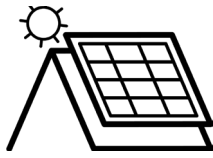




Case Study — Coto Technology, Mexicali, Baja California, Mexico

PVKIT® | S-5-MX™ Mini



At-A-Glance

Project Name:

Coto Technology

Location:

Mexicali, Baja California, Mexico

Owner:

Coto Technology

Solar Developer:

Newen Energías Alternas

Module Manufacturer:

Jinko JKM555M-72HL4-BDVP

Inverter Manufacturer:

SolarEdge MAC 50KTL3-X MV

Roof Profile:

KR-18, 24-ga, double-folded standing seam metal roof

Industry:

Industrial

The Situation:

Coto Technology needed a reliable solar mounting solution that was easy to install, non-penetrating to the roof, and acceptable to FM Global, the insurer for this project.

The Result:

They chose the S-5-MX Mini clamp, designed for the roof profile, paired with the PVKIT for rail-less PV mounting. The system, weighing just 15% of a traditional railed system, ensures a lightweight, non-penetrating installation that preserves the integrity of the roof and eliminates the risk of voiding its warranty.

Project Stats:

- Roof Measurements: 170 x 85 m
- Roof Pitch: 3°
- Project Size: 511.16 kWp DC (360 kWp AC)

S-5! Products Supplied:

- S-5-MX™ Mini clamp (2,050)
- PVKIT® EdgeGrab (389)
- PVKIT® MidGrab (1,661)



The Project

Coto Technology is a global leader in reed relays, reed switches, and TMR sensor products, recognized for its expertise in magnetic switching and sensing, and for continuously innovating complementary technologies to enhance its advanced solutions. Trusted across a wide range of industries – including automatic test equipment, data acquisition, instrumentation, process control, telecommunications, medical, battery management, solar energy and security systems – Coto has ranked #1 in reed relays for more than 50 years.

As part of Coto's 2024 growth and improvement strategy, the company transitioned its manufacturing operations to a larger, more advanced industrial facility in Mexicali, Baja California, Mexico. A key focus in this new phase was to enhance energy efficiency and bolster environmental responsibility. In alignment with corporate sustainability goals, Coto made the strategic decision to install a state-of-the-art solar PV system, aiming to reduce electricity consumption and minimize its environmental footprint.

The solar developer, Newen Energías Alternas, completed the installation of a 511.16 kWp DC (360 kWp AC) rooftop solar PV system—the maximum size system permitted by law in Mexico—on the manufacturing facility's double-folded standing seam metal roof. S-5! application engineers supported Newen from start to finish to ensure they met all the requirements for the project.



Newen recommended S-5! for its strong brand recognition as an American company with an international presence.

With a proven track record spanning 30+ years, S-5! is backed by a lifetime warranty, certifications and testing, engineering design support, and expertise in both wind

load calculations and structural calculations.

The **PVKIT** rail-less solar mounting solution along with the **S-5-MX Mini** clamps designed for the specific metal roof profile, provided a simple, secure method to “lay & play” PV modules. This tested and engineered system allowed for direct attachment to the seams of the roof.

Providing a faster and easier installation than a traditional rail system, the PVKIT allows panels to be installed anywhere on the roof while reducing transportation and logistics costs. By eliminating the need for rails, the system reduced the load on the roof by 85% compared to traditional racking.

Paired with the S-5-MX Mini clamp – an economical solution for both single-folded and double-folded profiles – the result was a solar PV system that met the facility’s energy needs without penetrating the roof and potentially causing leaks.

The final project design was endorsed by all stakeholders, including the industrial developer, the owner, the insurance company and Coto Technology.

The Challenge

Coto’s corporate office manages all its facilities with strict adherence to technical requirements set by FM Global, an international property insurance and loss prevention company. As such, Coto required a solar mounting solution that would ensure FM Global’s acceptance.

The solar developer sought a solution that would protect and preserve the integrity of the roof, optimize the solar system’s performance throughout its useful life, and come from a manufacturer capable of offering comprehensive support from the initial planning phase through to installation.

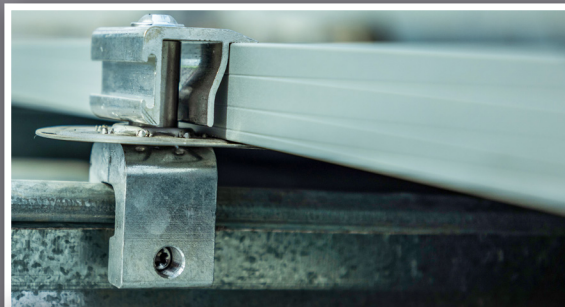
The primary objective of the project was to supplement the manufacturing facility’s energy production with solar power and reduce its electricity bills by 33%.

The Solution

Newen only selects components from trusted brands that are guaranteed to last the life of the solar system and the roof itself. To ensure a reliable solution that met FM Global’s requirements, S-5! and Newen worked closely with Coto.

How Did the S-5! Products Help?

- Easy to Install, reduced installation time by 30%
- Reduced material costs, including freight costs
- Reduced carbon footprint of the mounting system by 85%
- Non-penetrating system, not invasive to the roof
- Maintained the roof’s integrity, avoiding leaks and ensuring high wind resistance
- Eliminating the risk of a voided roof manufacturer warranty—no holes/no damage
- 85% lighter than rails, providing 25% better load distribution



Long-term Outlook

By utilizing the PVKIT direct-attach solar mounting solution paired with the S-5-MX Mini clamps, Coto Technology met its energy needs with a sustainable solution that preserves the integrity of the roof. This solution not only streamlined installation but also kept the project on track, ensuring the project was completed on time.

“S-5! provided exceptional service and support throughout every stage of the project, from start to project completion. At Newen, we specify S-5! for all our metal roof projects because of their reliable engineering support, technical expertise, and both virtual and on-site training. With a proven track record, a lifetime warranty, and in-depth knowledge of wind load calculations and structural calculations, S-5! gives us the confidence to ensure the success of every project.”

—Pamela Pavón, Energy Commercial Manager, Newen Energías Alternas



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