



**ONENESS**  
Solar Mounting Systems

*Partner In Solar*

# GROUND MOUNTING SYSTEMS CATALOG 2026

CATALOG



Visit Us  
[onenesspvsystems.com](https://www.onenesspvsystems.com)



Contact Us

+86 186 2100 6801



## COMPANY OVERVIEW

We are dedicated to the solar energy industry, with a **focus on solar mounting systems**. We believe that racking structures should be **simple, easy to install, built to last, and ready to perform anywhere in the world.**

ONENESS PV Systems is a team of experienced professionals in engineering, machinery and business development. We operate with administrative and production **facilities in both Bulgaria and China.**



From our early days supplying small rooftop systems to engineering complex ground-mount and large commercial rooftop projects, our passion for precision and efficiency has never faded. We've grown into a **trusted partner for investors, EPCs, distributors and installers across Europe, Africa, Asia, and South America.**



## Where We Are Going

**Our mission is simple:** to keep pushing the boundaries of solar mounting technology, so every project, from a single residential roof to a multi-megawatt solar farm to be completed with **speed, confidence, and quality.**

With ONENESS, you're not just purchasing a product. **You're partnering with a team that understands your challenges, speaks your language, and shares your vision and values for a sustainable future.**



## Trust & Credibility

- **We listen:** We design and produce for your needs.
- **We care:** Quality materials, strong engineering, and attention to detail are in everything we make.
- **We support:** From the very first intention to final installation!

## Product Range

- **Fixed Steel Ground Racking Structures**
- **Fixed Aluminum Ground Racking Structures**
- **Metal Roof Mounting Systems**
- **Flat Roof Solar Mounting Systems**
- **Tile roof Solar Mounting Systems**



PROJECTS



Project name: Concrete workshop (Kosovo) | U-tie Rail System  
✂ ONENESS PV Systems    ✉ info@onenesspvsystems.com



✂ ONENESS PV Systems    ✉ info@onenesspvsystems.com



✂ ONENESS PV Systems    ✉ info@onenesspvsystems.com



Project name: Ground Project | 2V Ground Mounting System  
✂ ONENESS PV Systems    ✉ info@onenesspvsystems.com



PROJECTS



✂ ONENESS PV Systems  
✉ info@onenesspvsystems.com



Project name: Roof (Nigeria) | L-Foot System  
✂ ONENESS PV Systems ✉ info@onenesspvsystems.com



Project name: Solar Park Vratsa (Bulgaria) | Ground 2V Structure  
✂ ONENESS PV Systems ✉ info@onenesspvsystems.com



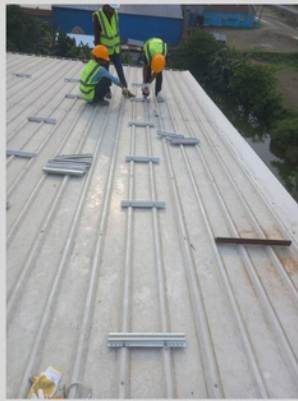
Project name: Bijeljia (Bosnia and Herzegovina) | 2V with GS  
✂ ONENESS PV Systems ✉ info@onenesspvsystems.com



PROJECTS



✂ ONENESS PV Systems  
✉ [info@onenesspvsystems.com](mailto:info@onenesspvsystems.com)



✂ ONENESS PV Systems  
✉ [info@onenesspvsystems.com](mailto:info@onenesspvsystems.com)



✂ ONENESS PV Systems  
✉ [info@onenesspvsystems.com](mailto:info@onenesspvsystems.com)



✂ ONENESS PV Systems  
✉ [info@onenesspvsystems.com](mailto:info@onenesspvsystems.com)



PROJECTS



✂ ONENESS PV Systems  
✉ [info@onenesspvsystems.com](mailto:info@onenesspvsystems.com)

<http://>  
Web



✂ ONENESS PV Systems  
✉ [info@onenesspvsystems.com](mailto:info@onenesspvsystems.com)

<http://>  
Web



✂ ONENESS PV Systems  
✉ [info@onenesspvsystems.com](mailto:info@onenesspvsystems.com)

<http://>  
Web



✂ ONENESS PV Systems  
✉ [info@onenesspvsystems.com](mailto:info@onenesspvsystems.com)

<http://>  
Web





# Ground Solar Racking Structures





**SINGLE POST**  
**1V/2V Mono & Bi-facial System**

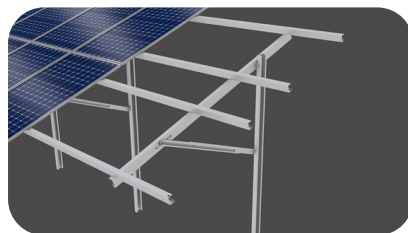
## Remarkably quick installation

### Ultra steady single post steel system

## Superior efficiency in any scale projects

## GLOBAL UTILIZATION

Stable positioning, optimal performance, and enduring longevity for open-area installations. The Single-Post System has established a solid track record across numerous global projects. Single-post configurations are preferred for projects on areas with inclination. Also it is a perfect option for rocky soil terrains.

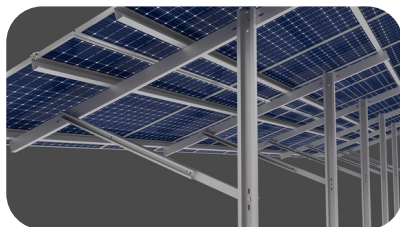
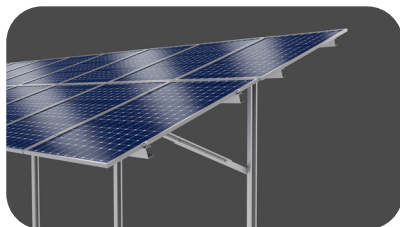


## Installation & Application

- Ideal Terrain: Flat or sloped ground.
- Typical Projects: Utility-scale, agricultural PV, large open-area commercial sites.
- Installation Time: Faster compared to multi-post systems due to fewer foundations and components.
- Soil Adaptability: Works well in soft to medium soils; rocky or sandy terrain may require pre-drilling or concrete.

## Advantages

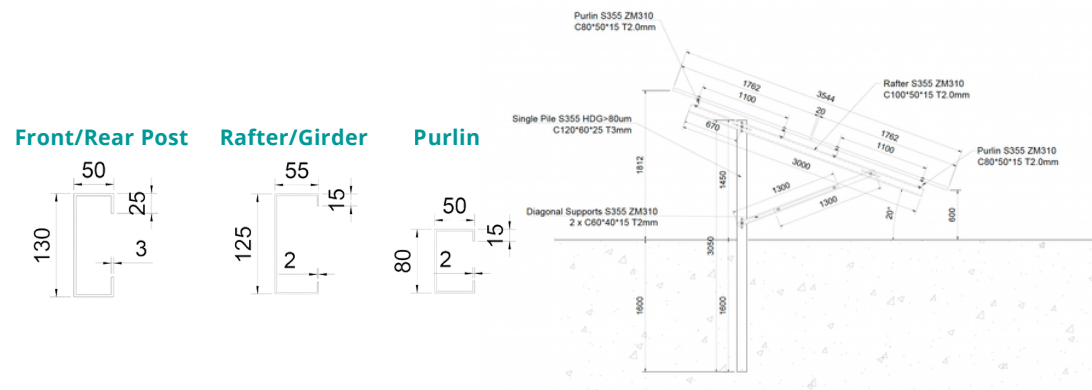
- Reduced material and installation costs.
- Minimal ground disturbance (important for agricultural or environmentally sensitive sites).
- Good adaptability to uneven ground if crossbeams are adjustable.



## SINGLE POST 1V/2V Mono & Bi-facial System

## TECHNICAL DATA

|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Application</b>             | <ul style="list-style-type: none"><li>• Ground-mount system with embedded posts</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Material grades</b>         | <ul style="list-style-type: none"><li>• Foundation posts: steel, S355 HDG &gt; 80um according to DIN EN ISO 1461 or ZM600 coated according to DIN EN 10346 (depending on soil conditions)</li><li>• Girders / Rafters / Purlins: steel, Z600 hot-dip galvanized coated according to DIN EN ISO 12944-2 or ZM310 coated according to DIN EN 10346</li><li>• Module clamps: aluminum clamps or nuts &amp; bolts according to project design and client specification</li><li>• Fasteners and screws: steel, zinc flake coated or stainless steel</li></ul> |
| <b>Structural analysis</b>     | <ul style="list-style-type: none"><li>• Individual system structural design and analysis based on regional data and customer guidelines</li><li>• When it's needed, structural analysis of the terrain based on an external soil expertise</li><li>• Load assumptions according to EU Codes</li><li>• Verification of all structural components on the basis of SAP2000 calculations or verification according to structural test setup</li></ul>                                                                                                        |
| <b>Module configuration</b>    | <ul style="list-style-type: none"><li>• Framed modules with a frame height between 30 – 50 mm</li><li>• 1 or 2 module rows in portrait configuration</li><li>• Option for large format modules and bifacial modules</li></ul>                                                                                                                                                                                                                                                                                                                            |
| <b>Warranty</b>                | <ul style="list-style-type: none"><li>• 10 years according to our warranty terms</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Supplementary documents</b> | <ul style="list-style-type: none"><li>• Assembly instructions files and videos</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

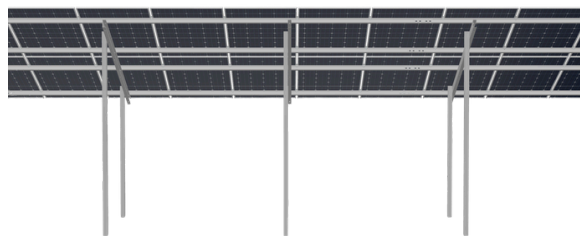


# Double post 2V Steel Racking Structure



## GLOBAL UTILIZATION

Stable positioning, optimal performance, and enduring longevity for open-area installations. The Double-Post System has established a solid track record across numerous global projects. Double-post configurations are preferred for expansive multi-row module setups, with it we are presenting the perfect option for accommodating large module arrays on gently sloping, level terrains.

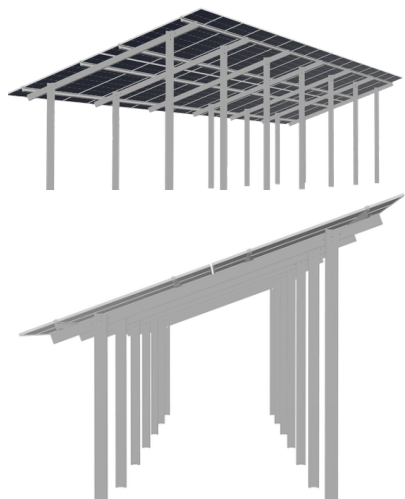


## ECONOMICAL AND DURABLE SOLUTION FOR LARGE SCALE PROJECTS

Ensuring stability is paramount. The utilization of two ram foundations per support, along with load-optimized C purlins, yields a robust and resilient PV substructure capable of supporting module panels with significant spans.

To guarantee that binding forces can effectively transfer to the upper connection point, enhancing the installation's stability against wind and snow pressure, we employ strip-galvanized ram profiles across different size categories for the foundation. Correctly designed posts ensure optimal ground embedding while maximizing bending stiffness.

In most instances, steel rammed foundations are used instead of concrete ones, leading to savings in both materials and labor costs.

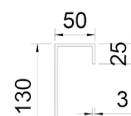


## Double post - 2V Mono&Bi-facial System

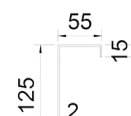
### TECHNICAL DATA

|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Application</b>             | <ul style="list-style-type: none"> <li>Ground-mount system with embedded posts</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Material grades</b>         | <ul style="list-style-type: none"> <li>Foundation posts: steel, S355 HDG &gt; 80um or ZM310-430 coated according to DIN EN 10346 (depending on soil conditions)</li> <li>Girders / Rafters / Purlins: steel, Z310-430 hot-dip galvanized coated according to DIN EN ISO 12944-2 or ZM310 coated according to DIN EN 10346</li> <li>Module clamps: aluminum clamps or nuts &amp; bolts according to project design and client specification</li> <li>Fasteners and screws: steel, zinc flake coated or stainless steel</li> </ul> |
| <b>Structural analysis</b>     | <ul style="list-style-type: none"> <li>Individual system structural design and analysis based on regional data and customer guidelines</li> <li>When it's needed, structural analysis of the terrain based on an external soil expertise</li> <li>Load assumptions according to EU Codes</li> <li>Verification of all structural components on the basis of SAP2000 calculations or verification according to structural test setup</li> </ul>                                                                                   |
| <b>Module configuration</b>    | <ul style="list-style-type: none"> <li>Framed modules with a frame height between 30 - 50 mm</li> <li>2 or 3 module rows in portrait configuration</li> <li>Option for large format modules and bifacial modules</li> </ul>                                                                                                                                                                                                                                                                                                      |
| <b>Warranty</b>                | <ul style="list-style-type: none"> <li>12 years according to our warranty terms</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Supplementary documents</b> | <ul style="list-style-type: none"> <li>Assembly instructions files and videos</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                         |

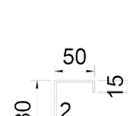
### Front/Rear Post



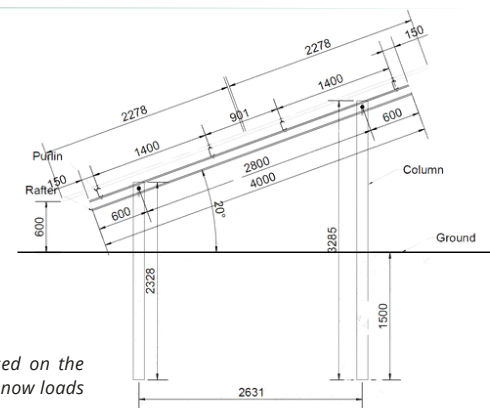
### Rafter/Girder



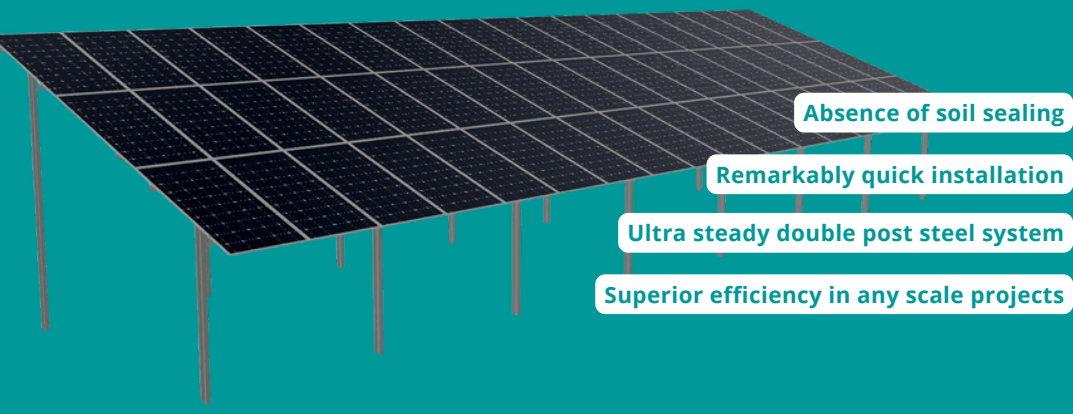
### Purlin



*\*The dimensions of each structural component are calculated based on the specific requirements of each project, taking into account wind and snow loads as well as the corrosivity level of the installation site.*



# Double post 3V Steel Racking Structure



Absence of soil sealing

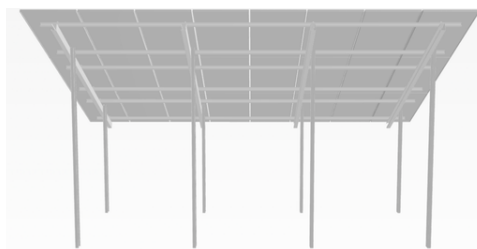
Remarkably quick installation

Ultra steady double post steel system

Superior efficiency in any scale projects

## GLOBAL UTILIZATION

Stable positioning, optimal performance, and enduring longevity for open-area installations. The Double-Post System has established a solid track record across numerous global projects. Double-post configurations are preferred for expansive multi-row module setups, with it we are presenting the perfect option for accommodating large module arrays on gently sloping, level terrains.



## ECONOMICAL AND DURABLE SOLUTION FOR LARGE SCALE PROJECTS

Ensuring stability is paramount. The utilization of two ram foundations per support, along with load-optimized C purlins, yields a robust and resilient PV substructure capable of supporting module panels with significant spans.

To guarantee that binding forces can effectively transfer to the upper connection point, enhancing the installation's stability against wind and snow pressure, we employ strip-galvanized ram profiles across different size categories for the foundation. Correctly designed posts ensure optimal ground embedding while maximizing bending stiffness.

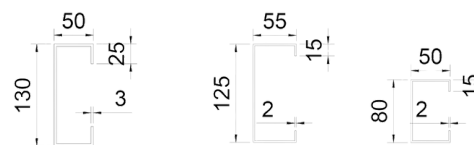
In most instances, steel rammed foundations are used instead of concrete ones, leading to savings in both materials and labor costs.

## Double post - 3V Mono&Bi-Facial System

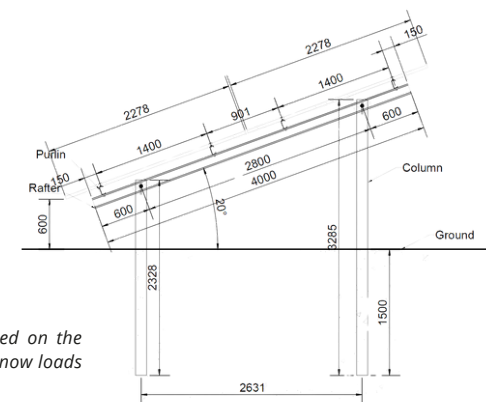
### TECHNICAL DATA

|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Application</b>             | <ul style="list-style-type: none"> <li>Ground-mount system with embedded posts</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Material grades</b>         | <ul style="list-style-type: none"> <li>Foundation posts: steel, S355 HDG &gt; 80um according to DIN EN ISO 1461 or ZM600 coated according to DIN EN 10346 (depending on soil conditions)</li> <li>Girders / Rafters / Purlins: steel, Z600 hot-dip galvanized coated according to DIN EN ISO 12944-2 or ZM310 coated according to DIN EN 10346</li> <li>Module clamps: aluminum clamps or nuts &amp; bolts according to project design and client specification</li> <li>Fasteners and screws: steel, zinc flake coated or stainless steel</li> </ul> |
| <b>Structural analysis</b>     | <ul style="list-style-type: none"> <li>Individual system structural design and analysis based on regional data and customer guidelines</li> <li>When it's needed, structural analysis of the terrain based on an external soil expertise</li> <li>Load assumptions according to EU Codes</li> <li>Verification of all structural components on the basis of SAP2000 calculations or verification according to structural test setup</li> </ul>                                                                                                        |
| <b>Module configuration</b>    | <ul style="list-style-type: none"> <li>Framed modules with a frame height between 30 - 50 mm</li> <li>2 or 3 module rows in portrait configuration</li> <li>Option for large format modules and bifacial modules</li> </ul>                                                                                                                                                                                                                                                                                                                           |
| <b>Warranty</b>                | <ul style="list-style-type: none"> <li>10 years according to our warranty terms</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Supplementary documents</b> | <ul style="list-style-type: none"> <li>Assembly instructions files and videos</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

### Front/Rear Post Rafter/Girder Purlin



\*The dimensions of each structural component are calculated based on the specific requirements of each project, taking into account wind and snow loads as well as the corrosivity level of the installation site.



# Double post Bi-Facial Mounting System

Absence of soil sealing

Remarkably quick installation

Ultra steady double post steel system

Superior efficiency in any scale projects

## GLOBAL UTILIZATION

Stable positioning, optimal performance, and enduring longevity for open-area installations. The Double-Post System has established a solid track record across numerous global projects. Double-post configurations are preferred for expansive multi-row module setups, with it we are presenting the perfect option for accommodating large module arrays on gently sloping, level terrains.

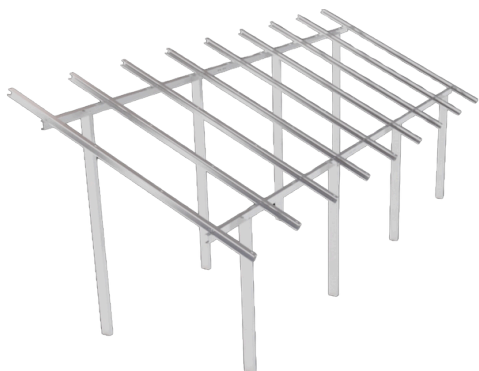


## ECONOMICAL AND DURABLE SOLUTION FOR LARGE SCALE PROJECTS

Ensuring stability is paramount. The utilization of two ram foundations per support, along with load-optimized C purlins, yields a robust and resilient PV substructure capable of supporting module panels with significant spans.

To guarantee that binding forces can effectively transfer to the upper connection point, enhancing the installation's stability against wind and snow pressure, we employ strip-galvanized ram profiles across different size categories for the foundation. Correctly designed posts ensure optimal ground embedding while maximizing bending stiffness.

In most instances, steel rammed foundations are used instead of concrete ones, leading to savings in both materials and labor costs.

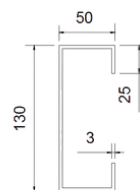


## Double post - 2V Bi-facial System

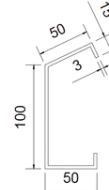
### TECHNICAL DATA

|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Application</b>             | <ul style="list-style-type: none"> <li>Ground-mount system with embedded posts</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Material grades</b>         | <ul style="list-style-type: none"> <li>Foundation posts: steel, S355 HDG &gt; 80um according to DIN EN ISO 1461 or ZM600 coated according to DIN EN 10346 (depending on soil conditions)</li> <li>Girders / Rafters / Purlins: steel, Z600 hot-dip galvanized coated according to DIN EN ISO 12944-2 or ZM310 coated according to DIN EN 10346</li> <li>Module clamps: aluminum clamps or nuts &amp; bolts according to project design and client specification</li> <li>Fasteners and screws: steel, zinc flake coated or stainless steel</li> </ul> |
| <b>Structural analysis</b>     | <ul style="list-style-type: none"> <li>Individual system structural design and analysis based on regional data and customer guidelines</li> <li>When it's needed, structural analysis of the terrain based on an external soil expertise</li> <li>Load assumptions according to EU Codes</li> <li>Verification of all structural components on the basis of SAP2000 calculations or verification according to structural test setup</li> </ul>                                                                                                        |
| <b>Module configuration</b>    | <ul style="list-style-type: none"> <li>Framed modules with a frame height between 30 – 50 mm</li> <li>2 or 3 module rows in portrait configuration</li> <li>Option for large format modules and bifacial modules</li> </ul>                                                                                                                                                                                                                                                                                                                           |
| <b>Warranty</b>                | <ul style="list-style-type: none"> <li>10 years according to our warranty terms</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Supplementary documents</b> | <ul style="list-style-type: none"> <li>Assembly instructions files and videos</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

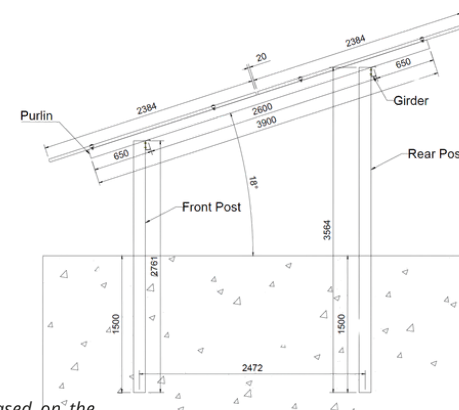
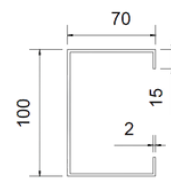
### Front/Rear Post



### Girder



### Purlin



\*The dimensions of each structural component are calculated based on the specific requirements of each project, taking into account wind and snow loads as well as the corrosivity level of the installation site.



# Double post 4H Mounting System

Absence of soil sealing

Remarkably quick installation

Ultra steady double post steel system

Superior efficiency in any scale projects

## GLOBAL UTILIZATION

Stable positioning, optimal performance, and enduring longevity for open-area installations. The Double-Post System has established a solid track record across numerous global projects. Double-post configurations are preferred for expansive multi-row module setups, with it we are presenting the perfect option for accommodating large module arrays on gently sloping, level terrains.



## ECONOMICAL AND DURABLE SOLUTION FOR LARGE SCALE PROJECTS

Ensuring stability is paramount. The utilization of two ram foundations per support, along with load-optimized C purlins, yields a robust and resilient PV substructure capable of supporting module panels with significant spans.

To guarantee that binding forces can effectively transfer to the upper connection point, enhancing the installation's stability against wind and snow pressure, we employ strip-galvanized ram profiles across different size categories for the foundation. Correctly designed posts ensure optimal ground embedding while maximizing bending stiffness.

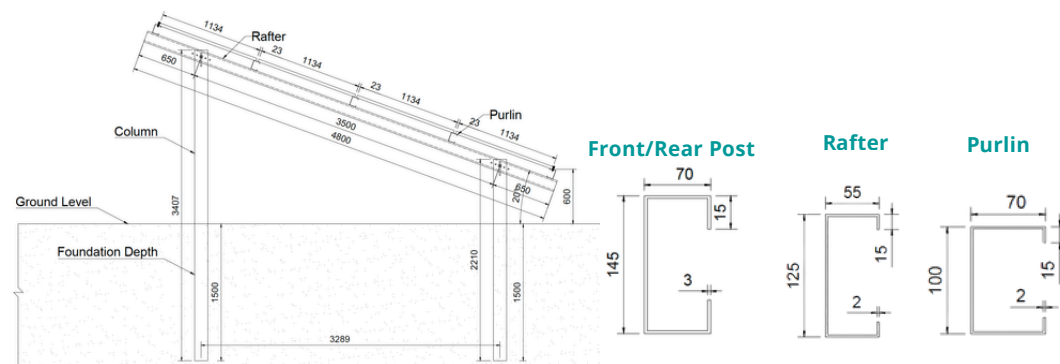
In most instances, steel rammed foundations are used instead of concrete ones, leading to savings in both materials and labor costs.



## Double post - 4H Mono / Bi-facial System

### TECHNICAL DATA

|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Application</b>             | <ul style="list-style-type: none"> <li>Ground-mount system with embedded posts</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Material grades</b>         | <ul style="list-style-type: none"> <li>Foundation posts: steel, S355 HDG &gt; 80um according to DIN EN ISO 1461 or ZM600 coated according to DIN EN 10346 (depending on soil conditions)</li> <li>Girders / Rafters / Purlins: steel, Z600 hot-dip galvanized coated according to DIN EN ISO 12944-2 or ZM310 coated according to DIN EN 10346</li> <li>Module clamps: aluminum clamps or nuts &amp; bolts according to project design and client specification</li> <li>Fasteners and screws: steel, zinc flake coated or stainless steel</li> </ul> |
| <b>Structural analysis</b>     | <ul style="list-style-type: none"> <li>Individual system structural design and analysis based on regional data and customer guidelines</li> <li>When it's needed, structural analysis of the terrain based on an external soil expertise</li> <li>Load assumptions according to EU Codes</li> <li>Verification of all structural components on the basis of SAP2000 calculations or verification according to structural test setup</li> </ul>                                                                                                        |
| <b>Module configuration</b>    | <ul style="list-style-type: none"> <li>Framed modules with a frame height between 30 – 50 mm</li> <li>2 or 3 module rows in portrait configuration</li> <li>Option for large format modules and bifacial modules</li> </ul>                                                                                                                                                                                                                                                                                                                           |
| <b>Warranty</b>                | <ul style="list-style-type: none"> <li>10 years according to our warranty terms</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Supplementary documents</b> | <ul style="list-style-type: none"> <li>Assembly instructions files and videos</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                              |



\*The dimensions of each structural component are calculated based on the specific requirements of each project, taking into account wind and snow loads as well as the corrosivity level of the installation site.

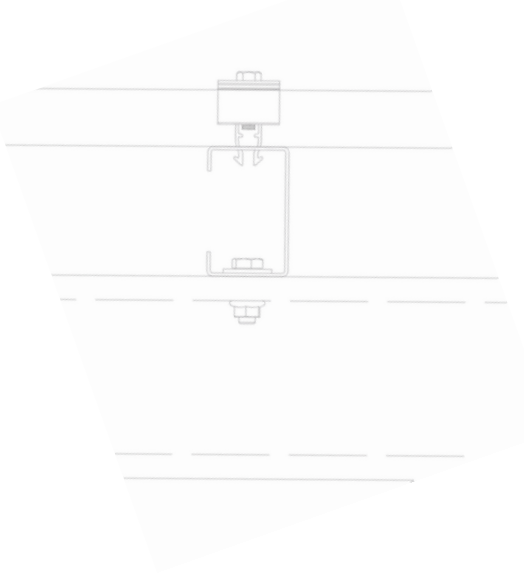


## MODULE CLAMPS INSTALLATION

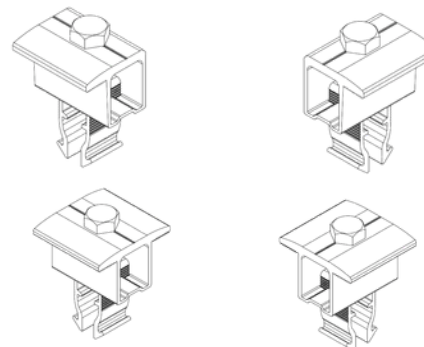
Solar modules are third party components that are not included in the scope of delivery for the ground mounting substructure. Therefore, ENERACK refers to the safety and installation instructions of the module manufacturer. These need to be observed for the mounting of the PV modules in addition to the instructions in this installation manual.

### The following points must always be observed:

- PV modules may only be installed by qualified personnel.
- PV modules are electrical devices. They must be treated with care!
- Shocks, impacts and vibration of the modules must be prevented
- The modules must not be weighted down (be entered, have objects placed on them, etc.).
- The module surfaces must not be exposed to scratches or dirt.
- Entering the modules and/or their frames is always prohibited.
- Pulling or tearing at the module cables is not admitted. Module cables must not be kinked or clamped. The module cables' minimum bending radii must be observed.



The module clamp will be placed in the slots of the Purlin. Make sure that both grooves of the claw snap Properly into place.



Align the cantilever of the module over the purlin according to the technical drawing. Align the lowest module row with the cord and tighten all module clamps to 15 Nm torque. Then install all other module rows above in the same way, oriented towards the lower module row.

## MAINTENANCE & CARE FOR THE STRUCTURE

### RECOMMENDED ACTIVITIES ARE:

#### INSPECTION OF THE SOLAR POWER SYSTEM

- after exceptional weather conditions (storm, heavy snowfall or rain, etc.)
- after natural earth tremors (earthquakes, landslides, settlements, etc.)

#### MAINTENANCE TO THE SYSTEM (mechanical)

- Cleaning of the modules
- Inspection of the screw joints
- Inspection of the system for corrosion
- Maintenance of access roads and walkways
- Terrain maintenance
- Inspection of the subsoil
- Removal of dirt deposits and vegetation from the frame
- Determination of the environmental corrosivity and measuring the zinc coating thickness
- Inspection of concrete foundations if installed.



# Aluminum Ground Mounting Mono & Bi-Facial System

Lightweight Yet Strong

Pre-assembled components

Remarkably quick installation

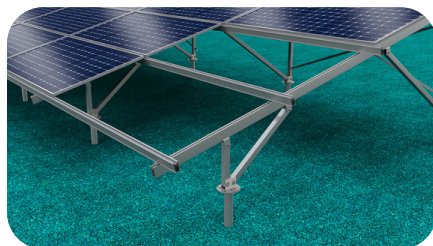
Easier Transport and Installation

## LIGHTWEIGHT YET STRONG

- Easier Transport & Installation: Aluminium is significantly lighter than steel, making it **easier to handle on-site**.
- Reduced Structural Load: Less stress on the foundation or substructure.

## CORROSION RESISTANCE

- Long-Term Durability: Aluminium naturally forms an oxide layer that protects it from rust and corrosion, **especially important in humid or coastal environments**.
- Low Maintenance: Doesn't require galvanization or frequent coatings like steel.

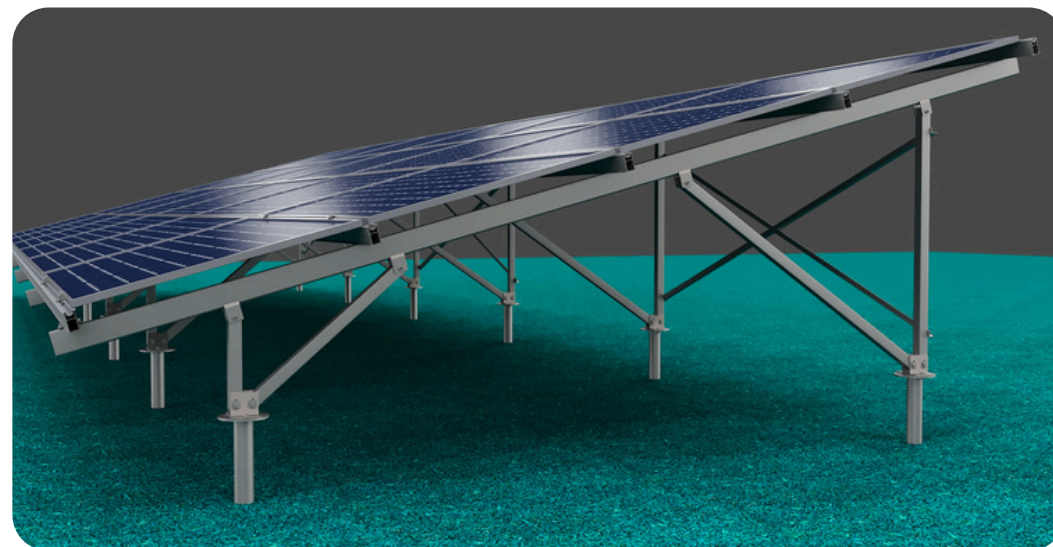


## FAST INSTALLATION

- Pre-assembled Components: The aluminium system **comes with pre-cut or pre-drilled parts**.
- Simplified Assembly: Lightweight components **can be installed with basic tools and smaller teams**.

## HIGH RECYCLABILITY

- Eco-Friendly: Aluminium is **100% recyclable without loss** of properties.
- Sustainable Lifecycle: Contributes to greener construction practices.

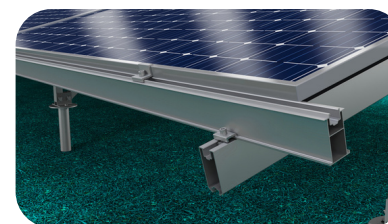
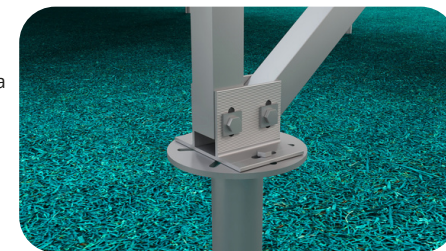


## AESTHETIC & CLEAN FINISH

- Modern Look: **Smooth, anodized** aluminium provides a **clean, professional appearance**.
- Color Options: Aluminium can be anodized or powder-coated in various finishes.

## STRUCTURAL RELIABILITY

- High Strength-to-Weight Ratio: **Strong enough to support large PV arrays while remaining light**.
- Thermal Expansion Handling: Aluminium expands uniformly, **reducing the risk of deformation** under temperature changes.

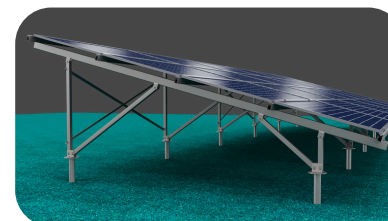


## COST EFFICIENCY

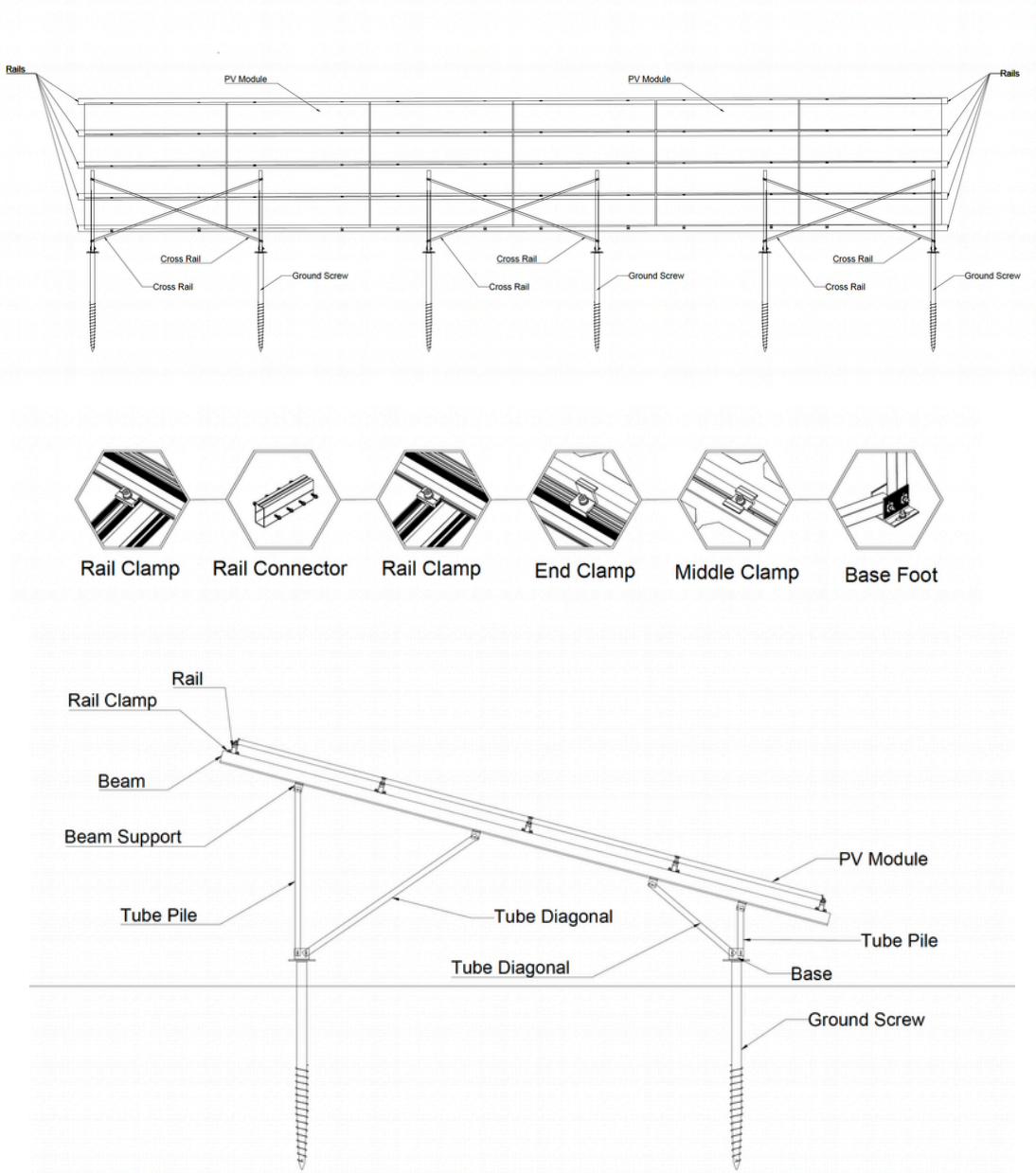
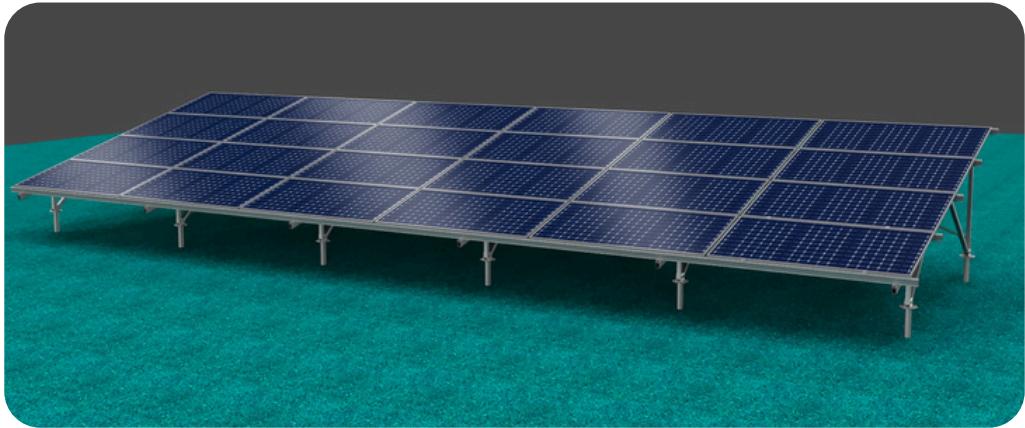
- While initial material cost might be higher than galvanized steel, **lower maintenance, faster installation, and longer lifespan** can reduce total lifecycle cost.

## MODULAR DESIGN & FLEXIBILITY

- Customizable: Modular system allows flexible designs that can **adapt to different terrains and project sizes**.
- Easy Expansion: **Future upgrades or capacity expansions can be integrated smoothly** without overhauling the entire structure.



|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Application             | <ul style="list-style-type: none"><li>Commercial, Residential and Agri Solar Power Plants</li></ul>                                                                                                                                                                                                                                                                                                                                                                |
| Material grades         | <ul style="list-style-type: none"><li>AL6005-T5</li><li>High strength, excellent corrosion resistance</li><li>Anodized that thickens the natural oxide layer on aluminium, enhances the durability, appearance, and resistance to environmental factors.</li><li>High Strength-to-Weight Ratio: Supports heavy PV modules with less bulk.</li><li>UV Resistance: Doesn't degrade under sun exposure—ensures long-term stability.</li></ul>                         |
| Structural analysis     | <ul style="list-style-type: none"><li>Concrete Footings or Ground Screws</li><li>Vertical bearing capacity</li><li>Lateral load resistance</li><li>Elastic Modulus of Aluminium: Lower than steel, so deflection control is critical.</li><li>Thermal Expansion: Accounted for in rail span and fastening points to avoid stress buildup.</li><li>Connection Detailing: Bolts, clamps, and brackets are analyzed for shear, tension, and bearing forces.</li></ul> |
| Module configuration    | <ul style="list-style-type: none"><li>Framed modules with a frame height between 30 – 50 mm</li><li>2, 3 or 4 module rows in portrait or landscape configuration</li><li>Option for large format modules and bifacial modules</li></ul>                                                                                                                                                                                                                            |
| Warranty                | <ul style="list-style-type: none"><li>15 years according to our warranty terms</li></ul>                                                                                                                                                                                                                                                                                                                                                                           |
| Supplementary documents | <ul style="list-style-type: none"><li>Assembly instruction and video</li></ul>                                                                                                                                                                                                                                                                                                                                                                                     |

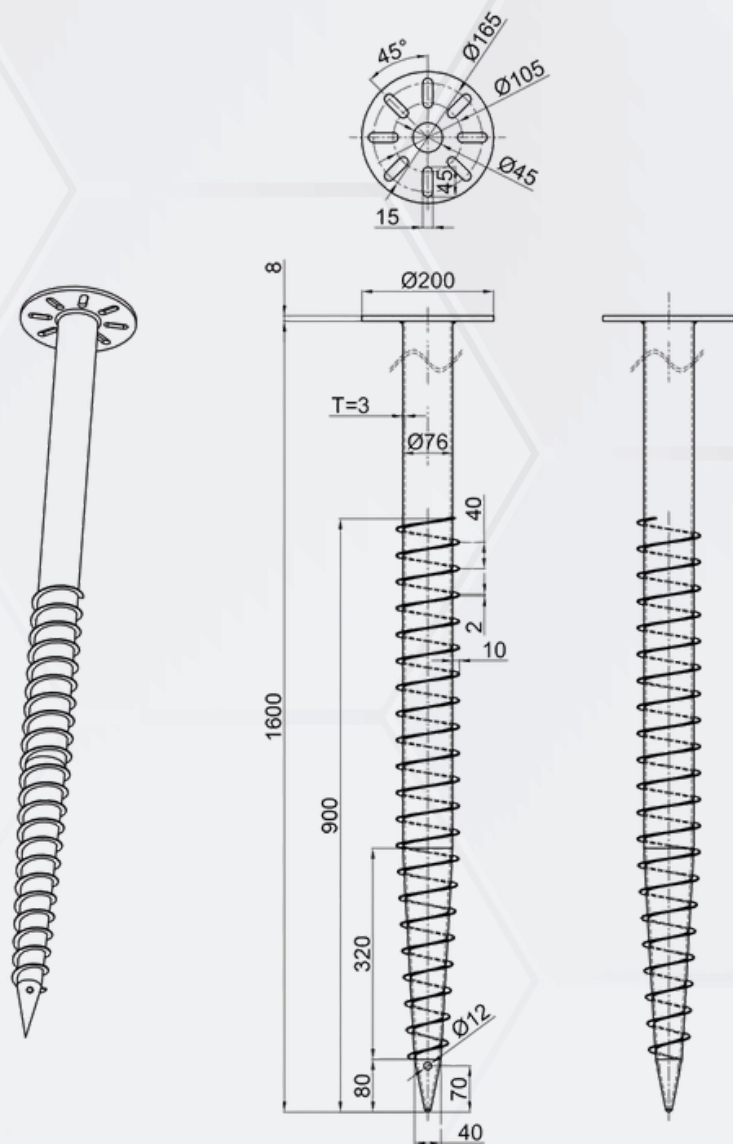


*\*The dimensions of each structural component are calculated based on the specific requirements of each project, taking into account wind and snow loads as well as the corrosivity level of the installation site.*



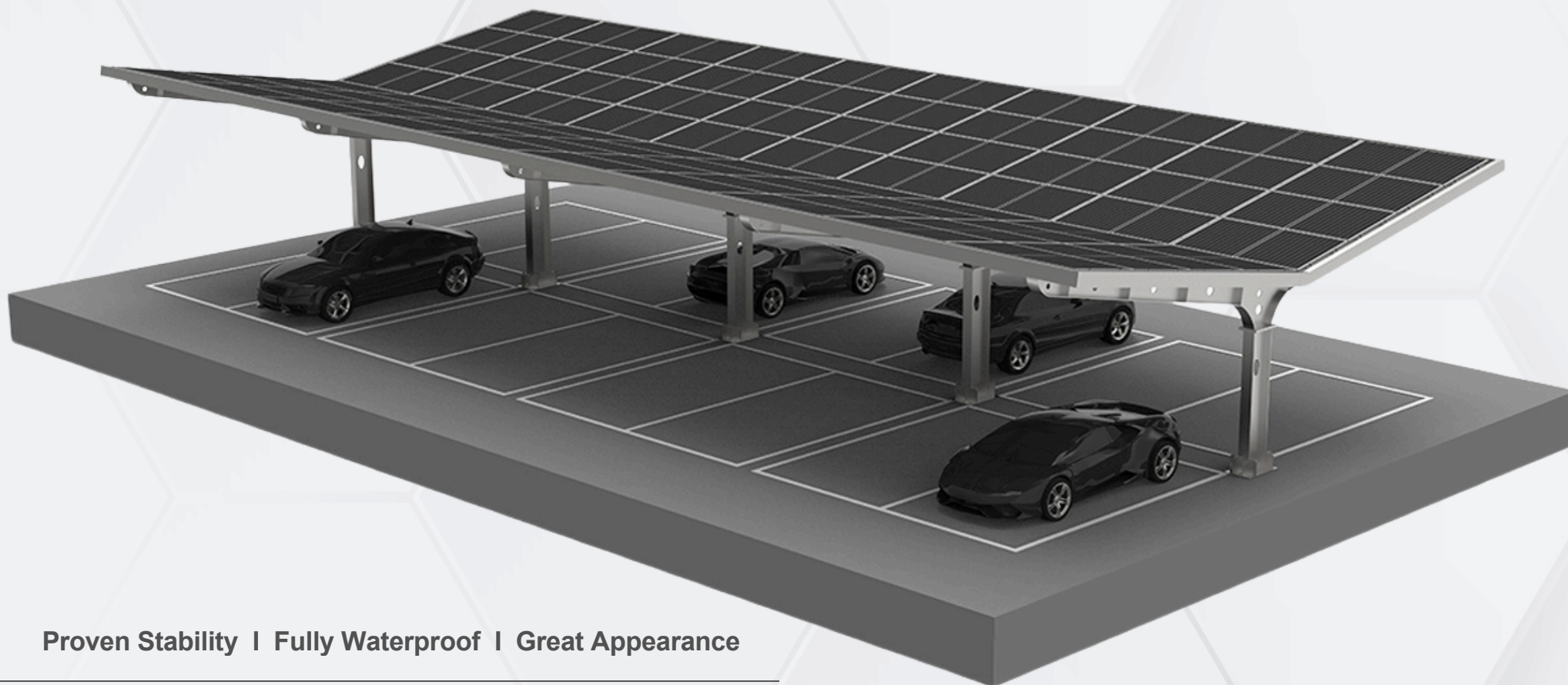
**Item Code: OPVS-GS**

**Description: GROUND SCREW made of Steel S235/355 HDG min.80um**  
**Lenght from 1600 to 2600mm**



## Steel Carport Mounting System

Double-Sided System



**Proven Stability | Fully Waterproof | Great Appearance**

**Design:**

Intelligent structural design  
for extended service life

**Waterproof:**

Integrated portrait and  
landscape water canals

**OEM / ODM:**

Custom designs and  
specifications available

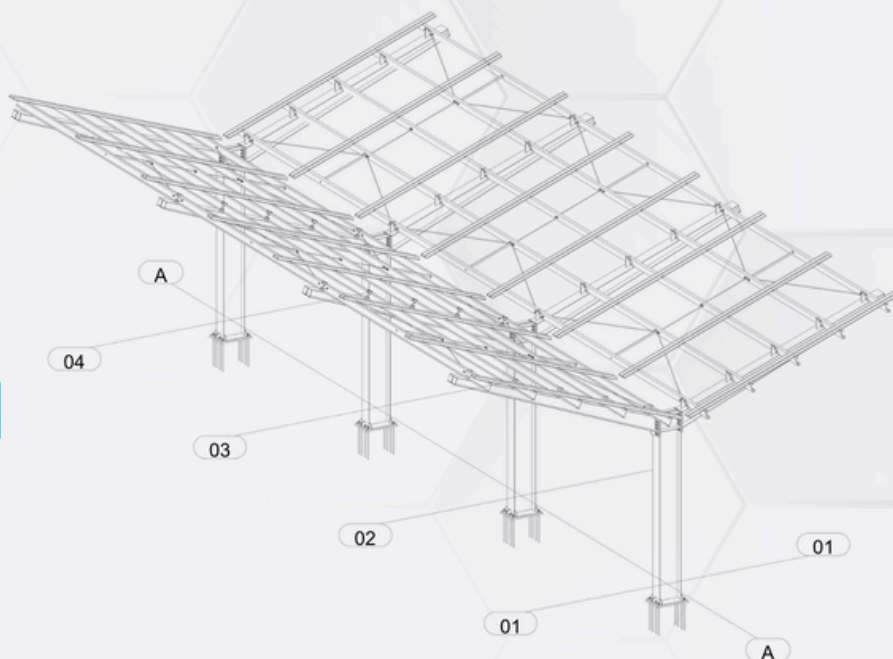


## Product Overview

**Name:** ONENESS Double-Side Steel Carport

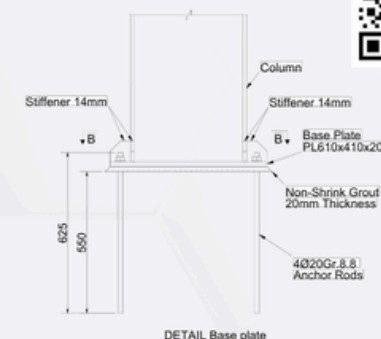
**Description:** A high-strength solar mounting solution designed for commercial and industrial and even residential parking areas. It combines reliable structural performance, efficient waterproofing, and safe installation while providing vehicle protection and clean energy generation.

**BOM:** Column H-350\*150-6-10mm (Steel class S355, HDG80)  
 Column base plate with anchor rods (Steel class S355, HDG80)  
 Beam H-300\*180-150-6-10mm (with purlin support plates) (Steel class S355, HDG80)  
 Purlins S355 ZAM310  
 Tie Rods (Steel class S355)  
 Horizontal braes (Steel class S355)  
 Main and secondary water channels (Steel class S355)  
 Fasteners (A2 - SUS304)



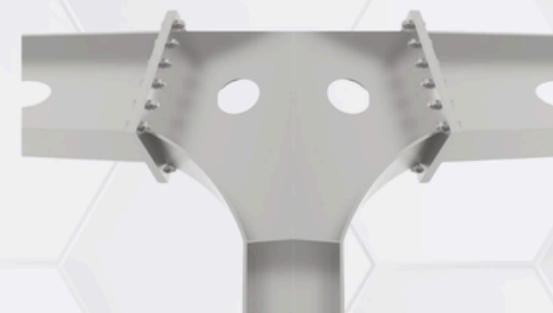
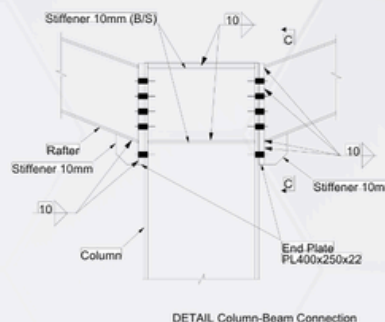
### Column, Base Plate & Anchor Rods:

High-strength steel columns are engineered for superior load-bearing capacity and structural stability. The base plate creates a secure connection between the steel structure and concrete foundation, ensuring efficient load transfer and enhanced resistance to wind and snow loads. Anchor rods provide reliable fixation, accurate positioning which is contributing to the long-term safety and durability of the structure.



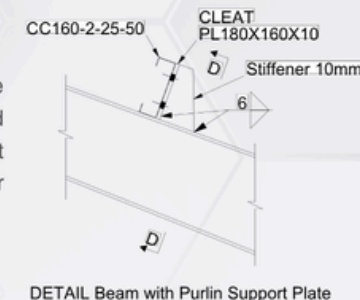
### Column & Beam Connection:

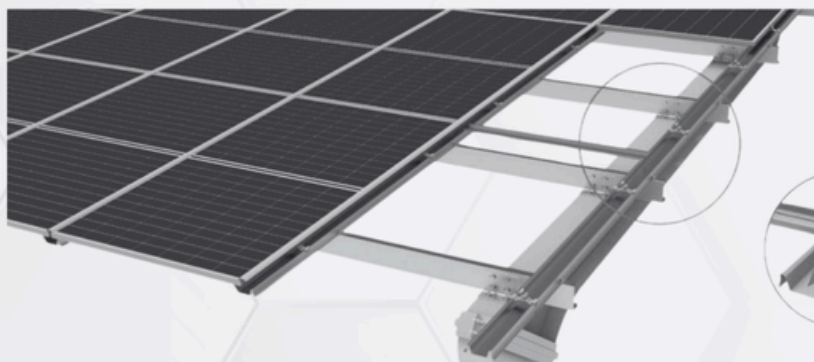
The column-to-beam connection adopts a robust bolted plate design, ensuring high structural strength and stability. Precision-engineered connection plates with high-strength bolts and nuts provide reliable load transfer, easy installation, and efficient on-site assembly. The bolted connection system eliminates on-site welding which simplifies construction while maintaining long-term durability and structural performance.



### Beam & Purlin Support Plates:

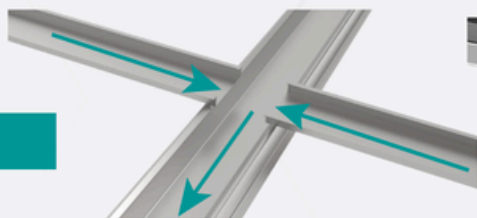
Integrated purlin support plates provide a secure and stable connection between beams and purlins, ensuring accurate alignment and efficient load distribution and structural stability under various environmental loads.



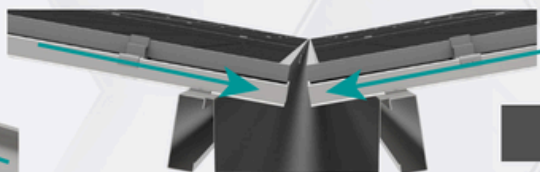

[http://](http://onenesspvsystems.com) Web


### Water Drainage Channels:

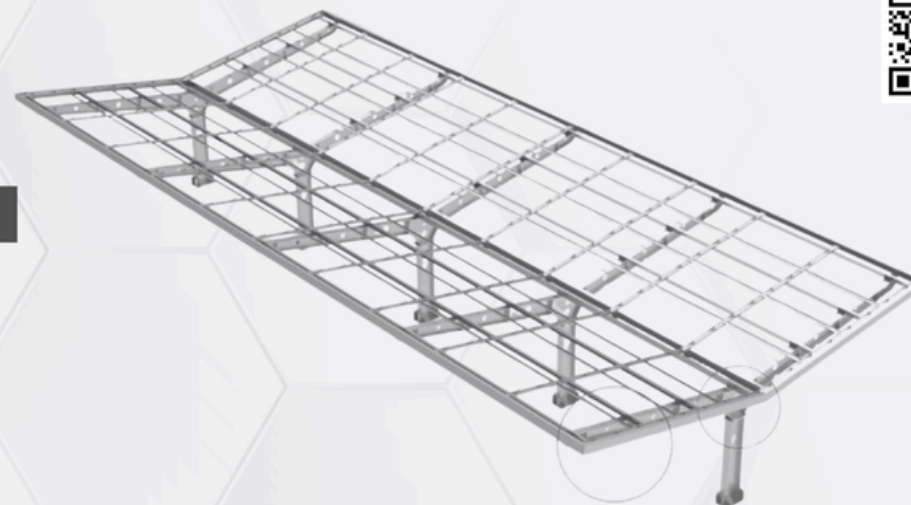
The integrated water drainage channels are designed to efficiently collect and guide rainwater from the PV module surface, providing reliable waterproof protection for the carport structure. Suitable for both portrait and landscape module layouts, the optimized drainage design ensures effective water flow, prevents water accumulation, and enhances long-term durability in various weather conditions. The seamless channel connection minimizes leakage risks and maintains a clean, durable appearance throughout the system's service life. For additional safety there could be rubber strip.



\*Water will flow along the sink rail between the panels



\*And flow out to the bottom

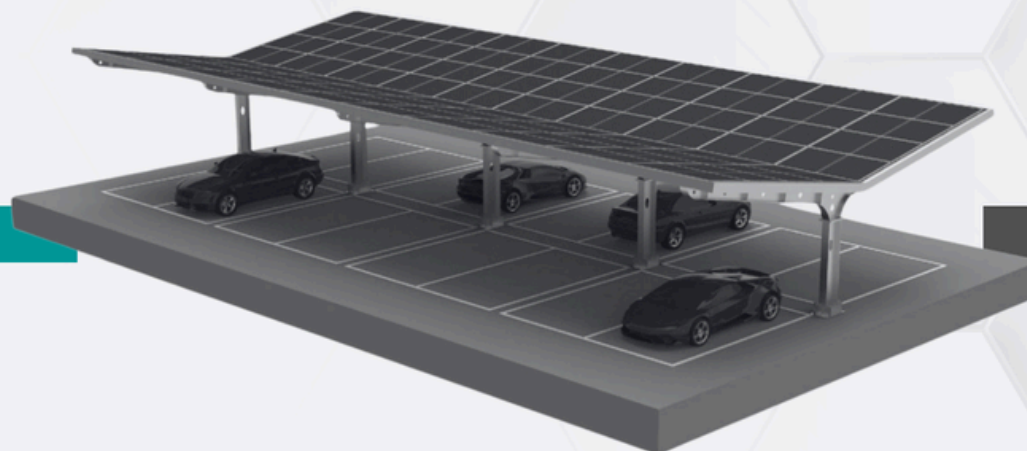

[http://](http://onenesspvsystems.com) Web


### **Advantages:**

- Optimized steel design reduces material consumption
- Suitable for commercial and industrial parking areas
- Integrated waterproof drainage
- High resistance to wind and snow loads
- Low maintenance throughout the service life
- Compatible with most framed PV modules

### **Optional Features:**

- EV charging integration
- Cable management
- LED lighting
- Drainage pipe options
- Different coating systems
- Custom colors (any RAL color)





## NOTES

This image shows a full page of blank graph paper. The grid consists of small, uniform squares formed by thin, light blue lines. There are no margins, text, or other markings on the page.



**WhatsApp**

## **SHANGHAI ONENESS TECH CO., LTD.**

**Tel.:** 0086 186 2100 6801

**E-mail:** info@onenesspvsystems.com

**Web:** www.onenesspvsystems.com

**Add:** No. 1599, Pingzhuang West Road, Fengxian, Shanghai