



SUNPOWER

HELIX™

THE WORLD'S FIRST FULLY-INTEGRATED COMMERCIAL SOLAR PLATFORM

What happens when an entire organization works well together?  
Efficiencies soar. Output increases. Goals are reached.  
It's no easy feat, but when it happens, it's transformative.

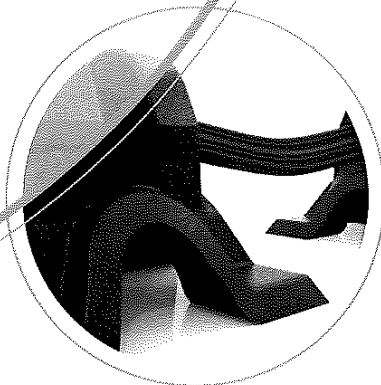
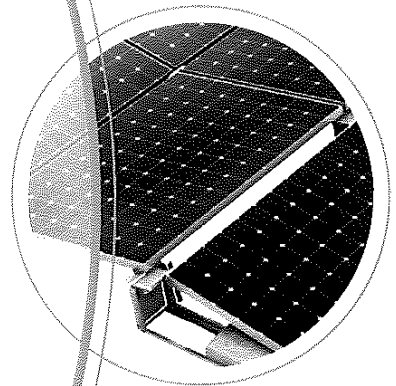
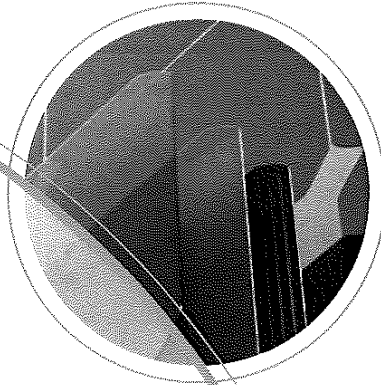
That's the power of seamless integration.

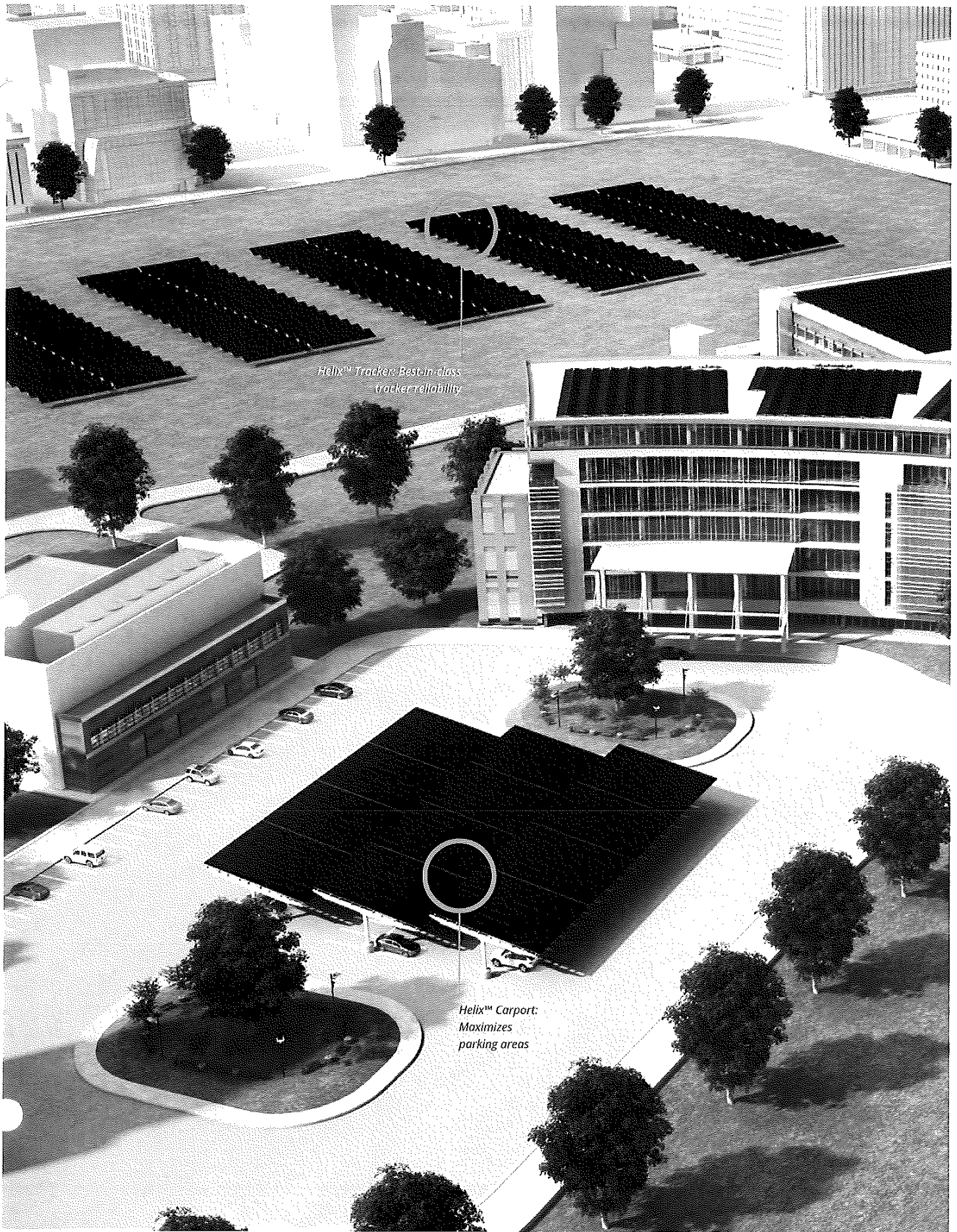
And the inspiration behind  
the all-new Helix platform from SunPower.  
The world's first fully-integrated commercial solar solution.

From solar cells to software,  
each system is designed to interact perfectly,  
delivering powerful results and exceptional value.

One unified vision. One revolutionary solar platform.  
Introducing Helix from SunPower.

THE POWER OF ONE™





*Helix™ Tracker: Best-in-class  
tracker reliability*

*Helix™ Carport:  
Maximizes  
parking areas*





*Helix™ Roof Optimizes  
for NPV or IRR with  
Dual Tilt or Single Tilt*

**WELCOME TO THE SUNPOWER®  
HELIX™ PLATFORM**

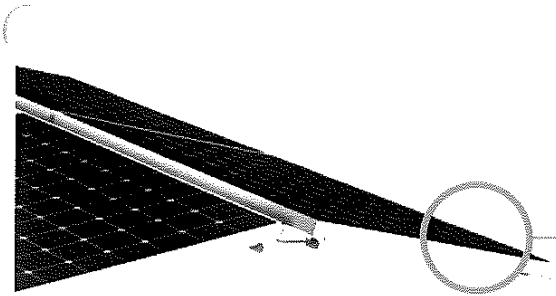
Drawing on 30 years of proven experience, Helix is designed and built by one company to make commercial solar incredibly powerful and elegantly simple. Each component is precision-engineered for fast installation, long-term reliability and impressive returns.

Spanning rooftop, ground and carport applications, this clean energy powerhouse also features the advanced intelligence of SunPower® EnergyLink™ software. Delivering unprecedented visibility into – and control over – your solar energy production and consumption.

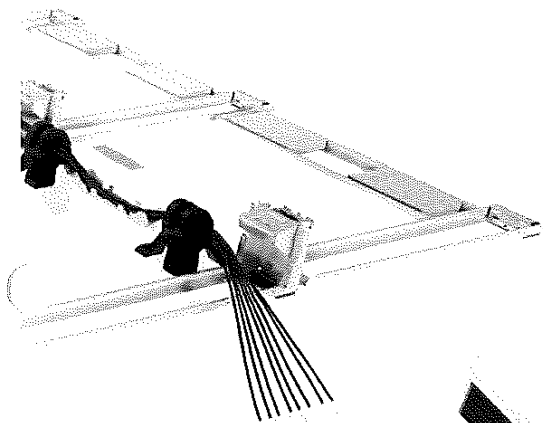
# THE POWER OF ONE™

*Maxeon® Solar Cells:  
Unmatched reliability¹*

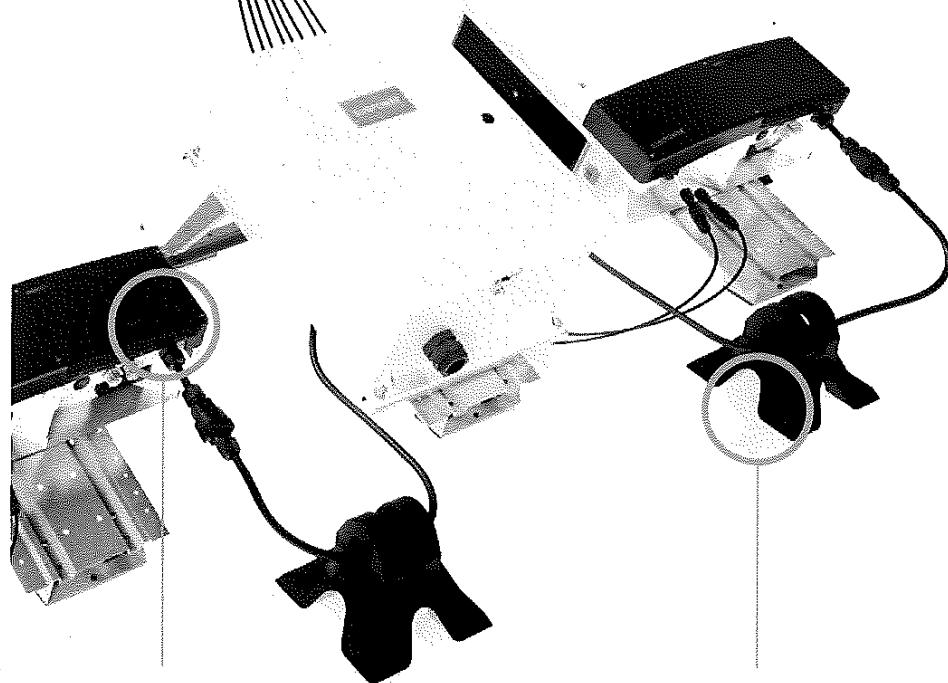
*Mechanical system:  
Highest energy density²*



*Panels:  
World-record efficiency<sup>2</sup>*



*Power station:  
Plug-and-play accuracy*



*Cable management:  
Lifetime durability<sup>3</sup>*



*Smart Energy:  
Complete energy management*

#### POWERFUL INTEGRATION

The Helix design approach is beautifully simple: the more seamless the integration, the more reliable the result. From solar cells and panels to hardware, electronics and energy management, each component is built to interact flawlessly with the next, yielding dramatic efficiencies and greater reliability.

## BETTER BY DESIGN

*Unique light-trapping surface yields more power than conventional solar cells*

*Ultra-pure silicon delivers optimal power conversion*

*Solid copper foundation adds massive strength*

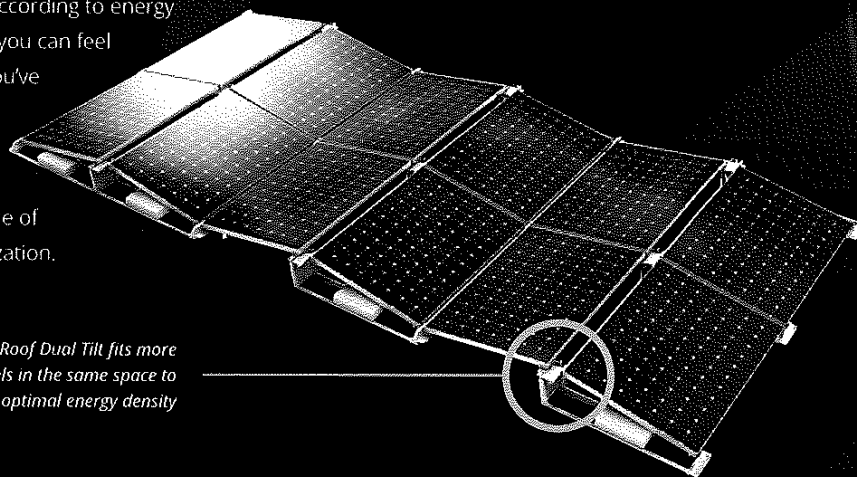
### CELLS

SunPower® Maxeon® solar cells look different because they are different – and better. The heart of the Helix platform, their seamless surface captures more sunlight, thanks to our innovative back-contact design. Our patented cell structure also eliminates the causes for cell breaks and corrosion from temperature swings and damp heat, which account for 86% of the reasons conventional cells fail.<sup>1</sup> So you enjoy unmatched reliability and more savings over the lifetime of your system.

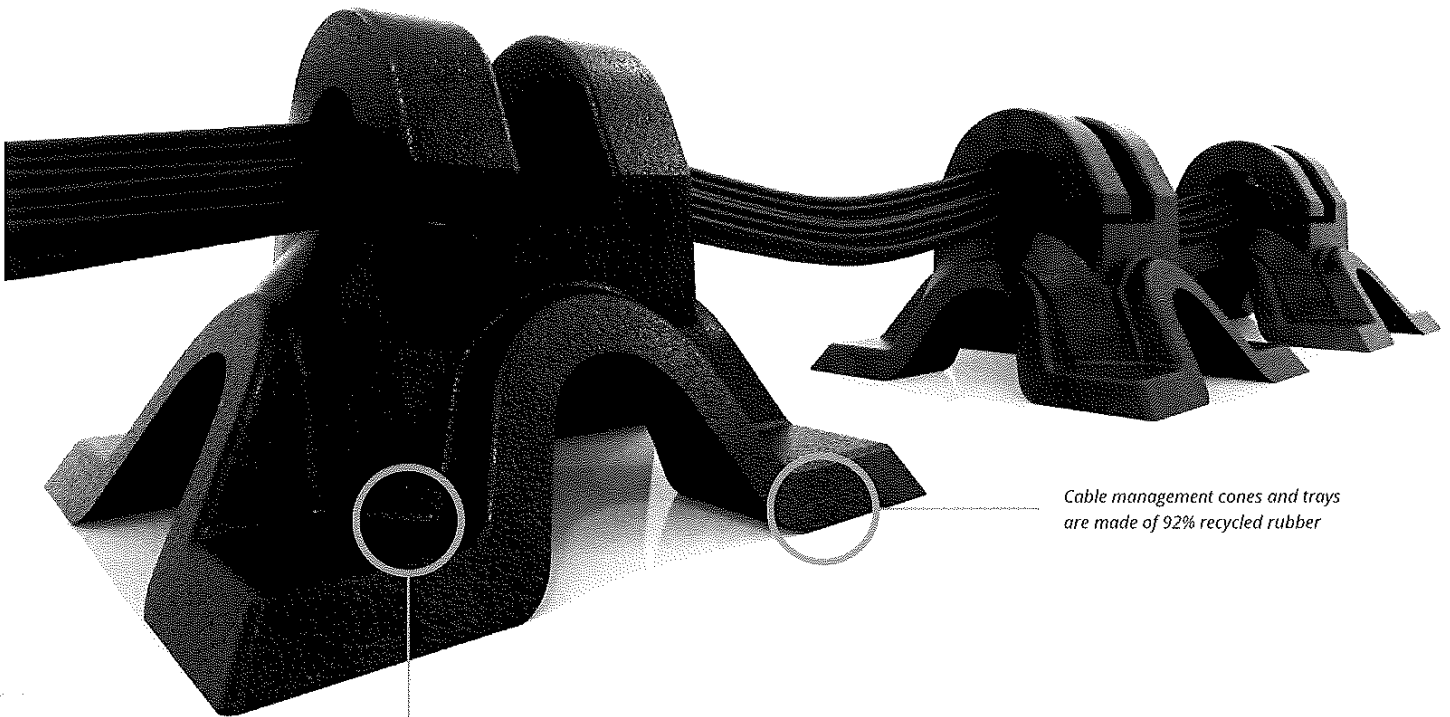
### PANELS

The world-record setting efficiency of SunPower panels<sup>2</sup> is unmatched in the commercial market today. They produce 60% more energy from the same space over the first 25 years than conventional panels,<sup>3</sup> with less degradation over time. In fact, SunPower panels rank #1 in durability<sup>4</sup> according to energy experts. So you can feel confident you've invested wisely in the clean energy future of your organization.

*Helix Roof Dual Tilt fits more panels in the same space to provide optimal energy density*



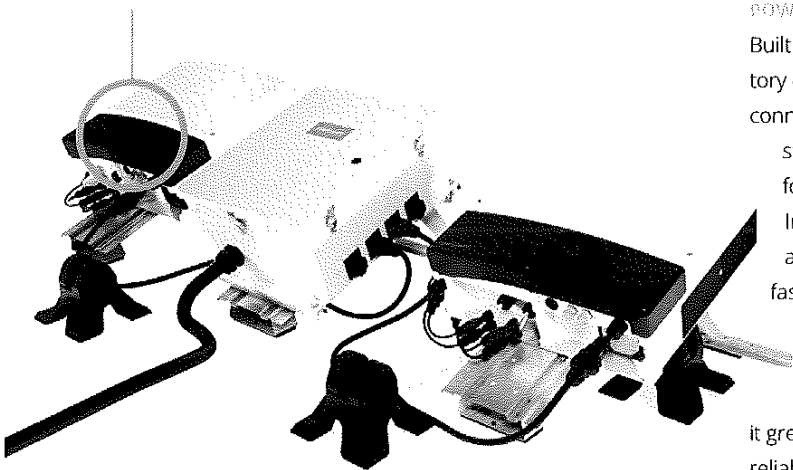
## WIRED FOR SUCCESS



*The first cable management system specifically designed for our commercial solar platform*

*Cable management cones and trays are made of 92% recycled rubber*

*Helix has the only preconfigured power station in US commercial solar. This reduces field connection steps by 67%<sup>9</sup>*



Our holistic design approach means every component is precision-engineered specifically for Helix, including often-overlooked elements like the power station and cable management systems.

### POWER STATION

Built in a quality-controlled factory environment, the electrical connections of the Helix power station are preconfigured for easy interconnection.

Inverters and panel boards arrive on-site ready for fast installation, with no field wiring or tools required.

Not only does this reduce installation time, it greatly improves system reliability. After all, when 100% of manual power station wiring

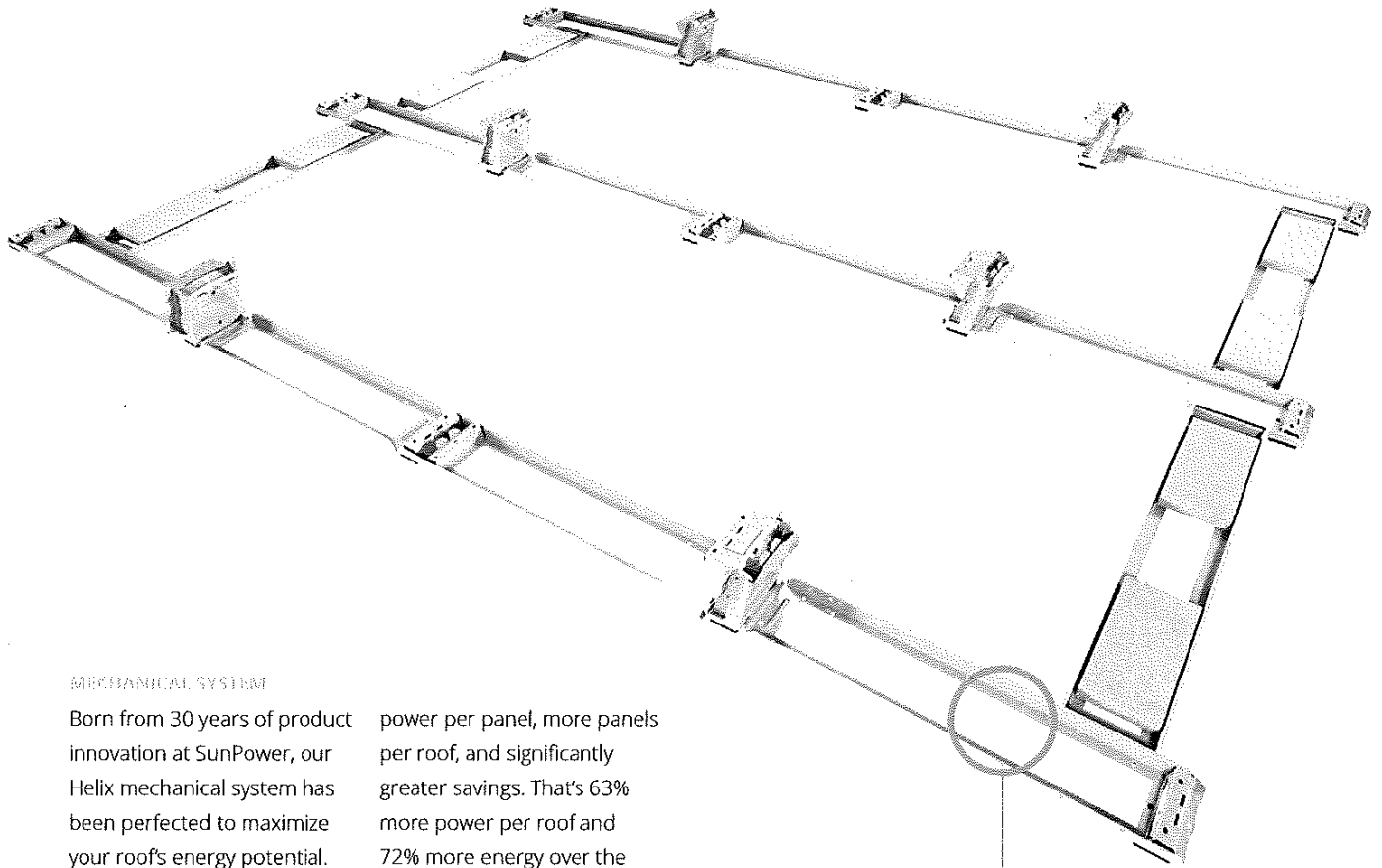
is removed, so are the human errors that may come with it.

### CABLE MANAGEMENT

A rooftop can be a brutally unforgiving place, with temperature swings, intense sunlight, hail and high winds. Well-secured energy cables are crucial to protecting your investment. Our engineers developed innovative new ways to ensure that wires and cables are protected from abuse and abrasion. Incredibly simple and easy to install, Helix cable clips, cones and trays can help prevent costly downtime.



## STRENGTH MEETS SAVINGS



### MECHANICAL SYSTEM

Born from 30 years of product innovation at SunPower, our Helix mechanical system has been perfected to maximize your roof's energy potential. With flexible ballast and anchor options, industry-leading roof coverage, and a 10-degree tilt angle, Helix perfectly optimizes the power density and energy yield potential of your roof. Add to that our high-efficiency solar panels, and you get more

power per panel, more panels per roof, and significantly greater savings. That's 63% more power per roof and 72% more energy over the life of your system.<sup>10</sup> What's more, the lightweight Helix mechanical system can be installed without tools and is made of exceptionally strong and durable materials. So you can be sure your solar system will deliver the energy you expect for decades to come.

*Marine-grade aluminum  
and stainless steel hardware*

## ADVANCED OPTIMIZATION

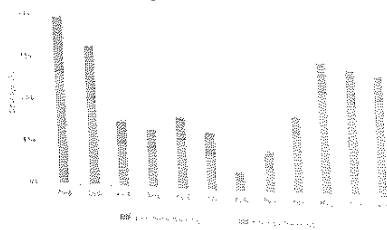
SUNPOWER

### Solar Savings

Monthly Energy Savings

	July	Year-to-Date
Energy Savings	\$1,128	\$1,128
Energy Savings	\$1,128	\$1,128
Energy Savings	\$1,128	\$1,128

### Monthly Energy Savings



### ENERGYLINK™ SOFTWARE

Our most comprehensive and powerful energy intelligence software is now in your hands. With SunPower® EnergyLink,™ you can easily manage all of your organization's energy usage and costs – and for the first time ever, you can validate the exact amount of money and carbon your Helix solar system has saved.

EnergyLink's Solar Savings Report quantifies your savings from solar with an unprecedented level of accuracy by tapping into high-resolution metered data and world-class utility tariff models. The Facility Profiling

tool makes it easy to compare energy patterns and identify demand peaks across sites. This allows your team to adjust energy patterns to avoid costly demand charges. EnergyLink's Utility Bill Management provides a centralized location to manage your utility bills across all sites, and it also communicates directly with ENERGY STAR Portfolio Manager, so you don't have to. Benchmark building performance. Identify bill errors. And streamline your organizational processes. It's never been easier than with EnergyLink.

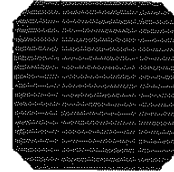
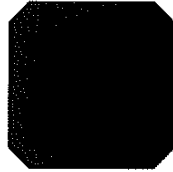
## HEAD TO HEAD COMPARISON

### SUNPOWER

### CELLS AND PANELS

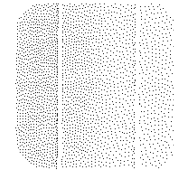
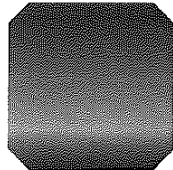
### CONVENTIONAL

**No Grid Lines on Front of Cell**  
Maxeon cells absorb more sunlight and optimize power conversion.



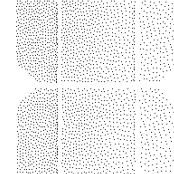
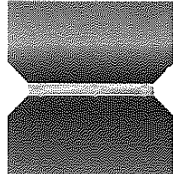
**Line of Metal Paste on Front of Cell**  
Power output drops as the thin paste reflects light and corrodes.

**Solid Copper Backing**  
Our thick copper foundation adds massive strength and is nearly impervious to corrosion.



**Even More Metal Paste on Back of Cell**  
Offers no strength. Cell can crack and lose power when exposed to temperature swings.

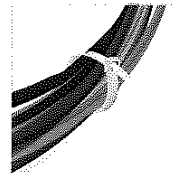
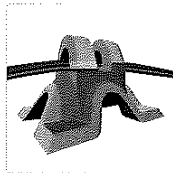
**Robust Connectors**  
Expanding and contracting from daily temperature swings are no problem with our built-in strain relief.



**Thin, Weak Connections**  
Lose just one of these narrow ribbons and the entire cell fails.

### CABLE MANAGEMENT

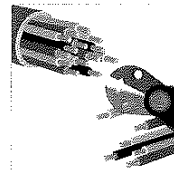
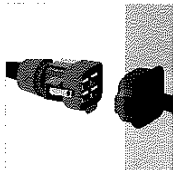
Cable clips, cones and trays help protect cables from harsh and abrasive roof surfaces.



Zip ties fail as quickly as one year when exposed to UV and heat.

### POWER STATION

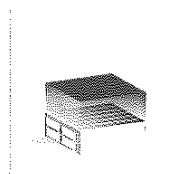
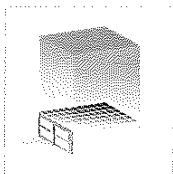
Zero manual wiring and no tools for electrical installation virtually eliminate the potential for human error.



Manual wiring is unreliable and highly time consuming.

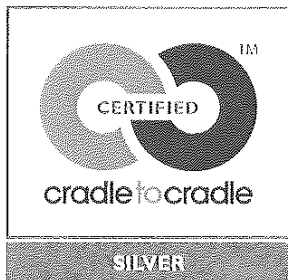
### MECHANICAL SYSTEM

Highest roof coverage (0.91) delivers the greatest energy density.



Poor roof utilization leaves potential energy savings unclaimed.

POWERING A BRIGHTER TOMORROW™



SunPower products are made with methods as sustainable as the energy they produce. In fact, we are the world's first and only solar company to earn the prestigious *Cradle to Cradle Certified™ Silver* designation for panels manufactured in Mexico and France, comprising 75% of shipments globally.

Helix incorporates 92% recycled rubber cones and trays, recyclable marine-grade aluminum, plug-and-play

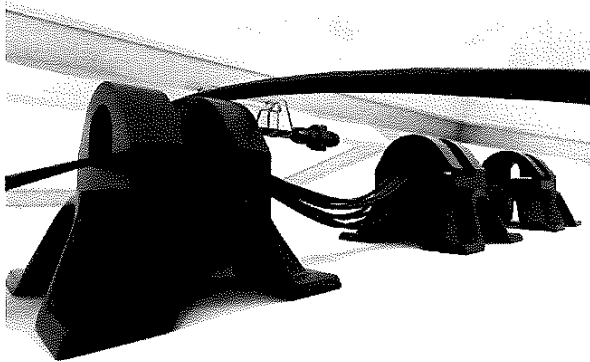
connections for less job-site waste from wiring, and EnergyLink software to help you measure carbon savings and improve energy efficiency.

At SunPower, sustainability is not just about environmental stewardship; it's also about having a positive social impact and contributing to economic growth. When you choose SunPower to help bring your business into a more sustainable future, you are choosing a sustainability leader dedicated to ensuring a cleaner, brighter future.

Cradle to Cradle Certified™ is a certification mark licensed by the Cradle to Cradle Products Innovation Institute. Cradle to Cradle Certified™ is a multi-attribute certification program that assesses products and materials for safety to human and environmental health, design for future use cycles, and sustainable manufacturing.



## HELIX ROOF Cable Management



### General

Operating temp. -13 to 140° F (-25 to 60° C)

Components

- Helix Cable Clip
- Helix Cable Clip+
- Helix Cable Cone
- Helix Cable Tray
- Helix Cable Tray Cover

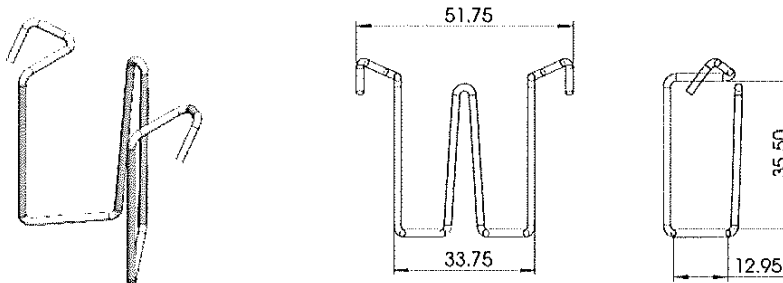
Warranty 20-year factory warranty

### Cable Clip (#512199)

Material 302 stainless steel

Installation Attaches to module frame and supports DC cables within the array

Max. cable bundle Quantity 10 of #8 AWG, supports DC, AC, and communications cables

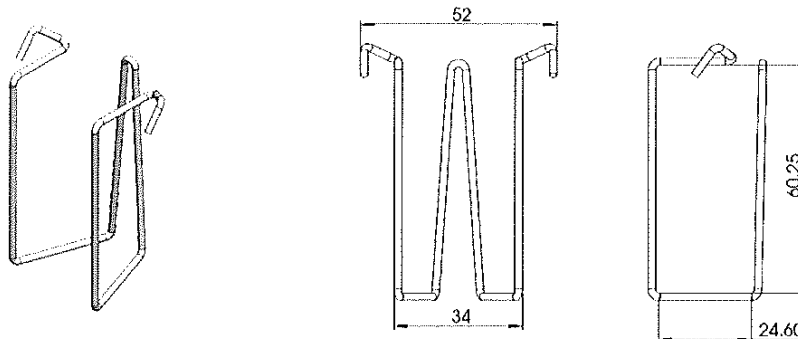


### Cable Clip + (#512198)

Material 302 stainless steel

Installation Attaches to module frame and supports DC cables within the array

Max. cable bundle Quantity 32 of #8 AWG, supports DC, AC, and communications cables

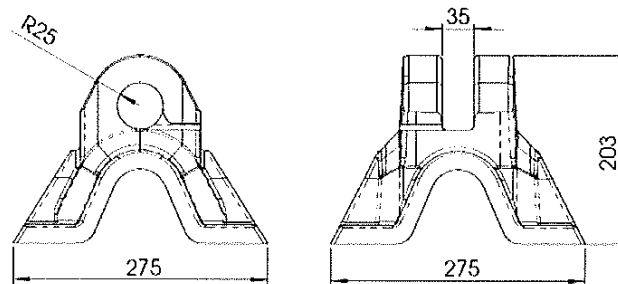
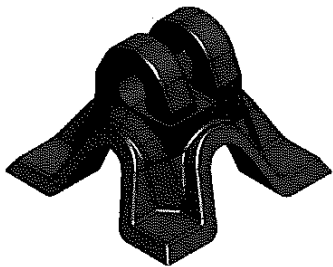


(dimensions in mm)

## HELIX ROOF Cable Management

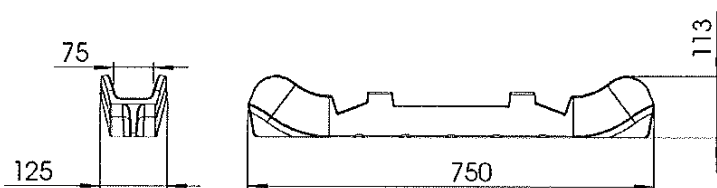
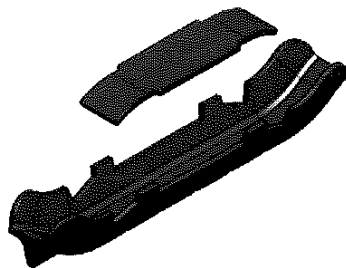
### Cable Cone (#512021)

Material	Recycled rubber (92% approx.), polyurethane binder (8% approx.)
Installation	Placed strategically to support DC, AC, or communications cables under modules or outside of the array
Max. cable bundle	50 mm (1.97 in.) o.d., or quantity 32 of #8 AWG



### Cable Tray (#512511)

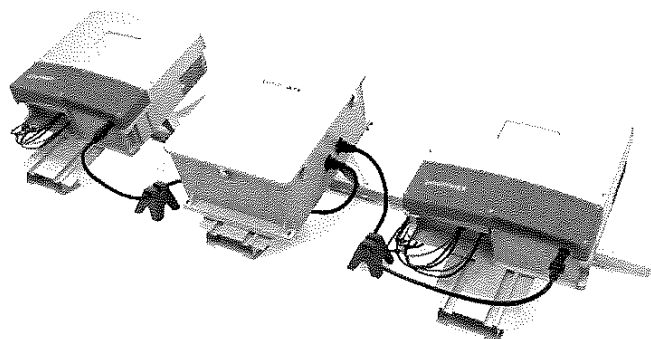
Material	Recycled rubber (92% approx.), polyurethane binder (8% approx.)
Installation	Placed strategically to support DC, AC, or communications cables under modules or outside of the array
Max. cable bundle diameter	Quantity 32 of #8 AWG
Cable Tray Cover (#512510)	Optional (same material as Cable Tray)



(dimensions in mm)

Rev 1.1

## HELIX ROOF Power Station



### General

Operating temp. -4 to 140° F (-20 to 60° C)

Components

- Helix plug-and-play SMA Tripower Inverter
- Helix plug-and-play AC Combiner
- Helix plug-and-play DC Branch
- Helix plug-and-play AC Whip
- Helix eBOS Mount
- Helix Cable Clip and Cable Clip+
- Helix Cable Cone
- Helix Cable Tray

Warranty 10-year factory warranty  
(Extension available up to 20 years)

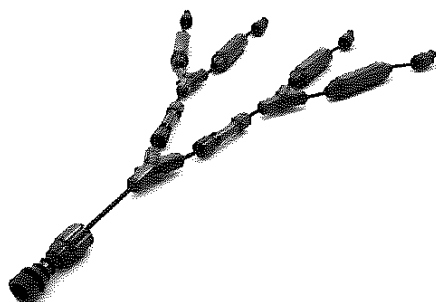
### Inverter

Model	Helix plug-and-play SMA Tripower (STP-US)
AC power ratings	12, 15, 20, 24 kW AC
Rated grid voltage	480 V / 277 V WYE
Max. DC input voltage	1000 V
Dimensions (w × h × d)	665 × 650 × 265 mm (26.2 × 25.6 × 10.4 in.)
Weight	55 kg (121 lbs.)
Enclosure rating	NEMA 3R
DC connector	H4-UTX-XL
AC connector	APP Mid-Power SPEC Pak®
Communications connector	RJ-45
Communications protocol	Modbus TCP-IP

### AC Combiner

Model	Helix plug-and-play AC Combiner
Rated amperage	250 A
Inverter input options	2, 3, and 4 inverter input configurations
Inverter input max. amperage	50 A
Optional auxiliary input rated amperage	15 A
Dimensions (w × h × d)	699 × 561 × 297 mm (27.2 × 22.2 × 12 in.)
Enclosure rating	NEMA 4X non-metallic
AC connector	APP Mid-Power SPEC Pak®

## HELIX ROOF Power Station



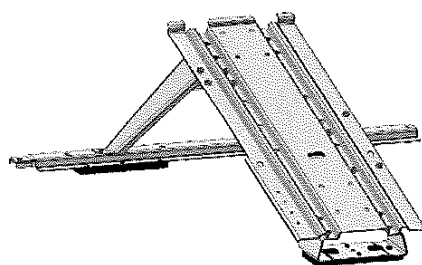
### DC Branch

Model	Helix plug-and-play DC Branch
String input options	2, 3, and 4 string
String fuse rating	15 A
Conductor size	#12 to #8 AWG
Conductor insulation rating	Sunlight-resistant PV Wire
Voltage rating	2000 VDC
Fusing	12 A
Connectors	String side: Tyco PV4 Solarlock Combined side: Amphenol H4-UTX-XL



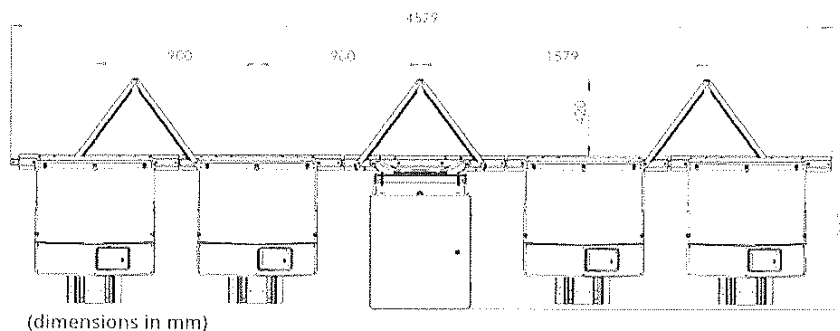
### AC Whip

Model	Helix plug-and-play AC Combiner
Length	1.8 m (71 in.)
Conductor size	#8 AWG 5-strand multiconductor
Conductor insulation rating	Sunlight-resistant TC-ER
Voltage rating	600 V
AC connector type	APP Mid-Power SPEC Pak®



### eBOS Mount

Mounting structure model	Helix eBOS Mount
Mounting structure material	5052 H32 aluminum 301 stainless steel
Roof pad material	Recycled rubber
Tilt angle	15 degrees
Sunshade	Optional



Rev 1.1