



WARNING



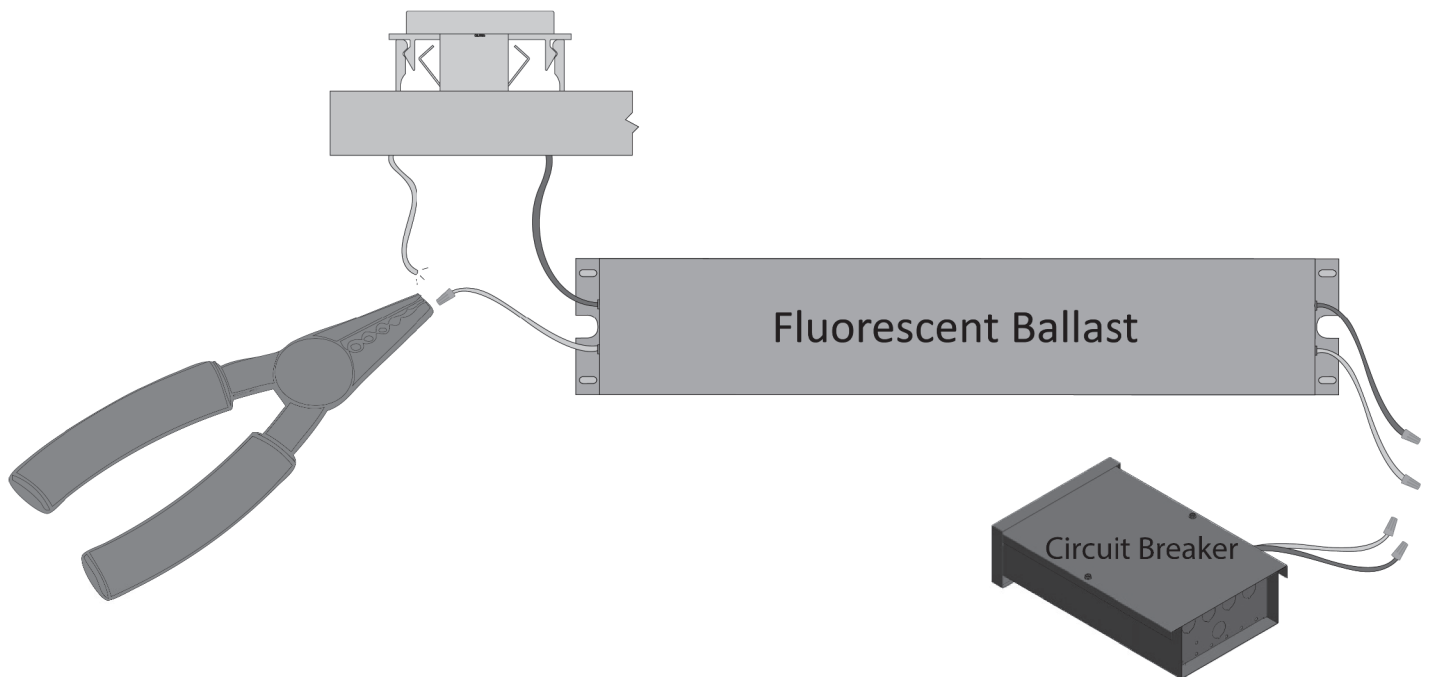
Disconnect power and remove ballast before installing RetroRayz PRO assemblies.

ALERTE

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

* We recommend using electrical 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.



RETRORAYZ PRO

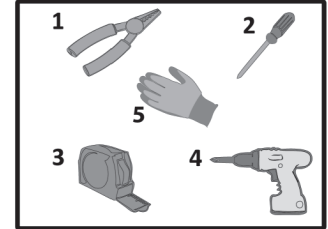
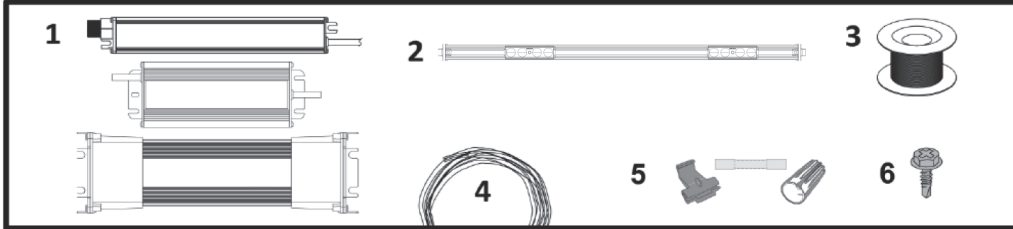
LED LIGHT BARS - SIGNAGE RETROFIT

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



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

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



ONLY WORKS WITH T8 & T12 RDC SOCKETS

Components:

1. AgiLight® Class 2 Power Supply (UYMR2/8) E354486 (see table right)
2. AgiLight® **RetroRayz PRO** LED Light Bar
3. Minimum 18 AWG (0.82mm) wire- (UL Listed)
*Under certain conditions, a heavier gauge wire may be necessary.
4. PLTC Cable- (UL Listed)
5. 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.
6. #8 or #10 (M4 or M5) screws

RetroRayz	Part Number	Description
Double-sided and Single-sided	PS24-SL-60W-120-277V	60W 24V SlimLine Power Supply
	PS24-96W-100-277V	96W 24V Power Supply
	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

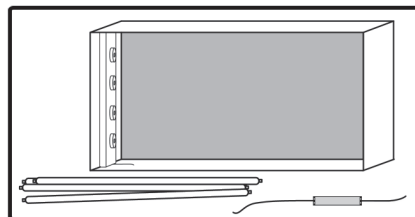
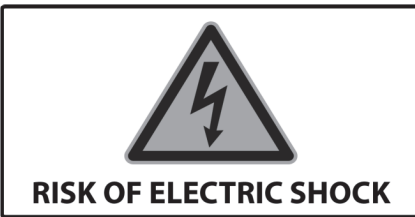
Tools:

1. Wire Strippers
2. Screw Driver
3. Tape Measure
4. Drill
5. Gloves



IP67

RetroRayz PRO Installation

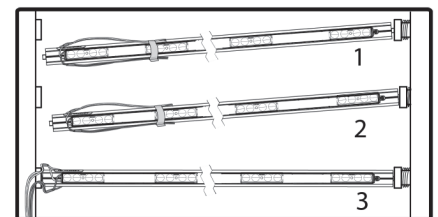
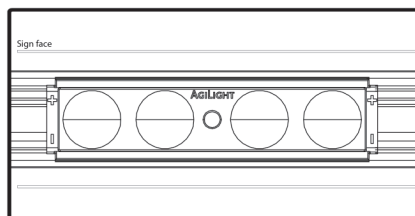
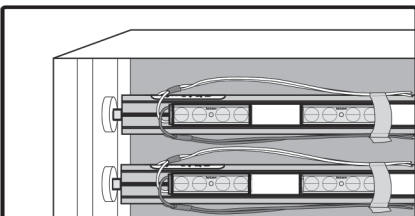


GENERAL PURPOSE RETROFIT SIGN CONVERSION LED KIT FOR USE ONLY IN ACCORDANCE WITH KIT INSTRUCTIONS

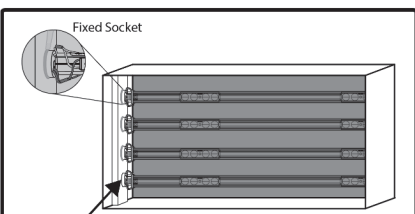
1. Turn **OFF** the circuit breaker supplying power to the sign. Disconnect power and remove ballast. Be sure to cap off AC line wires before installing DC power supply.

2. 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 PRO bars). Properly dispose of fluorescent lamps.

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



3. Orient RetroRayz PRO bars so that LED modules point toward the sign face. LED optic face should be perpendicular to the ground.

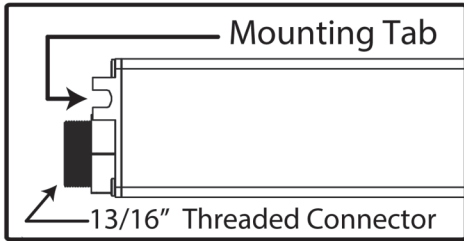


5. Apply silicone to **fixed** socket to prevent rotation and ensure proper illumination of sign face.

4. Place RetroRayz PRO 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.

RETRORAYZ PRO

LED LIGHT BARS - SIGNAGE RETROFIT



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

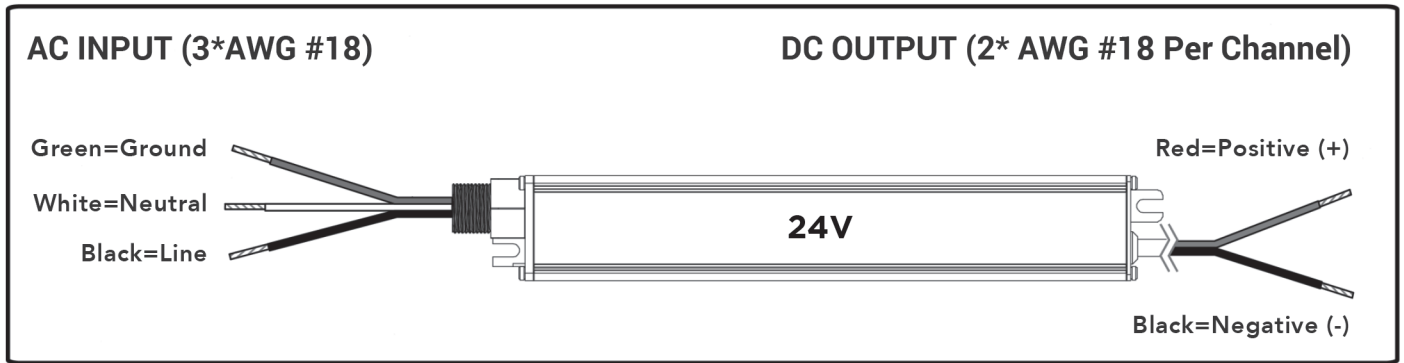
7. Double check all connections and power supply loading. Connect primary side of power supplies, then turn circuit breaker back on.

Note: Use IP67 rated wire connectors to maintain IP67 rating for RetroRayz PRO system.

WARNING: READ BEFORE WIRING

1. Must use AgiLight 24VDC power supply; proper wire gauge to connect 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



24V RetroRayz PRO Single-sided # of Sticks per 60W Power Supply

Part Number	18 in. (0.5 m)	24 in. (0.6 m)	30 in. (0.8 m)	36 in. (0.9 m)	42 in. (1.1 m)	48 in. (1.2 m)	60 in. (1.5 m)	64 in. (1.6 m)	72 in. (1.8 m)	84 in. (2.1 m)	96 in. (2.4 m)	108 in. (2.7 m)	117 in. (3 m)	120 in. (3 m)
LS-RTRZP-018-65K-SS	19													
LS-RTRZP-018-50K-SS														
LS-RTRZP-018-40K-SS														
LS-RTRZP-024-65K-SS														
LS-RTRZP-024-50K-SS														
LS-RTRZP-024-40K-SS														
LS-RTRZP-030-65K-SS	13													
LS-RTRZP-030-50K-SS														
LS-RTRZP-030-40K-SS														
LS-RTRZP-036-65K-SS														
LS-RTRZP-036-50K-SS														
LS-RTRZP-036-40K-SS														
LS-RTRZP-042-65K-SS	9													
LS-RTRZP-042-50K-SS														
LS-RTRZP-042-40K-SS														
LS-RTRZP-048-65K-SS														
LS-RTRZP-048-50K-SS														
LS-RTRZP-048-40K-SS														
LS-RTRZP-060-65K-SS	8													
LS-RTRZP-060-50K-SS														
LS-RTRZP-060-40K-SS														
LS-RTRZP-064-65K-SS														
LS-RTRZP-064-50K-SS														
LS-RTRZP-064-40K-SS														
LS-RTRZP-072-65K-SS	6													
LS-RTRZP-072-50K-SS														
LS-RTRZP-072-40K-SS														
LS-RTRZP-084-65K-SS	5													
LS-RTRZP-084-50K-SS														
LS-RTRZP-084-40K-SS														
LS-RTRZP-096-65K-SS														
LS-RTRZP-096-50K-SS														
LS-RTRZP-096-40K-SS														
LS-RTRZP-108-65K-SS	4													
LS-RTRZP-108-50K-SS														
LS-RTRZP-108-40K-SS														
LS-RTRZP-117-65K-SS														
LS-RTRZP-117-50K-SS														
LS-RTRZP-117-40K-SS														
LS-RTRZP-120-65K-SS														
LS-RTRZP-120-50K-SS														
LS-RTRZP-120-40K-SS														

24V RetroRayz PRO Single-sided # of Sticks per 100W Power Supply

Part Number	18 in. (0.5 m)	24 in. (0.6 m)	30 in. (0.8 m)	36 in. (0.9 m)	42 in. (1.1 m)	48 in. (1.2 m)	60 in. (1.5 m)	64 in. (1.6 m)	72 in. (1.8 m)	84 in. (2.1 m)	96 in. (2.4 m)	108 in. (2.7 m)	117 in. (3 m)	120 in. (3 m)
LS-RTRZP-018-65K-SS	31													
LS-RTRZP-018-50K-SS														
LS-RTRZP-018-40K-SS														
LS-RTRZP-024-65K-SS														
LS-RTRZP-024-50K-SS														
LS-RTRZP-024-40K-SS														
LS-RTRZP-030-65K-SS	21													
LS-RTRZP-030-50K-SS														
LS-RTRZP-030-40K-SS														
LS-RTRZP-036-65K-SS														
LS-RTRZP-036-50K-SS														
LS-RTRZP-036-40K-SS														
LS-RTRZP-042-65K-SS	16													
LS-RTRZP-042-50K-SS														
LS-RTRZP-042-40K-SS														
LS-RTRZP-048-65K-SS														
LS-RTRZP-048-50K-SS														
LS-RTRZP-048-40K-SS														
LS-RTRZP-060-65K-SS	13													
LS-RTRZP-060-50K-SS														
LS-RTRZP-060-40K-SS														
LS-RTRZP-064-65K-SS	10													
LS-RTRZP-064-50K-SS														
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LS-RTRZP-072-65K-SS														
LS-RTRZP-072-50K-SS														
LS-RTRZP-072-40K-SS														
LS-RTRZP-084-65K-SS	9													
LS-RTRZP-084-50K-SS														
LS-RTRZP-084-40K-SS														
LS-RTRZP-096-65K-SS	8													
LS-RTRZP-096-50K-SS														
LS-RTRZP-096-40K-SS														
LS-RTRZP-108-65K-SS	7													
LS-RTRZP-108-50K-SS														
LS-RTRZP-108-40K-SS														
LS-RTRZP-117-65K-SS	6													
LS-RTRZP-117-50K-SS														
LS-RTRZP-117-40K-SS														
LS-RTRZP-120-65K-SS														
LS-RTRZP-120-50K-SS														
LS-RTRZP-120-40K-SS														

24V RetroRayz PRO Double-sided # of Sticks per 60W Power Supply

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

24V RetroRayz PRO Double-sided # of Sticks per 100W Power Supply

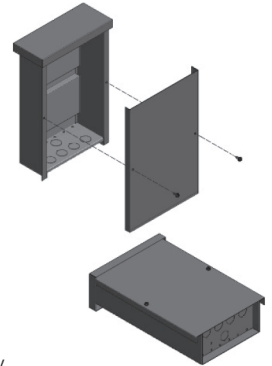
Part Number	18 in. (0.5 m)	24 in. (0.6 m)	30 in. (0.8 m)	36 in. (0.9 m)	42 in. (1.1 m)	48 in. (1.2 m)	60 in. (1.5 m)	64 in. (1.6 m)	72 in. (1.8 m)	84 in. (2.1 m)	96 in. (2.4 m)	108 in. (2.7 m)	117 in. (3 m)	120 in. (3 m)
LS-RTRZP-018-65K-DS	16													
LS-RTRZP-018-50K-DS														
LS-RTRZP-018-40K-DS														
LS-RTRZP-024-65K-DS														
LS-RTRZP-024-50K-DS														
LS-RTRZP-024-40K-DS														
LS-RTRZP-030-65K-DS	10													
LS-RTRZP-030-50K-DS														
LS-RTRZP-030-40K-DS														
LS-RTRZP-036-65K-DS														
LS-RTRZP-036-50K-DS														
LS-RTRZP-036-40K-DS														
LS-RTRZP-042-65K-DS	8													
LS-RTRZP-042-50K-DS														
LS-RTRZP-042-40K-DS														
LS-RTRZP-048-65K-DS														
LS-RTRZP-048-50K-DS														
LS-RTRZP-048-40K-DS														
LS-RTRZP-060-65K-DS	6													
LS-RTRZP-060-50K-DS														
LS-RTRZP-060-40K-DS														
LS-RTRZP-064-65K-DS	5													
LS-RTRZP-064-50K-DS														
LS-RTRZP-064-40K-DS														
LS-RTRZP-072-65K-DS														
LS-RTRZP-072-50K-DS														
LS-RTRZP-072-40K-DS														
LS-RTRZP-084-65K-DS	4													
LS-RTRZP-084-50K-DS														
LS-RTRZP-084-40K-DS														
LS-RTRZP-096-65K-DS														
LS-RTRZP-096-50K-DS														
LS-RTRZP-096-40K-DS														
LS-RTRZP-108-65K-DS	3													
LS-RTRZP-108-50K-DS														
LS-RTRZP-108-40K-DS														
LS-RTRZP-117-65K-DS														
LS-RTRZP-117-50K-DS														
LS-RTRZP-117-40K-DS														
LS-RTRZP-120-65K-DS														
LS-RTRZP-120-50K-DS														
LS-RTRZP-120-40K-DS														

Troubleshooting

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

Components:

1. Determine desired location for the transformer box.
2. Attach the box to the substrate by using a 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 LEDs to the box (if grounding of the LEDs 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 RetroRayz PRO 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 RetroRayz PRO 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 RetroRayz PRO 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 (0.5 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 RetroRayz PRO 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 RetroRayz PRO manufacturer.
J.	WARNING: Do not connect output circuits from multiple sources in series or parallel.

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