TRAX® PATENTED

RETICULAR BACKLIGHTING SYSTEM | SCWWL

ITEM #: TX1-24-SCWWL SERIES (SINGLE COLOR WHITE WITH LENS)

evo-lite ADVANCED LUMINOUS SOLUTIONS

INSTRUCTION MANUAL

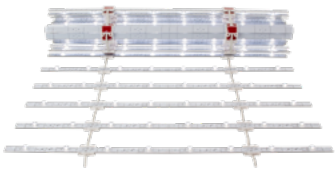
BACKLIGHTING // RETICULAR LED SYSTEMS // TRAX // SCWWL

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTIFICATION

CONTENTS

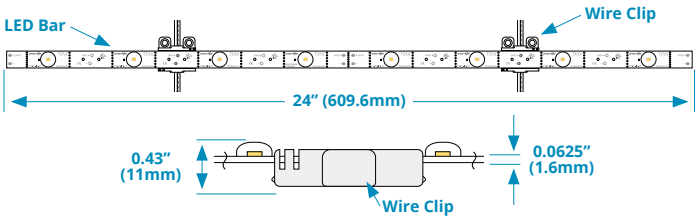
Each TRAX Single Color White With Lens package includes one TRAX Array (A) and two Wago connectors (B).

Ⓐ TRAX ARRAY



Ⓑ WAGO CONNECTORS

PROFILES (SEE SPEC SHEET FOR MORE DETAILS)



IP65 | c UL us LISTED | CE | RoHS COMPLIANT | 24V | DIMMABLE

PART	PRODUCT DESCRIPTION	QTY
A	TRAX Array (24" x 96" / 609.6mm x 2438.4mm) with 32 LED bars each pre-wired and pre-mounted to wire mounting clips	1
B	Wago same polarity, two port splicing connectors	2

HANDLING ADVISORY & PRE-INSTALL TESTING

Do not set anything on top of the product (i.e. tools, mugs, etc.). Avoid placing product on floor or anywhere it could be stepped on. The product may be damaged with improper handling.

Due to possible unforeseen issues with shipping and handling, we advise that all products be inspected at time of delivery and dry-fit tested for proper illumination prior to mounting and again before the forward-facing material is installed.

For troubleshooting guidance, please visit www.evo-lite.com

⚠ SAFETY & COMPLIANCE INFORMATION *Read all instructions before beginning.*

// WARNING: RISK OF ELECTRIC SHOCK. Disconnect power at the source before snapping, cutting, or altering product in any way. Do not connect TRAX to AC current. Use only with 24V DC input power.

// To reduce the risk of fire, electric shock, or injury to persons, pay close attention to this manual and stay within its guidelines when using this product. Save these instructions for future reference. Read and follow the product handling, installation, & integration advisory on page 4.

// Product should be installed in accordance with local/regional electrical codes and the current National Electric Code (NEC).

// Product must be installed per instructions and contained within and exclusive to application where not subject to damage.

// Use only with UL Listed or UL Recognized Class 2, Limited Power Source (LPS) or Low Voltage Limited Energy (LVLE) power supplies. Provide the appropriate number of 24V Class 2 circuits for your layout. Do not exceed the maximum load limit of any power supply per the manufacturer's recommendations.

// To retain Class 2 compliance per UL regulations, do not interconnect more than one full 24" x 96" (609.6mm x 2438.4mm) TRAX Array (86W). Use one 96W 24V Class 2 LPS or LVLE power supply / channel per TRAX Array. Best practices include allowing headroom for power supply longevity. The TRAX system's integrated wire clips have a 4A capacity. Do not exceed the load capacity of these in any configuration.

// This product is rated IP65 and can be used in wet locations, but not where water may accumulate.

// Do not penetrate the TRAX LED bar with any type of mechanical fastener. Only use mechanical fasteners in the established, marked locations. See page 3 - MOUNTING TRAX for more details.

BEST PRACTICES

// LEDs are bright. Do not look directly at lighted product.

// Dry fit TRAX Array and power connections before permanently installing to a substrate. Always test operation before installing the translucent (forward-facing) material.

// When not working with curved applications, the Rail Mounting Kit (sold separately: TX1-M-RMK) is strongly recommended. The Rail Mounting Kit will reduce installation time and labor while improving accuracy.

// Never slide heavy materials over product as this may cause damage to the lighting product or material.

// Avoid installing where subject to continuous flexing.

// For detailed, application specific installation guidance, please contact us.

SPECIFICATIONS

ELECTRICAL	
Input Voltage	24 Volt DC – Constant Voltage
Input Power	86W per TRAX Array, 2.69W per bar, 0.336W per LED
Connectivity	One TRAX Array to retain Class 2 compliance per UL regulations
Certification	IP65, cULus Listed (E495221), CE Compliant (EMC and LVD), and RoHS Certified
PHYSICAL	
Cut Line Spacing	Snappable segments every 1.5" (38.1mm)
Coverage	Up to 16ft² (1.486m2) per Class 2 guidelines, 0.098ft² (0.009m²) per bar
Operating Temp.	-22°F ~ +158° F (-30C ~ +70C)
POWER & CONTROLS	
Compatible with full range (100% – 0%), flicker-free power and control components. Please contact Evo-Lite for optimal solutions to fit your requirements.	

TRAX DRY FITTING AND SNAPPING / CUTTING TO SIZE

Dry fit TRAX Array and power connections before permanently mounting to the substrate. ***Always test function before installing the translucent (forward-facing) material. Alway disconnect power at the source prior to modifying lighting products or accessories in any way.***

Each LED bar on TRAX may be snapped to size along the pre-established snap lines (figure 1). To snap an LED bar to size locate where the adjustment should be made and find the closest snap line. Pinch the LED bar on both sides of the snap line. Then apply slight pressure with both thumbs until the bar snaps apart (figure 2).

TRAX may be cut to length by cutting the wires anywhere between the wire mounting clips. Cuts may be made to one or both columns of wires (figure 3).

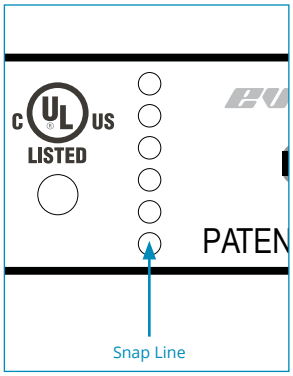


Figure 1

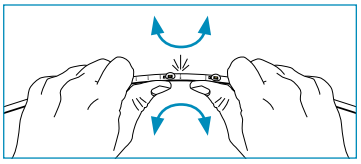


Figure 2

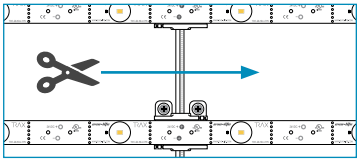


Figure 3

USING OPTIONAL TRAX ACCESSORIES (SOLD SEPARATELY)

(A) STANDARD BAR RETENTION CLIPS (TX1-BRC-STD-15)
Sold in packs of 10. Adhesive-backed clips snap to LED bars and add extra support in between rails or where LED bars were modified. Mounts directly to installation surface with mechanical fasteners.

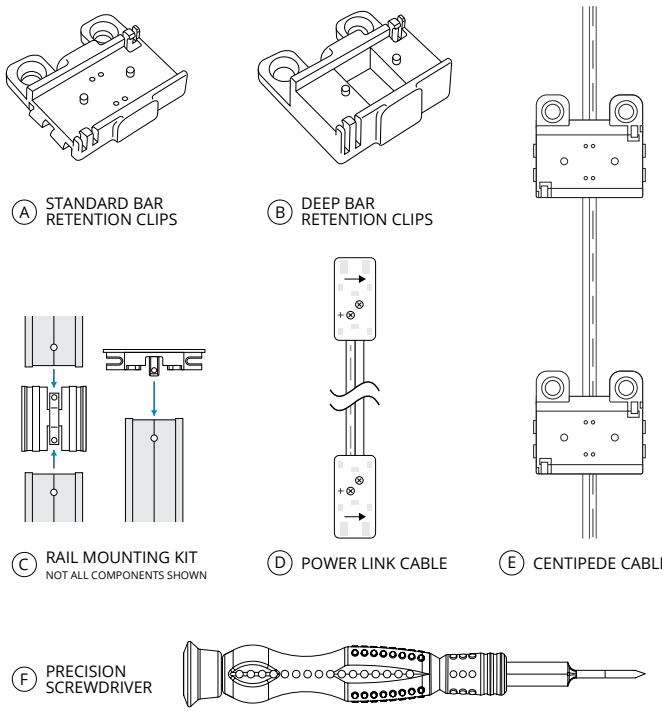
(B) DEEP BAR RETENTION CLIPS (TX1-BRC-RMK-15)
Sold in packs of 10. Use with Rail Mounting Kit only. Adhesive-backed clips snap to LED bars and add extra support in between rails or where LED bars were modified. Mounts directly to installation surface with mechanical fasteners.

(C) RAIL MOUNTING KIT (TX1-M-RMK)
Sold in single kits each sized for one full 24" x 96" TRAX Array. Contains 8 sections of 24" Rails (which combine to create two 96" sections), 6 Rail to Rail Connectors, 16 Rail Mounting Clips, and 4 Rail End Mounting Clips. Use Rail Mounting Kit to speed up installation and provide a rigid structure. See *MOUNTING TRAX* section.

(D) POWER LINK CABLE (TX1-24-SC-PLC)
Sold individually. The 24" (609.6mm) single color TRAX Power Link Cable is an accessory that may be used to connect two TRAX arrays together, or to connect to a power supply or control component.

(E) TRAX CENTIPEDE CABLE (TX1-SCWL-CPC-C / TX1-SCWL-CPC-32)
Sold in custom lengths (by wire clip #) and single 96" standard array lengths. The TRAX Centipede Cable may be used to connect and provide power to floating LED bars that are not connected to TRAX Array power wire clips.

(F) PRECISION SCREWDRIVER (TX1-PSD-PH00)
Our precision Phillips Head Screwdriver is specially designed for use with all TRAX Arrays and accessories. Depth indicator is marked for use with Power Link Cables.



POWER INPUT

To retain Class 2 compliance per UL regulations, do not interconnect more than one full 24" x 96" (61cm x 244cm) TRAX Array (86W). Use one 96W 24V Class 2 LPS or LVLE power supply / channel per TRAX Array.

Best practices include allowing headroom for power supply longevity. The TRAX system's integrated bar to wire connectors have a 4A capacity. Do not exceed the load capacity of these connection blocks in any configuration.

MAKING THE CONNECTION

The TRAX Array may be powered from any of the four wire leads. Choose the best wire lead according to power supply location. Do not exceed the 4A maximum load capacity in any configuration. Use the included Wago connectors in place of wire nuts for a secure connection of wires of the same polarity.

1. Ensure power is disconnected at source.
2. Strip wire ends where making power connection. (Cap unused lead wire ends.)
3. Route lead wires from power supply to TRAX Array's lead wires (figure 4).
   A. Connect live wire from power supply to TRAX Array's grey striped positive wire (+).
   B. Connect negative wire from power supply to TRAX Array's white negative wire (–).
4. Reconnect power at source.
5. Test TRAX Array's functionality.

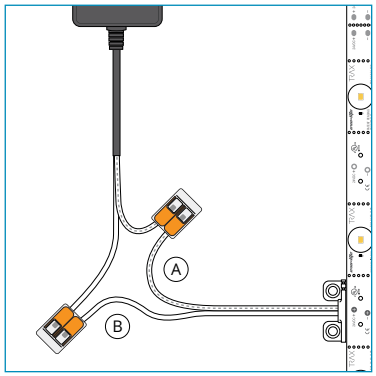


Figure 4

TROUBLESHOOTING

If product fails to light, please check: polarity at the power supply, proper connection at the Wago connectors, and supply power at the source. Contact Evo-Lite to get help troubleshooting your lighting system.

DIMMING

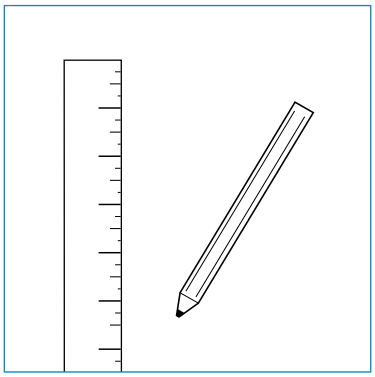
TRAX is dimmable and compatible with full-range (100%-0%) flicker-free power and control components. Barrel connectivity options and accessories are sold separately for use with barrel connected plug-in power supplies. Contact an Evo-Lite Systems Integration Specialist for optimal power and control solutions to fit the project needs.

MOUNTING TRAX

TRAX may be mounted vertically or horizontally. Two different mounting methods may be used to secure it to the mounting surface. The first method involves using the built-in wire clips. The second method involves using the TRAX Rail Mounting Kit that is sold separately. Use the appropriate method or combination of methods depending on the type of mounting surface and its orientation. Mechanical fastening is required.

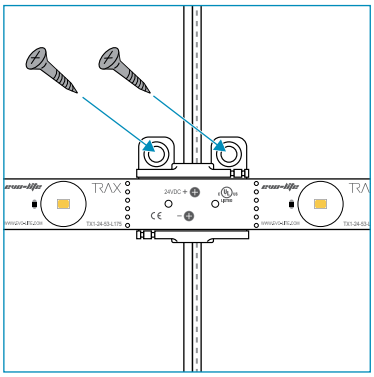
MOUNT USING BUILT-IN WIRE CLIPS

The wire clips that come pre-assembled to the TRAX Array feature mounting holes. Insert mechanical fasteners through these mounting holes (Step 2) to attach the product to the mounting surface. This method is ideal for installations that involve curved mounting surfaces.



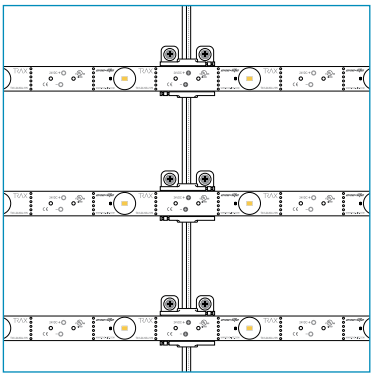
Step 1 // Prepare Mounting Location

Determine mounting location and make measurements. Wire clips are spaced 12" on center. Line up TRAX Array's wire clip mounting holes to installation area.



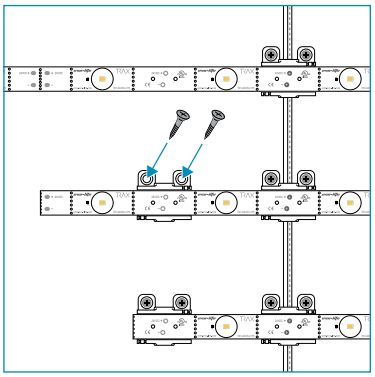
Step 2 // Fasten To Surface

Use wire clip's adhesive backing for temporary placement, if necessary. Drive mechanical fasteners through wire clip's mounting holes.



Step 3 // Secure All Wire Clips

Repeat the previous steps to secure all wire clips to mounting surface, **ensuring the TRAX Array is taut with LED Bars laying flat.**



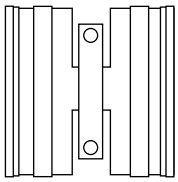
Step 4 // Add Support As Needed

If needed, use Standard Bar Retention Clips (sold separately: TX1-BRC-STD-15) to provide additional LED Bar support.

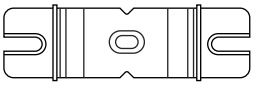
MOUNT USING TRAX RAIL MOUNTING KIT (SOLD SEPARATELY: TX1-M-RMK)

The TRAX Rail Mounting Kit is a recommended accessory for non-curved applications that offers several advantages. It speeds up installations, reduces labor, keeps install square, and provides a rigid structure that assists with product alignment. For more detailed information, please reference the TRAX Rail Mounting Kit Instructions (included with each Rail Mounting Kit) and the Rail Mounting Kit Specification Sheet (digital only).

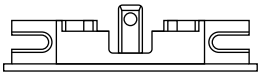
(A) 24" RAILS (QUANTITY 8)



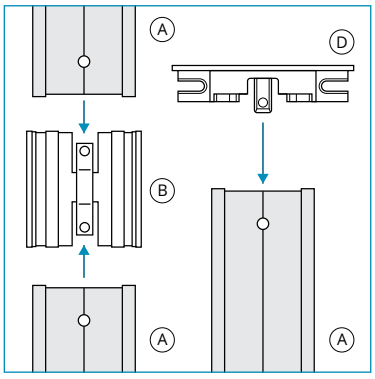
(B) RAIL TO RAIL CONNECTORS (QUANTITY 6)



(C) RAIL MOUNTING CLIPS (QUANTITY 16)

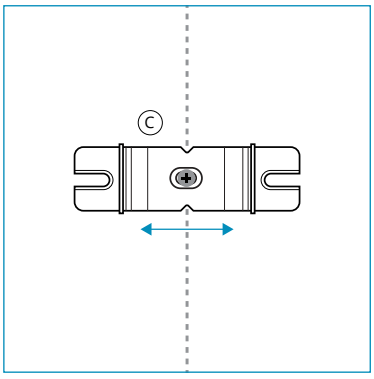


(D) RAIL END MOUNTING CLIPS (QUANTITY 4)



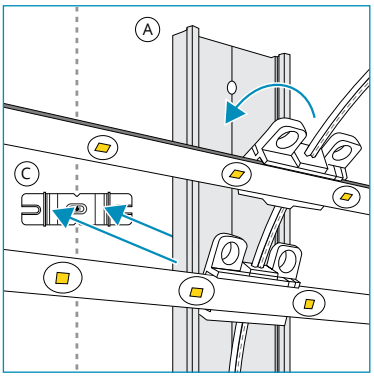
Step 1 // Assemble The Rails

Assemble the Rail Mounting Kit Rails (A) using the kit's included Rail To Rail Connectors (B) and End Mounting Clips (D). These pieces slide and click into place, no tools required. Rails may be cut to size.



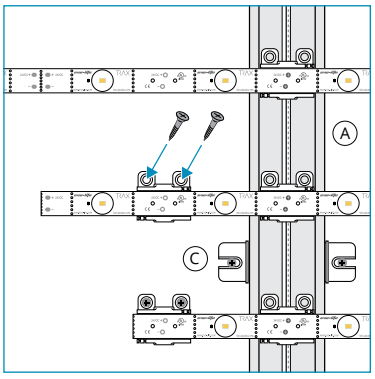
Step 2 // Prepare Mounting Location

Mark the desired location for Rails (A). The correct distance between left rail and right rail is 12" (30.48cm) on center. Fasten Rail Mounting Clips (C) to marked surface. Once mounted, these clips can slide left or right, adding a small degree of tolerance to rail location.



Step 3 // Mount To Surface

Snap the TRAX Array into Rails (A) **ensuring it's taut with LED bars laying flat.** Test fit assembly to Rail Mounting Clips (C) to confirm alignment. In vertical applications, it is advised to apply the TRAX wire clip's adhesive backing to the Rail (A) at several points. This eliminates any undesired movement from occurring over time.



Step 4 // Add Support As Needed

If needed, use Deep Bar Retention Clips (sold separately: TX1-BRC-RMK-15) to add extra support to LED bars in between rails or where LED bars were modified.

INSTALLATION TIPS

TRAX may be mounted vertically or horizontally. It can be advantageous to pre-mount the TRAX Array to a substrate such as die-bond to help with installation. When mounting TRAX in a ceiling application (horizontal) the Rail Mounting Kit can be useful for preventing product from sagging and ensuring accurate alignment. Individual LED bars may be replaced should damage occur during handling / product installation. Please contact Evo-Lite for details.

PRODUCT HANDLING, INSTALLATION & INTEGRATION ADVISORY

Evo-Lite's experience in providing backlighting solutions yields a unique perspective on the characteristics and underlying intuitive knowledge necessary to complete a successful installation of TRAX. Evo-Lite is committed to educating and supporting all our customers so every installation proceeds as smoothly as possible. Most installations offer their own unique challenges. We hope by making you aware of the following handling and installation guidelines you are empowered with knowledge for a successful installation. As always, Evo-Lite is ready to assist you with any questions that arise during your installation.

TEST BEFORE INSTALLING

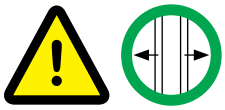
Our production, packaging and shipping process is accompanied by rigorous quality control procedure. All TRAX Arrays are subjected to a burn in period and are tested before packaging to ensure operation of the highest quality. Due to possible unforeseen issues with shipping and handling, we advise that all TRAX products be inspected at time of delivery and dry-fit tested for proper illumination prior to mounting and again before the forward facing material is installed.

DO NOT CONNECT TO AC POWER

ANY DIRECT CONNECTION OF TRAX TO AC CURRENT WILL DAMAGE THE LEDs. Be sure to use a UL Listed or UL Recognized Class 2, LPS or LVLE low voltage power supply that conforms to the voltage requirements of the TRAX product. This information can be found on the TRAX spec sheet and its packaging, as well as the power supply labeling.

POWER, CONTROL & WIRING

For optimal power distribution and to minimize voltage drop, it is recommended that multi-strand, high strand count wiring be used for all low voltage DC connections. Wire gauge should be appropriate based upon system voltage and wire lengths to further minimize voltage drop. Power supplies, drivers and controls should be installed in well ventilated enclosures and/or per manufacturers recommendations. It is the customer's responsibility to ensure all components and installation practices meet or exceed local codes and requirements.



PRE-INSTALLATION

Before mounting, unroll TRAX and pull ends apart so that the TRAX Array is taught. This will help take out the bends and kinks in the wire so that the intended bar-to-bar spacing is realized.

DO NOT OVER-BEND LED BARS

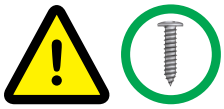
The LED bars on TRAX offer limited flexibility. In some circumstances a very slight bend to the bars may be desired and implemented. Consult with your Evo-Lite Systems Integration Specialist to see if there may be a better product for your application.

SNAPPING LED BARS

DISCONNECT POWER AT THE SOURCE BEFORE ALTERING TRAX IN ANY WAY. NEVER CUT OR SNAP TRAX WHILE POWERED. Field snapping and cutting of TRAX does not void UL Listing. LEDs can lose input power if snap lines are not followed. Avoid cut edge contact with any conductive material(s), including other cut edges of TRAX Arrays. See also Wet Location Use below.

DO NOT DRILL

Do not drill through TRAX LED bars. It will result in damage to the LEDs and denial of any warranty claims. Use the wire clip's' mounting holes to attach the bars to a mounting surface as depicted on page 3, Step 2 // Fasten To Surface. Use fasteners that are appropriate for the mounting surface.



FASTENING

USE PAN HEAD, DOMED, ROUND HEAD FASTENERS, OR TAPERED SCREWS. Never screw the fastener so much that it deforms TRAX or its components. Fastening only takes place through the mounting holes on wire clips, Standard / Deep Bar Retention Clips, Rail End Mounting Clips, or Rail Mounting Clips. For suspended applications, use mechanical fasteners with appropriate spacing to avoid sagging or use the TRAX Rail Mounting Kit.

WET LOCATION USE

TRAX is IP65 rated. This rating is total protection against dust ingress as well as water projected by a nozzle against the enclosure from any direction for a limited time and may be used in wet locations, but not where standing water can accumulate. Cut edges of IP65 can optionally be sealed from moisture with an RTV Silicone Sealant or conformal coating.

INSTALLATION TEMPERATURE

Due to the characteristics of the adhesive backing present on TRAX Array's wire clips, installation environments and locations should be taken into consideration. Low temperatures can cause longer cure times for permanent adhesion. The adhesive backing is not a permanent mounting solution. Always use mechanical fasteners.

STORAGE

Store TRAX products in a clean, dry area on a flat, horizontal surface. Do not open the anti-static bag until ready to install. Ideal storage conditions: Temperature of 68° – 77° F, 50% humidity.

SOLDERING

DISCONNECT POWER AT THE SOURCE BEFORE ALTERING THE PRODUCT IN ANY WAY. The unique power grid of TRAX prevents the need for soldering in most cases. The LED bar's copper pads are engineered to handle 4A of load and polarity is noted by the + and - next to each copper pad. Use 18 AWG stranded copper wire for up to 4A of load and follow electronics soldering best practices.

TRAX® is a patented product of Evo-Lite, LLC. For more information please visit www.evo-lite.com/patent

TRAX has an advanced 5-year warranty. Please review section 19 of *Terms & Conditions of Sale* at www.evo-lite.com/legal-documents/#TermsSale