

Solar Mounts, LLC

Frequently Asked Questions!

FAQ!

Q1. Does Solar Mounts LLC supply lighting for solar carports?

- A. Yes, Solar Mounts LLC stocks high-efficiency LED canopy lights (100–240V, approximately 80W) that are ideal for solar carports. We also offer Buy American Act (BAA)-compliant lighting upon request. If your electrical contractor is providing the lighting, we recommend LED fixtures with a Color Rendering Index (CRI) above 70 and a color temperature between 3000K and 5000K for optimal visibility and performance.

Q2. Does Solar Mounts LLC offer waterproofing solution for solar carports?

- A. Yes. Solar Mounts offers durable waterproofing solutions for our Solar Carports and Walkways. The solution is designed to perform in extreme heat and cold. Installation is simple and typically involves about five fasteners per PV module, with module gaps ranging from approximately 3/8" to 1 1/4". For additional rain and snow protection, Solar Mounts can also install a standing seam roof deck beneath the PV modules.

Q3. Can Solar Mounts LLC solar carport structures be powder coated in custom colors?

- A. Yes, the vertical posts and trusses of our carport structures can be powder coated in a wide variety of colors (additional costs may apply). Our signature "Solar Mounts Blue" is the most popular, but many other solid colors are available upon request. Custom color selections can be specified when ordering the posts and struts. Please note: we do not powder coat the purlins located directly beneath the PV modules.

Q4. What are the typical heights and tilt angles for Solar Mounts LLC ground mounts and carports?

- A. Solar Mounts LLC ground mount systems—available in both ballasted and post-driven configurations—are installed so the lowest edge of the PV array is a minimum of 2 feet above ground. Actual distance above ground depends on the array layout and tilt angle. Tilt angles can be adjusted from 0° (flat) to 40°. These systems are not designed to allow agricultural machinery to pass underneath. For safe and efficient performance, PV modules must remain at least 24 inches above ground level. Carport and walkway structures provide 14 feet standard clear height, allowing comfortable clearance for vehicles and pedestrians. Most carports are installed with a 7° tilt, while our Long Span carports typically feature a 3° tilt.

Q5. What types of foundations / footings does Solar Mounts LLC offer for carports?

- A. Solar Mounts LLC offers two standard foundation options for our carport structures: Pier Footings and Spread Footings. For a detailed comparison, refer to our Solar Mounts Application Note on Foundations. While both options are effective, Spread Footings are often preferred for their superior load distribution and greater on-site flexibility, making them an ideal choice for most carport installations. Solar Mounts can also design and build hybrid foundations, made of spread footings with helical posts.

Q6. Where are inverters typically mounted on Solar Mounts LLC structures?

- A. Solar Mounts LLC structures support PV modules that generate DC electricity from sunlight. An electrical contractor connects these modules to an inverter, which converts the DC power to AC. Inverters typically weigh between 30 and 120 lbs. and are rated NEMA 3R or NEMA 4X (IP65), making them suitable for outdoor installation in rain or snow. Installers usually mount the inverter under the solar carport, directly to a Solar Mounts LLC structural post using Uni-Strut (or equivalent). Since the post is anchored in concrete, it can easily support the inverter's weight. Inverters are often mounted higher on the post to keep them safely out of reach beneath the carport, though some installers prefer a lower mounting height for easier access by a technician using a ladder—eliminating the need for a scissor lift.

Q7. What posts do Solar Mounts LLC use for Ground Mounts?

- A. Although I-Beams are used for Solar Mounts LLC Carports today, Solar Mounts LLC new standard design call for the use of C-channel Posts for ground mount systems. The C-channel post is versatile. It can be turned to the East or to the West allowing the contractor to set the tilt angle in 5°-degree increments, from 0°- 40° degrees. The C-channel post also allows the installer to fasten Solar Mounts LLC stabilizing struts to the C-channel post and truss.

Q8. When should I choose a ballasted ground mount versus a post-driven system?

- A. The choice between a ballasted and post-driven ground mount typically depends on soil conditions and overall project cost (materials and labor). Post-driven systems are ideal for stable soils and are especially recommended in areas with clay, which expands and contracts—making driven posts more secure over time. Ballasted Ground Mount solutions are the best choice where you find unstable soils, e.g., Landfills, Brownfields, etc.. Ballasted systems are a better option when underground obstructions (6–12 feet deep) make driving posts difficult or impractical. In regions with higher labor & material costs, ballasted systems can offer cost advantages. They require less excavation, smaller cement forms, and less concrete per footing, resulting in quicker, more efficient installations.

Q9. How can I make carports more cost-effective?

- A. There are several ways to reduce the overall cost of a solar carport project. One option is to select more affordable PV modules to help lower material expenses.

At Solar Mounts LLC, we use 100% U.S.-made steel, so our structural material costs are tied to the U.S. steel market. From a foundation standpoint, spread footings are generally more cost-effective than deep pier footings. For long-term savings, mounting the DC equipment and inverter in easily accessible locations—such as at ladder height instead of requiring a scissor lift—can help minimize future maintenance costs.

Q10. Where can Solar Mounts LLC stamp their structural and foundation drawings?

- A. Solar Mounts, LLC can stamp our structural and foundation drawings in all fifty (50) States and Puerto Rico

Q11. Where does Solar Mounts LLC source the steel for its solar carports and ground mount structures?

- A. All structural steel and construction materials used in Solar Mounts products are proudly sourced and manufactured in the United States. Every step of the steel production process—including forming, rolling, drawing, finishing, fabrication, and coating—is completed at ISO 9001-certified facilities located in Michigan and other Midwest regions. For documentation purposes, contractors can download and print the Solar Mounts Application Note on AIS (American Iron and Steel) Compliance.

Q12. Is there any field welding required to install a Solar Mounts LLC Carport or ground mount system (ballasted or post-driven)?

- A. No. Solar Mounts LLC structures are designed for field assembly without any welding. All posts and trusses arrive pre-drilled and ready for installation using galvanized nuts, bolts, and washers. Our updated L-plates and overlap brackets provide enhanced flexibility for securing purlins and PV modules to the post and truss assemblies.

Q13. Does Solar-Construction LLC have to install Solar Mounts LLC designs? Or can I install my own solar canopy or ground mount system?

- A. While Solar-Construction LLC installs most Solar Mounts carports and ground mount systems, contractors are welcome to install the systems themselves. Solar Mounts LLC provides stamped structural drawings in all 50 states to qualified contractors with the tools and expertise to install cement foundations and erect large steel structures. Please note: All electrical work, including connecting PV modules to the site and utility—remains the responsibility of the contractor or their licensed electrician.

Q14. How do the PV modules (“panels”) attach to the Z-Purlins or C-channel purlins?

- A. PV modules with frame thicknesses between 30 mm and 55 mm can be securely fastened to Solar Mounts’ Z-purlins or C-channel purlins using our proprietary End Clamps and Mid-Clamps. These clamps are designed to accommodate deep anodization (up to 25 microns) and provide a UL 2703-compliant ground

bond. Each clamp set includes a top-of-module clamp, bolt, and threaded serrated bottom plate. Modules are attached at four points per panel, ensuring secure placement and resistance to wind loads up to 180 MPH.

Q15. What size range do Solar Mounts LLC solar structures cover?

- A. While Solar Mounts has designed a few systems as small as 20 kW for high-end residential use, our focus is on commercial, industrial, and utility-scale markets. Typical project sizes range from 150 kW to 4 MW. However, utility-scale projects can be significantly larger—such as a 26 MW landfill installation currently under construction in New Jersey (2025).

Q17. What is a “solar shade structure” and what purpose does it serve?

- A. A solar shade structure is a PV-supporting canopy designed to provide shade and partial weather protection. The most common configurations include covered walkways and solar carports. While these structures offer sun and weather protection, they are not fully waterproof. Solar walkways are often installed at building entrances to enhance aesthetics and improve user comfort at ingress and egress points.

Q18. What shapes and sizes are available for Solar Mounts LLC Carports and Walkway structures?

- A. Solar Mounts structures are highly customizable. Our walkway designs provides a standard 8 feet of clear height (up to 14 feet) and can support up to six PV modules in width. Carports can be engineered for up to 17 feet of clear height to accommodate RVs, school buses, or large construction vehicles. Cantilevered designs can be configured in L-shapes, T-shapes, V-shapes, or Checkmark shapes to match project aesthetics and meet functionality, safety, and security requirements.

Q19. What are the new Solar Mounts LLC “long-span” carports that I have been hearing about?

- A. Although Solar Mounts LLC cantilevered designs are standard, Solar Mounts LLC can also build “Long-Span” Carports. These large solar structures use deep trusses span over parking lot drive aisles, providing total parking lot coverage. The Solar Mounts LLC Long-Span Carports span 27’-29’ feet East/West Post to Post. They cover 52’-60’ feet North/South and are PV module agnostic.

Q20. How does Solar-Construction LLC install Solar Mounts LLC solar carports, walkways, ground mounts, etc.?

- A. Solar-Construction LLC is a wholly owned subsidiary of Solar Mounts LLC. Solar-Construction have their own commercial trucks and trailers to deliver steel to your site. The Solar-Construction team is licensed in 12 States and brings their own crew and equipment (skid steers, post drivers, lifts, etc.) to complete the job quickly and with consistent quality.