

Solar Panel Project

Place: Green FabLab, Kamp-Lintfort.

Photovoltaic (PV) modules:

IBC PySol 270 GX4

Item number = 2204400014

Physical data:

Module dimensions (mm) = 1654 x 989 x 40

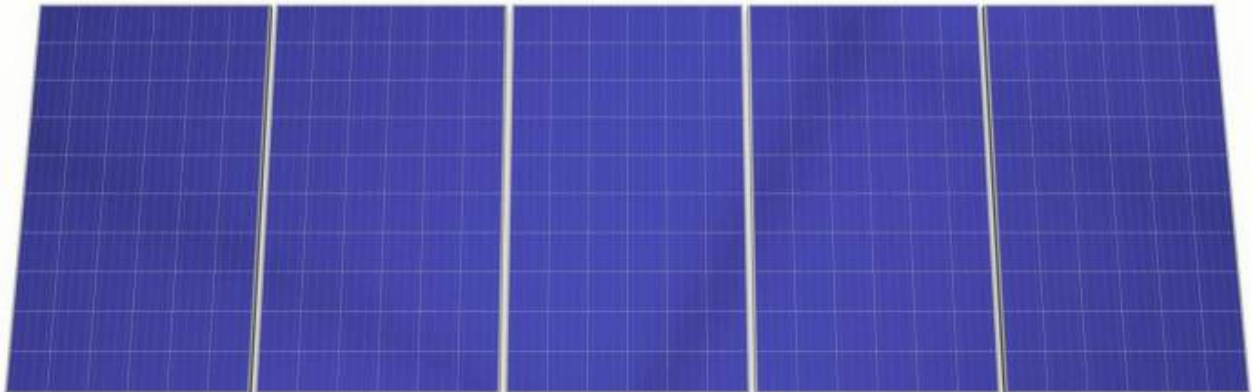
Module weight = 18.2Kg

PV modules available = 20units

The current idea is to install two systems:

- Fixed system: 2 sets of 5 PV modules each on top of the roof, using an Angle mounting system.
- Mobile system: 2 sets of 5 PV modules each on the green area, using a Flat mounting system on mobile platform mechanism that allows us to tilt the PV modules.

Set of 5 vertical PV modules in a row - arrangement:



Photovoltaic system layout

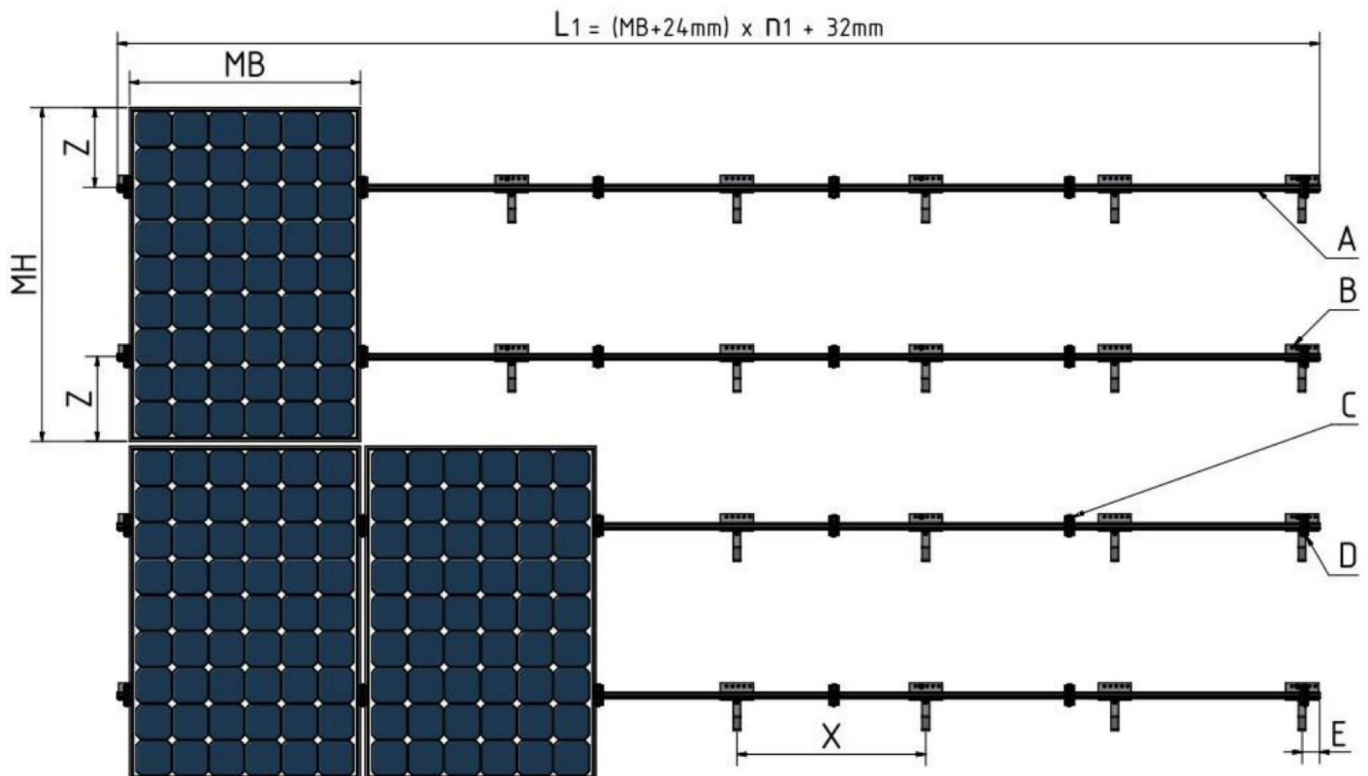


Image: Layout of the IBC TopFix 200 mounting system. taken from the

Installation instructions - IBC TopFix 200

| | Description |
|--|---|
| $L = (M.B + 24 \text{ mm}) \times n + 32 \text{ mm}$ | Carrier rail length = (M.B + 24 mm) × number of modules per row + 32 mm |
| M.B | Module width |
| M.H | Module height |
| A | Type TF50+/TF50m/TF60 carrier rail |
| B | Roof hooks |
| C | Middle clamp |
| D | Outside clamp |
| E | Max. 400mm |
| X | X - selected fixing interval (dimensioned using PV Manager software) |
| Z | Max. ¼ of M.H (please observe module manufacturer specifications) |

Note: "Carrier rail" is also called "Support rail" in the manual.

Mobile system

Flat mounting system

List of components

According to the

Installation instructions - IBC TopFix 200

:

Support rail length = $(M.B + 24 \text{ mm}) \times \text{number of modules per row} + 32 \text{ mm} = (989\text{mm} + 24 \text{ mm}) \times 5 + 32 \text{ mm} = 1013 \times 5 + 32 \text{ mm} = \underline{5097\text{mm}}$

There are two lengths: 5200mm and 2100mm, then we use the 5200mm one.

| Item | Amount per set | Item number |
|------------------------------|-------------------------------|-------------|
| Support rail TF60, 5200mm | 2 | 6800100020 |
| End cap Adapter (33-46mm) | 4 | 6700400161 |
| Rail end cap | 4 | 6700300045 |
| Middle Clamp (G4 33-46mm) | 12 | 6700400144 |
| Socket cap screw (M8x16 A2) | 20 | 6900100013 |
| Universal connector AeroFlat | 8 (depending on the platform) | 6700300035 |

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