

# Holding it on the Roof


Unirac Pro Series Rail

Or

Equilibrium Railless

&

FlashLoc Attachments



How are these things held on my roof?

- Using racking rating for wind and weather in their environments
- Using the latest neoprene and geocell technology
- Using the least amount of penetrations possible

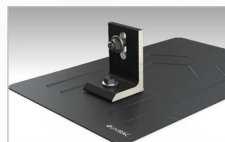
# SOLARMOUNT

# UNIRAC

SOLARMOUNT is the professionals' choice for residential PV mounting applications. Every aspect of the system is designed for an easier, faster installation experience. SOLARMOUNT is a complete solution with revolutionary universal clamps, FLASHKIT PRO, full system UL 2703 certification and 25-year warranty. Not only is SOLARMOUNT easy to install, but best-in-class aesthetics make it the most attractive on any block!



New & Improved:  
**THE PROFESSIONALS' CHOICE**  
With Superior Aesthetics



**NOW FEATURING FLASHKIT PRO**  
The Complete Roof Attachment Solution  
FEATURING SHED & SEAL TECHNOLOGY



**NOW WITH UNIVERSAL MIDCLAMPS**  
Accommodates 30mm-51mm module frames  
One tool, one-person installs are here!



**REVOLUTIONARY NEW ENDCLAMPS**  
Concealed design and included End Caps

## THE PROFESSIONALS' CHOICE FOR RESIDENTIAL RACKING

**BEST INSTALLATION EXPERIENCE • CURB APPEAL • COMPLETE SOLUTION • UNIRAC SUPPORT**

FOR QUESTIONS OR CUSTOMER SERVICE VISIT [UNIRAC.COM](http://UNIRAC.COM) OR CALL (505) 248-2702

# SOLARMOUNT

# UNIRAC

## BETTER DESIGNS

### TRUST THE INDUSTRY'S BEST DESIGN TOOL

Start the design process for every project in our U-Builder on-line design tool. It's a great way to save time and money.

## BETTER SYSTEMS

### ONE SYSTEM - MANY APPLICATIONS

Quickly set modules flush to the roof on steep pitched roofs. Orient a large variety of modules in Portrait or Landscape. Tilt the system up on flat or low slope roofs. Components available in mill, clear, and dark finishes to optimize your design financials and aesthetics.

## BETTER RESULTS

### MAXIMIZE PROFITABILITY ON EVERY JOB

Trust Unirac to help you minimize both system and labor costs from the time the job is quoted to the time your teams get off the roof. Faster installs. Less Waste. More Profits.

## BETTER SUPPORT

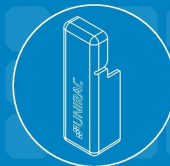
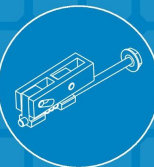
### WORK WITH THE INDUSTRIES MOST EXPERIENCED TEAM

Professional support for professional installers and designers. You have access to our technical support and training groups. Whatever your support needs, we've got you covered. Visit [Unirac.com/solarmount](http://Unirac.com/solarmount) for more information.

UL 2703

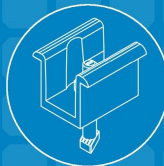
BONDING & GROUNDING  
MECHANICAL LOADING  
SYSTEM FIRE CLASSIFICATION

CONCEALED UNIVERSAL  
ENDCLAMPS



END CAPS INCLUDED  
WITH EVERY ENDCLAMP

UNIVERSAL SELF  
STANDING MIDCLAMPS



U-BUILDER ONLINE DESIGN  
TOOL SAVES TIME & MONEY  
Visit [design.unirac.com](http://design.unirac.com)

## UNIRAC CUSTOMER SERVICE MEANS THE HIGHEST LEVEL OF PRODUCT SUPPORT



UNMATCHED  
EXPERIENCE



CERTIFIED  
QUALITY



ENGINEERING  
EXCELLENCE



BANKABLE  
WARRANTY



DESIGN  
TOOLS



PERMIT  
DOCUMENTATION

### TECHNICAL SUPPORT

Unirac's technical support team is dedicated to answering questions & addressing issues in real time. An online library of documents including engineering reports, stamped letters and technical data sheets greatly simplifies your permitting and project planning process.

### CERTIFIED QUALITY PROVIDER

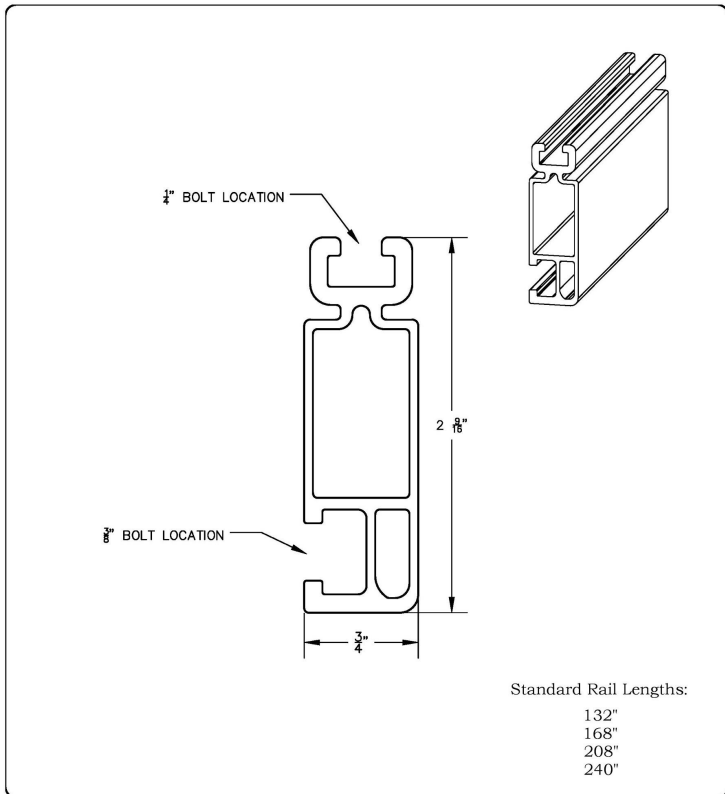
Unirac is the only PV mounting vendor with ISO certifications for 9001:2008, 14001:2004 and OHSAS 18001:2007, which means we deliver the highest standards for fit, form, and function. These certifications demonstrate our excellence and commitment to first class business practices.

### BANKABLE WARRANTY

Don't leave your project to chance. Unirac has the financial strength to back our products and reduce your risk. Have peace of mind knowing you are providing products of exceptional quality. SOLARMOUNT is covered by a 25 year limited product warranty and a 5 year limited finish warranty.

ENHANCE YOUR REPUTATION WITH QUALITY RACKING SOLUTIONS BACKED BY ENGINEERING EXCELLENCE AND A SUPERIOR SUPPLY CHAIN

FOR QUESTIONS OR CUSTOMER SERVICE VISIT [UNIRAC.COM](http://UNIRAC.COM) OR CALL (505) 248-2702



**UNIRAC**  
 1411 BROADWAY BLVD NE  
 ALBUQUERQUE, NM 87102 USA  
 WWW.UNIRAC.COM

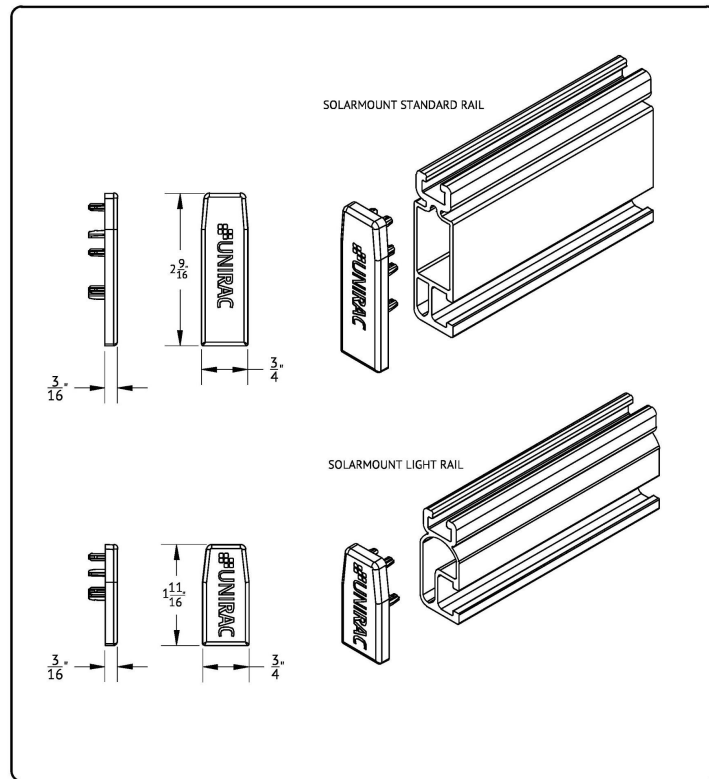
|                       |              |
|-----------------------|--------------|
| <b>PRODUCT LINE:</b>  | SOLARMOUNT   |
| <b>DRAWING TYPE:</b>  | PART DETAIL  |
| <b>DESCRIPTION:</b>   | RAIL         |
| <b>REVISION DATE:</b> | October 2016 |

DRAWING NOT TO SCALE  
 ALL DIMENSIONS ARE NOMINAL

PRODUCT PROTECTED BY  
 ONE OR MORE US PATENTS.

**LEGAL NOTICE**

**SM-P01**  
**SHEET**



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 WWW.UNIRAC.COM

|                       |              |
|-----------------------|--------------|
| <b>PRODUCT LINE:</b>  | SOLARMOUNT   |
| <b>DRAWING TYPE:</b>  | PARTS DETAIL |
| <b>DESCRIPTION:</b>   | END CAPS     |
| <b>REVISION DATE:</b> | MAY 2016     |

DRAWING NOT TO SCALE  
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PRODUCT PROTECTED BY ONE  
 OR MORE US PATENTS

**LEGAL NOTICE**

**SM-P05**  
**SHEET**

# FLASH LOC

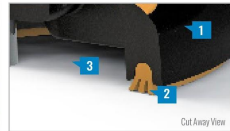


FLASHLOC is the ultimate attachment for composition shingle and rolled comp roofs. The all-in-one mount installs fast — no kneeling on hot roofs to install flashing, no prying or cutting shingles, no pulling nails. Simply drive the lag bolt and inject sealant into the base. FLASHLOC's patented TRIPLE SEAL technology preserves the roof and protects the penetration with a permanent pressure seal. Kitted with lag bolts, sealant, and hardware for maximum convenience. Don't just divert water, **LOC it out!**



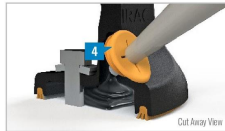
## PROTECT THE ROOF

Install a high-strength waterproof attachment without lifting, prying or damaging shingles.



## LOC OUT WATER

With an outer shield **1**, contour-conforming gasket **2**, and pressurized sealant chamber **3**, the Triple Seal technology delivers a 100% waterproof connection.



## HIGH-SPEED INSTALL

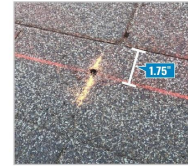
Simply drive lag bolt and inject sealant into the port **4** to create a permanent pressure seal.

# FASTER INSTALLATION. 25-YEAR WARRANTY.

FOR QUESTIONS OR CUSTOMER SERVICE VISIT [UNIRAC.COM](http://UNIRAC.COM) OR CALL (505) 248-2702

# FLASH LOC

## INSTALLATION GUIDE



## PRE-INSTALL

Snap chalk lines for attachment rows. On shingle roofs, snap lines 1-3/4" below upslope edge of shingle course. Locate rafters and mark attachment locations.

At each location, drill a 7/32" pilot hole. Clean roof surface of dirt, debris, snow, and ice. Next, BACKFILL ALL PILOT HOLES WITH SEALANT.

NOTE: Space mounts per racking system install specifications.



## STEP 1: SECURE

Place FLASHLOC over pilot hole with lag on down-slope side. Align indicator marks on sides of mount with chalk line. Pass included lag bolt and sealing washer through FLASHLOC into pilot hole. Drive lag bolt until mount is held firmly in place.

NOTE: The EPDM in the sealing washer will expand beyond the edge of the metal washer when proper torque is applied.



## STEP 2: SEAL

Insert tip of UNIRAC provided sealant into port. Inject until sealant exits both vents.

Continue array installation, attaching rails to mounts with provided T-bolts.



NOTE: When FLASHLOC is installed over gap between shingle tabs or vertical joints, fill gap/joint with sealant between mount and upslope edge of shingle course.

USE ONLY UNIRAC APPROVED SEALANTS: ChemLink Duralink 50, ChemLink M-1, Geocol 4500, or Geocol S-4

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PRO SERIES  
**SOLARHOOKS**

**UNIRAC** PRO SERIES  
BETTER SOLAR STARTS HERE  
**SOLARHOOKS**

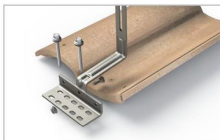
**UNIRAC**  
BETTER SOLAR STARTS HERE

UNIRAC Pro Series **SOLARHOOKS** is a complete line of attachment solutions for tile roofs. Featuring UNIRAC's exclusive **POWERARCH** technology which increases strength by up 60% more than traditional tile hooks, **SOLARHOOKS** are simple to install and designed for maximum convenience. Available in universal designs and in specific shapes for flat, S and W tiles, **SOLARHOOKS** are kitted with stainless lag bolts and have a bead blasted stainless steel finish. With **SOLARHOOKS**, you have everything you need for a quick, professional installation.



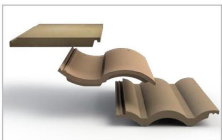
**UP TO 60% STRONGER**

Exclusive **POWERARCH** technology ensures no array rattling or broken tiles during high winds.



**SIMPLE AND VERSATILE**

Multiple hole patterns and slotted connections provide adjustability. Stainless steel lag bolts bring long term peace of mind.



**EXTENSIVE ASSORTMENT**

Available in a variety of universal, flat tile & Spanish tile designs to handle any challenge.



**APPLICATION GUIDE**

| MODEL                            | PRO SERIES SOLARHOOK CT5 UNIV TILE | PRO SERIES SOLARHOOK AT1 FLAT TILE | PRO SERIES SOLARHOOK CT1 SPANISH & W TILES | PRO SERIES SOLARHOOK CT2 SPANISH & W TILES | SOLARHOOK ST1 STONE COATED TILE  | SOLARHOOK ADJ. ST1 STONE COATED TILE |
|----------------------------------|------------------------------------|------------------------------------|--|--|----------------------------------|--------------------------------------|
| PART NUMBER                      | 004CT5H                            | 004AT1H                            | 004CT1H                                    | 004CT2H                                    | 004ST1S                          | 004AST1                              |
| MATERIAL                         | Bead Blasted 304 Stainless Steel   | Bead Blasted 304 Stainless Steel   | Bead Blasted 304 Stainless Steel           | Bead Blasted 304 Stainless Steel           | Bead Blasted 304 Stainless Steel | Bead Blasted 304 Stainless Steel     |
| USES EXISTING TILES              | Yes                                | Yes                                | Yes  | Yes  | Yes                              | Yes                                  |
| RAIL OR RAIL-LESS                | Rail                               | Rail                               | Rail                                       | Rail                                       | Rail                             | Rail                                 |
| DIRECT MOUNT, NO L-FOOT REQUIRED | ✓                                  | ✓                                  | ✓  | ✓  | ✓                                | ✓                                    |
| ADJUSTABLE                       | ✓                                  |                                    |  |  |                                  |                                      |
| FLAT TILE                        | ✓                                  | ✓                                  |  |  |                                  |                                      |
| S TILE                           | ✓                                  |                                    | ✓  | ✓  |                                  |                                      |
| W TILE                           | ✓                                  |                                    | ✓  | ✓  |                                  |                                      |
| UNIVERSAL TILE                   | ✓                                  |                                    |  |  |                                  |                                      |
| STONE COATED STEEL TILE          |                                    |                                    |  |  | ✓                                | ✓                                    |
| SIMPLE INSTALLATION              | ✓                                  | ✓                                  | ✓  | ✓  | ✓                                | ✓                                    |
| WARRANTY                         | 25-Year                            | 25-Year                            | 25-Year                                    | 25-Year                                    | 25-Year                          | 25-Year                              |

**THE COMPLETE TILE ROOF SOLUTION**

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# EcoX UNIVERSAL

Simple Rail-Less Racking for Any Module

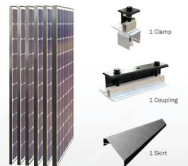
## No. 1 Universal Rail-Less System



### Skip the Rails.

Go from **One Installation a Day to Two.** EcoX Universal delivers a faster, safer, and better installation process at a lower cost per watt. Project speed is accelerated with 33% fewer attachments and the elimination of rough inspections. Simple, one-size, preassembled core components fit every module thickness, enabling any module to be installed on every roof.

### The Only One-Size-Fits-All Solution



#### Install Any Module with One Size for Each Core Component

Eliminate multiple SKUs with EcoX Universal's one-size-fits-all core components and install modules from 32 to 46mm without jobsite interruptions. End the headache of excessive inventory caused by solar mounting that requires different components for every module thickness.



#### Reduce Attachments by 33%

Get the cost-saving advantage of fewer parts and no rails. Spend less storing, transporting and installing. Use in landscape or portrait with no extra components.



EcolibriumSolar



#### Shorten Permitting Process with Extensive UL2703 Certifications

As panel supply fluctuates, responsive panel certification is increasingly important. As a certified testing partner lab of TÜV Rheinland Group, our list of UL 2703 certified panels is extensive and growing. Your inspection process will go smoothly and quickly.

Contact: 740.249.1877 | sales@ecolibrumsolar.com | www.ecolibrumsolar.com

## The Power of EcoX Universal

### 6 Simple Parts. Unsurpassed Speed. Beautiful Results.

EcoX Universal includes Core Components that fit any module thickness – Base, Flashing, Coupling, Clamp and Skirt. Only the small, inexpensive Skirt Spacer is specific to module thickness. Design couldn't be easier. Simply design your array in EcoX Estimator and the number of components for your specific project are calculated for you.



#### Easily Secure to Any Roof

##### Universal Clamp

One size, preassembled. Secures panels to Base and provides integrated bonding with row-to-row bonding clips.

##### Base with Lag

**Flashing**  
Composition shown. Attachments available for all roof types.

#### Join Panels without Cumbersome Rails

##### Coupling

One size, preassembled coupling joins panels, creating continuous structure and integrated bonding.



##### Skirt

One size fits all. Covers downhill edge of array, creating clean look.



##### Skirt Spacer

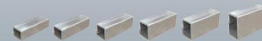
Used on the Skirt Row only, enables single-size Skirt to fit all modules by adjusting Clamp and Coupling height to match module thickness.

### Hassle Free from Start to Finish

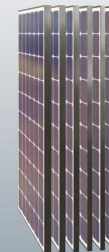
#### Need to change panels after ordering? No problem.

Keep your project on track and on budget with EcoX Universal. When you switch modules, all that's needed is a new set of Skirt Spacers to match your new module thickness. Small, lightweight, inexpensive part is the key to installation flexibility and the simplest storage and shipping available.

- Small, lightweight, inexpensive
- Simple to ship and store
- Few required, installed on Skirt Row Clamps and Couplings only
- EcoX Estimator adds to Bill of Materials



Skirt Spacers fit 32, 33, 35, 38, 40 & 46mm modules.



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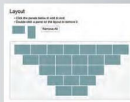
# Design Your Array As Easy as 1, 2, 3

## 1. Layout Your Array & Get an Estimate in a Few Clicks with EcoX Estimator



### Define Site Parameters

Enter project address and EcoX Estimator instantly evaluates site conditions and calculates design loads.



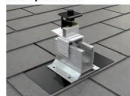
### Design Your Array

Simply enter the array shape and PV panel, then click to add panels. Every array uses the same Universal Clamps, Couplings and Skirts.

## 2. EcoX Estimator Selects Base & Attachment to Suit Your Roof Type

EcoX Universal provides attachments for common roof types and is compatible with most third-party attachments. Contact us for your specific roof type.

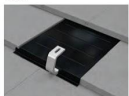
### Composition



Use Comp Shingle Base and Flashing.



### Tile



Use 9" Base and EcoX Tile Hook. Optional Flashing reduces grinding.



### Metal



Use 5" Base and specific metal mount for your metal roof type.



### Low Slope



Use 5" Base and Flat Roof Mount or other low-slope attachments.



## 3. Get Bill of Materials & Permit Package

BOM includes Universal Clamp, Coupling and Skirt, Skirt Spacer, Attachment, and the optional components you select.

| Qty | Description                    | Unit | Material | Quantity | Material |
|-----|--------------------------------|------|----------|----------|----------|
| 1   | Universal Clamp                |      | Aluminum | 1        | Aluminum |
| 1   | Universal Coupling             |      | Aluminum | 1        | Aluminum |
| 1   | Universal Skirt                |      | Aluminum | 1        | Aluminum |
| 1   | Universal Attachment           |      | Aluminum | 1        | Aluminum |
| 1   | Universal Skirt Spacer         |      | Aluminum | 1        | Aluminum |
| 1   | Universal Flashing             |      | Aluminum | 1        | Aluminum |
| 1   | Universal Tile Hook            |      | Aluminum | 1        | Aluminum |
| 1   | Universal Metal Mount          |      | Aluminum | 1        | Aluminum |
| 1   | Universal Flat Roof Mount      |      | Aluminum | 1        | Aluminum |
| 1   | Universal Deck Mount           |      | Aluminum | 1        | Aluminum |
| 1   | Universal Junction Box Bracket |      | Aluminum | 1        | Aluminum |
| 1   | Universal Base Conduit Mount   |      | Aluminum | 1        | Aluminum |
| 1   | Universal Flash Conduit Mount  |      | Aluminum | 1        | Aluminum |



Contact: 740.249.1877 | sales@ecolibriumsolar.com

## Installer's System of Choice



### Over 500MW Installed

- Install panels with one person using patented Clamp and Coupling Hold-Open
- Eliminate cumbersome rails and rough inspections
- Pass plan review and inspection first time with complete permitting package
- Overcome hurdles with comprehensive list of UL2703-certified panels
- Reduce storage and transport with compact parts and packaging
- Perform on-the-ground wire management easily and safely

www.ecolibriumsolar.com

# Get Everything You Need To Save the Day

## Options to Keep Your Job Running Smoothly

### Get Best-of-Class Wire Management



#### Power Accessory Bracket

Easily attach micro-inverters and power optimizers to module frame.



#### PV Cable Clips

All clips aren't created equal. These easy-to-use clips hold 1-4 PV cables and quickly snap onto module frame or racking.

### Master Any Roof with Installer-Centric Solutions

When you're on the roof, stuff happens. We've been there, so we offer purpose-built and best-in-class options for everything you need, whatever the roof throws at you.



#### Deck Mount Hardware Kit

Attach EcoX Comp Shingle Base to roof decking. Perfect for TJI and flat rafters, odd framing, SIPS, lockouts, eaves, and to fix excessive cantilever.



#### North Row Extension

Properly flash and reach peak of roof. Extends clamp location as much as 10" from lag.

### Get Power Off the Roof with Ease



#### Junction Box Bracket

Mount junction box to EcoX Universal Base with ease.



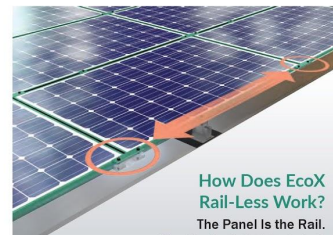
#### Base Conduit Mount

Supports conduit within an array. Mounts to EcoX Universal Base.



#### Flash Conduit Mount

Supports conduit outside of an array. Used with EcoX Universal Comp Shingle Flashing.



## How Does EcoX Rail-Less Work? The Rail Is the Rail. Bonding Is Fully Integrated.

EcoX Universal Clamps and Couplings join panels together, creating a continuous structure and integrated electrical bond. This structural continuity obsoletes rails, which are no longer needed to build a strong, bonded array. It's the beauty of simplicity at work for you.

### Technical Specifications

Materials: Aluminum & Stainless Steel  
 Validations: UL2703 Certified for grounding/bonding, mechanical load, Fire Class Rating A Type 1 & 2, Flashing ICC-ES AC208/UL441, Rain Test  
 Warranty: 15 years

### Don't Install Without It!

In the competitive business of solar energy, you need every advantage. That's why you should use EcoX Universal on every project. Call, email or log on to EcoX Estimator today.

Contact: 740.249.1877 | sales@ecolibriumsolar.com

www.ecolibriumsolar.com