Own design and production

Designing solar mounting system requires the highest engineering and quality standards. They must ensure firm and durable attachment of solar modules or collectors even under the most adverse conditions.

We have designed and produced high performance mounting systems with optimally meshed and fine tuned components for more than 40 years. Our versatile systems suit any application.

### Economical and safe

Coherent designs and smart detail solutions simplify and speed up installation. Safety is key.

### Progressing together

We supply mounting systems for private users, public facilities, commercial enterprises and investors. We deliver installations of outstanding quality at the best value-for-money ratio, aiming to contribute substantially to the energy transition.

#### WAGNER SOLAR GMBH

1979	Wagner & Co Solartechnik GmbH established
2014	Wagner Solar GmbH
150	employees
Partner	for solar power, solar heat, mounting systems and energy technology
Sales	through a network of professional installers



Germany's best solar technology 2021



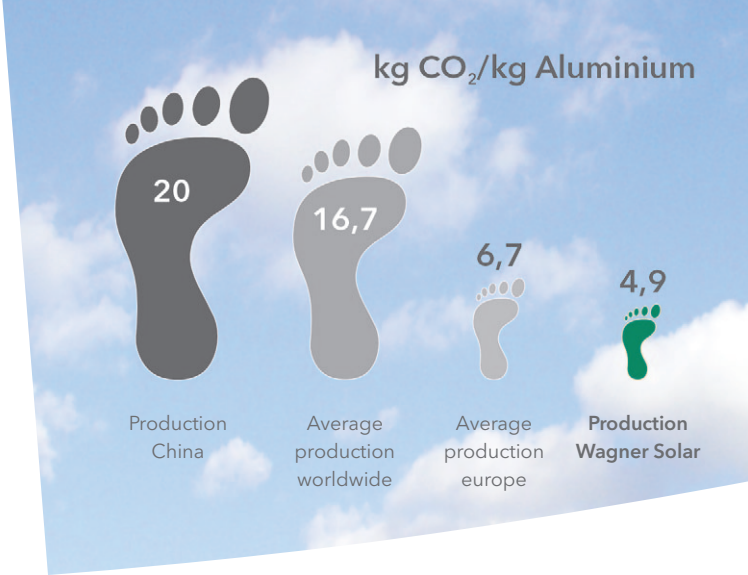
Entrepreneur of the year 2011



Outstanding responsibility



The CO<sub>2</sub> footprint of our production is less than a third of the global average! This is achieved through highly efficient electrolysis technology and a high proportion of recycling in aluminum production, as well as the consistent use of renewable energy sources.



## Climate-friendly Mounting Systems LOW CO<sub>2</sub>

### Climate freindly production

Sustainable and climate-friendly energy systems are our passion. Now we are taking the next step and continuously reducing our CO<sub>2</sub> footprint.

We produce our TRIC mounting systems exclusively from certified aluminum products with low CO<sub>2</sub> emissions, manufactured in European aluminum plants.

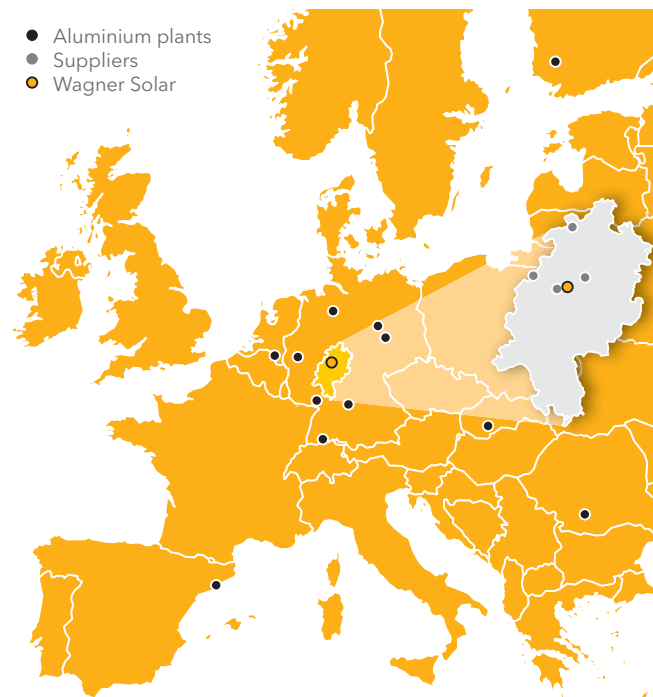
With 4,9 kg of CO<sub>2</sub> emissions per kg of (bright) aluminum, the production of our TRIC products generates less than a third of the global average.

### Regional added value

We also attach great importance to our long-standing partnerships with suppliers from the region. This guarantees not only short transportation routes but also the best product quality.

### Energy self-sufficient production

TRIC mounting systems are manufactured at our site in Kirchhain in our solar factory, which is 90 percent energy self-sufficient.



European aluminium plants, regional suppliers and optimization of energy consumption during production - the climate-friendly TRIC assembly systems impress with the lowest CO<sub>2</sub> emissions

### TRIC - LOW CO<sub>2</sub>

- Minimal CO<sub>2</sub> footprint
- European aluminum plants
- Regional added value
- Short transportation routes
- Long-term partnerships
- Made in Germany



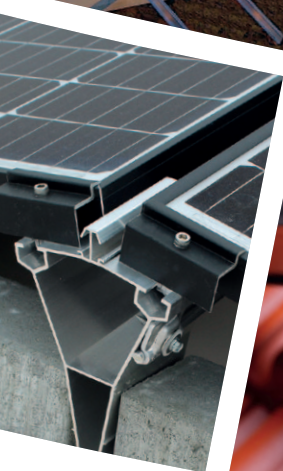
### Greenfield mounting systems TRIC flex one/four

Universal mounting system for ground mount installation. Highly flexible, low system costs, fast installation.



### TRIC F duo for conventional flat roofs

Aerodynamically optimized flat-roof racking system with reduced additional roof load. Compact design, no fastening to the roof construction required.



### TRIC F - Innovation on highest level

Free standing set-up of solar panels or solar collectors on almost any type of even or sloping surfaces. Structurally optimized and easy to handle because collapsible.

### TRIC A - universally applicable

The roof racking system offers varied solutions for all applications. Pre-assembled components and a sophisticated system concept assure rational and safe installations.

State-of-the-art manufacturing  
„Made-in-Germany“



## Module Clamps TRIC clip / TRIC eco

For solar modules

### Simple, fast and safe

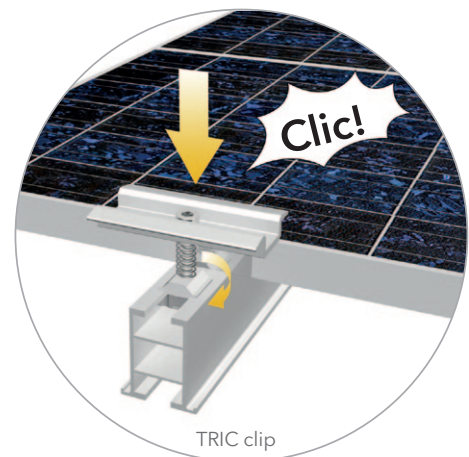
The innovative TRIC clip module clamp and the cost-effective TRIC eco variant are the optimal solution for efficient and time-saving module installation. The module clamps are suitable for all common module types and meet the highest demands on design, quality and efficiency.

### Save time and money

The module clamps can be easily placed in the mounting rail without any tools. A flick of the wrist, a tactile clicking signal, and TRIC clip/TRIC eco safely finds itself in the right position, while it can still be moved if required.

### Patented design

The ingenious construction is manufactured in Germany. The patented TRIC clip has received general approval from the German Institute for Building Technology (DIBt), (approval number: Z-14.4-729).



Deutsches  
Institut  
für  
Bautechnik

DIBt



Europäisches  
Patentamt  
European  
Patent Office  
Office européen  
des brevets

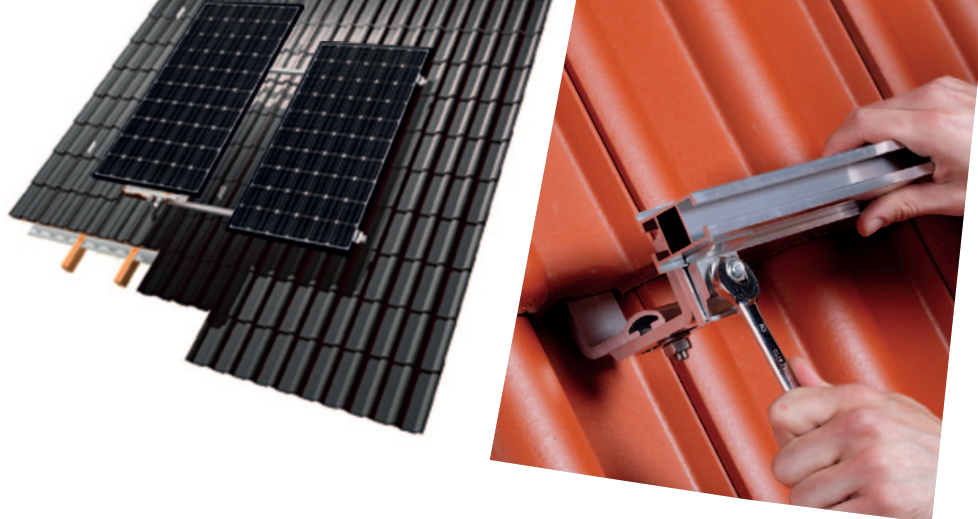
Patent No. 2246577

### For TRIC on-roof and free-standing mounting systems

TRIC clip for all HDC/LDC/SDC/  
MLC/HL racking rails.  
TRIC eco in combination with  
TRIC eco racking rails



Video TRIC clip



# On-Roof Mounting System TRIC A

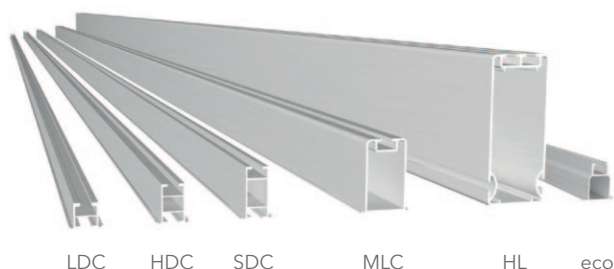
For solar modules

## Install anywhere

A system for placing solar modules on nearly all roofs. High quality materials, smart detail solutions and system coherence assure fast, rational and safe installation.

## Smart components

High-quality aluminum mounting rails offer the right solution for every structural requirement. Ready made rail connectors with gap keepers enable problem-free installation in any situation. Variable roof brackets are available for all common roof coverings and roof tile types.



## Ready to install

All system components are pre-assembled and delivered with fastening materials. They can be customized and tailored for specific installations. Components for potential equalization complete the system.



Video TRIC A

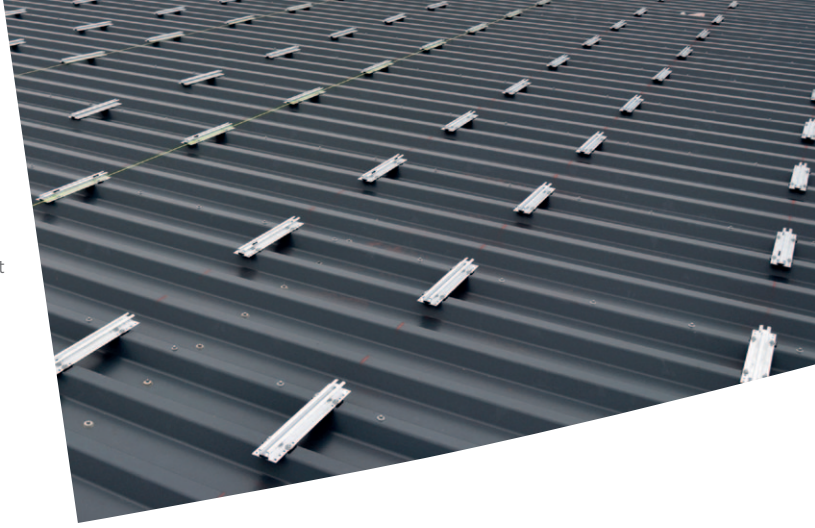
## Install from above

Adjustable roof brackets for all common roofing and tile types ease installation. Rails are affixed from above.



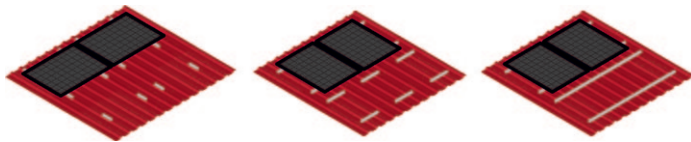


TR Fix with short  
mounting rails



## Roof Bracket System TR fix

For solar modules



### Rapid mounting on shed roofs

Depending on project requirements, it is possible to either work with long, continuous rails or with short rail segments. In combination with the patented TRIC clip module clamp, mounting with TR fix becomes child's play.

### Two safe fastening variants

Depending on the trapezoidal sheets' properties and the structural conditions, sheet metal screws or rivets are recommended. They establish a secure connection to the roof structure.

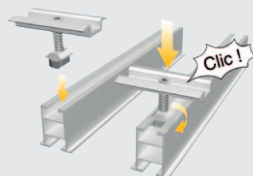
### Economic system pricing

For each application case the most economic solution is chosen. Low material costs and short installation cycles combine into highly attractive systems pricing.



### Simple and safe installation

The patented TRIC clip module clamp also ensures fast and safe mounting of the modules in the TR fix system.





# Flat Roof Mounting System TRIC F

For solar modules



## Innovation on highest level

The TRIC F system impresses with high quality materials, smart detail solutions and a coherent overall concept. During the development of the TRIC F mounting system, particular emphasis was placed on versatile mounting options. Be it a flat roof, a pitched one or complex demands - such as slanted positioning on pitched roofs - none is a problem.

## Less is more

Consistently fine tuning and matching the individual components allowed the creation of a structurally optimized lightweight system with outstandingly low material requirement.

## Flexible installation angle

With the systems TRIC F 15, 30 and 45 angles from 10° to 60° can be set steplessly. The modules are mounted horizontally. The system is also ideally suited for green roofs. The TRIC F Q system allows stepless inclination angles of 18° -43° for vertical module mounting.



Video TRIC F

## Folded

The racking triangles are delivered folded up. That saves space and costs, easing transportation. At the installation site they are simply unfolded.







# Flat Roof Mounting System TRIC F duo

For solar modules

## Low system costs

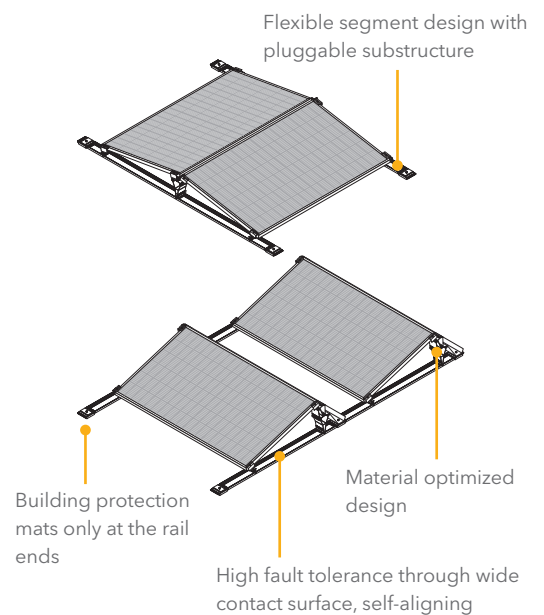
A highly flexible and compact mounting system for all conventional flat roofs. The sophisticated system convinces with low material use and easy assembly. The material-optimized, intelligent design cuts costs in three ways: the use of materials, during transport and during installation.

## Easy and fast installation

Short rail lengths facilitate handling. The flexible, pluggable and segmental design is self-aligning, adapts to all substrates and surfaces and also forgives uneven roofing. Only one system for southern (10°/18°) and east-western (10°) mounting.

## Lightweight design

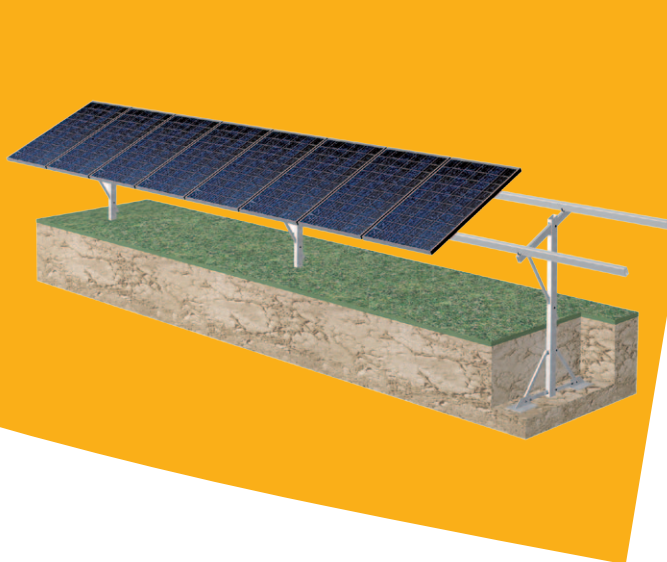
Thanks to the low ballast the additional roof load is reduced (from 5 kg/module). Building protection mats are only required to cover the rail ends.



## Penetration-free installation

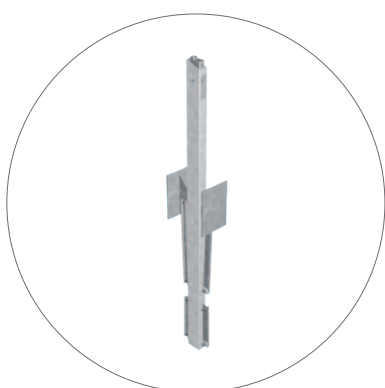
The system is outstandingly suitable for flat roofs with little load reserve or when no roof penetration is feasible or desired.





# Greenfield Mounting System TRIC flex one

For solar modules



## Ground mount installation gets as easy as it can be

TRIC flex one is the ideal mounting system for smaller ground-mounted systems. The folded post elements supplied are already pre-assembled and merely have to be unfolded and assembled on site. A ground survey is no longer required.

## No additional foundation

No additional foundations are required for installation and no ramming is required. The post elements are simply placed in an excavated pit and aligned. The pit is then filled and compacted in layers.



## Modular extension, low system price

The system size can be flexibly scaled by modular extension. The overall system price is very attractive, as complex planning and extensive construction work are no longer necessary.

## Variable pitch

The TRIC flex one pitch is adjustable in increments of 5° from 15° to 40°.





# Greenfield Mounting System TRIC flex four

For solar modules

## System costs down, revenues up

The high-quality outdoor system made of seawater-resistant aluminum and stainless steel reduces your system costs for material, transport and installation times.

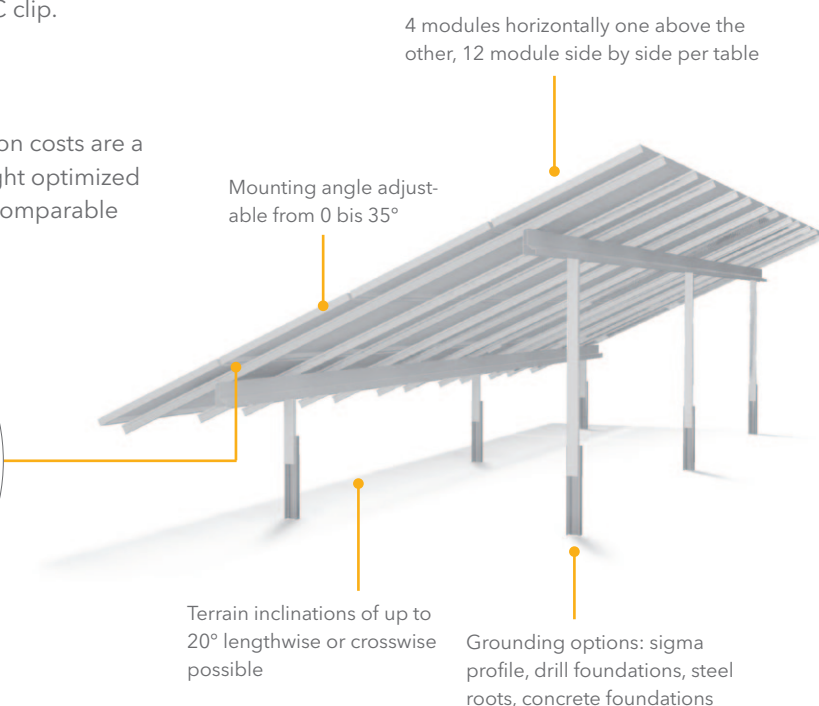
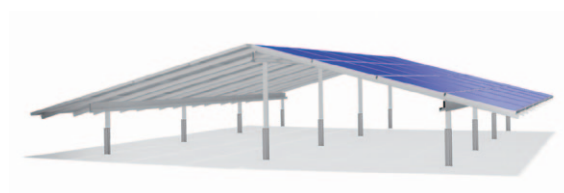
## Flexible adjustment - short installation time

Whether as South or East-West variant: with its module angle between 0 and 35° and terrain slopes up 20° TRIC flex four is the perfect system even for difficult terrains.

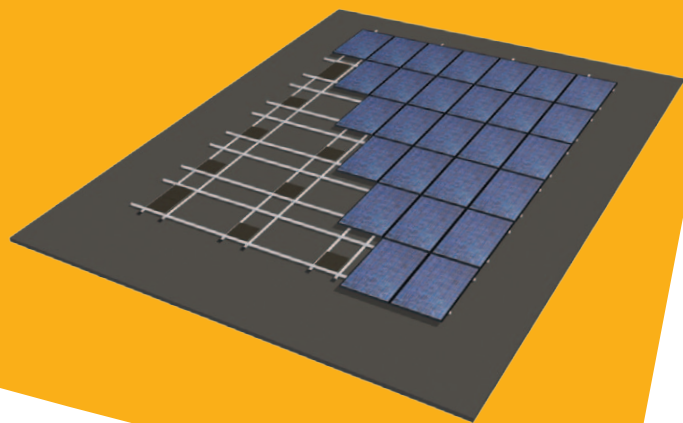
In comparison to common systems, TRIC flex four allows you to save up to 50% installation time, saving considerable labor costs - in part due to our patented module fastener TRIC clip.

## Low transportation costs

In particular for international projects, transportation costs are a decisive factor. Transporting the material and weight optimized aluminum system is roughly 30% cheaper than a comparable steel system.

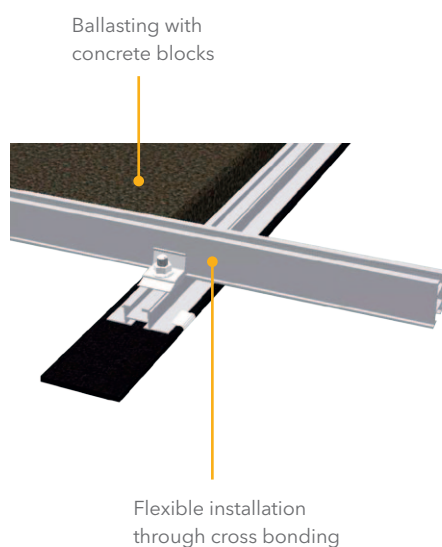






# Ballasted Pitched Roof Mounting System TRIC B

For solar modules



## For foil and trapezoidal roofs

TRIC B was specially developed for pitched roof mounting on foil or bitumen roofs.

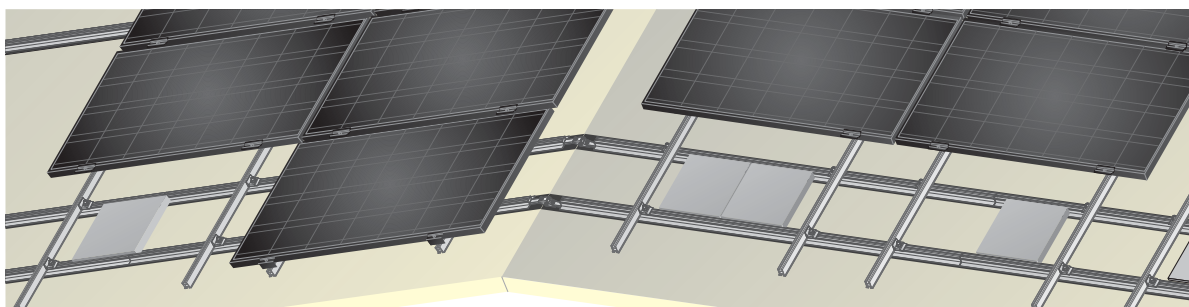
The system is suitable for roof pitches of 5° - 30°.

## Mounting in south- or east-west orientation

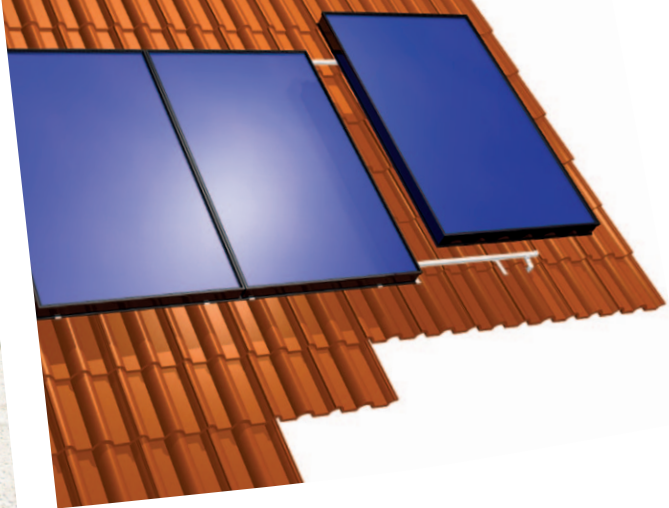
The installation is very simple by means of ballasting with concrete blocks. A wind load assessment optimizes and reduces the load.

## Optionally horizontal and vertical format

By using a cross bonding of TR Fix and HDC rails, the system can be used for both horizontal and vertical module installation. Patented TRIC clip module clamps simplify and accelerate installation.



Thanks to the innovative ridge coupling, the TRIC B east-west system does not require roof penetrations



# On-Roof Mounting System EURO TRIC A/TRIC F

For solar collectors

## The right hold on all roof types

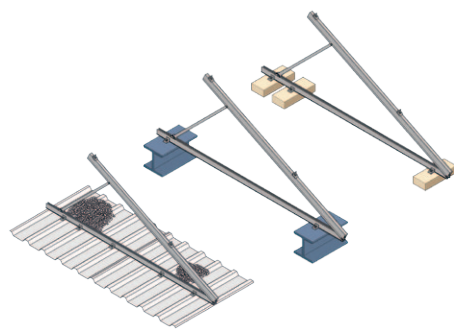
EURO TRIC A is the perfect mounting system for on-roof mounting of solar collectors. With the large selection of roof brackets, installation on almost all pitched roofs is possible without any problems

With EURO TRIC F the solar collectors can be mounted on all common flat or sloping roof types. Whether steel beam constructions, metal roofing or fixing to concrete blocks, a safe and time-saving installation is always possible.



## Simple TOP installation

All fastening elements for the collector installation are easily accessible from above. This simply brilliant TOP fitting concept saves you precious time.

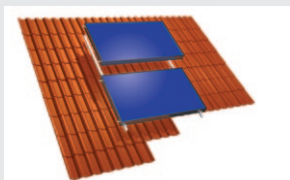


## Pre-assembled and safe

Pre-assembled components ensure simple, fast and safe installation. Individual components that are consistently coordinated down to the last detail result in a statically optimized system that guarantees maximum safety.

## Variable collector array

With the EURO TRIC A system, the solar collectors can be mounted either in portrait format next to each other or in landscape format on top of each other.



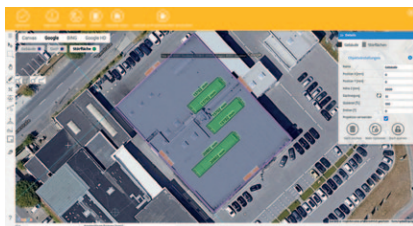
Video EURO TRIC A



Video EURO TRIC F



# PV Design Software SUNOptimo



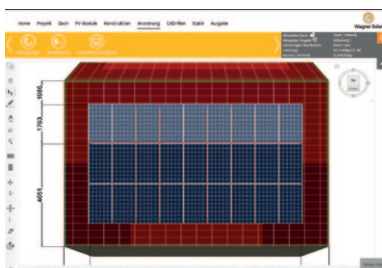
The design tool SUNOptimo allows you to implement your solar power projects quickly and easily: from initial design over yield prognosis and cost benefit calculation all the way too the ordering in our onlineshop.

## Ease of use

The desktop is self explanatory, guiding you step by step through the planning and design process. Software or update installation are not required.

## Roof designer

In each project, any number of roof surfaces can be individually designed and planned with mounting systems. Draw roof surfaces easily with the Map Drawer function based on of Google Maps/Bing Maps. Structural details and the required ballasting can be displayed graphically and textually representable.



## Yield prognosis

Simulation provides you with a plant-specific yield forecast, also including storage systems, special load load profiles or consumers.

## Project management

All designs can be saved in projects, documented and output in a selectable scope. Roof views as top view or 3D view are possible.

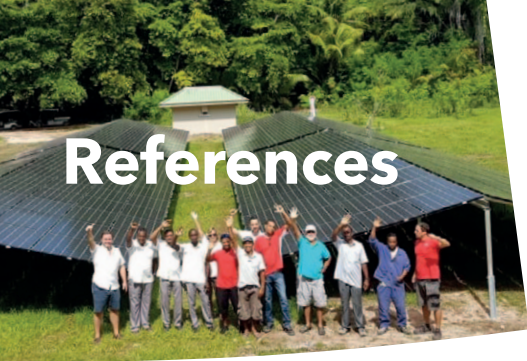


## ERP

During project processing you can always see your current purchase prices. You can transfer parts lists to our online shop and place the order there.



# References



## Free standing mounting system TRIC F

Solar power system (89,7 kWp) on a kindergarden in Oslo, Norway



## Greenfield mounting system TRIC flex four

Solar power plant (57.6 kWp) on a farm in Estonia



## On-roof mounting system TRIC A

Solar power system (4.8 kWp) on a residential building in Marburg, Germany



## Flat roof mounting system TRIC F Duo

Solar power system (1.3 MWp) on an industrial roof in Rohrbach, Austria

# Certified quality

## Certified components

Safety is our top priority. We pay attention to the best possible material quality and careful processing. All components are structurally optimized and TÜV certified. In addition, they are subjected to extensive material and safety tests before they receive our market approval.

## Ten years warranty

We are convinced of the quality of our products, therefore we give a warranty of 10 years on the function and durability of the TRIC mounting system components.

## We support you

We offer you the best system solutions for your project and support you in planning and structural design.



Wagner Solar has a constantly expanding international distribution network.

