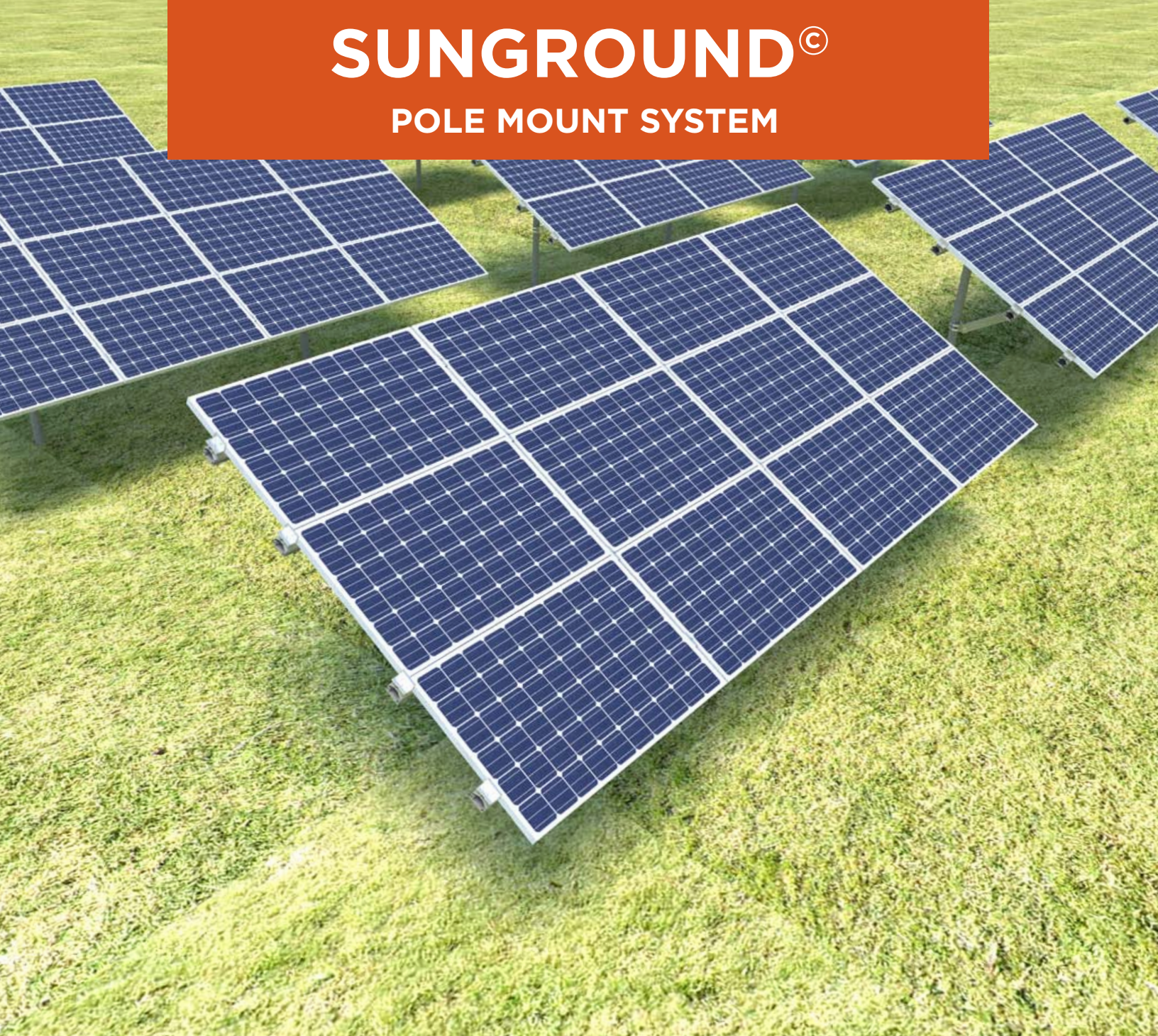


SUNGROUND[®]

POLE MOUNT SYSTEM



SUNGROUND[®] MOUNTING SYSTEM 2.0



DESIGN AND AESTHETICS



Completely intuitive

The simplicity of Opsun's SunGround[®] mounting system makes it one of the easiest to install on the market.

Opsun's SunGround[®] system takes advantage of Opsun's SunRail Structure[®] extrusions, giving contractors the same flexibility, on-site control and familiarity as wood construction beams.

- The Opsun SunGround[®] clamps and rails allow for adjustments in all axis to adapt to imprecise posts installation.
- Ultra-fast installation: custom length pre-cut rails and stands add convenience, reduce waste and minimize installation time.
- Low amount of posts required.
- Optional factory preassembly available.

OPSUN STRUCTURAL SOLIDITY



Structurally solid, engineered, elegant

Opsun's SunGround[®] is designed to be extremely solid and hold over 3500 W on two posts seamlessly.

- Designed for heavy snow and strong wind climates.
- Highest amount of aluminum per watt on the market.
- One of the highest amount of panels per post on the market, reducing global cost of installation.
- Massive rails allow very large spans, meaning fewer posts.
- Long rails and structural design allow loads to be distributed on the whole surface of the system, eliminating risks of breakage.
- Opsun SunGround[®] mounting system is **Building Code compliant** and load resistance is **verified by structural engineering** firms.

ENGINEERED DESIGN

- Opsun's SunGround system has been imagined to be extremely resistant yet easy to install.
- 100% aluminum: this material always have the upper hand against galvanised steel: better corrosion resistance, lighter weight, higher thermal conductivity for better panels cooling.

Fast, convenient assembly

Opsun's SunGround[®] system is designed to be elegant and resistant, but also practical. Solar power plant owners expect easy installation, performance, limited maintenance and great visual appearance.

- Assembly can be done with a few drill sockets and a simple impact drill.
- Opsun's lock nuts make fastening components fast, easy and robust.
- Minimal number of different parts.
- Can be installed on concreted blocks when post installations is impossible.
- Top-grade aluminum components are extremely durable and keep their appearance for a long periods time.



TILT ADJUSTABLE ON THE FLY



Absolute Flexibility

The SunGround® is the perfect example of the flexibility achievable with Opsun mounting systems. The SunGround® has a variable tilt angle enabling the optimal performance along seasonal adjustments.

System design and layout is completely customizable

- Compatible with any panel size.
- Different configurations available (from 3x3 to 4x6 arrays and above), portrait or landscape.
- From residential to large scale installation.
- Elevation from ground is completely variable.
- Continuous row configuration possible (variable array size up to 4 layers of panels in landscape).

UNIQUE FEATURES



Opsun masters the element of wind

The SunRail® mounting system is tested to minimize wind stress on the system.

- Can resist heavy winds up to **150 MPH (241 km/h)**.
- Can be designed to be **hurricane-proof**. Ideal for wet climates and any harsh environments.

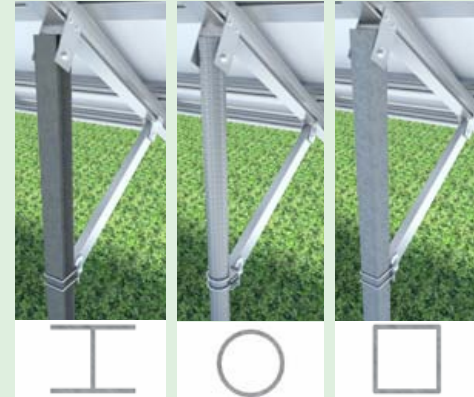
Open array to reduce the operating temperature and allow easy movement throughout the system to facilitate snow clearing and electrical maintenance.

System conceals and protects electrical cabling in cavity along the side of the rails. Wire management solutions available.

Plastic end caps are available as an option for a finished look.

Anodized aluminum available in many colours (black, clear, colour).

POST COMPATIBILITY



Enhanced possibilities

The SunGround® is specifically designed to fix itself to pre-existing structural beams anchored to the ground.

The SunGround® can be fastened to most types of poles, piles or beams available on the market (H-beams, I-beams, Square beams, and many more).

Compatible with any anchoring type

- Screw piles.
- Posts with concrete foundation.
- Driven piles.
- Hydraulic piles.

Advanced grounding

WEEB-OSF grounding solution available.

Self-grounding solution available.

SUNGROUND[®] MOUNTING SYSTEM 2.0



SPECIFICATIONS

- Structural engineer stamped.
- Made in Ontario to meet OPA domestic content requirement.

Typical weight per Array (3x4): Mounting only: 134 kg (295lb)
With PV: 362 kg (796 lb)

SRS Rail weight: 3.53 kg per meter
Regular tilt angle: Variable
Panel layout: Landscape
PV panel compatibility: Any panel frame and sizes
Maximum rail length: 27 ft
Rail material: 6005-T5 aluminium with mill finish
Clamp material: 6005-T5 and 6061-T6 aluminum
Bolt material: Stainless steel
Finish: Mill finish or anodised (black or color)

Maximum wind load: 150mph
Elevation from ground: Variable
Post clamp compatibility: Variable

Required Tools

- 9/16 and 7/8 socket wrench
- Impact drill

COMPONENT LIST



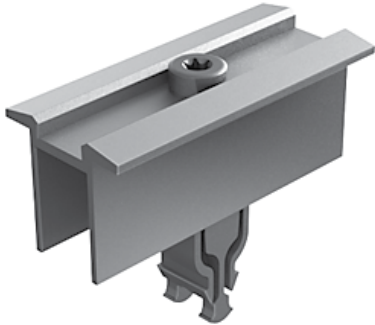
OPSUN SUNRAIL UNIVERSAL™

All ordered clamps come with their respective bolts and locks.
Roof fixtures come with pre-applied adhesive membrane (Optional)

1	SRS4-24ft	SRS4 (SunRail Structure) extrusion beam	9	SRL-RL5	SRL rail link; type 5
2	ST2x4-60INT	Square tube 2x4 extrusion beam	10	SDS-SS-12-1	Stainless self drilling screw 12-1"
3	SRL-AC1-SG	Flushmount fixture; type 1, assembly SG	11	B-SS-1/2x3	Stainless steel 1/2 x 3" bolt
4	SR-SC1	SunRail Side Clip; type 1	12	B-SS-1/2x3	Stainless steel 1/2 x 5" bolt
5	SR-LP3	SunRail Linking plate; type 3	13	BL-SS-0.75	Stainless steel 3/8" bolt with Loctite
6	SRL-AC4T-2H	SRL AC4T; type 2H	14	BL-SS-2.5	Stainless steel 2-1/2" bolt with Loctite
7	SRL-UC1	SRL U-clamp; type 1	15	LN1-SS	Stainless steel lock nut
8	SRL-ZC50-ER	Z-clamp (38, 40, 42, 45 or 50mm)	16	SRS-BT1	Stainless 3/8-4IN U bolt

* Clamp model available for 15, 20, 25 and 30 degree

OPSUN CLICLOC[®]



SAVE MONEY AND TIME

Integrated grounding is the future. Opsun now has a fully custom ClicLoc that makes grounding a simple, easy task.

- **UL and CSA** approved
- **Clicks** on the rail and slides into place
- **Completely grounds** the panel to the rail
- **One piece** serves as both the clamp and the grounding solution
- **Fully tested** to be as strong as all other Opsun components
- **One tool** fixes into place
- **Requires less copper** conductor overall

OPSUN WEEBS ALSO AVAILABLE

The Opsun WEEB brings many benefits to a mounting system, while being **low-cost**:

- **UL and CSA** approved
- **Engineered** for outdoor use over long periods of time
- **Prevents** galvanic corrosion
- **Requires less copper** conductor overall
- **Easy to use**



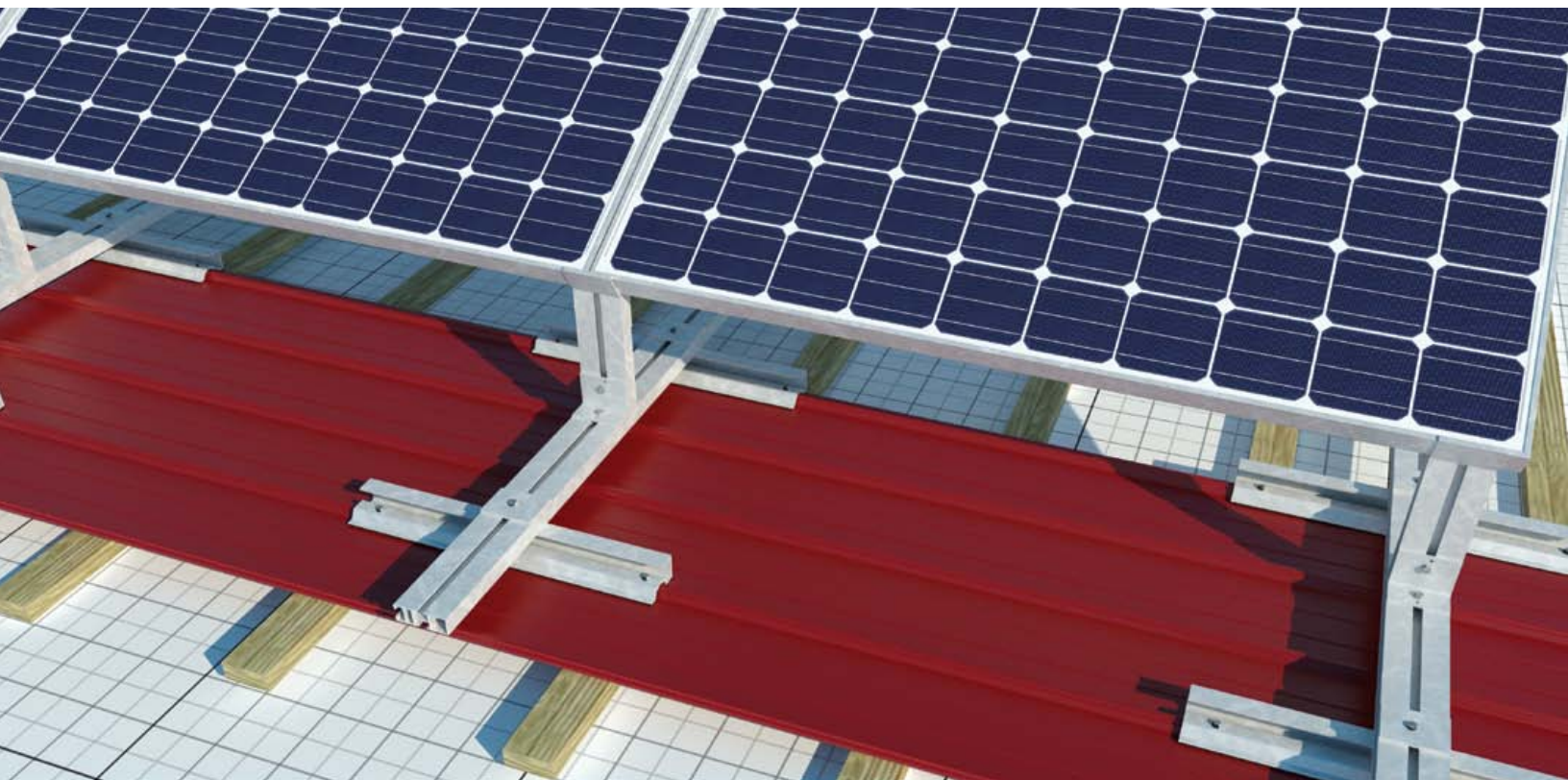
Project success with three simple steps.

1. Obtain full engineering support
2. Install solid, structural rails
3. Fasten panels with self grounding clamps

Accomplish reliable results fast and at a low cost

*ClicLoc is a Trademark from Fath PV Tech inc.

TOTAL ENGINEERING SUPPORT



FLEXIBLE DESIGN

Opsun does not only sell a product: each project is tailored to fit on the ground or on any structure perfectly. Optimal layout and configuration of the mounting system is determined by an engineer and a custom solution is proposed.

- **Engineers** are appointed to work on each design, customizing it to the needs of the client.
- **Electrical string design** can be done by our engineers to optimize electrical wiring.
- **Accurate configuration drawings** of the array are done and are supplied with each quote, assuring clear visual presentation of the custom design.

FULL ENGINEERING SUPPORT

Our engineers work extensively on each project to perform all the work required to certify that the system will meet any legal or engineering standards. Plans that Opsun supply are virtually the only ones required to construct a project.

- **Simulations and engineering calculations** are performed by engineers to verify the structural integrity of the system. Wind tunnel tests are used to validate that ballast calculation is compliant with the Building Code.
- **Supplied plans are ready for engineer stamping.** Opsun's plans contain almost every element required to obtain a building permit, streamlining the process, saving time and avoiding costs. Fully stamped plans can even be supplied upon request.
- **Project-specific technical drawings** with precise measurements to facilitate installation are supplied, reducing on-site costs, avoiding unexpected issues and limiting any risks to a minimum.
- Opsun's total service is a company vision, so its always **free!**

KNOWLEDGE IS POWER

Opsun's staff is comprised of solar energy experts. We can accompany any developer through the whole process of creating a solar power plant. Our team is skilled in:

- Rapid estimation of the PV potential of a site.
- 3D rendering for astonishing project presentations.
- PVSyst simulations and projections of electricity generation.
- Optimization of system efficiency.
- Geolocalization tools can be used to assess shading issues and to quickly determine building characteristics.
- Feasibility assesment.

TECHNICAL SOLUTIONS

Opsun's technological innovations are customer demand-driven. Opsun's well-developed solutions to structural challenges increase the range of feasible projects.

Ask us a custom solution, and we will design it for you!

Examples of specialized applications:

- Building Integrated Photovoltaics (BIPV).
- Tilt panels on a sloped roof.
- Installation of panels on a low-pitched East-West roof.
- Minimizing ballasting, but still avoid using anchors.

INSTALLATION SUPPORT

Opsun's engineering staff is expert on everything related to solar equipment and the installation of a solar power plant.

Call us and we will lend you a hand:

- Training of installation teams and maintenance staff.
- Coaching of early installations to ensure flawless execution.
- Expert, personalized phone support for technical assistance during installations to help resolve issues when they arise.