

Eco Series

LED RETROFIT

Installation Guide

Illumisoft Eco Series LED Retrofit Kits: All Models

For Step By Step Installation Video:
www.illumisoftlighting.com/install



Illumisoft Eco Series LED Retrofit Kits: All Models

WARNING



FAILURE TO FOLLOW THESE INSTRUCTIONS AND WARNINGS MAY RESULT IN SERIOUS INJURY OR SIGNIFICANT PROPERTY DAMAGE.

For your protection, carefully read these warnings and instructions in their entirety before installing or maintaining this equipment. These instructions do not attempt to cover all installation and maintenance situations. If you do not understand these instructions or if additional information is required, contact your Illumisoft Lighting representative. Retain these instructions for maintenance reference.

AVERTISSEMENT



LE NON-RESPECT DE CES INSTRUCTIONS ET AVERTISSEMENTS PEUT ENTRAÎNER DES BLESSURES GRAVES OU D'IMPORTANTES DÉGÂTS MATÉRIELS.

Pour votre protection, lisez soigneusement et entièrement ces instructions et avertissements avant l'installation ou l'entretien de cet équipement. Ces instructions ne couvrent pas tous les cas rencontrés au cours de l'installation ou de l'entretien. Si vous ne les comprenez pas ou si vous avez besoin d'un complément d'information, veuillez contacter votre représentant Illumisoft Lighting local. Conservez ces instructions à titre de référence pour l'entretien.

WARNING



RISK OF FIRE OR ELECTRIC SHOCK

The Eco Series must be installed and maintained by a professional electrician in accordance with the applicable federal, state and local laws, regulations and electrical codes, and the installation instructions provided in this document. This professional should be familiar with the construction and operation of this product and any hazards involved. If not qualified, do not attempt installation. Contact a qualified electrician.

AVERTISSEMENT



RISQUES D'INCENDIE OU DE DÉCHARGE ÉLECTRIQUE L'Eco Series doit être installé et entretenu par un électricien professionnel conformément aux lois fédérales, étatiques et locales, aux réglementations et codes électriques applicables et aux consignes d'installation mentionnées dans ce document. Ce professionnel devra bien connaître la construction et le fonctionnement de ce produit, ainsi que tous les risques encourus. Si aucune personne n'est qualifiée, ne tentez pas l'installation. Prenez contact avec un électricien qualifié.

WARNING



RISK OF PERSONAL INJURY

This equipment may have sharp edges. Wear gloves to prevent cuts or abrasions when removing from carton, handling and maintaining this equipment.

AVERTISSEMENT



RISQUES DE DOMMAGES CORPORELS

Cet équipement peut présenter des arêtes vives. Portez des gants pour éviter les coupures ou les écorchures lorsque vous le sortez du carton, le manipulez et l'entretenez.

WARNING



RISK OF FIRE, ELECTRIC SHOCK OR PERSONAL INJURY

Do not install in a damaged fixture.

Before installation, turn power off.

AVERTISSEMENT



RISQUES D'INCENDIE, DE DÉCHARGE ÉLECTRIQUE OU DE DOMMAGES CORPORELS

N'installez pas sur un luminaire endommagé.

Coupez l'alimentation avant l'installation.

WARNING



RISK OF FIRE OR ELECTRIC SHOCK: To prevent wiring damage or abrasion, do not expose wiring to edges of sheet metal or other sharp objects.

AVERTISSEMENT



RISQUES D'INCENDIE OU DE DÉCHARGE ÉLECTRIQUE: N'exposez pas le câble aux bords d'une feuille métallique ou à d'autres objets pointus pour éviter de l'endommager ou de l'abîmer.

Caution

This kit is designed for permanent installation in ordinary (Non Hazardous) locations in accordance with the National Electrical Code and all applicable local codes. Do not use in areas of limited ventilation or in high ambient enclosures.

Mise en garde

Ce kit a été conçu pour une installation permanente dans un lieu ordinaire (non dangereux) conformément au code électrique national et à tous les codes locaux applicables. Ne l'utilisez pas dans des zones à aération limitée ou dans des enceintes à températures élevées.

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Notice

Do not use abrasive materials, glass cleaners or other solvents on the lens. To clean the lens, use a mild soap solution. Do not expose the product to substances and /or materials containing sulphur, chlorine or other halogen compounds and to chemicals mentioned in below table.

<u>Category</u>	<u>Chemical Name</u>
Solvents	Toluene, xylene, benzene, chloromethane, chloroform, ethyl acetate, butyl acetate, acetone, MEK, MIBK
Acid	HCl, H ₂ SO ₄ , HNO ₃
Alkali	KOH, NaOH, LiOH, Ca(OH) ₂
Oil	Diesel oil, petroleum, hydro carbons

Attention

N'utilisez pas de matériaux abrasifs, de nettoyeurs pour vitres ou d'autres solvants sur la plaque de recouvrement ou les lentilles. Nettoyez la plaque avec une solution contenant un savon doux. N'exposez pas le produit aux substances et/ou matières contenant du soufre, du chlore ou d'autres composés halogènes et aux produits chimiques mentionnés dans le tableau ci-après.

<u>Catégorie</u>	<u>Nom chimique</u>
Solvants	Toluène, xylène, benzène, chlorométhane, chloroforme, acétate d'éthyle, acétate de butyle, acétone, butanone, hexone
Acide	HCl, H ₂ SO ₄ , HNO ₃
Alcali	KOH, NaOH, LiOH, Ca(OH) ₂
Pétrole	Gazole, pétrole, hydrocarbures

Notice

Handle components with care. Do not drop, slide or scratch any of the components to prevent visual damage to the product, loss of functionality or difficulties during installation.

Attention

Manipulez avec soin les composants. Ne laissez ni tomber, ni glisser et ne griffez pas les composants pour éviter les dommages visuels infligés au produit, une perte de fonctionnalité ou des difficultés d'installation.

Notice

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Attention

Manipulez avec soin les composants. Ne laissez ni tomber, ni glisser et ne griffez pas les composants pour éviter les dommages visuels infligés au produit, une perte de fonctionnalité ou des difficultés d'installation.

Notice

The original certification mark and nameplate must remain intact and visible after any labels from this retrofit kit are applied.

Attention

La marque de certification originale et la plaque signalétique doivent rester intactes et visibles après l'étiquette de Ce kit de rénovation est appliqué.

DO NOT MAKE OR ALTER ANY OPEN HOLES IN AN ENCLOSURE OF WIRING OR ELECTRICAL COMPONENTS DURING KIT INSTALLATION.

IL EST INTERDIT DE FAIRE OU DE MODIFIER UNE OUVERTURE DANS UN BOÎTIER DE CÂBLAGE OU DE COMPOSANTS ÉLECTRIQUES AU COURS DE L'INSTALLATION DU NÉCESSAIRE.

THIS RETROFIT KIT IS ACCEPTED AS A COMPONENT OF A LUMINAIRE WHERE THE SUITABILITY OF THE COMBINATION SHALL BE DETERMINED BY AUTHORITIES HAVING JURISDICTION.

LE NÉCESSAIRE DE MODERNISATION EST ACCEPTÉ À TITRE DE COMPOSANT D'UN LUMINAIRE LORSQUE LA PERTINENCE DE LA COMBINAISON DOIT ÊTRE DÉTERMINÉE PAR LES AUTORITÉS COMPÉTENTES

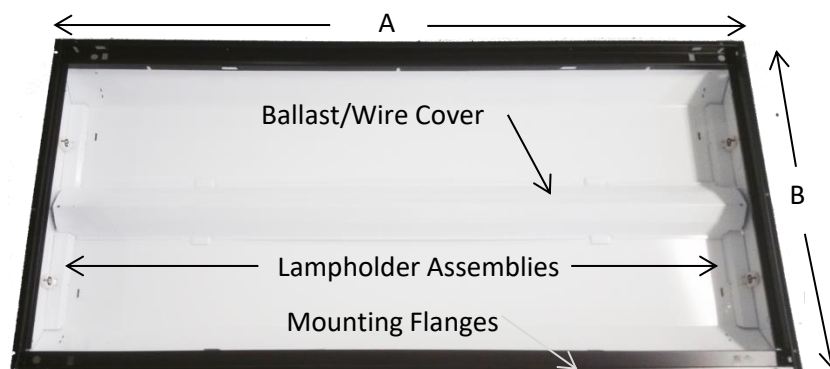
WARNING – RISK OF FIRE OR ELECTRIC SHOCK. INSTALLATION OF THIS

RETROFIT ASSEMBLY REQUIRES A PERSON FAMILIAR WITH THE CONSTRUCTION AND OPERATION OF THE LUMINAIRE'S ELECTRICAL SYSTEM AND THE HAZARD INVOLVED. IF NOT QUALIFIED, DO NOT ATTEMPT INSTALLATION. CONTACT A QUALIFIED PERSON.

AVERTISSEMENT – RISQUE D'INCENDIE OU DE CHOC ÉLECTRIQUE. L'INSTALLATION DE CE NÉCESSAIRE DE MODERNISATION EXIGE UNE

PERSONNE FAMILIÈRE AVEC LA CONSTRUCTION ET LE FONCTIONNEMENT DU SYSTÈME ÉLECTRIQUE DU LUMINAIRE ET DES RISQUES ASSOCIÉS. TOUTE PERSONNE QUI N'EST PAS QUALIFIÉE NE DOIT FAIRE AUCUNE TENTATIVE D'INSTALLATION ET DOIT CONTACTER UNE PERSONNE QUALIFIÉE.

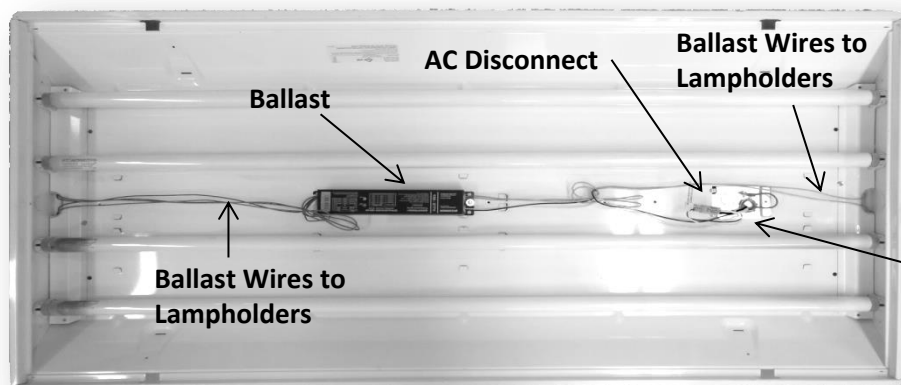
Typical Compatible Host Troffer



A: 47.875" to 23.75"

B: 9" to 23.75"

Typical Compatible Host Troffer – Ballast Cover Removed



Branch Circuit
Supply Wires:
White = Neutral
Black = Hot

Host Lighting Fixture

The Illumisoft Lighting Eco Series is designed for installation in a wide variety of indoor fluorescent based fixtures in horizontal applications.

- The Illumisoft Lighting Eco Series are non air-handling.
- Install the Illumisoft Lighting Eco Series only in fluorescent based host lighting fixtures.
- For LED Driver Connection Option #1, the Eco Series requires a minimum clearance of 3" between the ballast cover and the fixture outer aperture.
- For LED Driver Connection Option #2, the Eco Series requires a minimum host troffer depth of 3.25"
- The Eco Series may be ordered for use with host troffers with dimensions as shown above, used in standard 15/16" NEMA G and NEMA NFG t-grids, 20" x 60" , 36" x 36" and metric ceiling grids.
- Due to the wide variety in troffers and ceiling grids, it is recommended that the installer does a test install before commencing a renovation.
- Please verify voltage that the Illumisoft Lighting Eco Series product label matches the mains voltage.
- Installation of the Eco Series requires that the host lighting fixture be moved vertically in the ceiling grid a sufficient amount to allow the insertion of the Eco Series mounting trim between the host fixture's mounting flanges and the T-bar grids. If the host fixture is attached to the T-bars with seismic clips, screws or other retention brackets and is immobile, then the seismic clips, screws or other retention brackets must be loosened sufficiently to install the Eco Series mounting trim. Be sure to re-secure the seismic clips, screws or other retention brackets after installation of the Eco Series.

The LED retrofit kit is for installation in currently installed recessed, Non - IC (non-insulated ceiling) certified luminaires that has the construction features and dimensions similar to that shown in the photographs and/or drawings and where it has a suitable electrical enclosure for supply connections per UL1598/CSA 250 Standard.

Illumisoft Eco Series LED Retrofit Kits: All Models

Note: The installation procedures including all of its warning, cautions and other literature including the illustrations of the intended host troffer for installation of the retrofit kits, are contained in these instructions unless otherwise specifically indicated. The Eco Series retrofit model depicted in these instructions is a representative fixture for illustrative purposes only.

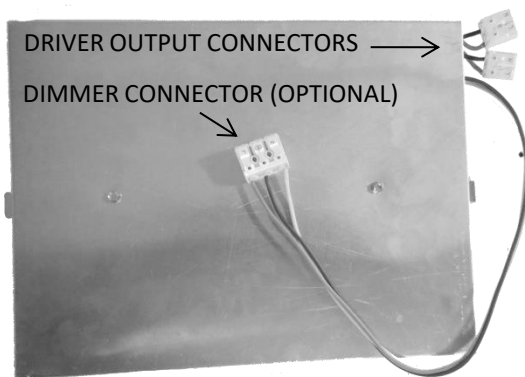
WHAT'S INCLUDED IN THIS RETROFIT KIT:



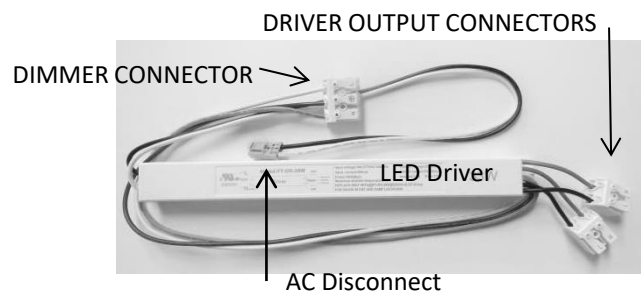
2. TWO SIDE MOUNTING STRIPS



3. TWO END FILLER STRIPS



4A. LED DRIVER & WIRING ASSEMBLY
(WHEN ORDERED WITH DRIVER OPTION #2)



4B. LED DRIVER & WIRING
(WHEN ORDERED WITH DRIVER OPTION #1)



5. 2 X 1/4" #8 SELF-DRILLING SCREWS
(DRIVER OPTION #1 ONLY)

1 X 1.5" #10 SELF-DRILLING SCREW
(DRIVER OPTION #2 ONLY)

THIS LUMINAIRE HAS BEEN MODIFIED FROM ITS ORIGINAL CONFIGURATION. THIS LUMINAIRE WILL NO LONGER ACCEPT THE ORIGINAL LAMPS STATED ON THE RELAMP LABEL.

CE LUMINAIRE A SUBI DES MODIFICATIONS PAR RAPPORT A SA CONFIGURATION D'ORIGINE. CE LUMINAIRE N'ACCEPTERA PLUS LES AMPOULES PREVUES A L'ORIGINE ET REPRESE SUR L'ETIQUETTE RELATIVE AU REMPLACEMENT.

6. TROFFER LABEL

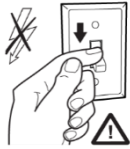
TOOLS NEEDED: WIRE CUTTER/STRIPPER, MEDIUM PHILIPS OR ROBERTSON SCREWDRIVER, ELECTRIC SCREWDRIVER WITH 5/16" SOCKET BIT

Illumisoft Eco Series LED Retrofit Kits: All Models

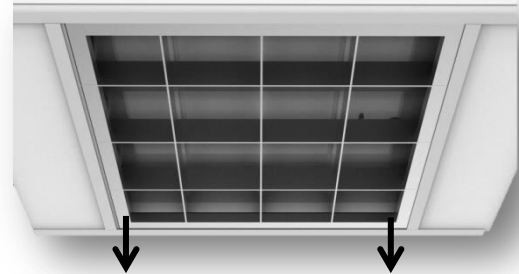
LED DRIVER CONNECTION OPTION #1: LED DRIVER MOUNTS INSIDE THE HOST TROFFER'S BALLAST COVER

IF THE HOST TROFFER HAS A MINIMUM OF 3" OF DEPTH CLEARANCE BETWEEN THE BALLAST COVER AND THE HOST FIXTURE'S MOUNTING FLANGES, THEN FOLLOW THE INSTRUCTIONS BELOW. IF THERE IS INSUFFICIENT CLEARANCE, THEN PROCEED TO [LED DRIVER CONNECTION OPTION #2](#)

WARNING ⚠ RISK OF FIRE, ELECTRIC SHOCK OR PERSONAL INJURY
BEFORE INSTALLATION, TURN THE POWER OFF!

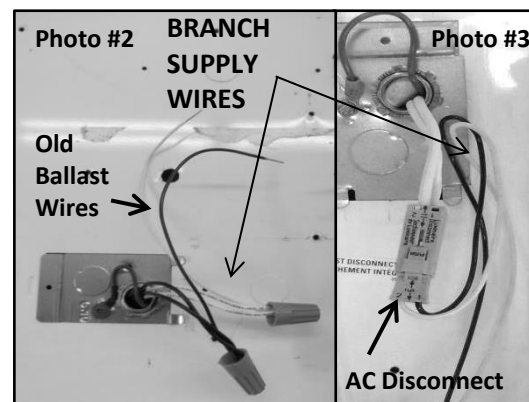
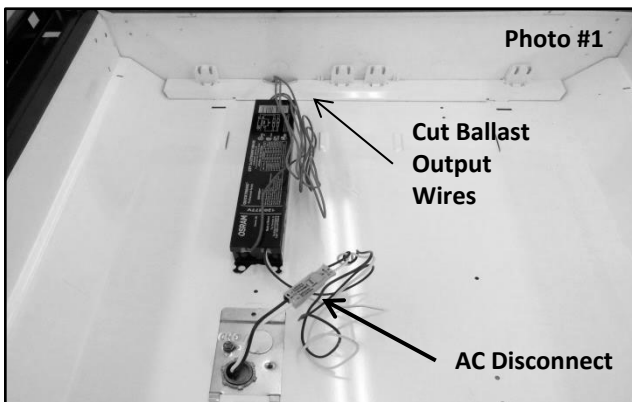
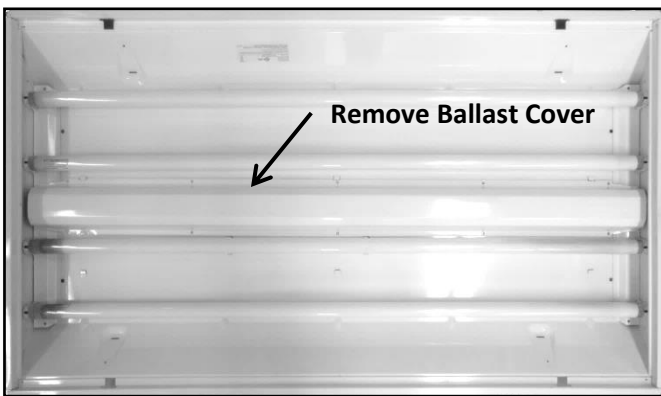


1. Turn the power off!

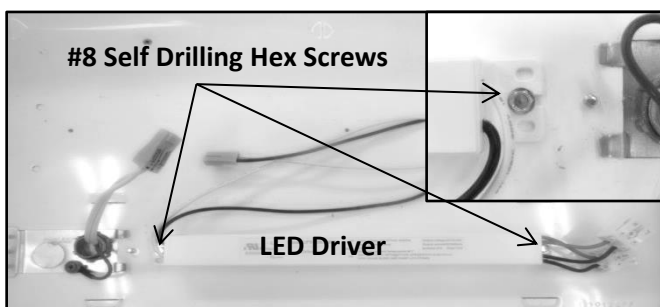


2. Remove louver or door with lens and discard or even better, recycle!

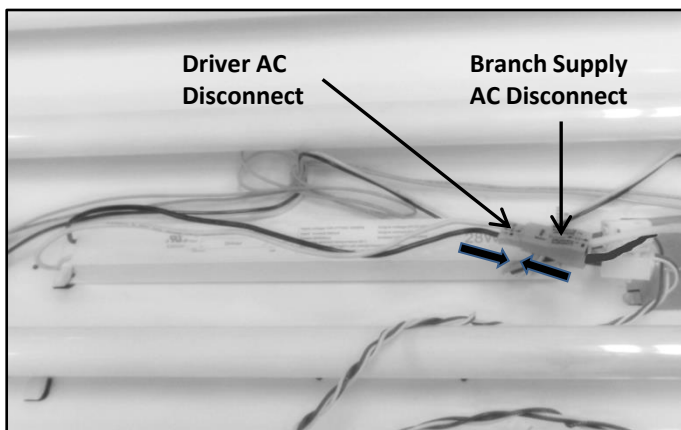
3. All internal parts of the host troffer may be left in place except for the ballast cover which needs to be temporarily removed to access the host troffer wiring. Some troffers may require 1 lamp to be temporarily removed in order to remove the ballast cover. **However, if required by law or code, remove and properly dispose of the lamps and ballast. Regardless, we highly recommend they be removed and safely discarded!**



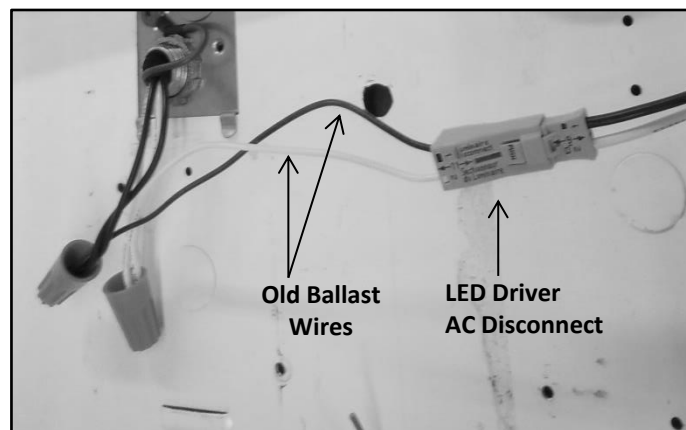
4. Unplug the disconnect from the ballast input (if equipped as shown on photos #1 and #3). If not (photo #2 above), cut the ballast AC input wires as close to the ballast as practicable. Strip about 1/2" of insulation of both wire ends. Detach the ballast from the host troffer. Leave the lamp holders installed.



5. Attach the LED driver to the host troffer with the two supplied self-drilling 1/4" #8 hex screws. **You can reuse one or both of the previous ballast screw holes.**

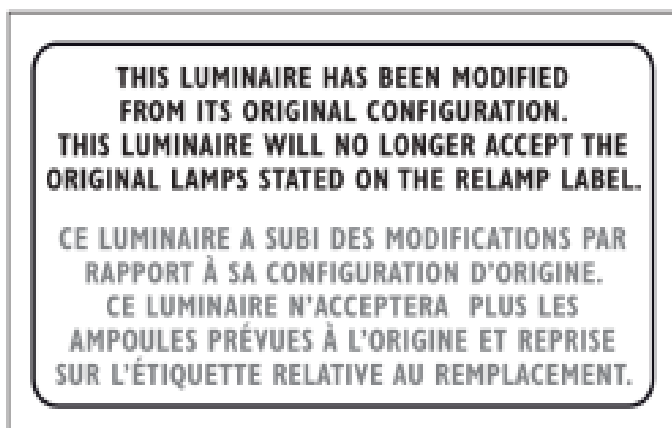


6a). If so equipped as previously described, connect the LED driver AC disconnect to the branch supply AC disconnect.

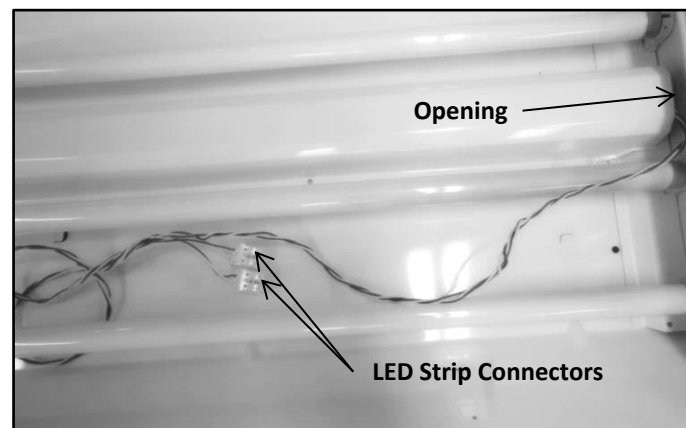


6b). If there is no AC disconnect as previously described, insert the old ballast wires into the LED driver disconnect, making sure to observe the polarity!

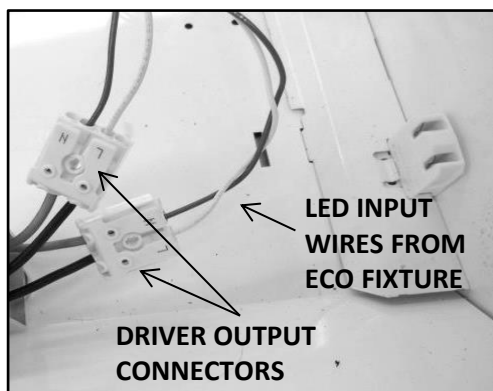
7. Hang the Eco fixture from the ceiling T-bar nearest the LED driver output wires using the supplied hook.



8. Place the supplied label in a prominent place inside the host troffer. **Do not cover the existing troffer information label.**



9. Re-install the host troffer's ballast cover while routing the LED Wire Extension out an existing opening as shown.



10. Connect the LED input wires from the Eco Fixture to the LED driver output connectors. **Be sure to match the red wires (or wires labeled red) from the Eco fixture with the red wires from the driver. In the case of black and white LED wires, connect the black wire to the black wire on the driver output connector.**

Illumisoft Eco Series LED Retrofit Kits: All Models

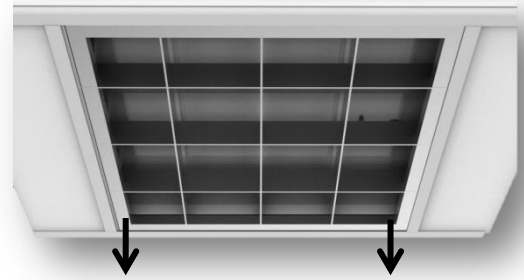
LED DRIVER CONNECTION OPTION #2: USE THE SUPPLIED WIRING ENCLOSURE

For all other installations other than LED Driver Connection Option #1, use the following instructions.

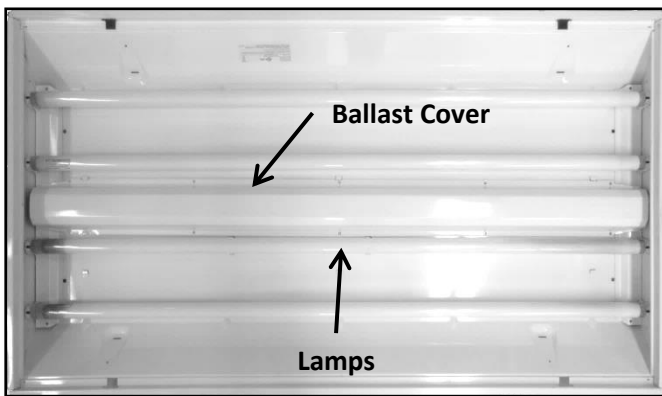
WARNING ⚠ RISK OF FIRE, ELECTRIC SHOCK OR PERSONAL INJURY
BEFORE INSTALLATION, TURN THE POWER OFF!



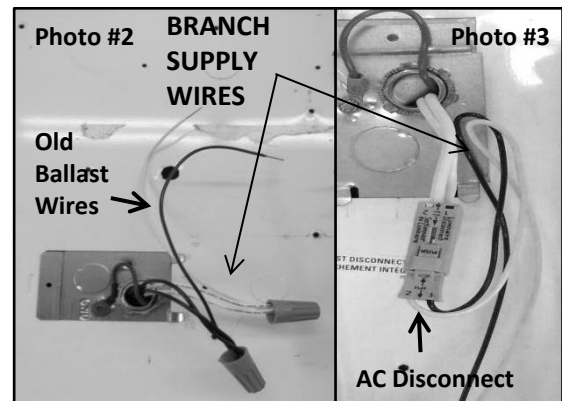
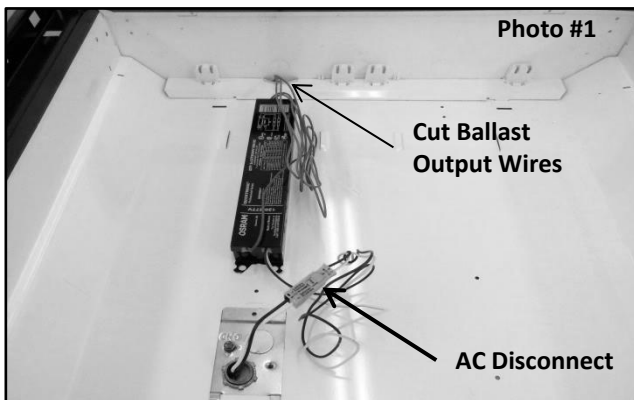
1. Turn the power off!



2. Remove louver or door with lens and discard or even better, recycle!

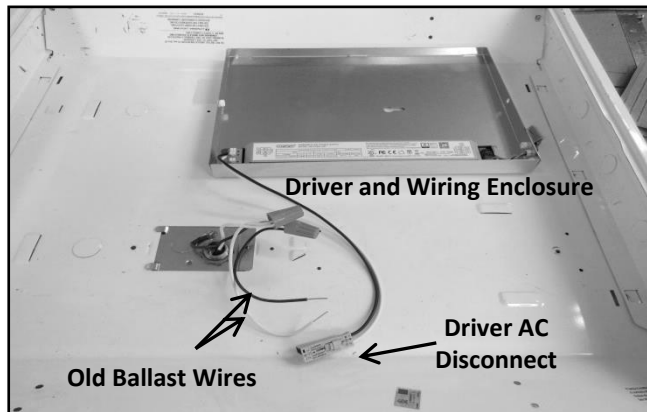


3. Remove and safely dispose of the ballast cover and all lamps.

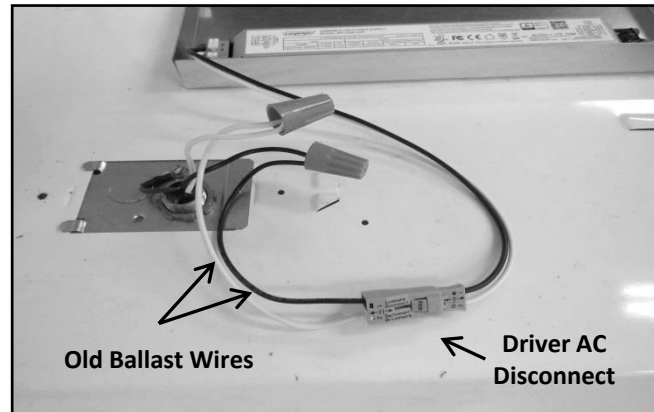


4. Unplug the disconnect from the ballast input (if so equipped as shown on the left and far right photo). If not, cut the ballast AC input wires as close to the ballast as practicable. Strip about 1/2" of insulation of both wire ends (middle photo above). Detach the ballast from the host troffer and safely dispose of it. Leave the lamp holders installed.

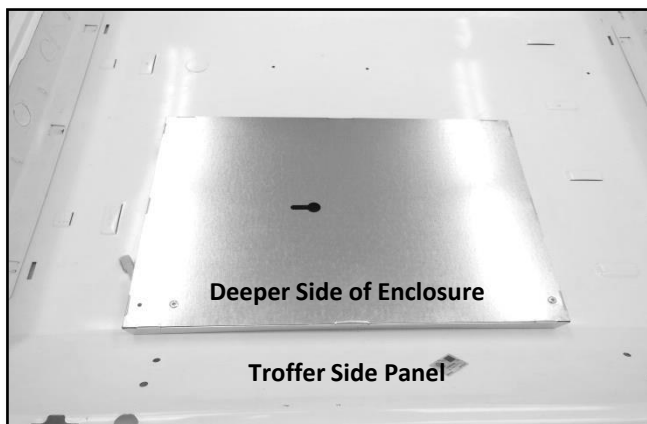
Illumisoft Eco Series LED Retrofit Kits: All Models



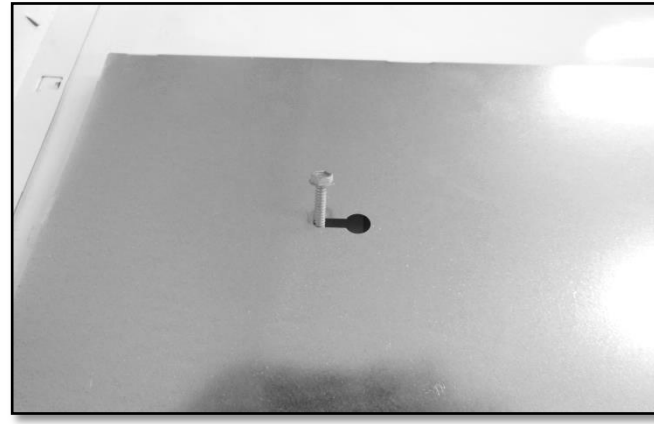
5. Prepare to insert the old ballast wires into the LED driver disconnect. Hold the AC wires from the driver enclosure with one hand, letting the enclosure hang.



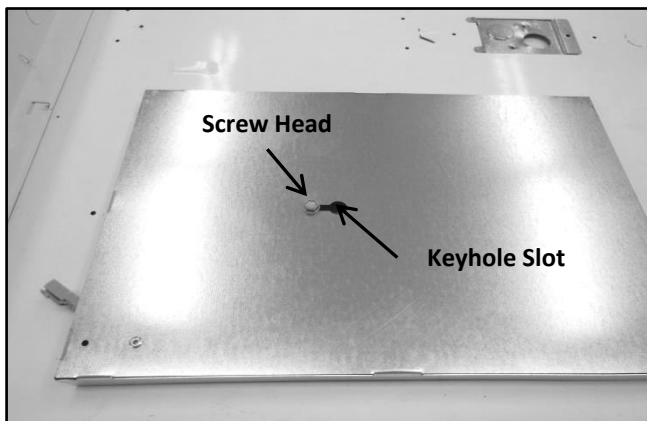
6. Insert the old ballast wires into the LED driver disconnect, making sure to observe the polarity! If equipped with an AC disconnect as previously described, mate the connectors.



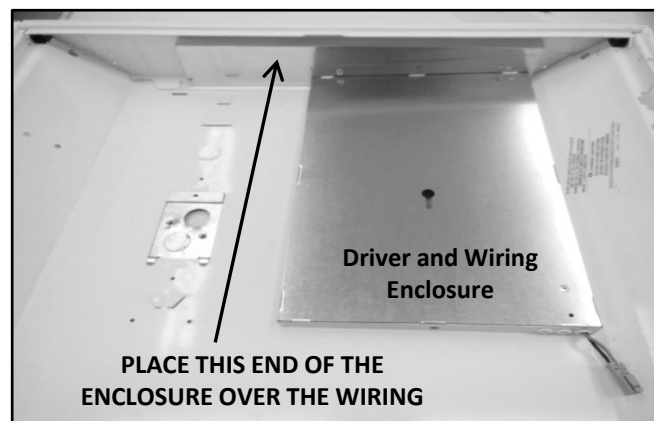
7. Lay the enclosure over the wiring as shown, and align the enclosure as shown. Make sure all wires are safely inside the enclosure.



8. Using the supplied #10 self-drilling hex screw, scratch a mark on the host troffer to mark a spot. Let the driver enclosure hang. Drill the self drilling screw on the mark, leaving about 1" of the screw sticking out.

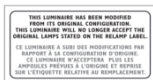


9. Place the driver enclosure so the screw head protrudes through the keyhole slot as shown. Make sure all the wires are securely inside the enclosure, then tighten the screw securely.

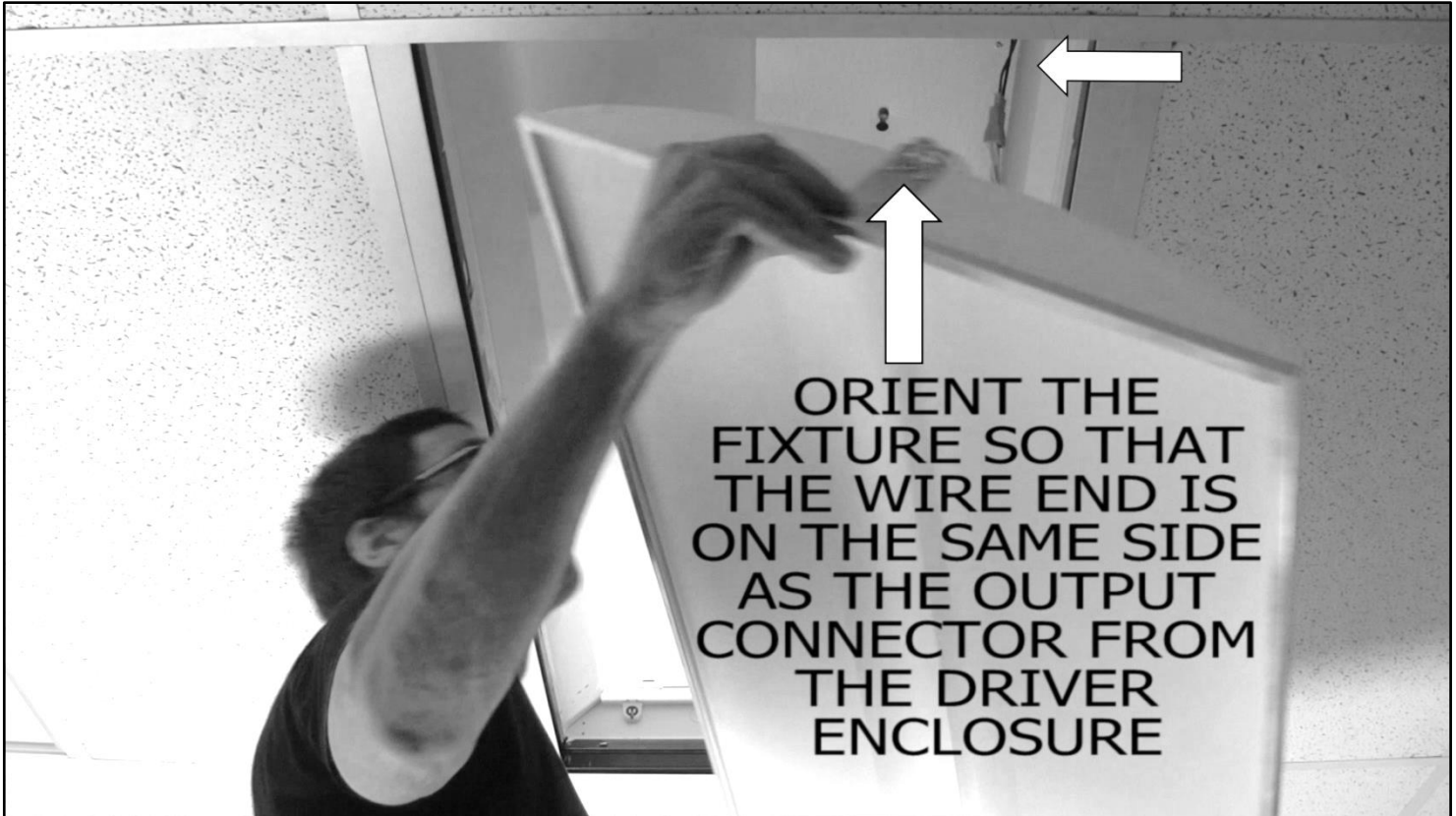


10. In an application where the branch circuit wiring to the troffer enters the side of the troffer and it cannot be moved to the back of the troffer, use the optional wiring enclosure as shown. Follow the same basic steps as #1-11, making sure to place the end of the wiring enclosure securely over the wiring as shown above, with no gaps, and no pinched wires.

11. Place the supplied label in a prominent place inside the host troffer.

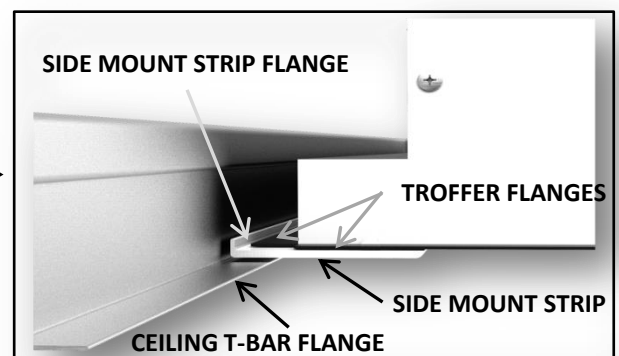
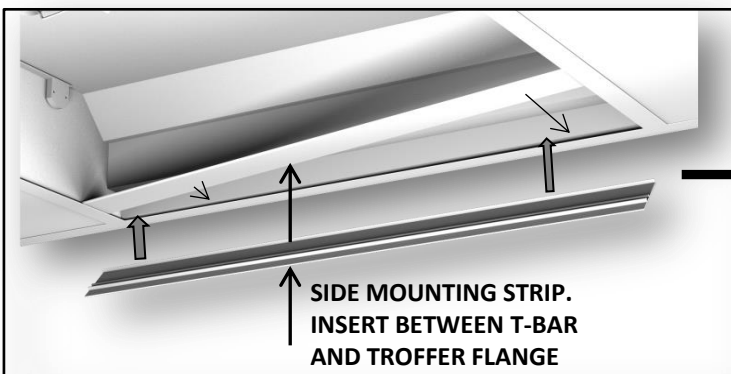


Installation of the Eco Fixture Into the Host Troffer



Connect the LED input wires of the Eco Series to the LED driver output connector.

NOTE: Make sure to mount the end of the Eco fixture with the wires closest to the end of the driver enclosure with the output connector. Arrange the cable to the side of the fixture so that it does not sit on top of the Eco Fixture when installed. This will help ensure that the wires or connectors do not get pressed against the reflectors after installation, which can cause shadowing.

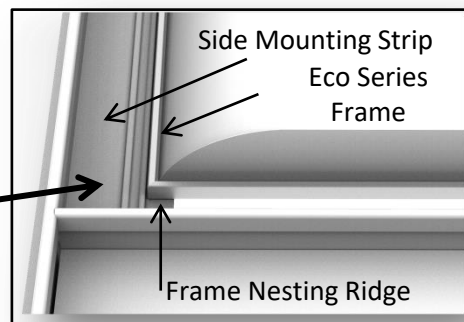
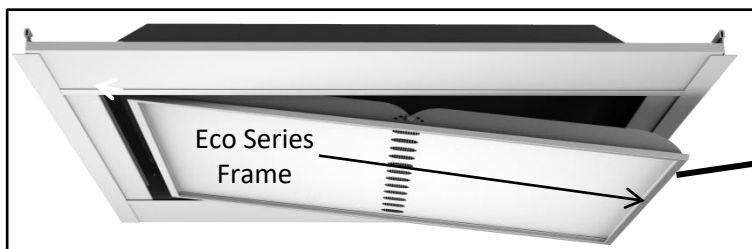


1. Push up on one side of the host troffer (one of the sides with the latch holes) about $\frac{1}{4}$ " and insert a Side Mounting Strip between the T-bar flange and the Troffer Flange. The Flange of the Side Mounting Strip must nest outside of the Troffer Flange as shown. It may help to angle the Side Mounting Strip while inserting.



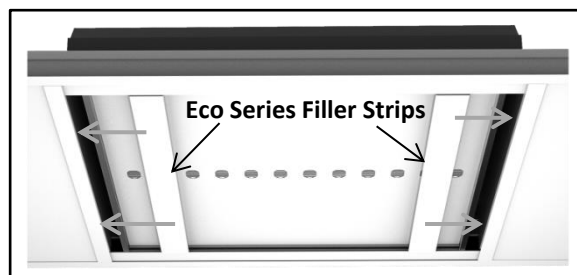
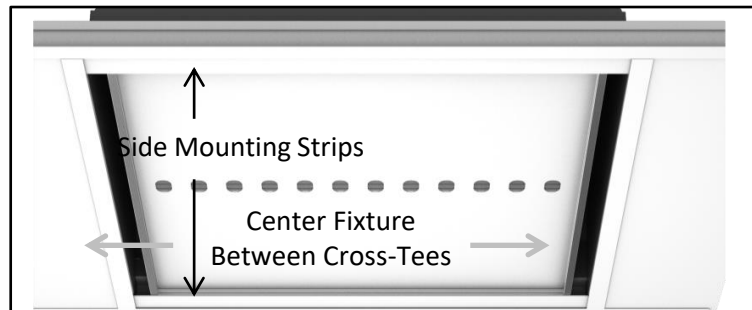
2. Repeat Step #13 for the opposing side of the host troffer.

Installed Side Mounting Strips

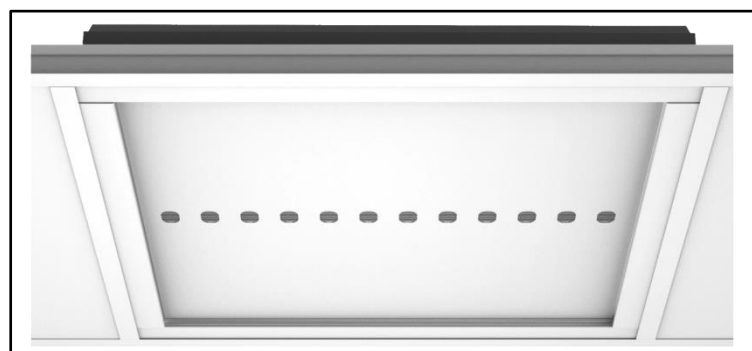


3. Insert the Eco Series into the host troffer so that the two opposing outer frame members of the Eco Series nest on the Frame Nesting Ridge on the Side Mounting Strips. The opposing sides of the Eco Series Frame nests on the Frame Nesting Ridge as shown in the above cut-away view.

NOTE: Make sure to mount the end of the Eco fixture with the wires closest to the end of the driver enclosure with the output connector. This will help ensure that the wires or connectors do not get pressed against the reflectors after installation, which can cause shadowing.



4. Center the Eco Series in the host troffer as necessary by sliding it along the Side Mounting Strips. Insert both opposing Filler Strips between the remaining opposing host troffer flanges and the T-bar flanges as shown above.



Cleaning

To clean bugs, dust or debris from the inside of the Eco Series after installation, remove both End Filler Strips. Remove the Eco Series from the host troffer and hold it vertical. The flexible end panels can be gently pulled back to allow the debris to fall out. Re-install the Eco Series into the host troffer as previously described.

5. Enjoy your Eco Series LED Retrofit for many years to come!

Emergency Battery Backup Option

IMPORTANT SAFEGUARDS

When using electrical equipment, basic safety precautions should always be followed including:

READ AND FOLLOW ALL SAFETY INSTRUCTIONS

WARNING: Risk of fire or electric shock. Luminaire wiring and electrical parts may be damaged when drilling for installation of LED Emergency Backup. Check for enclosed wiring and components.

WARNING: Risk of fire or electric shock. This LED Emergency Backup installation requires knowledge of luminaires electrical systems. If not qualified, do not attempt installation. Contact a qualified electrician.

WARNING: Risk of fire or electric shock LED Emergency Backup is only for use in surface mount or recessed Type IC or Non-IC luminaires listed to UL Standards. Suitable for use in damp locations and plenum spaces. Not for use in heated air outlets or hazardous locations.

WARNING: To prevent wiring damage or abrasion, do not expose wiring to edges of sheet metal or other sharp objects.

WARNING: Do not make or alter any open holes of the wiring enclosure or electrical component enclosure during installation. Only those open holes indicated in the instructions and/or drawings may be added or altered as a result of LED Emergency Backup installation. Do not leave any other open holes in the wiring enclosure or electrical component enclosure during installation.

CAUTION: Before installing, make certain the AC power to the fixture is off.

CAUTION: The electrical rating of this product is 120-277V. Installer must confirm that there is 120- 277V at the fixture before installation.

CAUTION: LEDs are extremely bright. Do not look directly at the LED light source for extended time as over-exposure may cause harm to the eyes.

Do not use outdoors.

Use caution when servicing batteries. Battery acid can cause burns to skin and eyes. If acid is spilled on skin or in eyes, flush acid with fresh water and contact a physician immediately.

Equipment should be mounted in locations and at heights where it will not readily be subjected to tampering by unauthorized personnel. The use of accessory equipment not recommended by the manufacturer may cause an unsafe condition.

Do not use this equipment for other than intended use.

This emergency pack has been evaluated to and found compliant to UL 924. The emergency pack assembly is accepted as a component of a luminaire where the suitability of the combination shall be determined by UL or Authorities Having Jurisdiction. The as-installed performance of the system must meet or exceed all Federal, State, and Local code requirements.

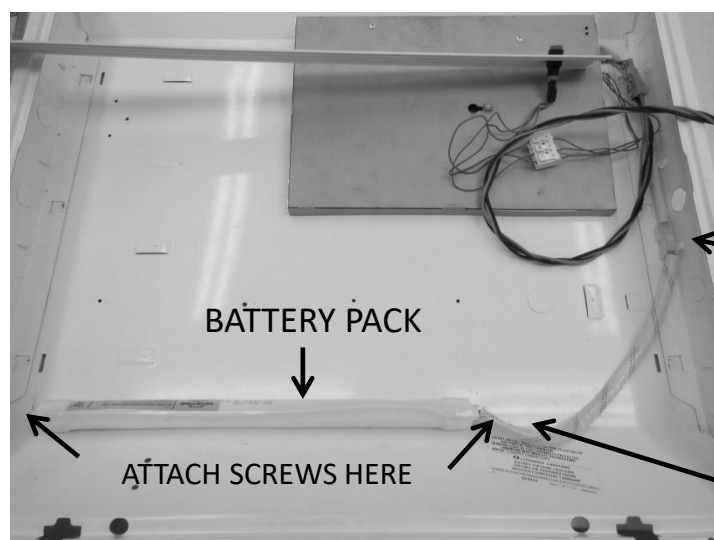
Emergency Battery Backup Option

What's included:

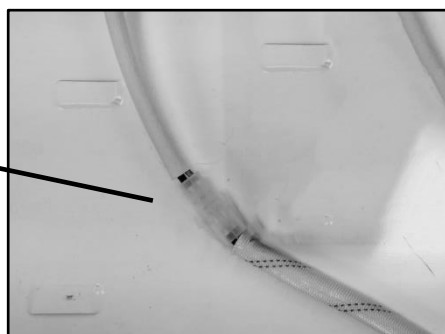
1. Battery pack with wire connector.
2. Two #8 self drilling screws

Installation Instructions

Read and understand all warning and notes stated above before proceeding with installation.



1. Connect the battery to the driver enclosure using the mating connector as shown.



2. Attach the battery along the opposite troffer edge as the wiring enclosure as shown, using the two supplied self drilling #8 screws.

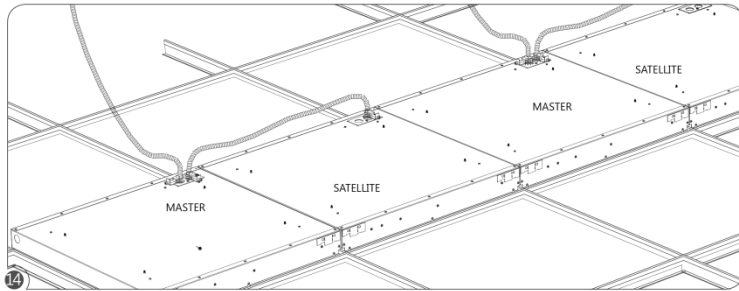
3. Apply the supplied luminaire modification label.

Eco Series Retrofit Kits have rated efficacies ranging from 136 to 167 lumens/watt. The actual lumen output of any given Eco Series fixture will be approximately 5 times (5 watt option) and 12 times (12 watt option) the stated efficacy your particular model. For example, if the Eco Series fixture is rated at 152 lumens/watt, the the lumen output power failure conditions will be approximately $12 \times 152 = 1824$ lumens for a minimum of 90 minutes (12 watt option).

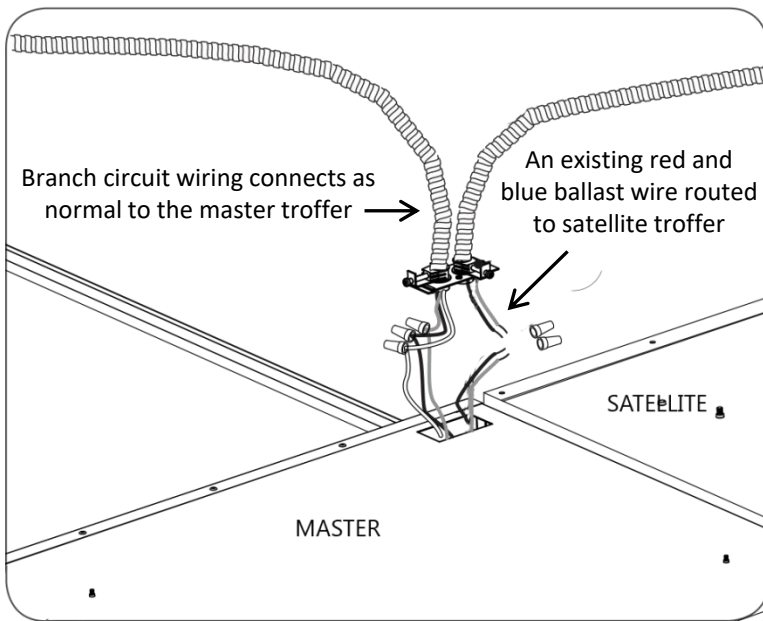
Determining Adequacy of Means-of-Egress Lighting Levels

Follow industry standards by utilizing available .ies files and lighting design software for your dedicated emergency luminaires, with the above calculated emergency lumens, and validate your as-installed plans in accordance with the applicable life safety codes governing your project. While these products are compliant with the requirements of UL Standard 924, it is ultimately the responsibility of the designer/specifier to assure the as-installed system delivers code compliant path of egress illumination in accordance with federal, state or local municipal requirements.

Master/Satellite Option Installation Instructions



EXISTING TROFFERS ARE SOMETIMES WIRED IN A MASTER/SATELLITE CONFIGURATION AS SHOWN.

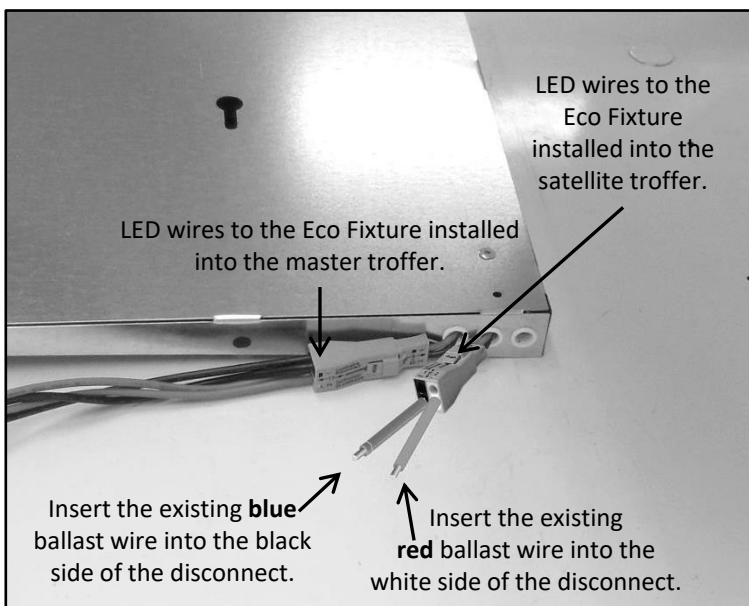


EXISTING HOST TROFFERS WIRING OVERVIEW

The satellite fixture originally may have been wired with many possible configurations of ballast wire numbers and colors that are routed from the master to satellite troffer. Typically these will include at least one red wire and one blue wire. However there may be several of each, making it difficult to know which wires in the master correspond to which wire in the satellite.

We recommend removing all unused ballast wires so that only a red and blue wire remain.

MASTER TROFFER



Insert the blue and red wires as identified into the push-in disconnect as shown.

SATELLITE TROFFER

