



Warning: Please be advised that the installation manual for your carport is subject to change without notice. As such, we strongly urge you to use the most recent version of the manual before attempting to install your carport. This is important to ensure that you have the latest and most accurate instructions to guide you through the installation process. The latest version of the manual can always be found on our website at the following link:

<https://www.blikir.com/resources>

Document Version: 08G4/2023/V02/ENG

Released on: August 1st, 2023

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Disclaimer

The Installation Manual outlines the necessary procedures and standards for installing the Blikir RCP-2 and ensuring its proper functionality. It is important that you carefully review this manual before starting the installation process. Failure to follow the instructions provided in the manual could result in property damage, personal injury, or even loss of life. Additionally, please note that the RCP-2 Limited Warranty can be found on the Blikir website at <https://www.blikir.com/resources>.

PLEASE COMPLY WITH THE FOLLOWING SAFETY MEASURES:

- Ensure safe installation of all electrical aspects of the array. All electrical installation and procedures should be conducted by a licensed and bonded electrician or solar contractor. Routine maintenance of a module or panel shall not involve breaking or disturbing the bonding path of the system. All work must comply with national, state and local installation procedures, product and safety standards.
- Comply with all applicable local, state and federal building and fire codes, as in effect from time to time.
- Ensure all products are appropriate for the installation environment, and array under the site's loading conditions.
- Use only Blikir parts or parts recommended by Blikir.
- Review the Engineering Package and Certification Letters to confirm design specifications.
- Ensure the accuracy of all information provided.
- Validate foundation parameters prior to installation. A local geotechnical report may be required to assess ground conditions. Blikir recommends consulting with a local engineer familiar with local regulations and build site requirements, including soil conditions, terrain and load criteria. All parameters may impact foundation requirements.
- Ensure bare copper grounding wire does not contact aluminum and zinc-plated steel components, to prevent risk of galvanic corrosion.
- The Blikir carports and canopies are made of galvanized steel and spray painted with protective and marine coating. This process ensures your carport or canopy will have the longest possible life expectancy. Do not drill or cut the steel components, that will expose the steel and cause corrosion and void the warranty. Also, drilling or cutting the steel might compromise the structure strength.
- If loose components or loose fasteners are found during periodic inspection, re-tighten immediately. If corrosion is found, replace affected components immediately.
- Provide an appropriate method of direct-to-earth grounding according to the latest edition of the National Electrical Code, including NEC 250: Grounding and Bonding, and NEC 690: Solar Photovoltaic Systems.
- Disconnect AC power before servicing or removing modules, AC modules, inverters, microinverters, Rapid Shutdown Devices (RSD) and power optimizers.
- Review module, inverter, Rapid Shutdown Device (RSD), racking (and any other components that are not manufactured by Blikir) manufacturer's documentation for compatibility and compliance with warranty terms and conditions.
- Conform to STD UL 2703 (2015) Standard for Safety First Edition: Mounting Systems, Mounting Devices, Clamping/Retention Devices, and Ground Lugs for Use with Flat-Plate Photovoltaic Modules and Panels.



NOTE: Always check with the Authority Having Jurisdiction (AHJ) for additional requirements

Introduction

BRIEF DESCRIPTION

RCP-2 is a robust double carport / canopy that can accommodate up to 24 x 60/120 cell Panels, or 18 x 72/144 cell panels. It can be installed with a 2-person crew, and without the use of heavy tools or machinery. The installation should be carried by trained professionals or qualified individuals, who have been adequately instructed and trained about the tasks involved in the installation, including the usage of protective devices, protective measures, relevant provisions, accident prevention regulations and operating conditions and have proven their competence.

Please read carefully this installation manual and all other applicable documents before starting your installation. Please contact Blikir with any questions that you may have.

Ratings and Conditions Of Use

The RCP-2 utilizes the IronRidge XR100, Slotted L-Foot, T-Bolts, Grounding Lug, Panel Bonding Jumpers and CAMO Hidden End Clamps. Download the relevant certification from IronRidge website for the most updated Specific Allowable Design Load Ratings at: <https://base.ironridge.com/pitched-roof-mounting/resources>

Download and read carefully the Structural Engineering Certificate for the Blikir RCP-2 Solar Carport which can be found here: <https://www.blikir.com/resources>

The RCP-2 is designed and certified to the structural requirements of the following standards, for the conditions specified:

- 2012 International Building Code
- 2015 International Building Code
- 2018 International Building Code
- 2021 International Building Code
- ASCE 7-10
- ASCE 7-16

The carport framing is designed and certified to resist the following maximum loads:

Kit Type	Load Type	STD Base	HD Base	EX-HD Base
Standard Kit	Vert. (psf)	24	24	24
	Lat. (kips)	0.9	2.0	5.5
High Snow Kit	Vert. (psf)	54	54	--
	Lat. (kips)	0.9	2.7	--
Tandem Kit	Vert. (psf)	26	26	26
	Lat. (kips)	1.7	3.9	11.2

*Maximum loads listed are unfactored and applied non-concurrently.
 **Lateral loads are max allowable per column

General conditions:

- Risk Category I

Snow conditions:

- Maximum Ground Snow Load (p_s)
 - Standard Kit: 35 psf
 - High Snow Kit: 65 psf

Building Conditions:

Enclosure	Open
Roof type	Monoslope free roof
Roof pitch	<7.5 degrees
Wind direction	Any
Wind flow	Either clear or obstructed

Wind Speed:

Exposure	Maximum Basic Wind Speed ASCE 7-10 & ASCE 7-16
B	205 mph
C	175 mph
D	155 mph

*Adequate combination of base kit and footer required

Maintenance

1. When you notice signs of rust or peeling/removal of paint, it is essential to address the issue promptly by removing the rust and repainting the affected areas.
2. Whenever aluminum components are connected to the steel structure, it is crucial to apply separation, such as EPDM rubber, to prevent galvanic corrosion.
3. Regularly inspect the bolts and ensure they are properly secured at least once a year. Follow the specified torque specs for tightening.
4. In the event that the columns of the structure are impacted, such as by a vehicle collision, immediate replacement of the columns is necessary for safety and structural integrity.



WARNING: The RCP-2 Carport/Canopy structure is constructed with hot galvanized steel and coated with a marine-grade protective layer. It's important to note that any drilling or cutting of the structure will expose the raw steel, making it susceptible to corrosion and potentially compromising the strength and integrity of the structure. Such actions will void the warranty and may even lead to the collapse of the structure under certain conditions. Therefore, we strongly advise against any modifications that could compromise the structure's durability and safety.

Torques

Horizontal Connections and Bolts Installation Guidelines

All horizontal connections within our system utilize sleeves, and the bolts are intended to securely hold these sleeves in place. To ensure proper assembly, we recommend tightening the bolts 1/4 to 1/3 turn beyond "snug tight" or torque to 21 ft-lbs.

Please follow this torque guideline unless otherwise specified by the manufacturer for specific connections subject to vibration or with bolt tightness requirements.

For the installation of base plate anchors and Solar Racking L-Feet, adhere to the manufacturer's specifications provided in their respective installation manuals.

Important Maintenance Note:

To maintain the integrity of your installation over time, we kindly request that you periodically inspect and tighten the bolts and nuts. This maintenance check should be conducted regularly, and particularly after any significant weather events such as storms or earthquakes.

By performing these routine inspections and tightening, you help ensure the continued stability and safety of your structure.

Required Tools

Tools

- Post Hole Digger or Powered Auger
- Socket Drive (7/16", 9/16", 1/4" and 1/2" Sockets)
- Torque Wrenches (0-250 in-lbs)
- Transit, String Line, or Laser Level
- Spirit level
- Rotary hammer with concrete drill 20mm
- Cordless screwdriver
- Rubber hammer
- Hammer
- 2 x Scaffolding ladders
- Chalk line
- Folding rule / tape measure 7m
- Metal Saw



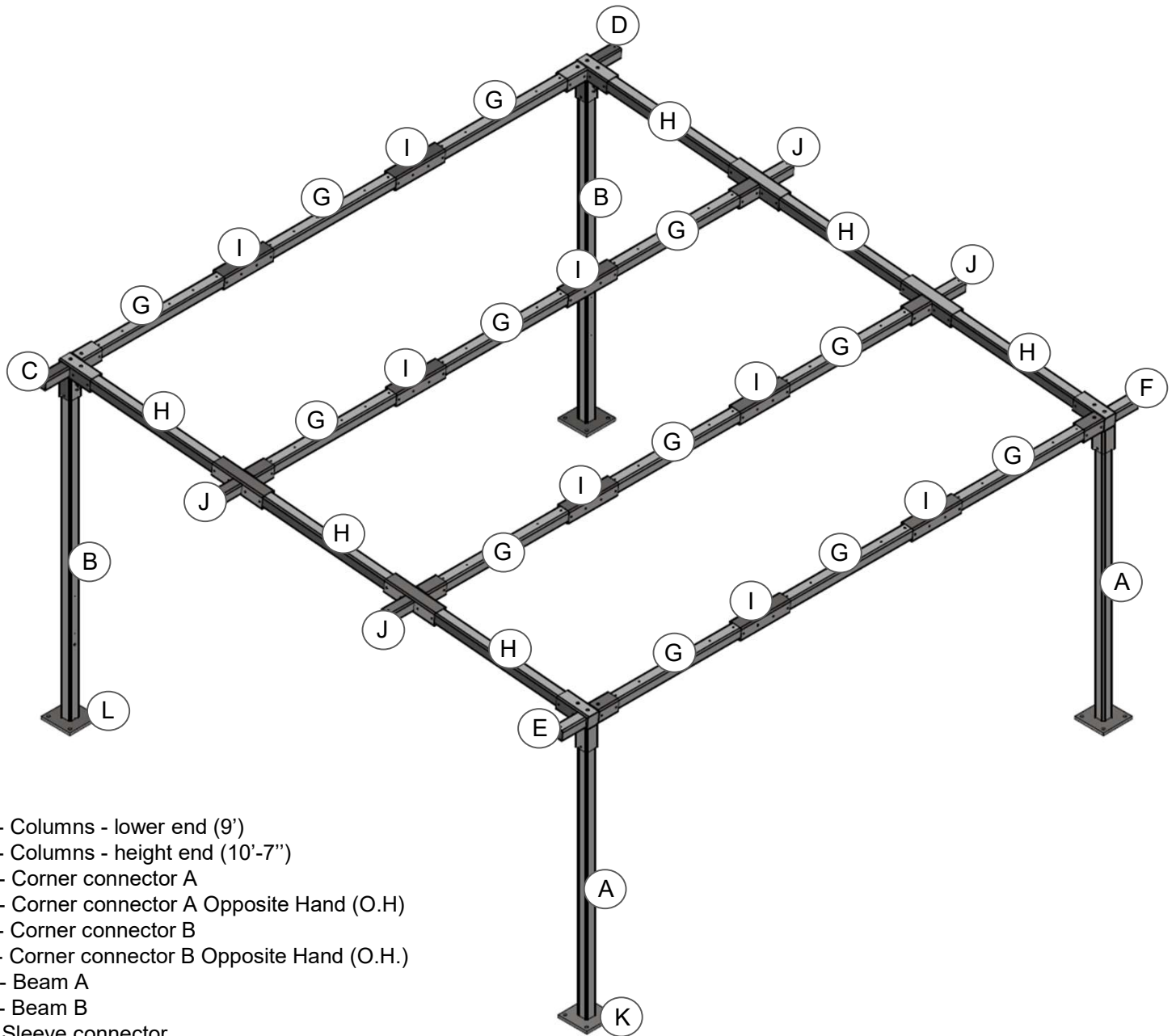
NOTE: The customer is responsible for sourcing materials for the footings based on the specifications provided by the structural engineer or as indicated in the Structural Engineering Package Notes applicable to their location (download at <https://www.blikir.com/resources>) - recommended:

- Concrete
- Qty 48 x #4 Rebar 30"
- Qty 16 x Wire Mesh, 10 Gage min., 6" grid
- Qty 16 x Hilti HAS Rods
- HIT-HY 200 Adhesive
- Non-Shrink Grunt

Main Components

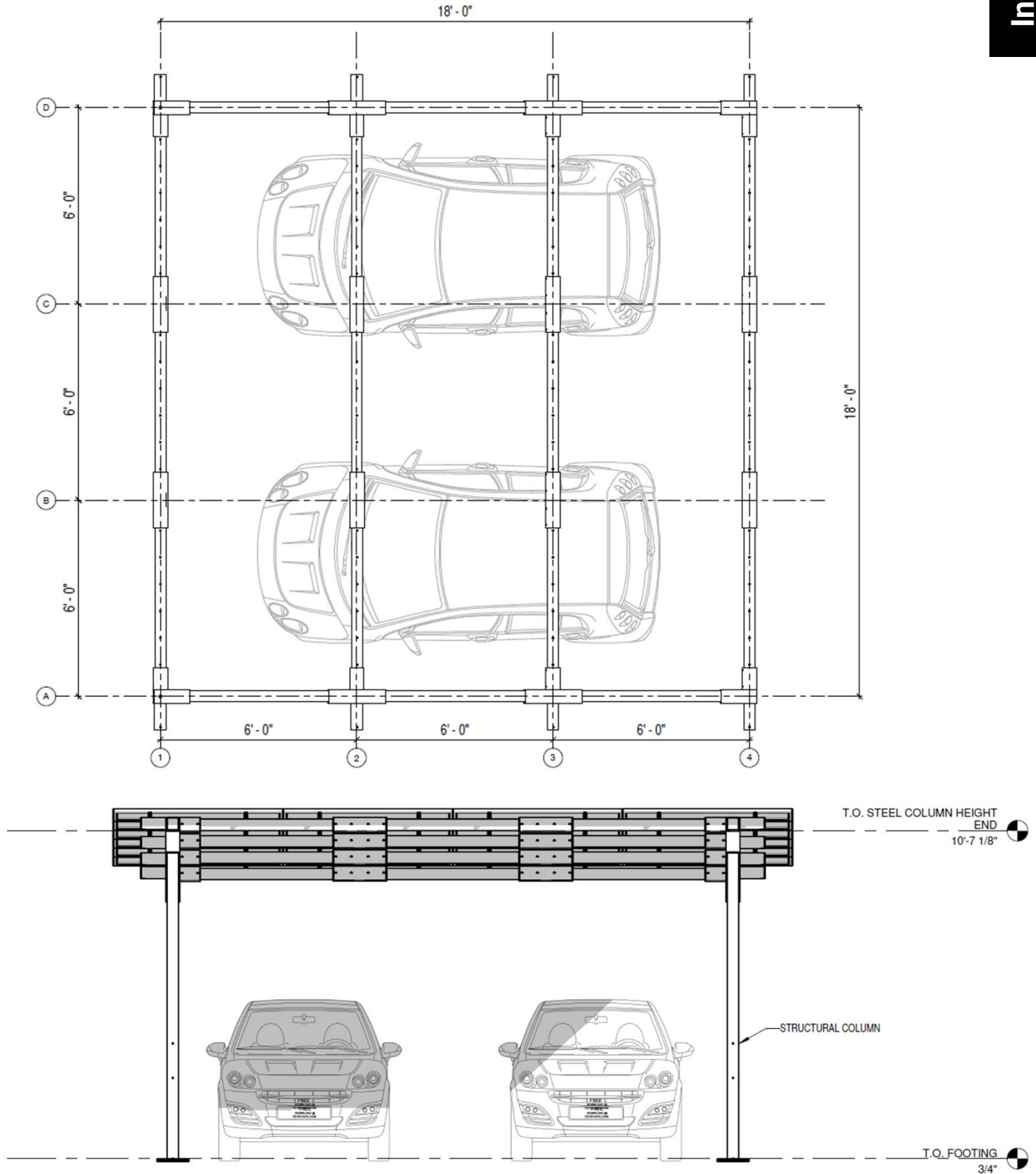
Overview

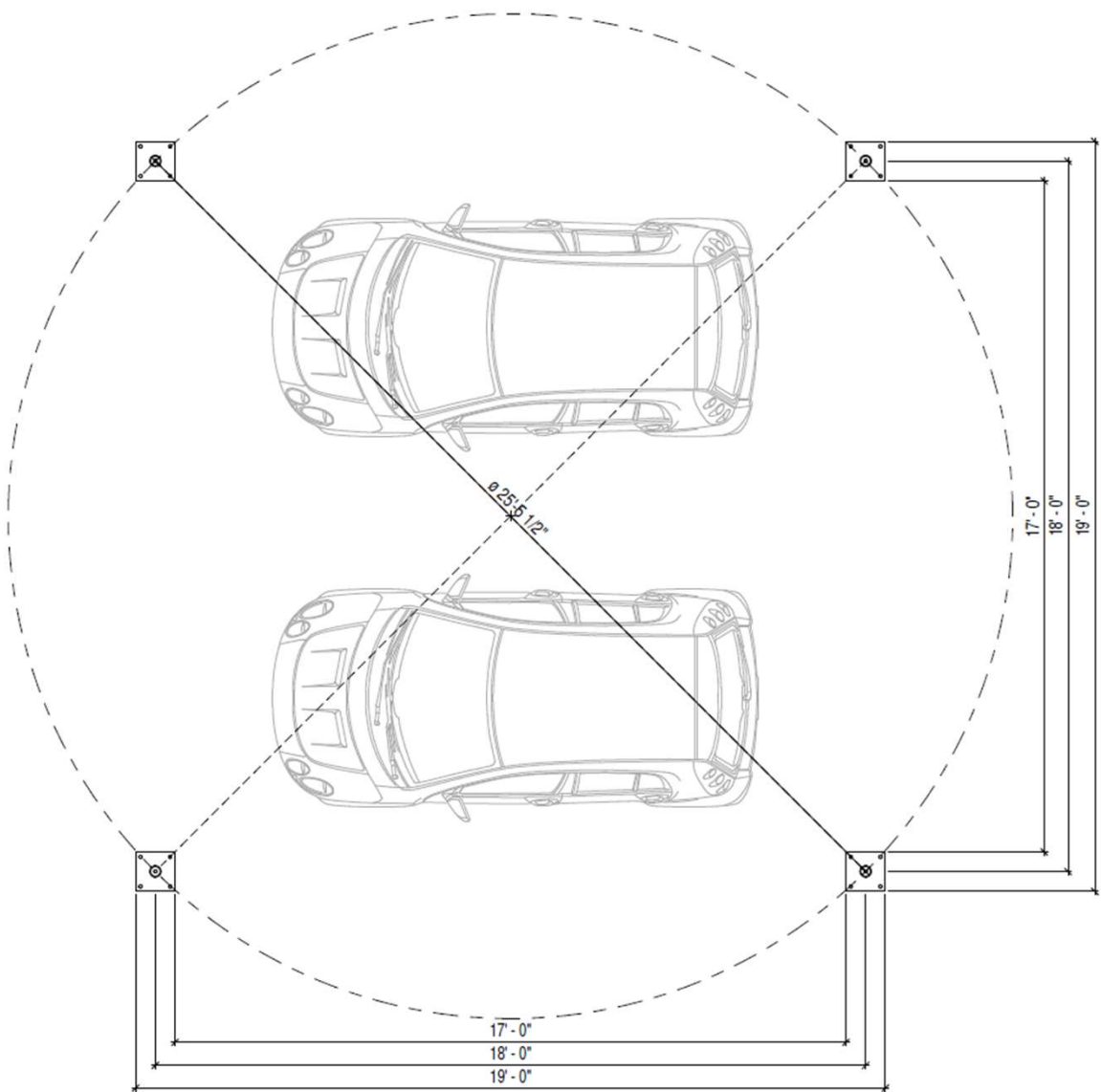
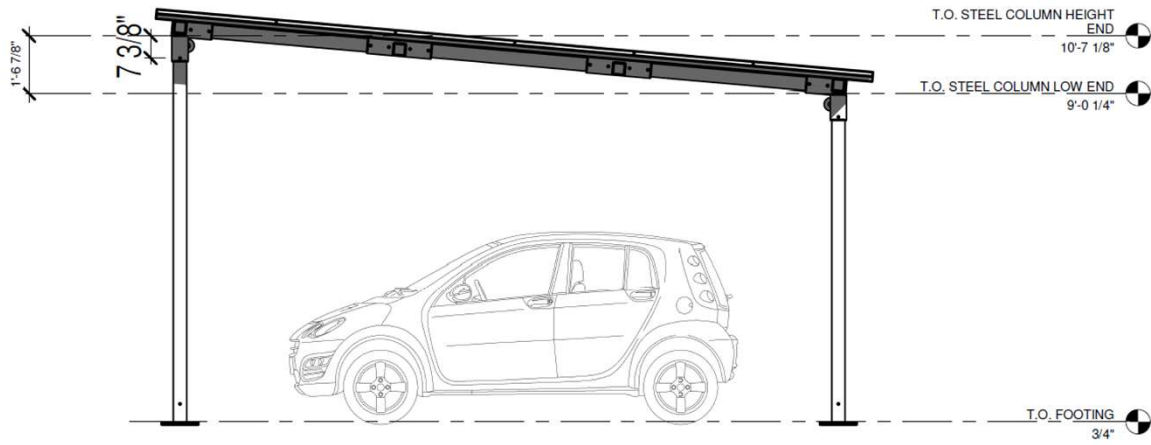
The following is a diagram that lists the main components of the RCP-2



- A - Columns - lower end (9')
- B - Columns - height end (10'-7")
- C - Corner connector A
- D - Corner connector A Opposite Hand (O.H.)
- E - Corner connector B
- F - Corner connector B Opposite Hand (O.H.)
- G - Beam A
- H - Beam B
- I - Sleeve connector
- J - Middle Connector
- K - Base Plate
- L - Escutcheon Plate (base plate cover)

Standard Dimensions

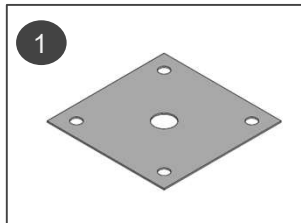




Components List

Prior to commencing your installation, please ensure that you have obtained all the components listed below.

Blikir Structure Components:



1 X Base Plate Template



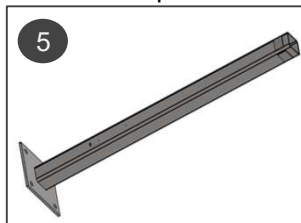
36 x Flanged Nuts
36 x 1" Hex Bolts



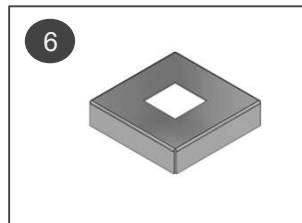
108 x Bolts and Nuts



2 X 9' Front Column



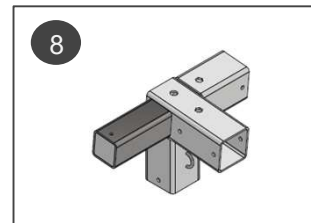
2 X 10'-7" back columns



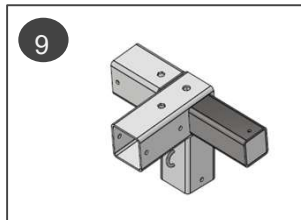
4 X Escutcheon Plates



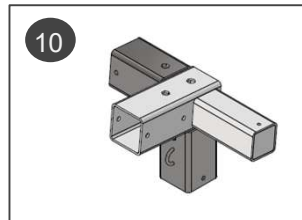
32 X EPDM Separators



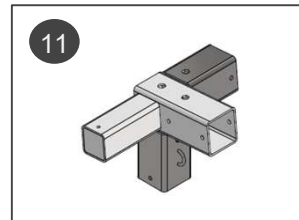
1X Corner Connector A



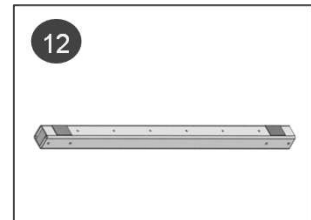
1 X Corner Connector A O.H.



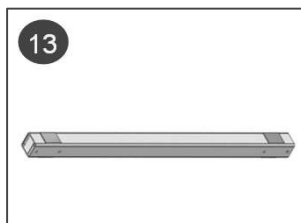
1 X Corner Connector B



1 X Corner Connector B O.H.



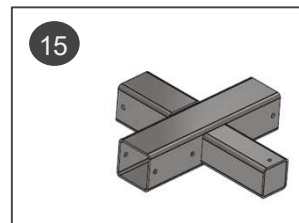
12 X Beams A (with holes)



6 X Beams B (no holes)



8 X straight connector sleeves



4 X middle connector sleeves



NOTE: CUSTOMER NEEDS TO SOURCE materials for footings based on structural engineer specification or the Structural Engineering Package Notes if applies for your location (download at <https://www.blikir.com/resources>) - recommended:

- Concrete
- Qty 48 x #4 Rebar 30"
- Qty 16 x Wire Mesh, 10 Gage min., 6" grid
- Qty 16 x Hilti HAS Rods
- HIT-HY 200 Adhesive
- Non-Shrink Grunt

Ironridge racking components:



32 X L feet



16 X XR100 Rails



8 X Bonded Splices



1 X Grounding Lug



96 X CAMO Hidden Clamps



3 X Panel Bonding Jumpers



8 X XR100 End Caps



32 X IronRidge T-Bolt

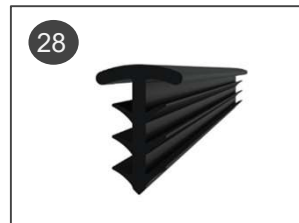
Other components (order separately):



Grounding Wire (Sold Separately)



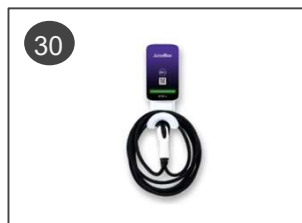
24 X 60 cell Solar Panels (sold separately)



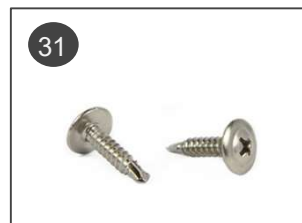
Sealing gasket (optional)



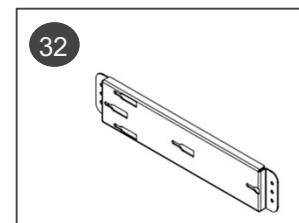
Decorative Mesh (optional)



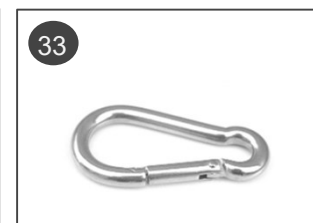
EnelX EV Charger (optional)



Self Tapping Screws for EV Charger Backplate



EV Charger Backplate (optional)



6 x Decorative Mesh Carabiners



2 X Safety Column Solar LED Light (optional)

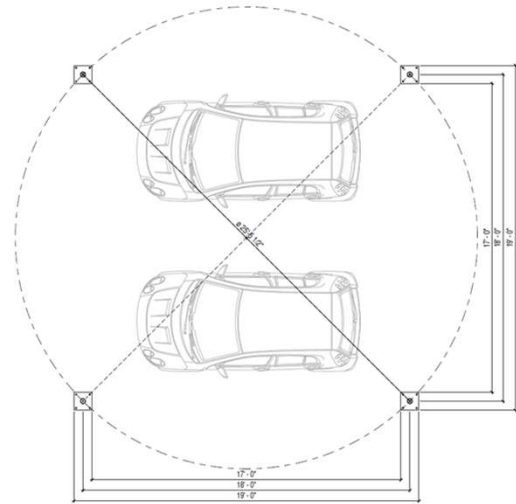


2 X 3M VHB tape for safety lights

1 - Build Base

1.1 Mark Piers Locations

Mark the locations of the piers following the diagram. Confirm that all angles are square. For a larger version of the diagram, refer to page 9.



1.2 Dig Piers

Dig piers according to site conditions and system specifications in the Structural Engineering Package (download at <https://www.blikir.com/resources>) and based on your structural engineer instructions for foundations requirements.

Read section 1.5 of the installation manual before deciding on the depth of the piers. If you would like to follow option B, dig deeper piers and cover the base anchors with gravel (to allow water to drain) and top with concrete (instead of option A of using the base anchors decorative plates), add the additional desired depth to the piers that you dig.

TILTED SURFACE: If the surface is tilted, you should dig the piers at the highest point deeper to make sure all ballasts will eventually be leveled.



WARNING: Never install the carport tilted. The columns must be straight.

TIP: To measure how much deeper the highest point should be, connect 2 of the supplied solar rails with the splice, position one end on the highest point, use a level to make sure it is leveled and measure the space between the lower marked pier location to the rail. This is the additional depth you need to dig the highest point location in order to have them leveled.

IMPORTANT: The structure's foundations should be calculated taking into account site conditions, frost line, soil type, maximum wind and snow loads for the site location and the product mechanical loading specifications. In some cases, a geotechnical study is required. Please consult with your local AHJ and a structural engineer.



WARNING: In areas subject to freezing, pier depths may increase to resist freeze heave. Always consult a structural engineer to confirm.



WARNING: Before you dig any holes, contact all utilities in the area to locate any underground lines, pipes, and wiring.

1.3 Build Reinforcing Steel Grid and Fill Holes with Concrete

If you want to run the electric wires through the back columns, bend a conduit, run all the wires through the conduit and lay it in the desired location.

NOTE: Not all carports and canopies are fabricated with wire path through the column. Make sure you know where the wire run before pouring the concrete. In most models, the two back columns will have wire path and EV charger assembly pilot holes.

GENERAL: Center all footings under columns above. Contractor shall locate all buried utilities prior to excavation. Refer to the Structural Engineering Package Notes (download at <https://www.blikir.com/resources>)

FOUNDATIONS: Footings are designed for an allowable soil bearing pressure of 1,5000 PSF.

CONCRETE: Concrete strength shall be as follows:

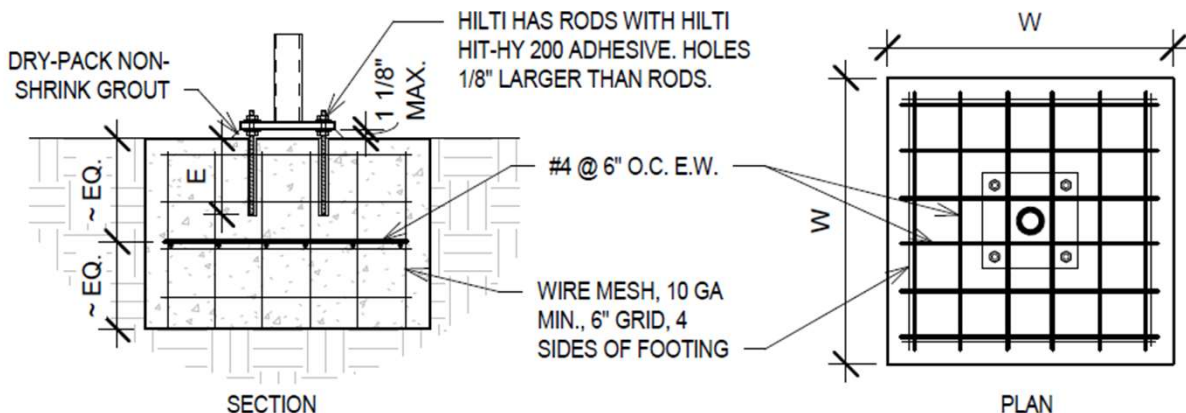
F'c	W/C	MIN CEMENT	MAX AGGREGATE SIZE	SLUMP
3000 PSI	0.58	470 LBS	1"	4" (+/-) 1"

Cement shall conform to ASTM C150, Type 1. Fly ash conforming to ASTM C618, Type F or Type C, may be used to replace up to 20% of the cement content. Aggregate shall conform to ASTM C33. Concrete shall be cured immediately after finishing operations.

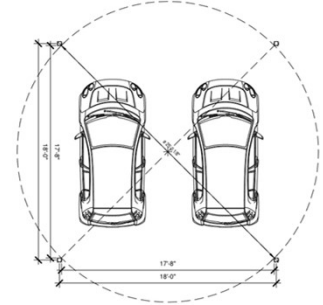
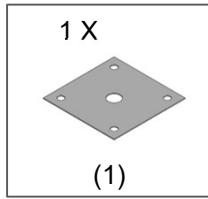
REINFORCING STEEL: Reinforcing steel shall conform to ASTM A615, Grade 60, and shall be securely tied in place with #16 annealed iron wire. Required clear concrete cover: 3" bottom and sides, 2" top.

SLOPED SURFACE: If the surface is sloped, you should dig the piers at the highest point deeper to make sure all ballasts will eventually be leveled. In this case, you will need to fill the gap between the base anchors and the surface with gravel to allow water to drain out of the column and base plate, if penetrated. You can cover part with gravel and the remaining with more concrete after you complete the installation.

If you choose to follow option B that is described in section 1.5 and install the base anchors lower than the surface, pour the concrete up to the desired height under the surface.



1.4 Align the Base Plates



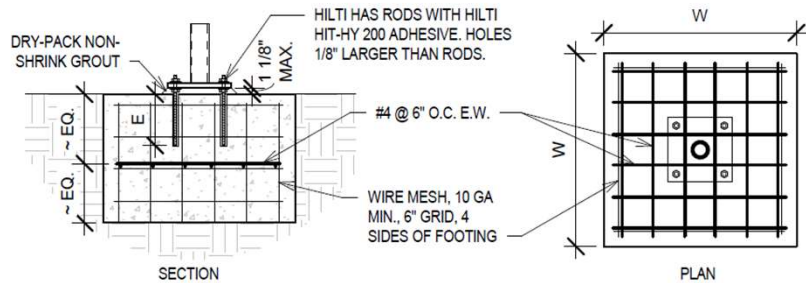
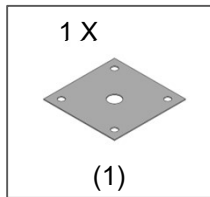
Wait for the concrete to solidify.

Your kit includes 1 base plate template.

Align the base plate template (1) with the horizontally punched hole facing forward.

Use the footings locations template to locate the other base plates accurately. You should measure exactly 18' between the center of adjacent footings or 17' between the internal edge of the base plate, and 25'-5 1/2" between the center of the base plate along the diagonal (see sketch on page 9 of this installation manual). **These measurements change when installing the EX-HD base plates, Tandem Kit or RCP-1 for one car.**

1.5 Install footings



Mark the locations of the anchors and remove the column base plate template (1).

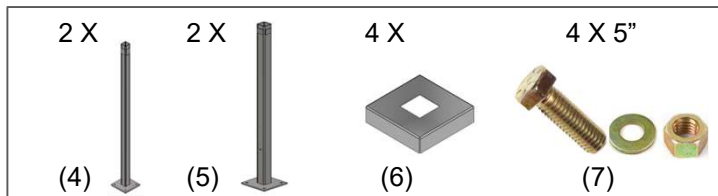
Using a concrete drill bit, create holes that are 1/8" larger than the specified rod size for your location. Install the four concrete anchors (not provided by us) into the concrete. Please follow the installation instructions and torques specified by the Encore manufacturer for the specific type being used.

OPTION A: Place the escutcheon plate (6) over the footing to conceal the concrete anchors and base plate (1).

OPTION B: As an alternative installation method, you may choose to dig the piers (section 1.2 of the installation manual) 3" to 5" deeper than the specified requirement. Position the base anchors lower than the surface, and after completing the installation, cover the base anchors with gravel and additional concrete to conceal the footing in concrete. The use of gravel is necessary to facilitate proper water drainage.

2 - Build Structure

2.1 Connect columns

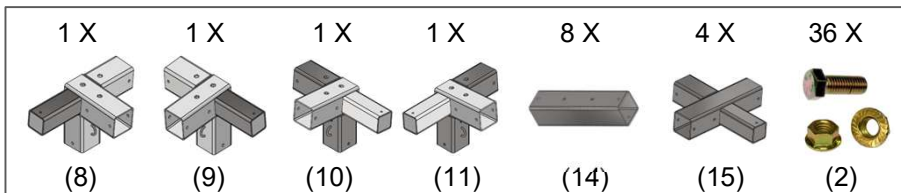


Decide where you want the carport to face. The front columns should be the 9' front columns (4), and the back columns should be the 10'-7" back columns (5).

Slide the 9' front columns base plate (4) and 10'-7" back columns base plate (5) onto the anchored footing and secure them to your enchores.

Slide the Escutcheon Plate (base plate cover) (6) on each column and cover the base plates.

2.2 Prepare sleeves and connectors with leveling system



In order to level the system, the corner sleeves (8, 9, 10, 11), straight connector sleeves (14), and middle connector sleeves (15) are equipped with precut hex holes that perfectly accommodate the provided flanged nuts (2).



Using these flanged nuts and 1" bolts, you can apply pressure to the beams (12, 13) during the final assembly phase to level the roof of the structure.

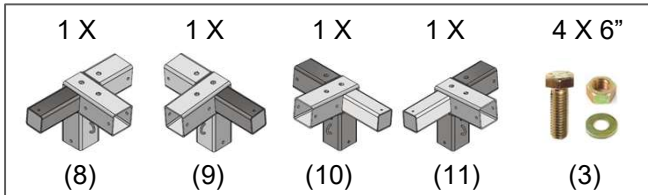
To proceed, insert one flanged nut into each hex hole, ensuring the flange sits within the sleeve while the hex nut protrudes from the hole. Next, secure each nut in place by screwing in a 1" bolt to prevent it from falling out. Ensure that the bolt does not extend beyond the flange to avoid any interference when later sliding the beams (12, 13) into the sleeves.

Keep in mind that you must connect all 36 bolts and nuts during the process.

Once the installation is complete, tighten all the bolts (2) to level the beams (12, 13) effectively.

2 - Build Structure

2.3 Connect corners



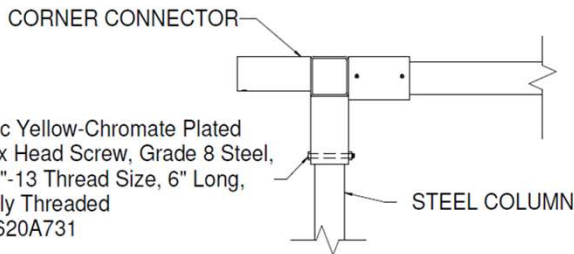
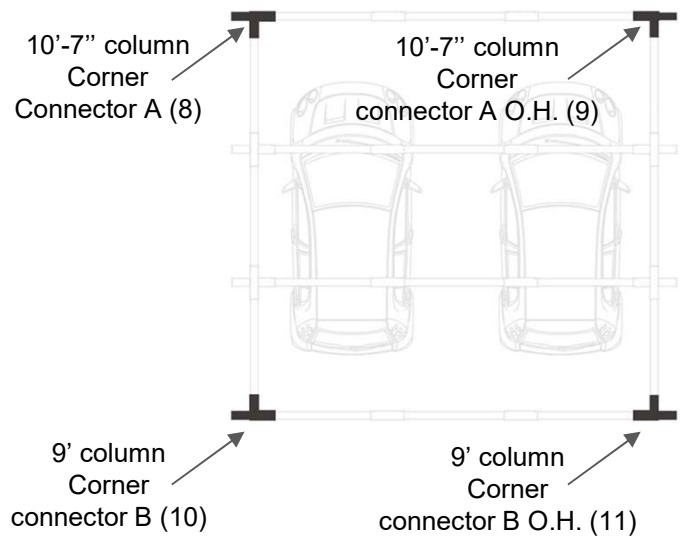
There are four types of corner connectors:

Corner connectors A (8) and A O.H. (9) are designed to connect to the high 10'-7" columns, with these connectors featuring an angled down orientation.

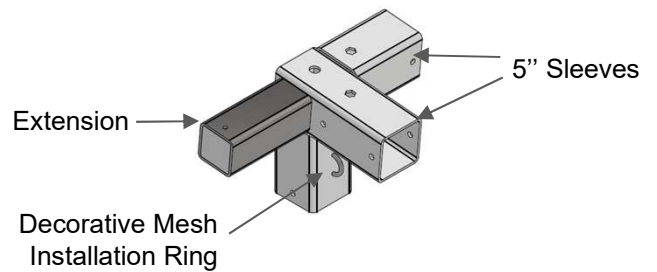
Corner connectors B (10) and B O.H. (11) are meant for the low 9' columns, and they have an angled up orientation.

It's important to note that corner connector A (8) and A O.H. (9) have a distinguishing feature: the position of the extension relative to the sleeves. Similarly, corner connector B (10) and B O.H. (11) are mirror images of each other.

Slide the corner connectors (8, 9, 10, 11) onto the columns (4, 5) and firmly fasten them using four of the provided 6" bolts, eight washers (two per bolt), and four nuts (2).

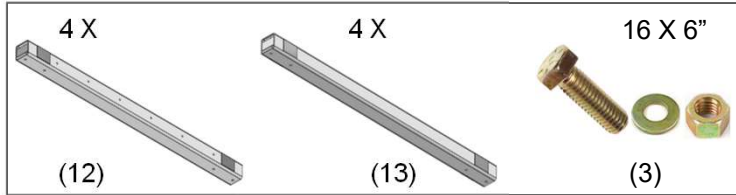


COLUMN TO CORNER CONNECTOR



Take extra care to ensure you are using the appropriate corner connector orientation: the 5"x5" sleeves should face the structure frame, and the extension should face outward. Additionally, the high column corner connector sleeve should be angled downward, while the low column corner connector sleeve should be angled upward.

2.4 Connect beams to corner connectors



During this step, you will install two types of beams: Beams A (12), which have pre-drilled holes, and Beams B (13), which do not have holes.

Beams A (12) will be placed in the E-W direction, between corner connectors of the same height. On the other hand, Beams B (13) will be installed in the N-S direction, between corner connectors of different heights.

To proceed, follow these steps for each type of beam:

For Beams A (with holes) (12):

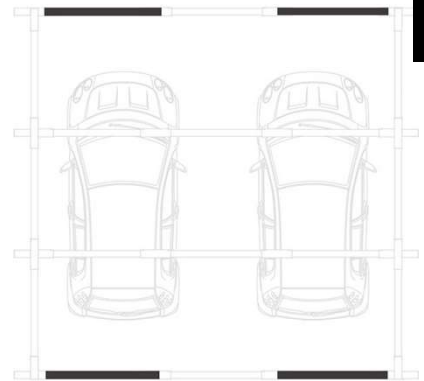
1. Slide Beams A (12) onto Corner Connector A towards Corner Connector A O.H and vice versa.
2. Slide Beams A (12) onto Corner Connector B towards Corner Connector B O.H and vice versa.
3. Secure the beams with 6" bolts, using two washers for each bolt and three nuts. To do this, slide a washer onto the bolt screw, insert the bolt screw through the hole in the beam and corner connector, then slide another washer onto the bolt before securing with a nut.

For Beams B (without holes) (13):

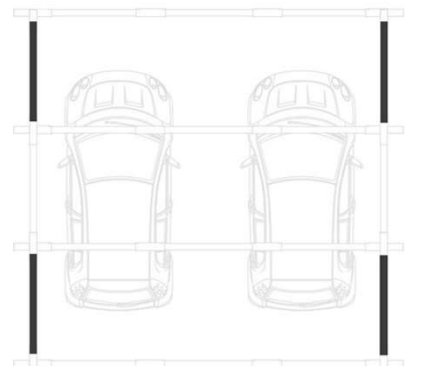
1. Slide Beams B (13) onto Corner Connector A towards Corner Connector B O.H and vice versa.
2. Slide Beams B (13) onto Corner Connector B towards Corner Connector A O.H and vice versa.
3. Secure the beams using the same method as with Beams A, with 6" bolts, two washers for each bolt, and three nuts.

Finally, tighten the set screws you installed on the corner sleeves in step 2.2 until the beams are appropriately leveled.

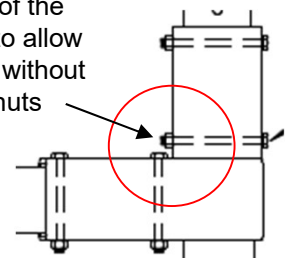
Beams A installed E-W:



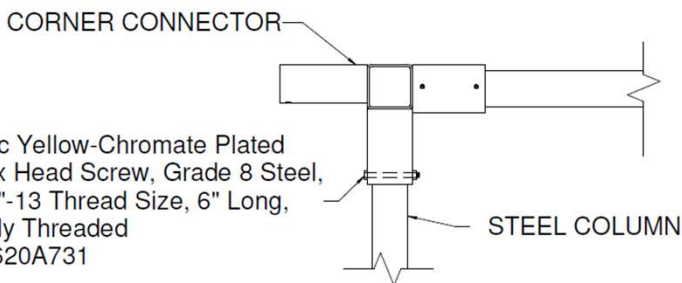
Beams B installed N-S:



Note the order of the nuts and bolts to allow tightening both without hitting the two nuts

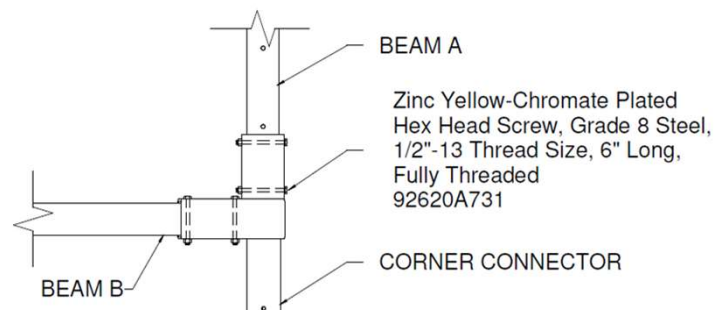


SIDE VIEW:

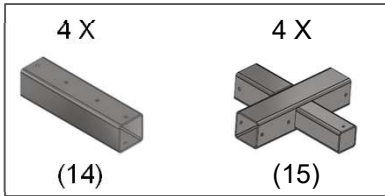


COLUMN TO CORNER CONNECTOR

TOP VIEW:



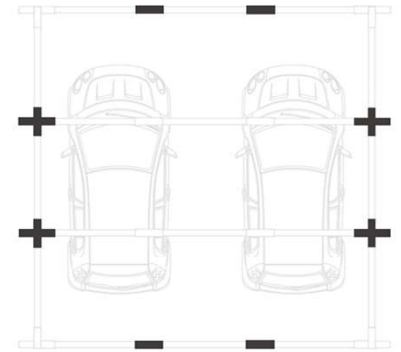
2.5 Slide connector sleeves on Beams



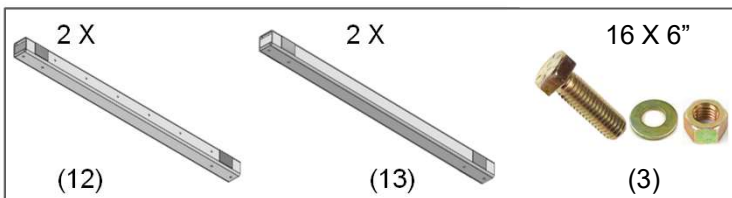
Install the straight connector sleeves (14) on beams between columns of the same height (9' to 9', and 10'-7" to 10'-7"). **Ensure the precut hex holes face the ground.**

Place the middle connector sleeves (15) on beams between columns of different heights (9' to 10'-7" and vice versa). **Ensure the precut hex holes face the ground.**

Position the sleeve fully on the beam, leaving space for the middle beam to slide between the connected beams.



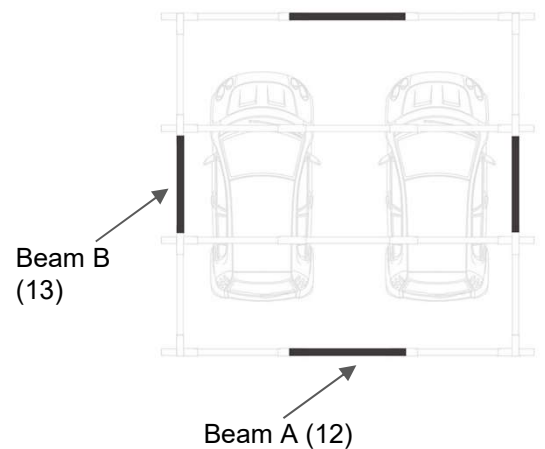
2.6 Connect middle beams



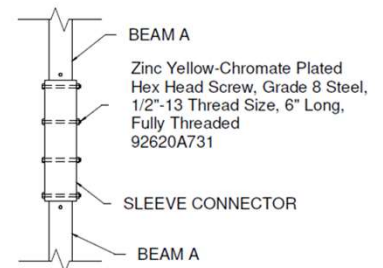
This step is similar to step 2.4 and involves installing beam A (12) in the E-W direction and beam B (13) parts in the N-S direction, as shown in the diagram.

Place the middle beam between the already installed beams. Slide the connector sleeves back to cover both beam pieces, and then secure them using the 6" bolts, washers (2 per bolt, one on each side of the sleeve), and nuts (3).

Finally, tighten the set screws you installed on the sleeves in step 2.2 until the beams are appropriately leveled.

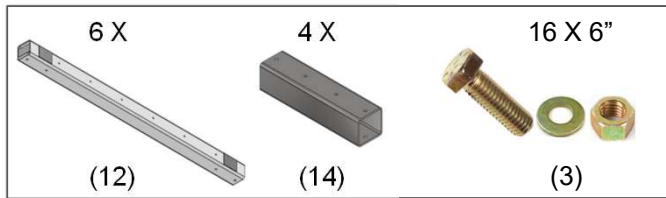


TOP VIEW:



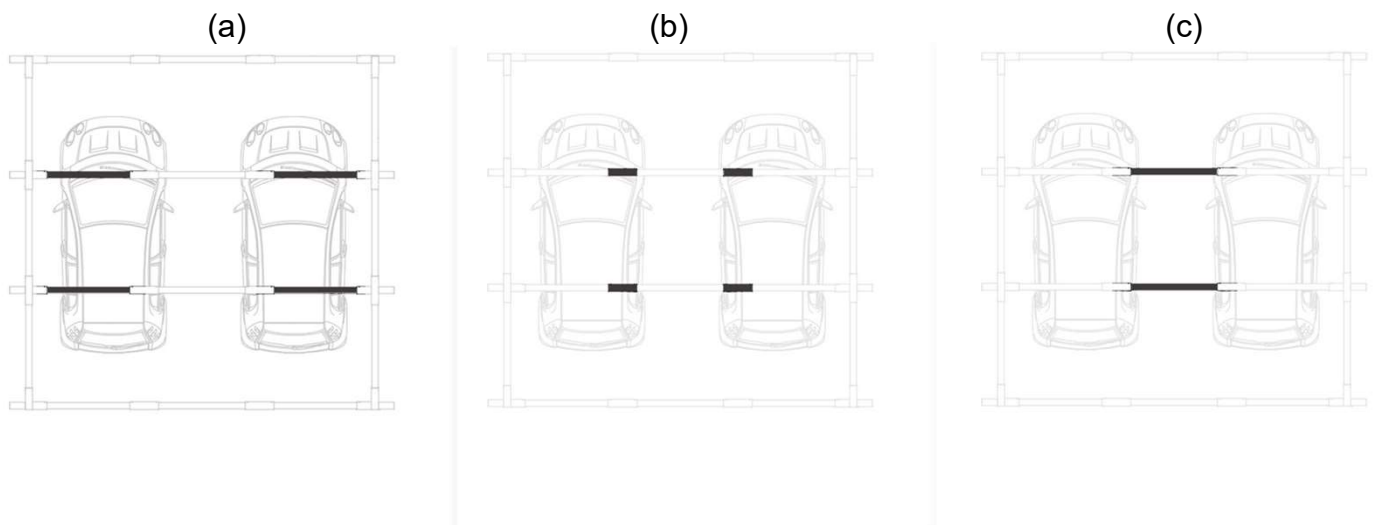
BEAM TO BEAM

2.7 Connect beams at the center



To connect the beams at the center of the structure, follow these steps:

- Slide Beams A (12) onto middle connector sleeves (15) and secure them using 6" bolts, washers (2 per bolt, one on each side of the sleeve), and nuts (3). Tighten the set screws from step 2.2 until the beams are leveled.
- Install straight connector sleeves (14) on the beams installed in step 1. **Ensure the precut hex holes face the ground** and fully position the sleeve on the beam, leaving space for the middle beam to slide between the connected beams.
- Place the middle beam between the installed beams. Slide the connector sleeves back to cover both beam pieces, and secure them using 6" bolts, washers (2 per bolt, one on each side of the sleeve), and nuts (3). Finally, tighten the set screws from step 2.2 until the beams are appropriately leveled.



3 - Connect Rails

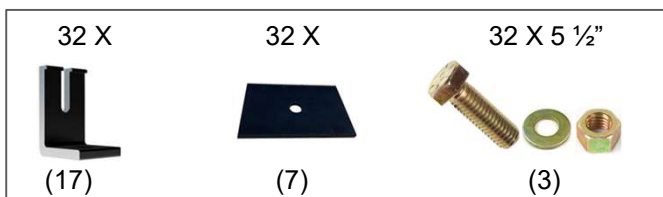


To proceed with the assembly, refer to the IronRidge Installation Guide available at the following link: <https://base.ironridge.com/pitched-roof-mounting/resources>
 Please note that the information provided here is a general description of the assembly process and should not be used as a standalone guide. It is essential to read the IronRidge installation manual thoroughly, as it may be subject to frequent updates.
 Installing the IronRidge components without following their official installation manual could potentially void the IronRidge Product Limited Warranty. Therefore, we highly recommend consulting the installation manual for accurate and up-to-date instructions.

3.1 Connect L-Feet



Important: When installing your system, make sure to utilize the installation manual provided by the racking manufacturer.

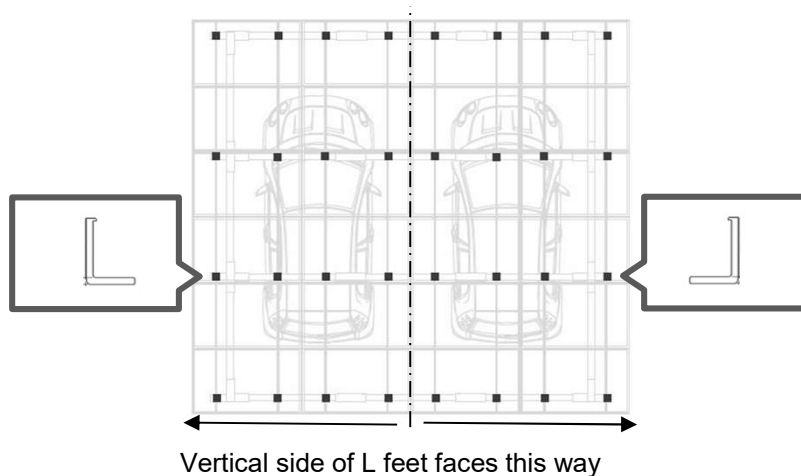


Depending on the dimensions of the solar panel used, choose the appropriate location for the L-Feet on middle beams A (12). The placement of the L-Feet will vary based on the specific dimensions of your solar panels.

Cover the selected pre-drilled holes on middle beams A (12) with L-Feet EPDM separators (16).

Please refer to the diagram below for the positioning of the L-Foot (17). The L-Foot has both a horizontal and vertical face. Place the L-Foot with the vertical face on the right side for L-Feet to the right of the center of the structure. Conversely, for L-Feet to the left of the center, position the vertical face on the left side.

Secure the L-Feet using the provided 5 1/2" bolts, washers (2 per bolt - one on the L-Foot and one under the beam), and nuts (3). Torque to 250 in-lbs (21 ft-lbs).



3.2 Cut Rails to Match Panel Size



To determine the precise length of a solar panel's column, use the width of the panels you will be using and add an extra 1/2" for the T Sealing Gasket. Employ the following formula:

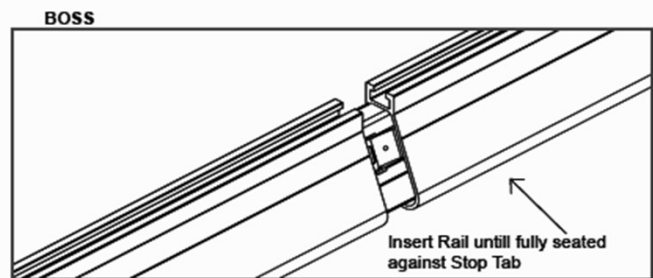
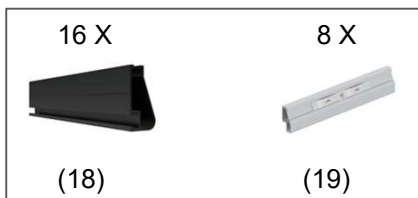
$$\text{Column length} = (\text{panel width} + \frac{1}{2}'') * 6$$

Two sets of 11' or 14' rails are supplied for each length; however, the actual required length will be shorter. For each rail pair, cut one of the rails to fit the calculated length.

3.3 Splice Rails



Important: Use IronRidge's installation manual when installing your system.



For the four columns of panels, assuming you are installing 24 x 60 cell panels, you'll need to connect eight pairs of rails: a full-size one to one of the rails that you cut in step 3.2.

To connect the two rails (18), use BOSS (Bonded Structural Splice). Insert the BOSS bonded splice (19) into the first Rail up until the Stop Tab. Slide the second Rail fully into place, ensuring that the cut is located in the middle to make it less visible.

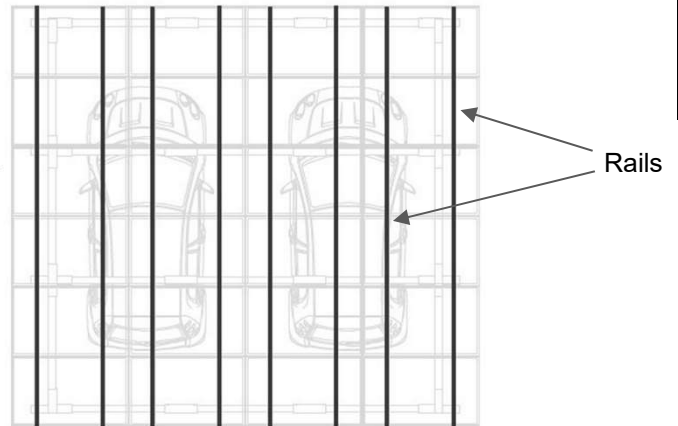
NOTE: CAMO and Bonding Hardware should be installed 1" away from the point where two Rails join together. You can cut the rails in step 3.2 in a way that avoids this situation, in case your panel dimensions result in such an occurrence.

3.4 Connect Rails to L-Feet



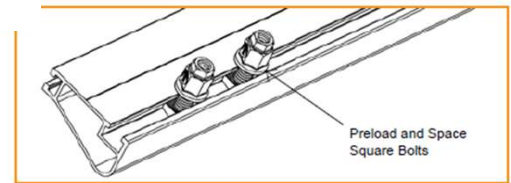
Important: Use IronRidge's installation manual when installing your system.

Attach the rails to the L-Feet, ensuring that the overhangs are balanced during the assembly.



Prepare hardware:

Prepare the hardware by sliding T-bolts into the side-facing rail slot. Space out the bolts to match the attachment spacing, and tape the ends of the rail to prevent bolts from sliding out during movement.



Attach Rails:

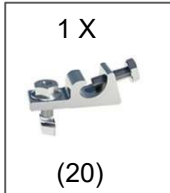
Next, attach the rails by placing the rail with hardware into the L-Feet. Level the rail at the desired height, and then tighten to a torque of 250 in-lbs.



3.5 Connect Grounding Lug to One Rail



Important: Use IronRidge's installation manual when installing your system.

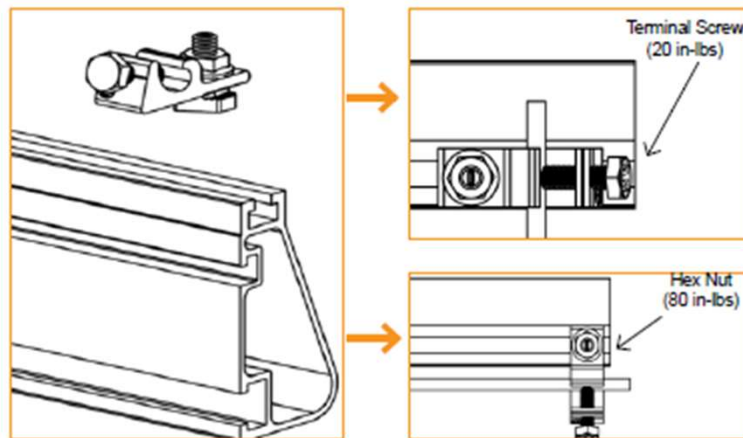


NOTE:

The Grounding Lugs are designed for use with one solid or stranded copper wire, with a conductor size ranging from 10 AWG to 4 AWG.

To connect a grounding lug (20) to one of the rails, insert the T-bolt into the Top Rail slot and tighten the Hex Nut to 80 in-lbs. Proceed to install a minimum 10 AWG solid copper or stranded grounding wire and tighten the terminal screw to 20 in-lbs.

Please note that Rail Grounding Lugs can be installed anywhere along the Rail and in either of the orientations shown.



3.6 Optional: install MLPE

If you are using MLPE (microinverters, RSD or optimizers), you can install them at this step

4 - Install Solar Panels

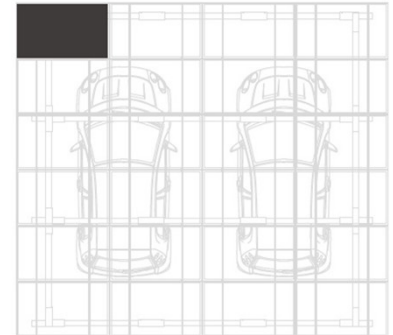
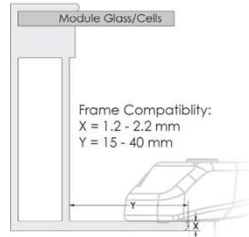
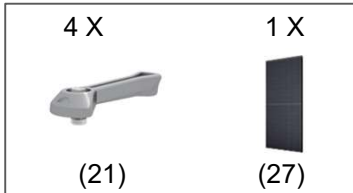
4.1 Connect First Panel with CAMO



Important: Use IronRidge's installation manual when installing your system.



WARNING: Prior to using CAMO with your solar panels, it is essential to check the panel frame compatibility as detailed in IronRidge's installation manual. Using CAMO with incompatible panels may lead to potential panel damage.



Slide 12 CAMO (21) (bottom clamps) on each rail (2 per panel per rail), leaving space for the panels to rest on the rails. You can secure them in place with a tape.

A. SLIDE INTO RAIL

Slide CAMO into rail channel far enough to clear the module frame. CAMO requires 6" of clearance from end of rail or the lip of the frame.



B. PLACE MODULE

Place module on rails (module cells not shown for clarity). When installing CAMO the module can overhang the rail no more than 1/4".



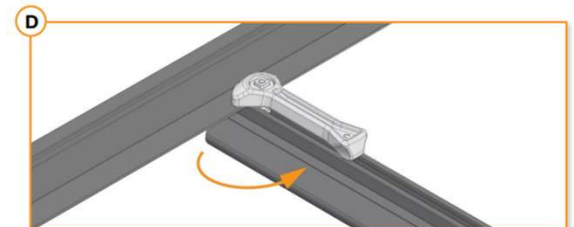
C. PULL TOWARDS END

Pull CAMO towards rail ends, at 45 degree angle, so the bonding bolt contacts the module flange edge.

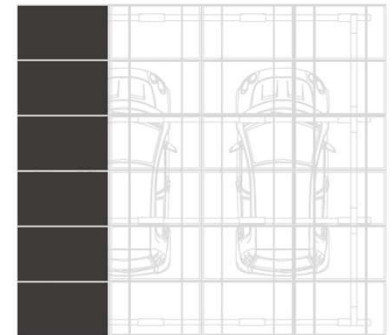
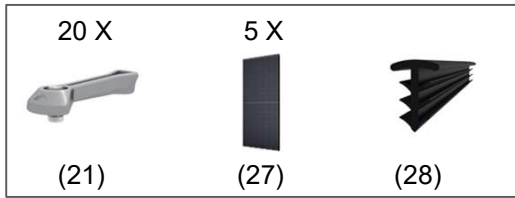


D. SECURE TO FRAME

Rotate handle with an upwards motion until CAMO snaps into rail channel. Ensure CAMO bonding pins are fully seated on top of module frame.



4.2 Connect First Column of Panels

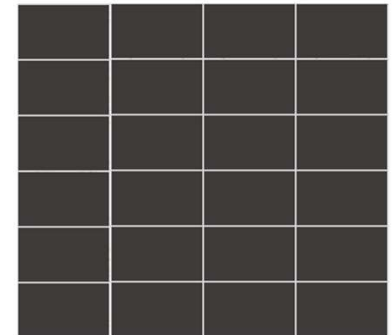
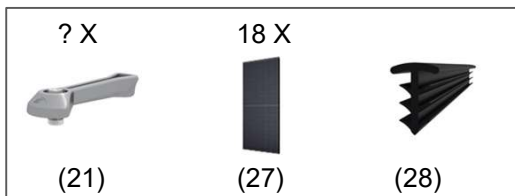


NOTE: Please note that the sketch and description in this step are based on the assumption that you are using 60 cell solar panels (or 120 half cell panels). If you opt for larger panels, please be aware that the number of panels that can fit on the RCP-2 carport may be reduced.

Position the second panel (27) in the same column as the first installed panel, following the same method described in step 4.1. Before securing the second panel, insert a strip of EPDM sealing T-gasket (28) between the panels, ensuring it is cut to align with the edges of the panels. Press the new panel against the EPDM gasket and secure it with the CAMO under clamps (21). Trim ¼" from the top of the EPDM sealing T-gasket (28) to allow the vertical EPDM sealing gasket to rest on the panels when installed in the next step.

Repeat this process to install additional panels up the column, accommodating six 60-cell panels per column.

4.3 Connect Remaining Solar Panels

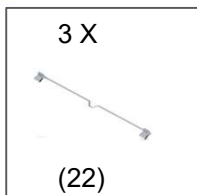


Proceed to the next column and repeat the steps. This time, position the EPDM sealing gasket (28) between the columns, and press the panel of the second column against the gasket before securing it with the CAMO under clamps (21). Ensure that the lip of the EPDM sealing gasket (28) rests flashed on the panel's frame and is not raised to prevent water penetration.

4.4 Connect Bonding Jumpers



Important: Use Ironridge's installation manual when installing your system.



The 8" Bonding Jumper serves as an electrical bonding connection used in the Flush Mount System for row-to-row bonding, utilizing the module frames as the medium for the equipment ground path.

- The Bonding Jumper is simply pushed onto the bottom flange of the module for installation.
- In case of re-installation requirements, it is recommended to use new jumpers.
- It effectively supports bottom flange thicknesses ranging from 1.2mm to 3.1mm.

5 - Optional Add Ons

5.1 Optional: Decorative Mesh



You have the option to enhance the aesthetics by installing a decorative mesh (29) to conceal the electrical wires and components.

The corner connectors come equipped with D rings, allowing easy attachment of the decorative mesh (29). Each Decorative Mesh kit includes 6 carabiners.

Start by connecting one carabiner to one of the rings on the mesh and attach it to one of the rings on the front corner connectors B (10) or (11).

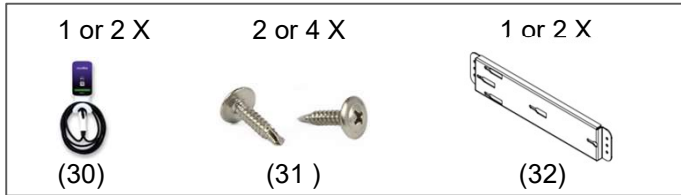
Ensure that the mesh seam is facing upwards for a clean look.


Next, connect another carabiner to the opposite side of the Decorative Mesh and attempt to attach it to the other front corner connector B (10) or (11). If it proves challenging to stretch the mesh, you may use a rope and loop it twice through the D ring, then through the ring on the decorative mesh. By pulling the two ends of the rope, you should be able to bring them close enough to attach the carabiner easily.

If this method does not work, you have the option to use one more carabiner (two spare carabiners are included for this purpose).

Repeat these steps for the remaining two corners, ensuring a uniform and attractive appearance for your installation.

5.2 Optional: EV Chargers



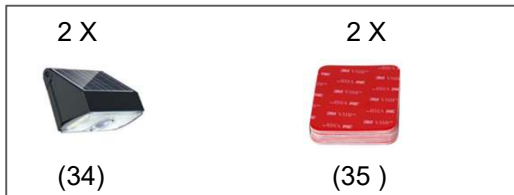
 For the next steps in the assembly process, please refer to the Enel X Installation Guide available at the following link: <https://evcharging.enelx.com/resources/installation>. It's important to note that the provided information is a general description of the assembly process and should not be used without thoroughly reviewing the Enel X installation manual. The installation manuals may undergo frequent updates, and failure to follow them could potentially void the Enel X Product Limited Warranty. To ensure proper installation and compliance with warranty requirements, we strongly recommend consulting and following the Enel X installation manual diligently.

Should you opt to install EV Chargers, begin by assembling the back plate (32) to one or two back columns using two 1/8" stainless steel self-tapping screws (not supplied) (31). Once secured, mount the EV Charger onto the plate.

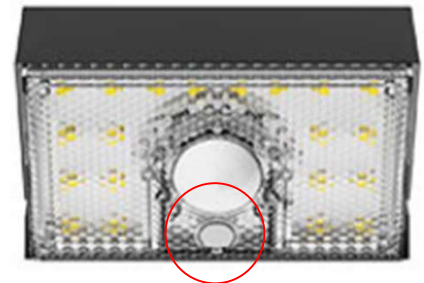
The back columns feature pre-drilled holes specifically designed for the electrical wires, facilitating easy wire management through the back columns.

To continue with the installation process, please refer to the Enel X installation manual for detailed instructions and guidance.

5.3 Optional: Columns Safety Solar LED lights



Should you decide to install Column Safety Solar LED lights, begin by removing the assembly plate that comes with the lights. To do this, simply take out the two screws located on the side of the light fixture.



1. Affix the two-sided 3M tape (35) to the back of the fixture.
2. Peel off the tape cover and attach the light at the desired height.
3. Ensure the fixture is leveled before attaching it to the column.
4. Repeat the assembly process with the other light fixture, making sure to install them at the same height.

Please note:

- The lights do not come pre-charged. Expose them to light for a few hours to enable them to operate effectively.
- The lights are equipped with motion sensors and ambient light sensors. They will not activate during the day, so you can set them up in a dark or dimmed light environment before installation.

Operation:

- To switch the lights on or off, press the button for 2-3 seconds.
- A single click (green light flickers once) activates a mode where the lights remain off until the motion sensor detects movement in a dark environment.
- Double-click (green light flickers twice) for a mode in which the lights stay on at a low setting (20lm) while it's dark, and increase to 1,000lm temporarily when motion is detected. This mode is recommended.
- A third click (green light flickers three times) switches the mode to a low light setting (20lm) while it's dark outside.

Please ensure to follow these instructions for optimal use and performance of the Column Safety Solar LED lights.