



## WARNING



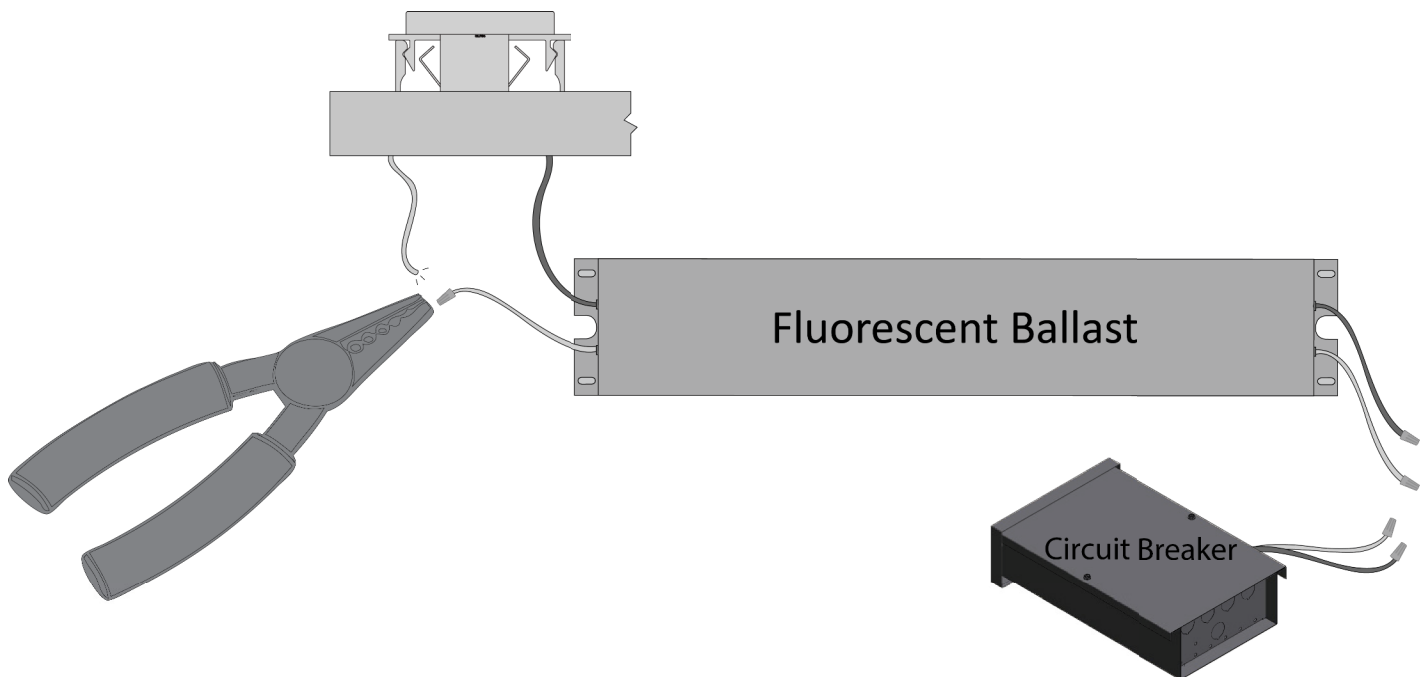
Disconnect power and remove ballast before installing RetroRayz® assemblies.

## ALERTE

Déconnecter la puissance et enlever le ballast avant d'installer des assemblages RetroRayz®.

\*Recommend using electrically insulating gloves

1. Turn OFF the circuit breaker supplying power to the sign.
2. Disconnect existing lighting system.
3. Be sure to cap off AC line wires before installing AgiLight® power supply.



Read Instructions Completely Before Installation. Altering The Product In Any Way Voids The Warranty.

**STOP**

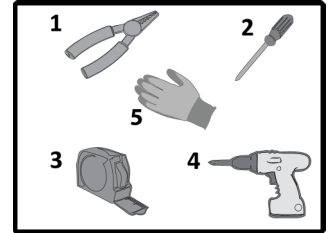
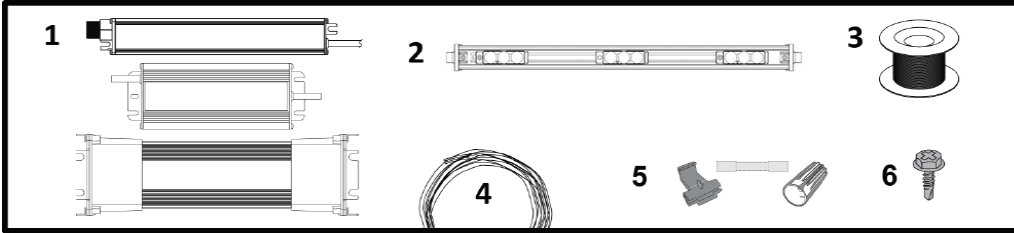


**WARNING: RISK OF DEATH OR SERIOUS INJURY DUE TO ELECTRIC SHOCK.**

**STOP**



AVERTISSEMENT : RISQUE DE DÉCÈS OU DE BLESSURES GRAVES DUS À UN CHOC ÉLECTRIQUE.



ONLY WORKS WITH T8 & T12 RDC SOCKETS

**Components:**

- AgiLight® Class 2 Power Supply (UYMR2/8 ) E354486 (see table right)
- AgiLight® **RetroRayz®** LED Light Bar
- Minimum 18 AWG (0.82mm) wire- (UL Listed)  
\*Under certain conditions, a heavier gauge wire may be necessary.
- PLTC Cable- (UL Listed)
- 22- 14 AWG (0.33-2.08mm) wire connectors or 22- 18 AWG (0.33-0.82mm) wire nuts, IDC, or butt splice connectors (UL Listed)  
23- NOTE: Use waterproof wire connectors to maintain IP68 rating.
- #8 or #10 (M4 or M5) screws

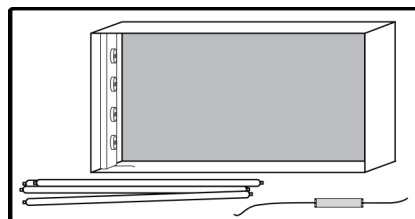
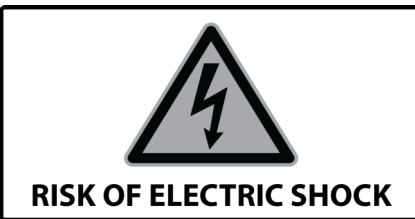
RetroRayz	Part Number	Description
Double Sided (24V)	PS24-SL-60W-120-277V	60W 24V SlimLine Power Supply
	PS24-96W-100-277V	96W 24V Power Supply
Single Sided (12V)	PS12-SL-35W-120-277V	35W 12V SlimLine Power Supply
	PS12-60W-100-277V	60W 12V Standard Power Supply
	PS12-60WSL-100-277V	60W 12V Slim Power Supply
	PS12-SL-60W-120-277V	60W 12V SlimLine Power Supply
	PS12-180W-3-A	180W 12V 3-Channel Power Supply

**Tools:**

- Wire Strippers
- Screw Driver
- Tape Measure
- Drill
- Gloves



**RetroRayz® Installation**

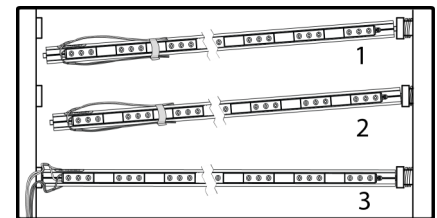
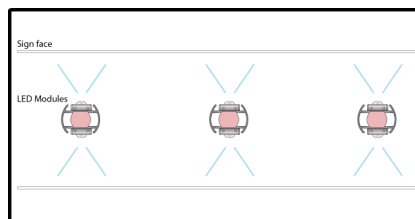
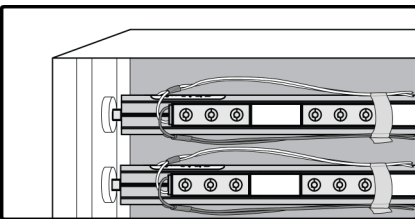


**GENERAL PURPOSE  
RETROFIT SIGN CONVERSION LED KIT FOR USE  
ONLY IN ACCORDANCE  
WITH KIT INSTRUCTIONS**

- Turn **OFF** the circuit breaker supplying power to the sign. Disconnect power and remove ballast. Be sure to cap off AC line wires before installing DC power supply.

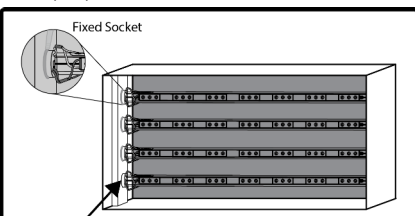
- Remove existing fluorescent lamps, ballast or non-AgiLight® power supplies, and wiring external to raceways.  
**LEAVE SOCKETS IN PLACE** (these will be used to mount RetroRayz® bars). Properly dispose of fluorescent lamps.

KIT IS COMPLETE ONLY WHEN ALL PARTS REQUIRED BY THE INSTRUCTIONS ARE PRESENT

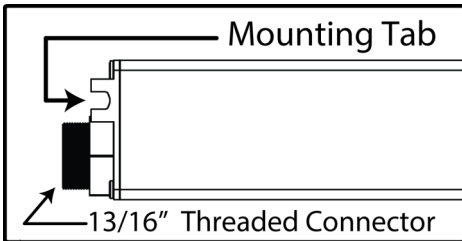


- Orient RetroRayz® bars so that LED modules point toward the signs face. LED op-tic face to be perpendicular to the ground.

- Place RetroRayz® bars into sign according to AgiLight® Population Density Guide. Insert bar into spring loaded socket first. Compress spring, then position opposite side of bar into socket. Ensure both ends are securely seated. Remove tape securing wires to bar.



- Apply silicone to **fixed** socket to prevent bar rotation to ensure proper sign-face illumination.



6. Mount power supplies to the sign and connect power supplies to RetroRayz® bars according to power supply load label.

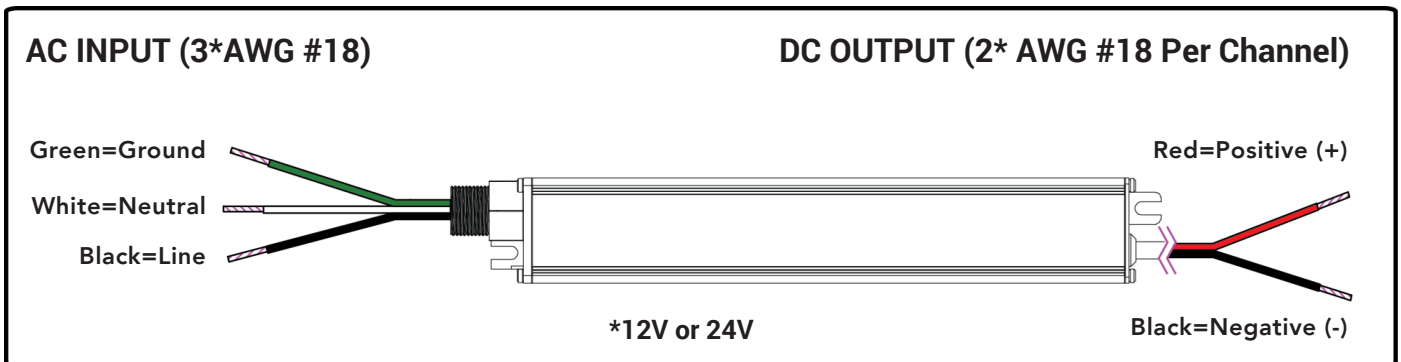
7. Double check all connections and power supply loading. Connect primary side of power supplies, then turn circuit breaker back on.

\*Note: Use IP68 Rated wire connectors to maintain IP68 rating of RetroRayz® system. cid:image001.jpg@01D4750C.42E68D10

**WARNING: READ BEFORE WIRING**

1. Must use AgiLight® 12VDC or 24VDC power supply; proper wire gauge to connect to LED modules.
2. Check polarity for DC standard, BLACK (-) to BLACK (-) and RED (+) to WHITE (+).
3. UL 48 Standard requires spacing between power supplies be at least 1 inch (25.4mm) from end to end, and 4 inches (101.6mm) from side to side.
4. Do not overload power supply and do not use products in submersed applications.
5. Grounding and bonding of the LED power supply must be done in accordance with National Electric Code (NEC) Article 600.
6. Follow all National Electric Codes (NEC) and local codes.

**Power Supply Wiring Instructions**



# 12V RetroRayz® 500 Single Sided # of Bars per 60W Power Supply

Part Number	18 Inch (0.5 m)	24 Inch (0.6 m)	30 Inch (0.8 m)	36 Inch (0.9 m)	42 Inch (1.1 m)	48 Inch (1.2 m)	60 Inch (1.5 m)	64 Inch (1.6 m)	72 Inch (1.8 m)	84 Inch (2.1 m)	96 Inch (2.4 m)	108 Inch (2.7 m)	117 Inch (3.0 m)	120 Inch (3.0 m)
LS-RTRZ5-018-65K-2SS	22													
LS-RTRZ5-018-50K-2SS														
LS-RTRZ5-018-40K-2SS														
LS-RTRZ5-024-65K-2SS	15													
LS-RTRZ5-024-50K-2SS														
LS-RTRZ5-024-40K-2SS														
LS-RTRZ5-030-65K-2SS			11											
LS-RTRZ5-030-50K-2SS														
LS-RTRZ5-030-40K-2SS														
LS-RTRZ5-036-65K-2SS				9										
LS-RTRZ5-036-50K-2SS														
LS-RTRZ5-036-40K-2SS														
LS-RTRZ5-042-65K-2SS					7									
LS-RTRZ5-042-50K-2SS														
LS-RTRZ5-042-40K-2SS														
LS-RTRZ5-048-65K-2SS						6								
LS-RTRZ5-048-50K-2SS														
LS-RTRZ5-048-40K-2SS														
LS-RTRZ5-060-65K-2SS							5							
LS-RTRZ5-060-50K-2SS														
LS-RTRZ5-060-40K-2SS														
LS-RTRZ5-064-65K-2SS								4						
LS-RTRZ5-064-50K-2SS														
LS-RTRZ5-064-40K-2SS														
LS-RTRZ5-072-65K-2SS									4					
LS-RTRZ5-072-50K-2SS														
LS-RTRZ5-072-40K-2SS														
LS-RTRZ5-084-65K-2SS										3				
LS-RTRZ5-084-50K-2SS														
LS-RTRZ5-084-40K-2SS														
LS-RTRZ5-096-65K-2SS											3			
LS-RTRZ5-096-50K-2SS														
LS-RTRZ5-096-40K-2SS														
LS-RTRZ5-108-65K-2SS												2		
LS-RTRZ5-108-50K-2SS														
LS-RTRZ5-108-40K-2SS														
LS-RTRZ5-117-65K-2SS													2	
LS-RTRZ5-117-50K-2SS														
LS-RTRZ5-117-40K-2SS														
LS-RTRZ5-120-65K-2SS														2
LS-RTRZ5-120-50K-2SS														
LS-RTRZ5-120-40K-2SS														

# 12V RetroRayz® 700 Single Sided # of Bars per 60W Power Supply

Part Number	18 Inch (0.5 m)	24 Inch (0.6 m)	30 Inch (0.8 m)	36 Inch (0.9 m)	42 Inch (1.1 m)	48 Inch (1.2 m)	60 Inch (1.5 m)	64 Inch (1.6 m)	72 Inch (1.8 m)	84 Inch (2.1 m)	96 Inch (2.4 m)	1108 Inch (2.7 m)	117 Inch (3.0 m)	120 Inch (3.0 m)
LS-RTRZ7-018-65K-2SS	15													
LS-RTRZ7-018-50K-2SS														
LS-RTRZ7-018-40K-2SS														
LS-RTRZ7-024-65K-2SS	9													
LS-RTRZ7-024-50K-2SS														
LS-RTRZ7-024-40K-2SS														
LS-RTRZ7-030-65K-2SS			7											
LS-RTRZ7-030-50K-2SS														
LS-RTRZ7-030-40K-2SS														
LS-RTRZ7-036-65K-2SS				6										
LS-RTRZ7-036-50K-2SS														
LS-RTRZ7-036-40K-2SS														
LS-RTRZ7-042-65K-2SS					5									
LS-RTRZ7-042-50K-2SS														
LS-RTRZ7-042-40K-2SS														
LS-RTRZ7-048-65K-2SS						4								
LS-RTRZ7-048-50K-2SS														
LS-RTRZ7-048-40K-2SS														
LS-RTRZ7-060-65K-2SS							3							
LS-RTRZ7-060-50K-2SS														
LS-RTRZ7-060-40K-2SS														
LS-RTRZ7-064-65K-2SS								3						
LS-RTRZ7-064-50K-2SS														
LS-RTRZ7-064-40K-2SS														
LS-RTRZ7-072-65K-2SS									3					
LS-RTRZ7-072-50K-2SS														
LS-RTRZ7-072-40K-2SS														
LS-RTRZ7-084-65K-2SS										2				
LS-RTRZ7-084-50K-2SS														
LS-RTRZ7-084-40K-2SS														
LS-RTRZ7-096-65K-2SS											2			
LS-RTRZ7-096-50K-2SS														
LS-RTRZ7-096-40K-2SS														
LS-RTRZ7-108-65K-2SS												2		
LS-RTRZ7-108-50K-2SS														
LS-RTRZ7-108-40K-2SS														
LS-RTRZ7-117-65K-2SS													1	
LS-RTRZ7-117-50K-2SS														
LS-RTRZ7-117-40K-2SS														
LS-RTRZ7-120-65K-2SS														1
LS-RTRZ7-120-50K-2SS														
LS-RTRZ7-120-40K-2SS														

**24V RetroRayz® 500 Double Sided # of Bars per 96W Power Supply**

Part Number	18 Inch (0.5 m)	24 Inch (0.6 m)	30 Inch (0.8 m)	36 Inch (0.9 m)	42 Inch (1.1 m)	48 Inch (1.2 m)	60 Inch (1.5 m)	64 Inch (1.6 m)	72 Inch (1.8 m)	84 Inch (2.1 m)	96 Inch (2.4 m)	108 Inch (2.7 m)	117 Inch (3.0 m)	120 Inch (3.0 m)
LS-RTRZ5-018-65K-2DS	18													
LS-RTRZ5-018-50K-2DS														
LS-RTRZ5-018-40K-2DS														
LS-RTRZ5-024-65K-2DS		12												
LS-RTRZ5-024-50K-2DS														
LS-RTRZ5-024-40K-2DS														
LS-RTRZ5-030-65K-2DS			9											
LS-RTRZ5-030-50K-2DS														
LS-RTRZ5-030-40K-2DS														
LS-RTRZ5-036-65K-2DS				7										
LS-RTRZ5-036-50K-2DS														
LS-RTRZ5-036-40K-2DS														
LS-RTRZ5-042-65K-2DS					6									
LS-RTRZ5-042-50K-2DS														
LS-RTRZ5-042-40K-2DS														
LS-RTRZ5-048-65K-2DS						5								
LS-RTRZ5-048-50K-2DS														
LS-RTRZ5-048-40K-2DS														
LS-RTRZ5-060-65K-2DS							4							
LS-RTRZ5-060-50K-2DS														
LS-RTRZ5-060-40K-2DS														
LS-RTRZ5-064-65K-2DS								3						
LS-RTRZ5-064-50K-2DS														
LS-RTRZ5-064-40K-2DS														
LS-RTRZ5-072-65K-2DS									3					
LS-RTRZ5-072-50K-2DS														
LS-RTRZ5-072-40K-2DS														
LS-RTRZ5-084-65K-2DS										3				
LS-RTRZ5-084-50K-2DS														
LS-RTRZ5-084-40K-2DS														
LS-RTRZ5-096-65K-2DS											2			
LS-RTRZ5-096-50K-2DS														
LS-RTRZ5-096-40K-2DS														
LS-RTRZ5-108-65K-2DS												2		
LS-RTRZ5-108-50K-2DS														
LS-RTRZ5-108-40K-2DS														
LS-RTRZ5-117-65K-2DS													2	
LS-RTRZ5-117-50K-2DS														
LS-RTRZ5-117-40K-2DS														
LS-RTRZ5-120-65K-2DS														2
LS-RTRZ5-120-50K-2DS														
LS-RTRZ5-120-40K-2DS														

**24V RetroRayz® 700 Double Sided # of Bars per 96W Power Supply**

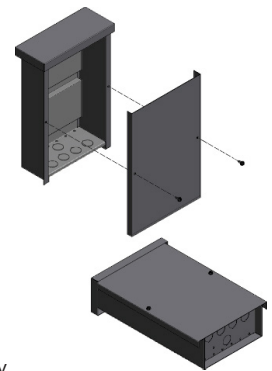
Part Number	18 Inch (0.5 m)	24 Inch (0.6 m)	30 Inch (0.8 m)	36 Inch (0.9 m)	42 Inch (1.1 m)	48 Inch (1.2 m)	60 Inch (1.5 m)	64 Inch (1.6 m)	72 Inch (1.8 m)	84 Inch (2.1 m)	96 Inch (2.4 m)	1108 Inch (2.7 m)	117 Inch (3.0 m)	120 Inch (3.0 m)
LS-RTRZ7-018-65K-2DS	12													
LS-RTRZ7-018-50K-2DS														
LS-RTRZ7-018-40K-2DS														
LS-RTRZ7-024-65K-2DS	7													
LS-RTRZ7-024-50K-2DS														
LS-RTRZ7-024-40K-2DS														
LS-RTRZ7-030-65K-2DS			6											
LS-RTRZ7-030-50K-2DS														
LS-RTRZ7-030-40K-2DS														
LS-RTRZ7-036-65K-2DS				5										
LS-RTRZ7-036-50K-2DS														
LS-RTRZ7-036-40K-2DS														
LS-RTRZ7-042-65K-2DS					4									
LS-RTRZ7-042-50K-2DS														
LS-RTRZ7-042-40K-2DS														
LS-RTRZ7-048-65K-2DS						3								
LS-RTRZ7-048-50K-2DS														
LS-RTRZ7-048-40K-2DS														
LS-RTRZ7-060-65K-2DS							3							
LS-RTRZ7-060-50K-2DS														
LS-RTRZ7-060-40K-2DS														
LS-RTRZ7-064-65K-2DS								2						
LS-RTRZ7-064-50K-2DS														
LS-RTRZ7-064-40K-2DS														
LS-RTRZ7-072-65K-2DS									2					
LS-RTRZ7-072-50K-2DS														
LS-RTRZ7-072-40K-2DS														
LS-RTRZ7-084-65K-2DS										2				
LS-RTRZ7-084-50K-2DS														
LS-RTRZ7-084-40K-2DS														
LS-RTRZ7-096-65K-2DS											1			
LS-RTRZ7-096-50K-2DS														
LS-RTRZ7-096-40K-2DS														
LS-RTRZ7-108-65K-2DS												1		
LS-RTRZ7-108-50K-2DS														
LS-RTRZ7-108-40K-2DS														
LS-RTRZ7-117-65K-2DS													1	
LS-RTRZ7-117-50K-2DS														
LS-RTRZ7-117-40K-2DS														
LS-RTRZ7-120-65K-2DS														1
LS-RTRZ7-120-50K-2DS														
LS-RTRZ7-120-40K-2DS														

**Troubleshooting**

Problem	Possible Cause
All LED modules are OFF or some of the LED mod-ules are not illuminated.	<ol style="list-style-type: none"> <li>1. Power supply may not be loaded.</li> <li>2. Wrong Power Supply. Must be 24V DC constant voltage.</li> <li>3. Bad or loose connections.</li> </ol>
Entire section does not light or lights intermittently.	<ol style="list-style-type: none"> <li>1. Bad, loose, or improper connections.</li> <li>2. Power supplies are spaced too close together; overheating.</li> </ol> <p><b>*Note: Spacings between LED power supplies shall be at least 1 inch (25.4mm) from end to end, and 4 inches (101.6mm) from side to side.</b></p>
LED modules flicker or appear dim.	<ol style="list-style-type: none"> <li>1. Power supply may not be properly loaded with LED modules.</li> <li>2. Power supply may be damaged or defective.</li> <li>3. Power supply may not be wired correctly. Check AC input wiring (Green to Ground, Black to Black, and White to White).</li> </ol>

**Components:**

1. Determine desired location for the transformer box.
2. Attach the box to the substrate. Screw through the middle and lower channels.  
(When used in a wet location, attach box to a substrate using screws with rubber gasketed heads.)
  - \* The Transformer box is to be attached in all applications with 13/16" holes always facing down.
3. Using the maximum 1/2" long self-tapping screw, attach the power supply\* to the raised platform
  - \* See power supply spec sheet for clearances.
4. The bottom of the box has 3 standard 13/16" diameter holes and 2 pilot holes for additional 13/16" holes.
5. Use the middle back 13/16" hole. Attach your metal conduit nipple from the safety disconnect switch box.  
It is important that the primary (120 VAC) wires be separated from the secondary (DC) circuit wires completely.  
Make all the 120 VAC splices in the safety disconnect box. No excess 120 VAC wiring should be in the transformer box.
  - \* Keep all secondary DC wiring as far away from the primary AC wiring as possible.
  - \*\* Remember that this location is a dry/damp area. Use the appropriate conduit and strain relief products.
6. Use the included #8 x 1/2" machine screw as the grounding lug. This lug can be attached to the box either with the threads and two Green nuts facing the inside of the box or so they face outside the box.  
The hole in the bottom of the box between the two 13/16" holes is for the attachment of the grounding lug.  
Attach the grounding wires from the LED letters to the box (if the grounding of the letters is required).  
Place the faceplate on the box, push up under the lip and secure with self-drilling screws to the box.





### Warning

Item	Text
A.	WARNING - Risk of fire or electric shock. LED Retrofit Kit installation requires knowledge of sign electrical systems. If not qualified, do not attempt installation. Contact a qualified electrician.
B.	WARNING - Risk of fire or electric shock. Install this kit only in host signs that have been identified in the installation instructions and where the input rating of the retrofit kit does not exceed the input rating of the sign.
C.	WARNING - Risk of fire or electric shock. Installation of this LED retrofit kit may involve drilling or punching of holes into the structure of the sign. Check for enclosed wiring and components to avoid damage to wiring and electrical parts.
D.	Installer should examine all parts that are not intended to be replaced by the retrofit kit for damage and replace any damaged parts prior to installation of the retrofit kit.
E.	Installers should not disconnect existing wires from lampholder terminals to make new connections at lampholder terminals. Instead installers should cut existing lampholder leads away from the lampholder and make new electrical connections to lampholder lead wires by employing applicable connectors.
F.	WARNING - To prevent wiring damage or abrasion, do not expose wiring to edges of sheet metal or other sharp objects.
G.	"Do not make or alter any open holes in an enclosure of wiring or electrical components during kit installation."
H.	"Repair and seal any unused openings in the electrical enclosure. Openings greater than 12.7-mm (1/2-in) diameter require a metal patch secured by screws or rivets and caulked with non-hardening caulk. Smaller openings may be sealed with non-hardening caulk."
I.	WARNING: To avoid potential fire or shock hazard, do not use this retrofit kit with existing shunted bi-pin lampholders in the host sign. Note: Shunted lampholders are found only in fluorescent signs with Instant-Start ballasts. Instant-start ballasts can be identified by the words "Instant Start" or "I.S." marked on the ballast. This designation may be in the form of a statement pertaining to the ballast itself, or may be combined with the marking for the lamps with which the ballast is intended to be used, for example F40T12/IS. For more information, contact the LED retrofit kit manufacturer.

1. Markings that are within quotation marks shall be provided verbatim.

### Attention

Article	Texte
A.	AVERTISSEMENT - Risque d'incendie ou de choc électrique. L'installation du kit d'adaptation LED nécessite la connaissance des systèmes électriques de signalisation. Si non qualifié, ne tentez pas l'installation. Contactez un électricien qualifié.
B.	AVERTISSEMENT - Risque d'incendie ou de choc électrique. Installez ce kit uniquement sur les panneaux d'hôte identifiés dans les instructions d'installation et dont les caractéristiques nominales d'entrée du kit de modification ne dépassent pas celles du panneau.
C.	AVERTISSEMENT - Risque d'incendie ou de choc électrique. L'installation de ce kit d'éclairage par LED peut impliquer de percer ou de percer des trous dans la structure du panneau. Vérifier le câblage et les composants inclus pour éviter d'endommager le câblage et les pièces électriques.
D.	L'installateur doit examiner toutes les pièces qui ne sont pas destinées à être remplacées par le kit de rénovation pour rechercher des dommages éventuels et remplacer toutes les pièces endommagées avant l'installation du kit de modernisation.
E.	Les installateurs ne doivent pas déconnecter les fils existants des bornes de la douille pour effectuer de nouvelles connexions aux bornes de la douille. Les installateurs à la place doivent couper les supports de douille existants de celle-ci et établir de nouvelles connexions électriques avec les fils de la douille en utilisant les connecteurs appropriés.
F.	AVERTISSEMENT - Pour éviter tout dommage ou abrasion du câblage, ne l'exposez pas aux bords de la tôle ou d'autres objets coupants.
G.	"Ne faites ni ne modifiez les trous ouverts dans une enceinte de câblage ou de composants électriques pendant l'installation du kit."
H.	"Réparez et scellez toutes les ouvertures non utilisées du boîtier électrique. Les ouvertures de plus de 12,7 mm (1/2 po) de diamètre requièrent un patch métallique fixé par des vis ou des rivets et scellé avec du mastic non durcissant. Les petites ouvertures peuvent durcissement mastic."
I.	AVERTISSEMENT: pour éviter tout risque d'incendie ou d'électrocution, n'utilisez pas ce kit d'adaptation avec les douilles de lampe à deux broches shuntées existantes du panneau de contrôle hôte. Remarque: les supports de lampe shuntés ne se trouvent que dans les enseignes fluorescentes équipées de ballasts à démarrage instantané. Les ballasts à démarrage instantané peuvent être identifiés par les mots "Démarrage instantané" ou "I.S." marqué sur le ballast. Cette désignation peut prendre la forme d'une déclaration concernant le ballast lui-même ou être combinée avec le marquage des feux avec lesquels le ballast doit être utilisé, par exemple F40T12 / IS. Pour plus d'informations, contactez le fabricant du kit d'adaptation de LED.

1. Les repères entre guillemets doivent être fournis textuellement.