



IVENDO Solar
ul. Wojska Polskiego 2D
14-200 Iława

Manual for system installation on a flat roof

KDP-BIFACIAL-I

These instructions contain information on how to assemble a superstructure for for 4 horizontally arranged modules.

Materials:

- Stal nierdzewna A2
- Aluminium 6060 T66
- Stal konstrukcyjna z powłoką Magnelis S320 ZM430

It is essential that you familiarize yourself thoroughly with the instructions and use them in accordance with the intended purpose.

Information about the security

Before starting the assembly work, you should familiarize yourself with the following safety instructions, which will reduce the risk of an accident.



Attention! The setup and connection should be performed by qualified personnel with the appropriate authorizations. The general safety rules must also be observed.



Attention! During the work, it is necessary to observe the applicable national and European standards, especially the electrical installations. It is also necessary to follow the instructions of the other components, e.g. the inverter.



Attention! Danger of falling from heights. The rules for working at heights and the necessary safety equipment such as harnesses and safety ropes must be observed.



Attention! Danger of falling objects. Special care must be taken. Before starting work, the assembly area must be appropriately secured to avoid hazards.



Attention! Warning of electric current. Be particularly careful when performing electrical work, especially when connecting modules and when setting up and connecting the inverter to the modules.

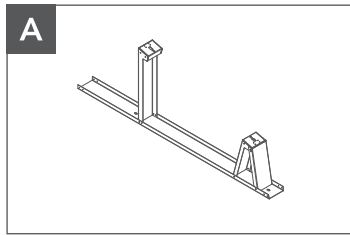


Attention! Warning about highly flammable materials. Photovoltaic modules, inverters and other electrical equipment should not be used near easily flammable materials.



Attention! The assembly work must not be carried out by persons under the influence of alcohol or other intoxicating substances.

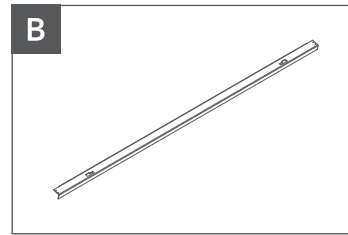
Elements list



A Fixing triangle

5 Piece

Material: Steel with Magnelis coating

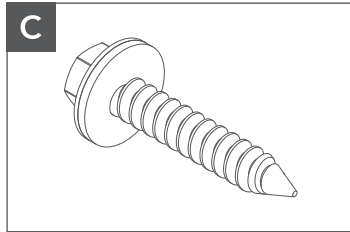


B Bifacialer Modulhalter

8 Piece

Material: Steel with Magnelis coating

Material: Steel with Magnelis coating

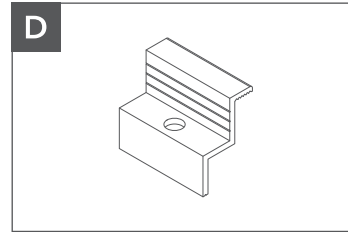


C Sheet metal screw

32 Piece

Material: Stainless steel

Material: Stainless steel

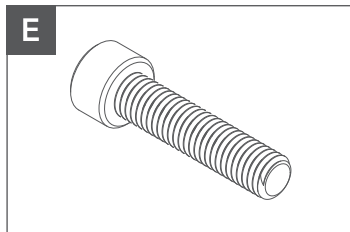


D End clamp

16 Piece

Material: Aluminium

Material: Aluminium

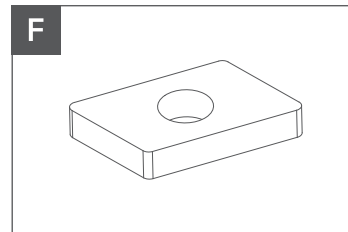


E Hexagon socket-screw M8

16 Piece

Material: Stainless steel

Material: Stainless steel

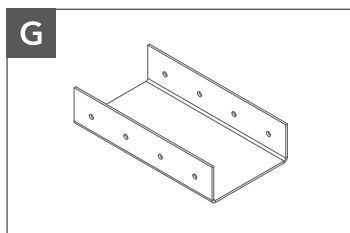


F Part nut

16 Piece

Material: Stainless steel

Material: Stainless steel

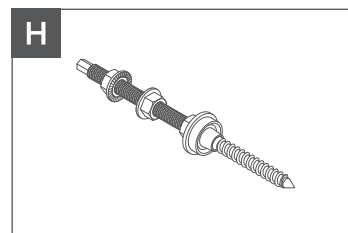


G Connecting triangle

5 Piece

Material: Steel with Magnelis coating

Material: Steel with Magnelis coating



H Double hexagon screw M10

10 Piece

Material: Stainless steel

Material: Stainless steel

Montageanleitung



Notwendige Werkzeuge:

- Innensechskantschlüssel (Größe 5)
- Ringschlüssel (Größe 13, 15 und 17 mm)
- Akku-Schraubendreher mit Drehmomenteinstellung
- Kreuzschlitz-Bits / Aufsätze für den Akku-Schraubendreher (PZ)



Anziehmomente:

- Mittlere und Endklemmen mit einem Anziehmoment von 8,5 Nm festziehen
- Schrauben und Muttern M8 mit einem Anziehmoment von 18 Nm festziehen
- Schrauben und Muttern M10 mit einem Anziehmoment von 36 Nm festziehen



Personalausstattung für die Montage:

- Mindestens 2 Personen



Montagezeit:

- Ungefähr 2 Stunden

Kontrolle und Wartung

Während der Montagearbeiten muss sichergestellt werden, dass das Photovoltaik-System gemäß seinem Bestimmungszweck verwendet wird. Alle Änderungen des Gebrauchs von Konstruktionselementen, einschließlich der Verbindung mit Elementen, die nicht von IVENDO Solar stammen, die Modifikation der Konstruktion durch Schweißen, Verkürzen, Verlängern, Aufbohren usw. und die Erhöhung der Belastung der Systeme führen zum Verlust der Garantieansprüche und können direkten Einfluss auf die Lebensdauer der Systeme und ihre sichere Verwendung haben.

Die technische Überprüfung und Wartung des Montagesystems sollte mindestens einmal alle sechs Monate durchgeführt werden, insbesondere sollte darauf geachtet werden, dass:

- Schraubverbindungen,
- Der Zustand und die Verbindungen der elektrischen Leitungen überprüft werden,
- Der visuelle Zustand der PV-Module (Verschmutzungen, mechanische Schäden) überprüft wird.

Assembly of the set

- 1 Before starting the assembly, you should determine the arrangement of the modules (Fig. 1) and the mounting triangles (Fig. 2). The way of fixing the mounting structure to the roof depends on its type and is selected individually.

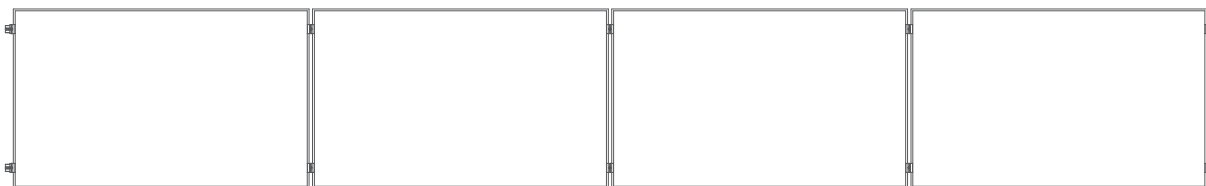


Fig. 1. plan for the arrangement of the modules

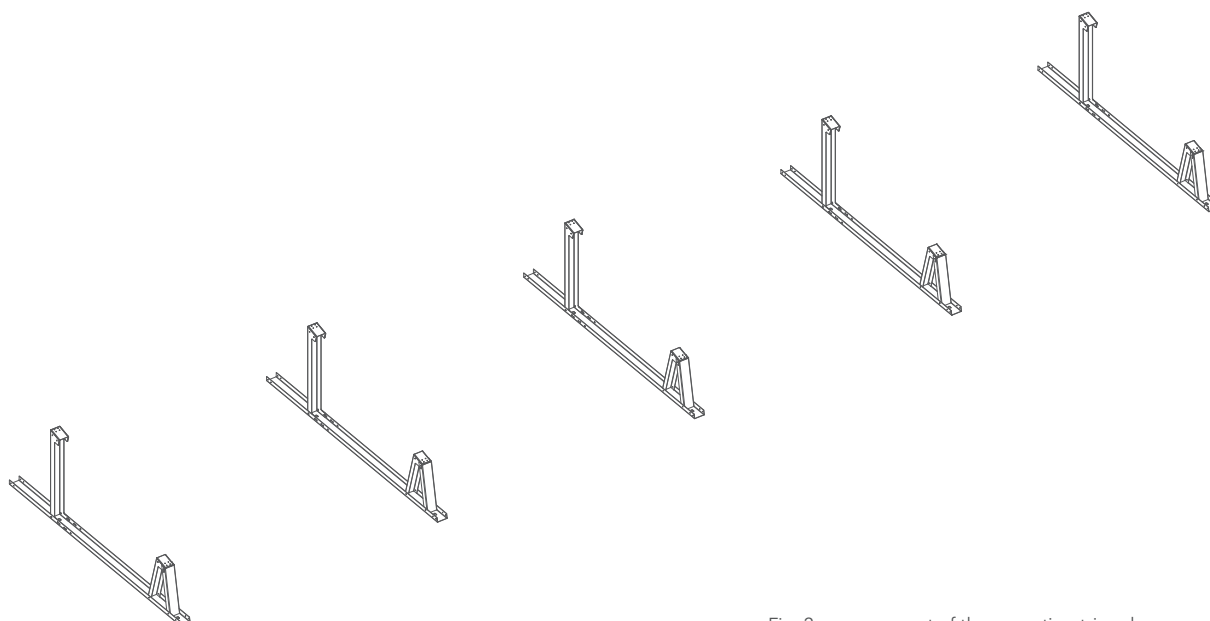


Fig. 2. arrangement of the mounting triangles

- 2 Subsequently, the connection angle should be adjusted to the mounting bracket and fasten it with self-tapping screws (Fig. 3).

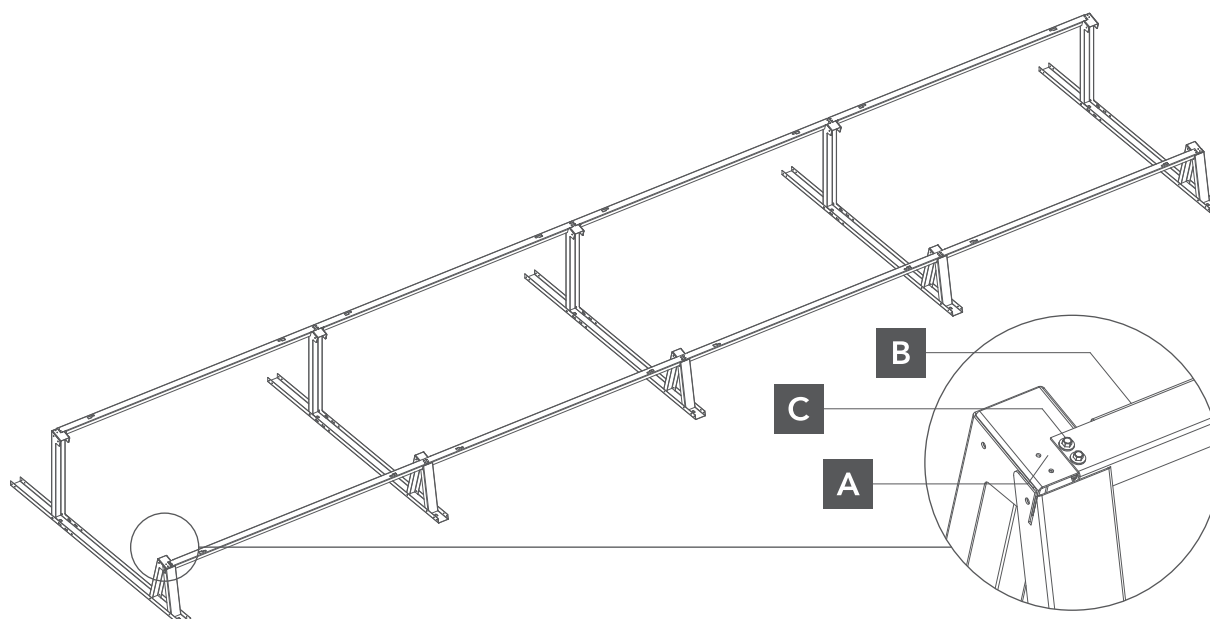


Fig. 3. attachment of the beam to the mounting triangle

3

In the case of an invasive system, the permanent connection of the mounting triangle to the roof takes place by means of a double screw and a chemical anchor. to the roof by means of a double screw and a chemical anchor (Fig. 4).

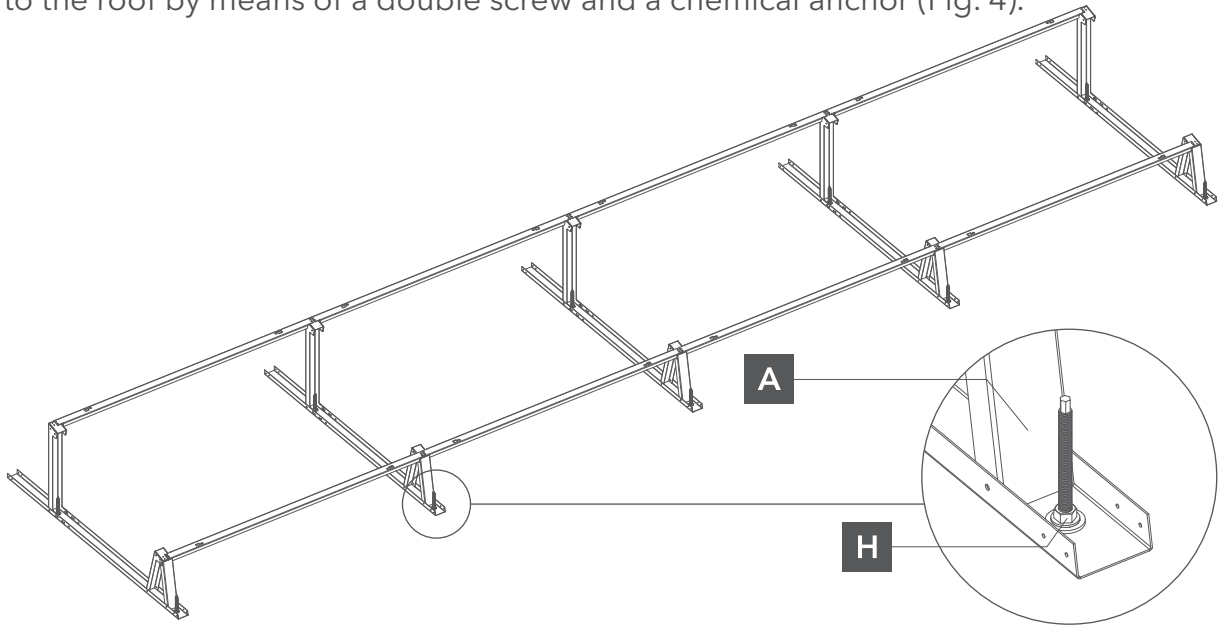


Fig. 4. fastening of the mounting triangle to the roof

5

On the roof battens we put the first, outermost photovoltaic module and hold it, to mount the end clamps. The screw terminals are equipped with M8 Allen screws and nuts. This procedure must be repeated for mounting all modules in the row (Fig. 5).

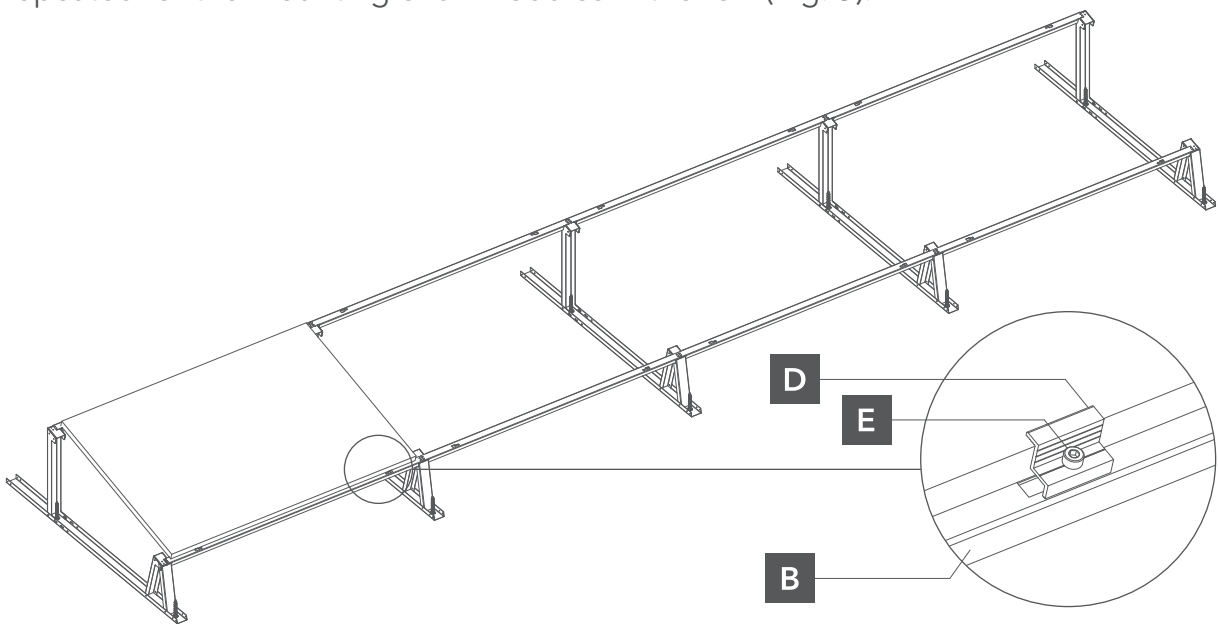


Fig. 5. attachment of the modules to the support system.

- 3** If there are two or more rows of photovoltaic modules, it is necessary to connect the be connected by using a connector (Fig. 6).
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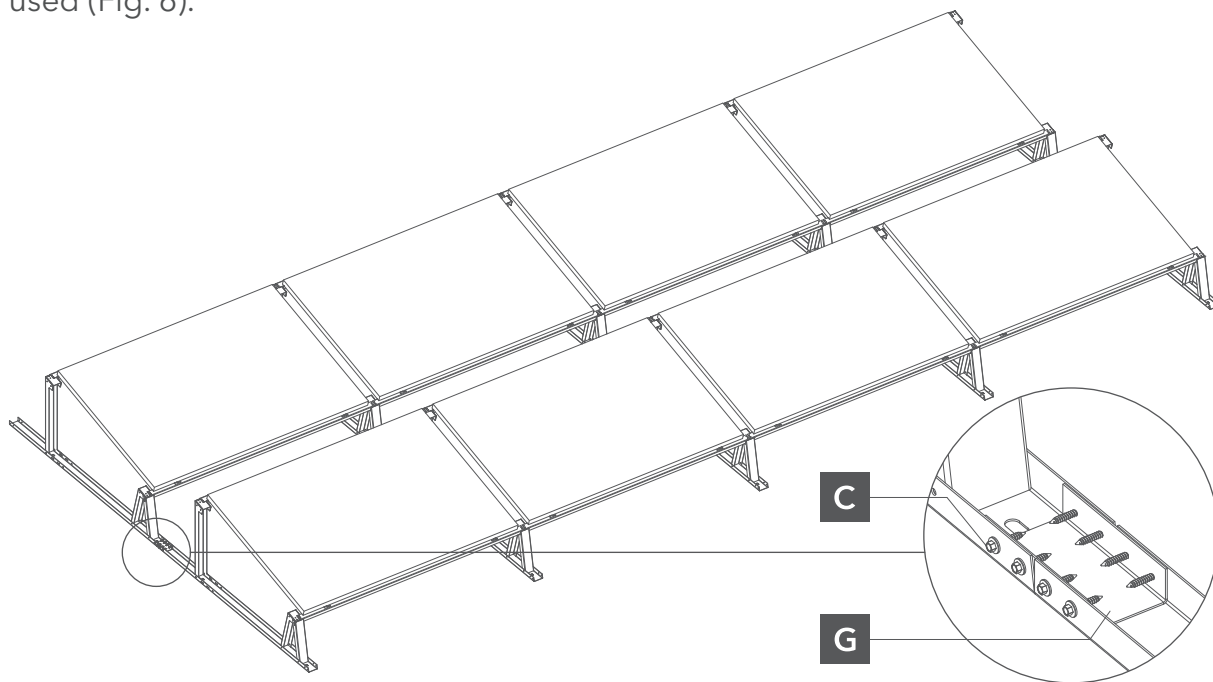


Fig. 6. connecting the mounting triangle with a connector.