GE current DISP103 Immersion Elite LED Refrigerated Display Lighting Installation Guide

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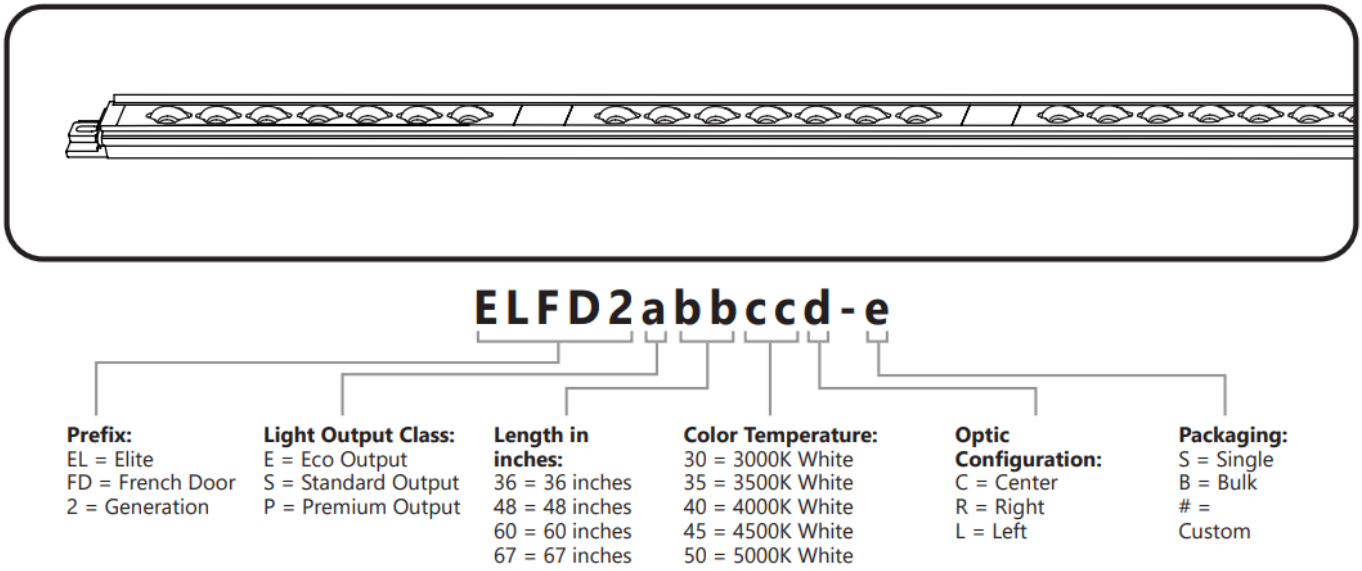
Contents

DISP103 Immersion Elite LED Refrigerated Display Lighting

Center Mullion Lights for French Door Cases



BEFORE YOU BEGIN
Read these instructions completely and carefully.

FOR YOUR SAFETY

Read and observe all CAUTIONS and WARNINGS shown throughout these instructions.

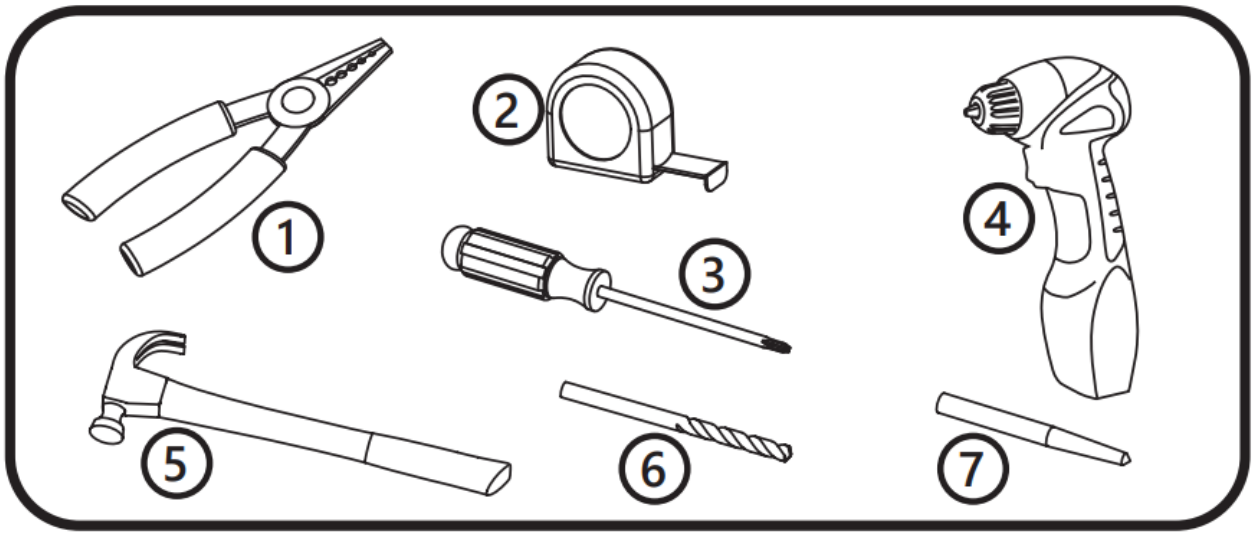
- Installation is to be performed by factory-trained service personnel only.
- For use inside a commercial refrigeration case with packaged foods only.
- Use this unit only in the manner intended by the manufacturer. If you have any questions, contact the manufacturer.
- Before installing, servicing, or cleaning the unit, switch power off at the service panel and follow appropriate lockout/tag out safety procedures

Prepare Electrical Wiring

Electrical Requirements

- The LED driver must be supplied with the rated voltage as listed (LED Driver Compatibility), and connected to an individual properly grounded branch circuit, protected by a 15 or 20-ampere circuit breaker or time delay fuse.
- Wiring must be 2 wires with the ground and rated for 75°C (167°F).
- Do not overload the driver. Follow the loading guidelines on page 6 of this installation guide.
- Ensure that all connection points are sealed for a damp location using the appropriate method per the NEC or local electrical code.

Tools Required

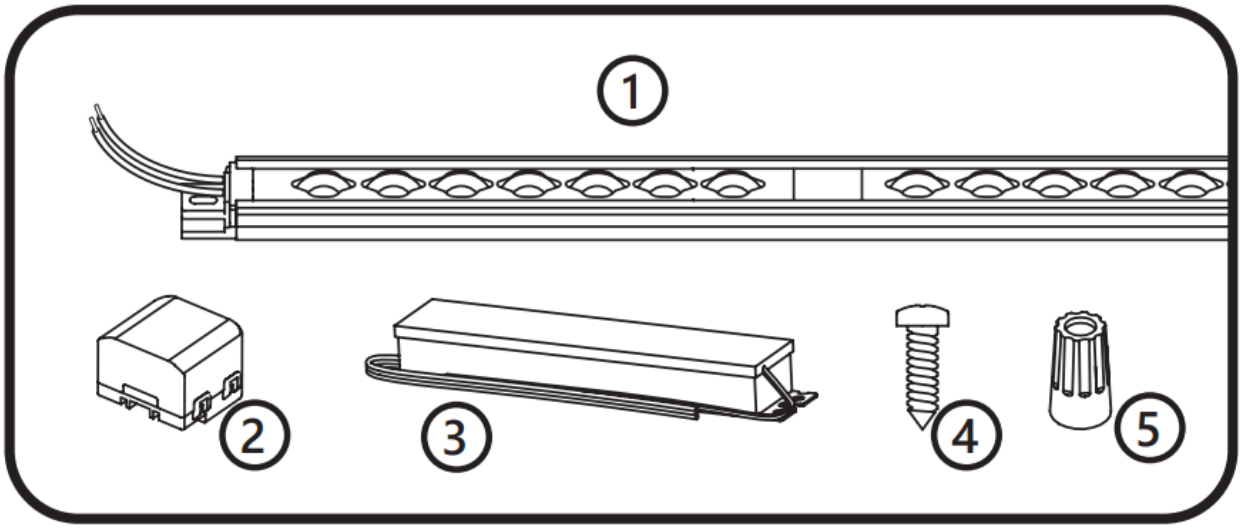


1. Wire stripper/cutter
2. Tape measure
3. Screwdriver
4. Cordless drill
5. Hammer
6. 7/64-inch (2.8mm) drill bit
7. Center punch

Led Driver Compatibility
This system is compatible with the following LED Drivers. Please refer to the separate LED driver installation guide for appropriate wiring connections.

LED Driver	Rated AC Input Voltage
GEPS6100NCCON-SY	120-240VAC, 60/50Hz
GEPS6500NCMUL-SY	120-240VAC, 60/50Hz
GELP24-100U-GLX	120-277VAC, 60/50Hz
GELP24-100U-GL	120-277VAC, 60/50Hz
GELP24-60U-GL	120-277VAC, 60/50Hz

Components Required



1. LED light
2. Wire cover
3. 24-volt, Class 2 (UL), SELV (CE), LED driver
4. 6-32 screws
5. UL certified 22-14 AWG (0.33-2.08 mm²) wire connectors

Parts Needed Per Case

	6-Door	5-Door	4-Door	3-Door	2-Door
Center LED Lights	5	4	3	2	1
End LED Light Sets	1	1	1	1	1
Wire Covers	7	6	5	4	3
Using GEPS6500NCMUL-SY & GELP24-60U-GL LED Drivers					
LED Drivers (36-inch LED Lights)	3	2	1	1	1
LED Drivers (60-inch LED Lights)	4	3	3	2	2
LED Drivers (67-inch LED Lights)	6	5	4	3	2
LED Drivers (48-inch LED Lights)	4	3	3	2	2
Using GEPS6100NCCON-SY, GELP24-100U-GLX & GELP24-100U-GL LED Drivers					
LED Drivers (36-inch LED Lights)	1	1	1	1	1
LED Drivers (60-inch LED Lights)	3	3	3	2	2
LED Drivers (67-inch LED Lights)	3	3	3	2	2
LED Drivers (48-inch LED Lights)	2	2	2	2	2

Remove Existing Lighting Components

⚠CAUTION

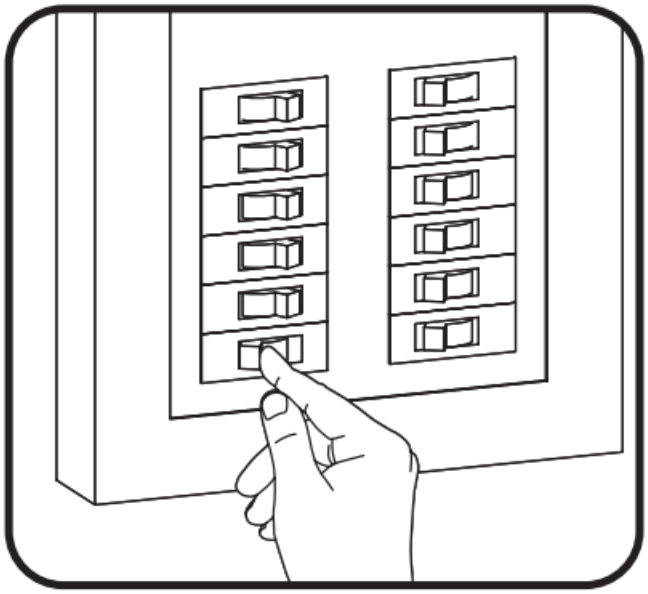
Risk of injury. While performing installations described, gloves, safety glasses or goggles should be worn.

⚠WARNING

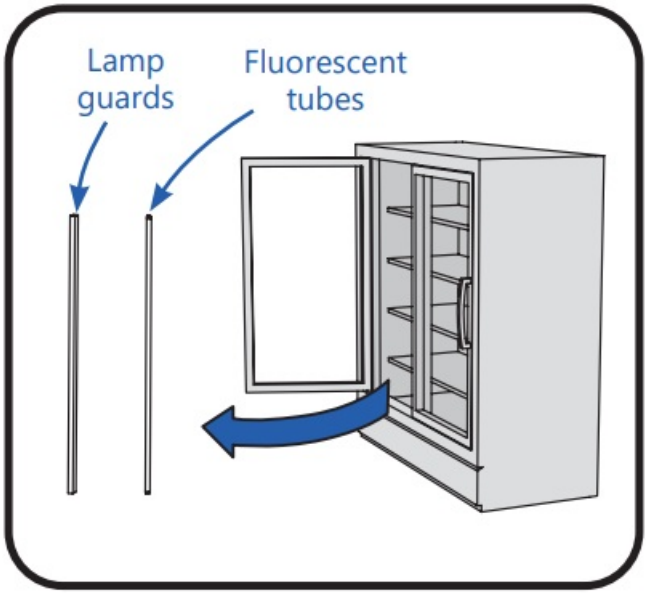
Risk of electrical shock. Disconnect power before servicing or installing the product. LED Retrofit Kit Installation requires knowledge of luminaire electrical systems. If not qualified, do not attempt installation. Contact a qualified electrician. Install this kit only in the luminaires that have the construction features and dimensions shown in the photographs and/or drawings.

- Refer to the manufacturer manual for refrigeration cases to identify lighting control circuits. Ensure that power is switched off at the service panel for the lighting circuit. If a lighting power switch is not provided in the refrigeration case, power removal can be performed at the main breaker panel.
- Please refer to the refrigeration manual for any questions dealing with component locations.

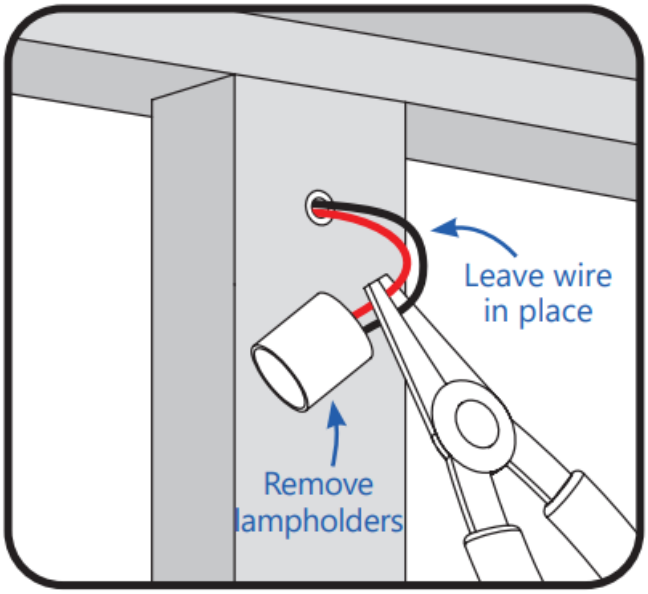
1. Turn off the power to the refrigeration case.



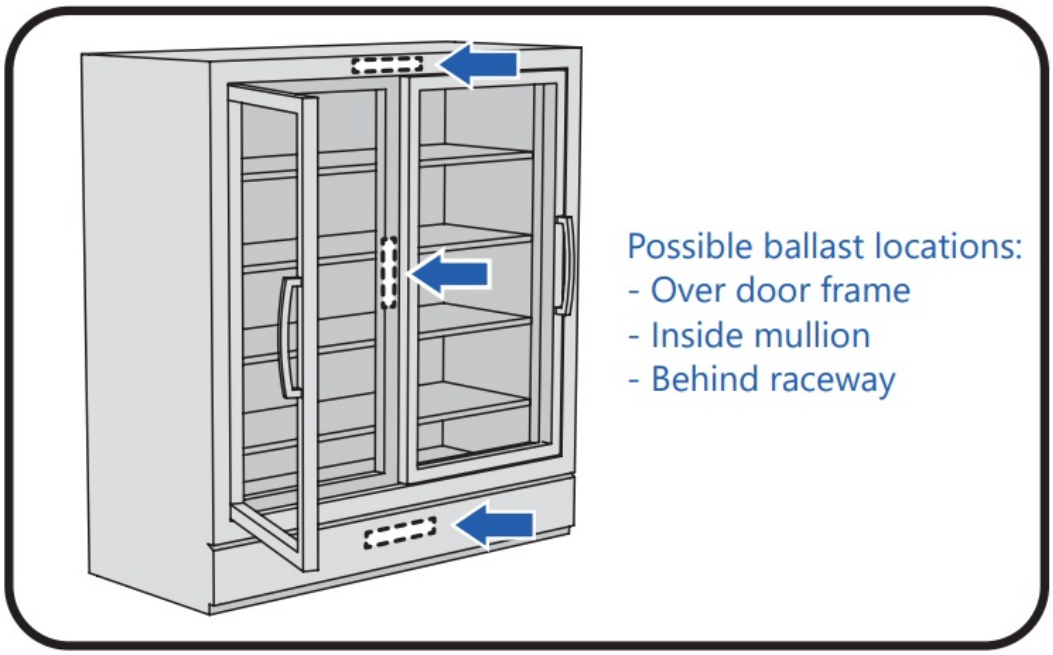
2. Remove all lamp guards and fluorescent tubes from inside the case.



3. Inside the case, cut wires as close as possible to lamp holders and remove them.

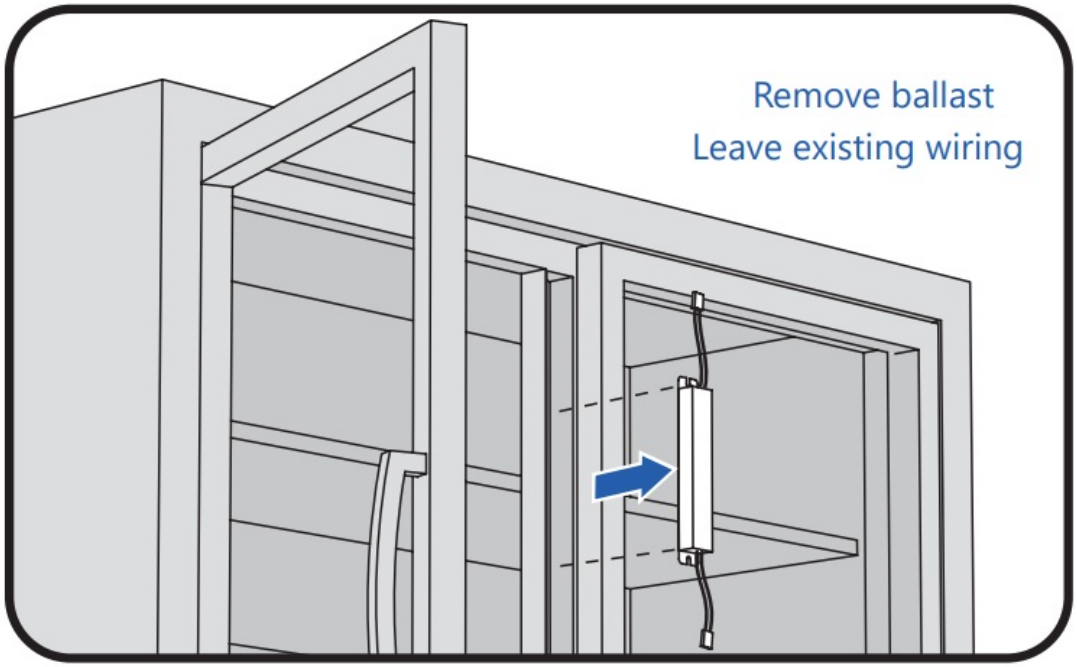


4. Locate ballast and remove access cover.



NOTE: Refer to the refrigeration manual for specific ballast locations.

5. Disconnect wires to the ballast and remove them from the case. Leave the existing ballast input and output wires for reconnection in a later step.



NOTE: Follow all federal and local regulations when disposing of fluorescent tubes, transformers, and ballasts.

Install Center LED Light(s)

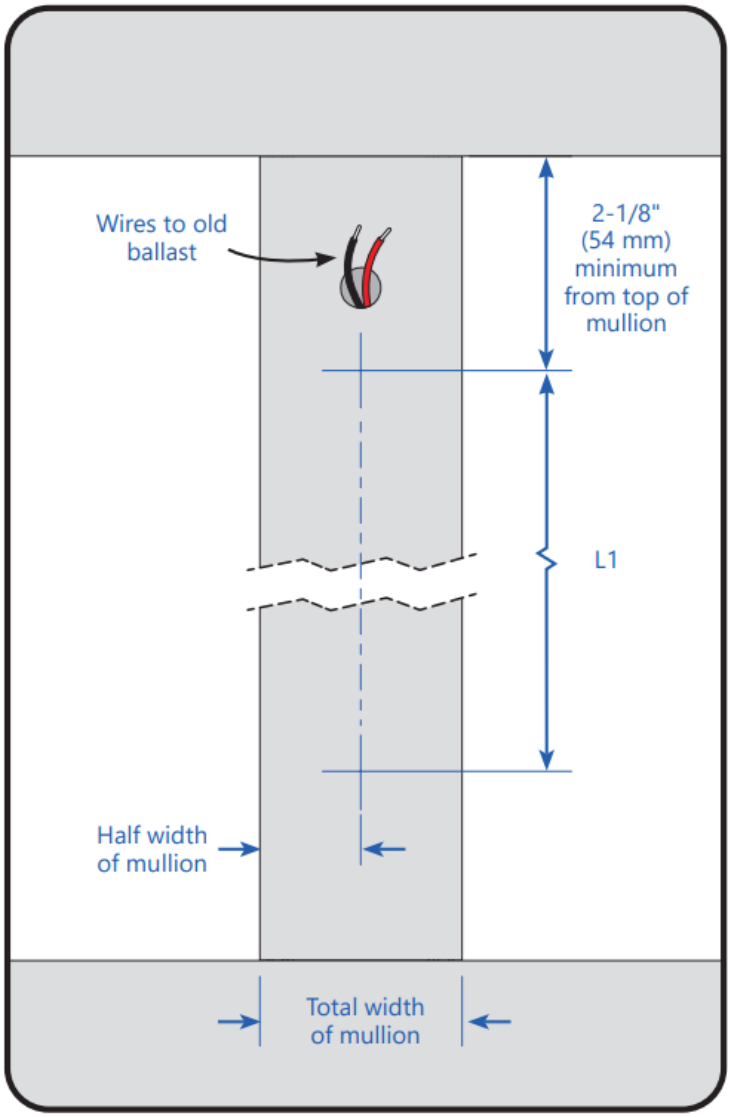
⚠WARNING

Risk of fire or electric shock. Luminaire wiring and electrical parts may be damaged when drilling for the installation of the LED retrofit kit. Check for enclosed wiring and components.

⚠WARNING

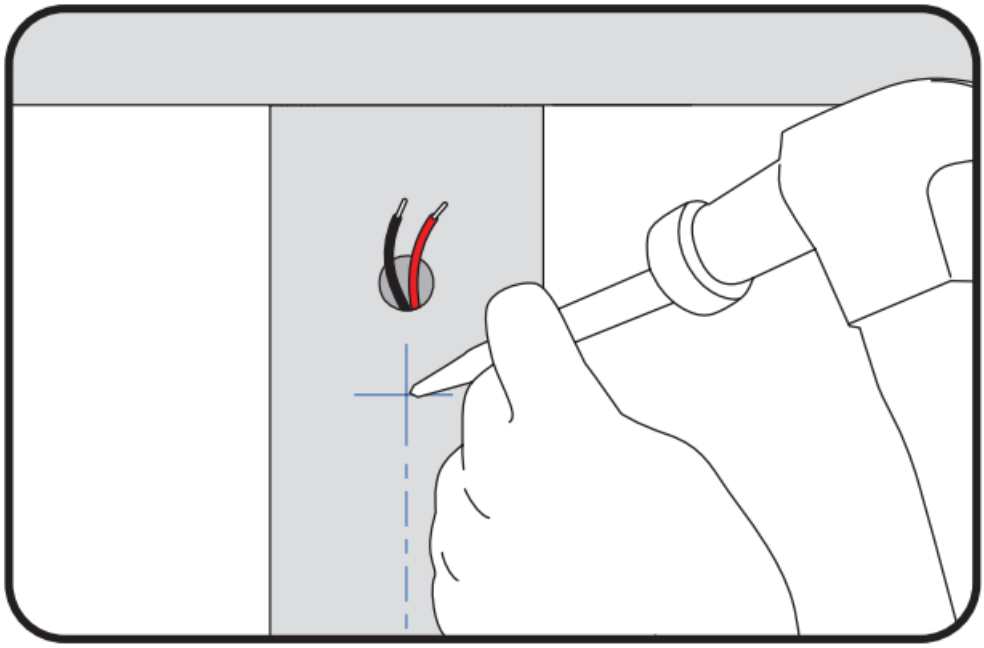
Risk of electrical shock. Only those open holes indicated in the photographs and/or drawings may be made or altered as a result of kit installation. Do not leave any other open holes in an enclosure of wiring or electrical components.

1. Mark two hole locations on the mullion.



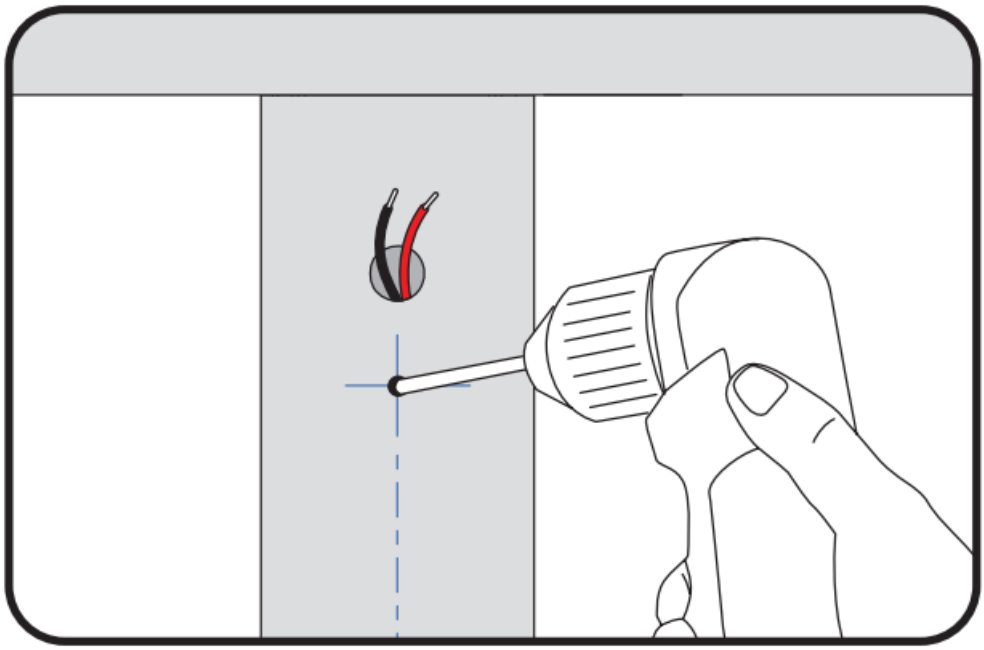
LED Light Length	L1
36″	33.4″
48″	46.25″
60″	58.09″
67″	65.19″

2. Use a center punch and hammer to create a dimple over the two marked locations.

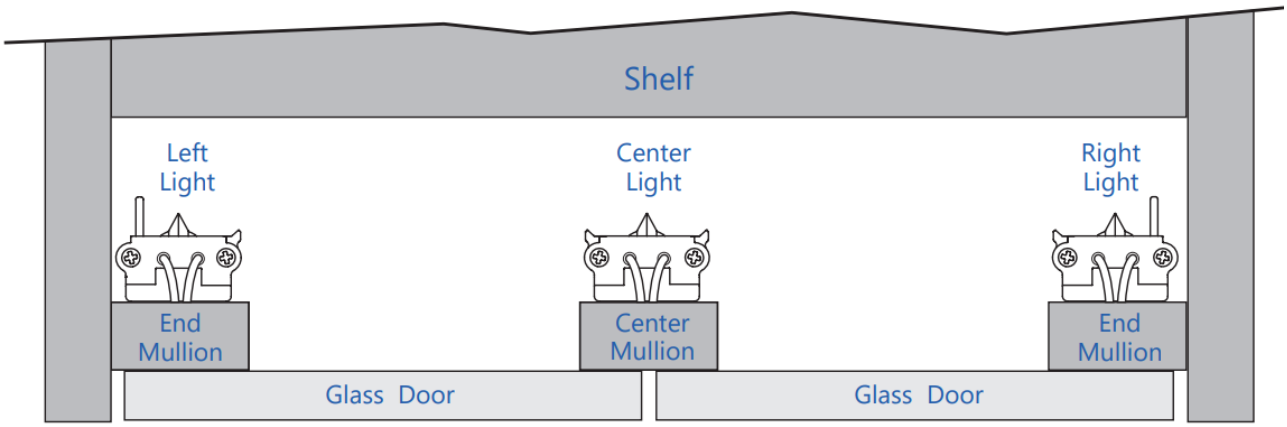


3. Use a 7/64″ (2.8 mm) bit to drill mounting holes through the two marked locations.

   NOTE: Refer to the manufacturer manual for the door frame to ensure there are no components contained inside the mullion that could be drilled through.



Top view of refrigeration case.

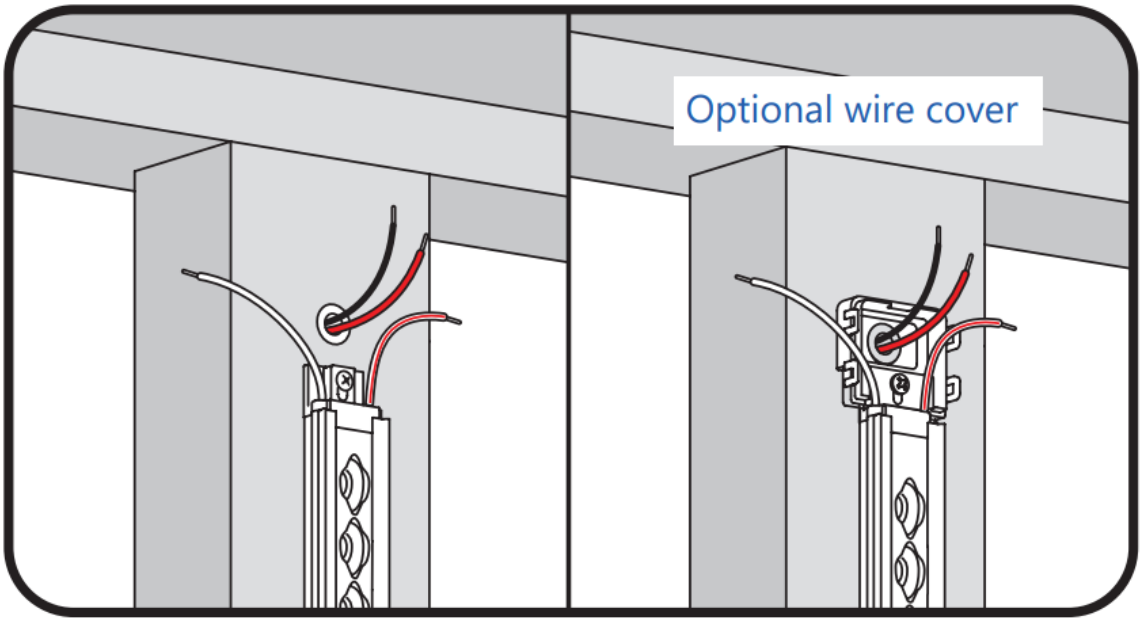


IMPORTANT: Before proceeding, verify the correct orientation of the lights.

4. Secure the top and bottom of the LED light to the mullion using a #6 x 1/2″ (self-threading) or x 3/4″ (self-drilling) sheet metal screws. If using the optional wire cover, install the cover base as well and a 3/4″ (self-threading) or x 1″ (self-drilling) long screw will be required.

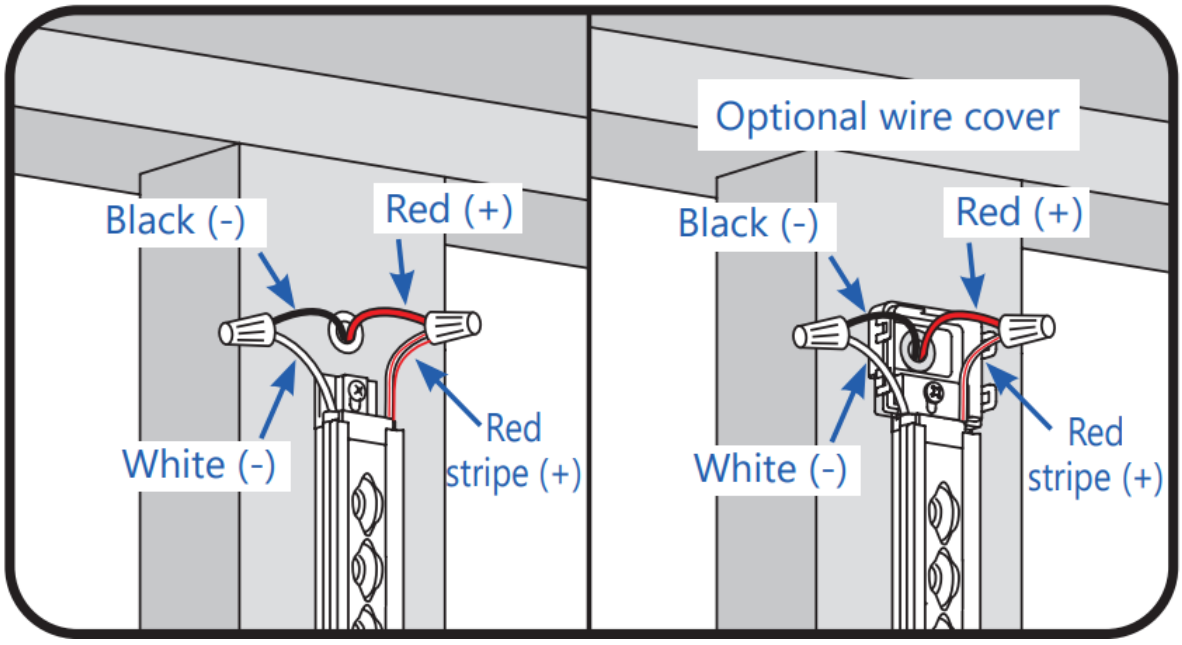
OPTIONAL: Additional screws can be used in the holes along the length of the bar if desired. Refer to the manufacturer manual for the door frame to ensure there are no components contained inside the mullion that could be drilled through.

NOTE: Over-sized screws may cause damage to the LED light.

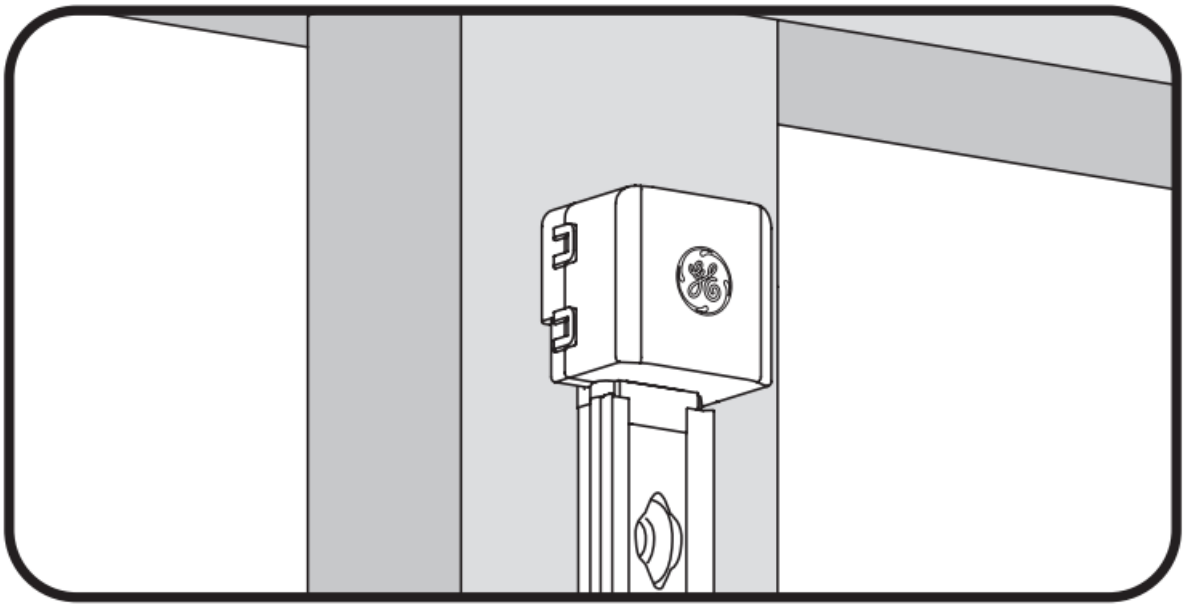


5. Refer to the wiring diagram on page 7. Connect the red stripe wire (+) of the LED light to the red wire (+) of the power supply, and connect the white wire (-) of the LED light to the black wire (-) of the power supply using the wire connectors or another connection method suitable for low-temperature usage and stranded cable.

   NOTE: If connections are made in an area with excessive moisture or ice, electrical connections should be sealed with electrical grade silicone (examples: Momentive RTV 6700 Series, Momentive White Blanc RTV 162, Dow Corning 3140, Dow Corning 3145, or Dow Corning RTV 748)



6. If using the optional wire cover, tuck wires inside and snap the cover top over the cover base.



7. Mount the LED driver in the same location where the ballast was formerly installed.

   NOTE: Refer to the “Parts Needed Per Case” table on page 2 to determine the proper number of LED drivers to install.

8. Proceed to section **4–Electrical Connections** to complete wiring connections.

Electrical Connections

Maximum LED Driver Loading

⚠CAUTION

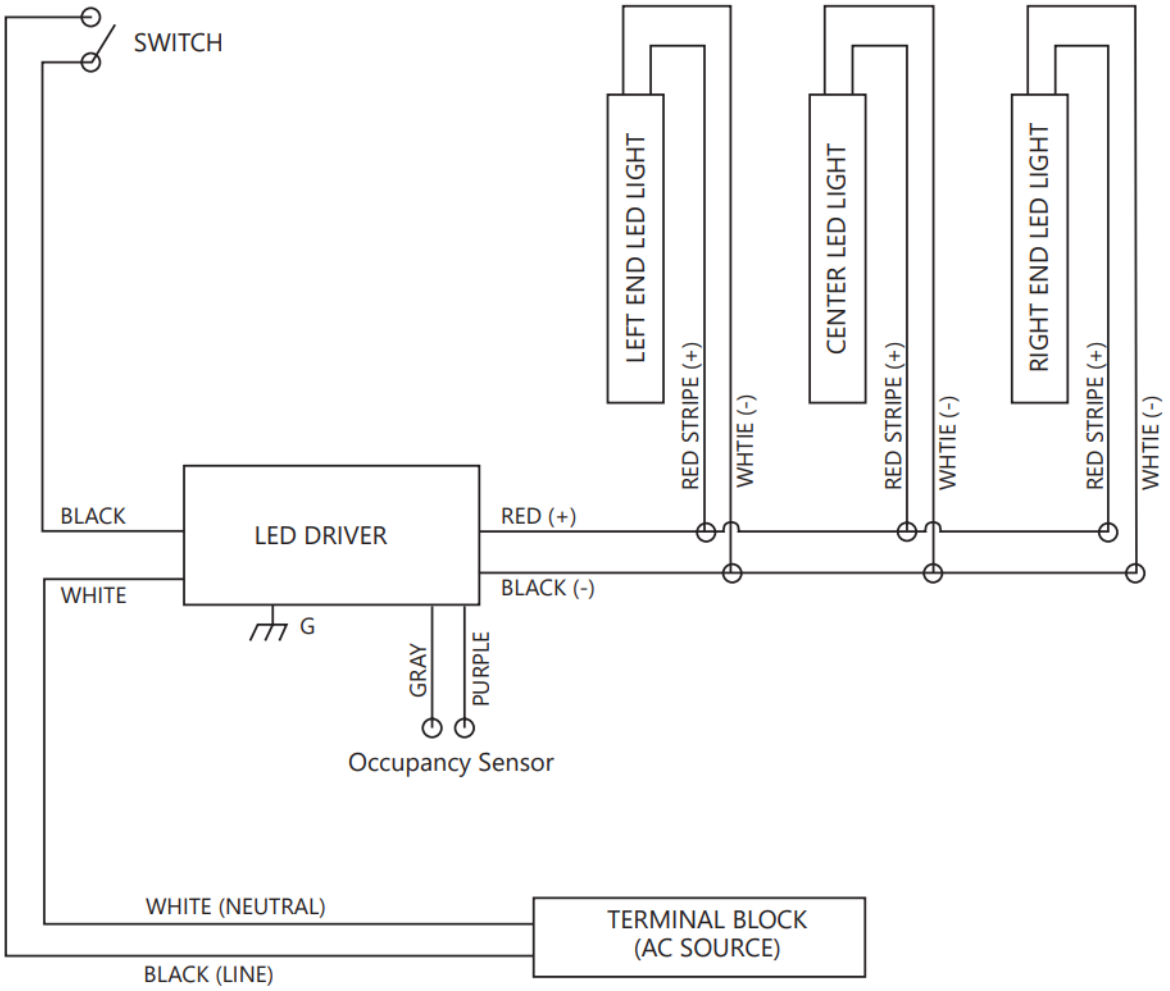
Risk of injury. Do not overload LED Driver. Do not exceed the limits shown in the “Maximum LED Driver Loading” table below.

	Length	Bar Type	Light Bar Power (W)	LED Driver: GEPS6500NCMUL-SY		LED Driver: GELP24-60U-GL		LED Drivers: GEPS6100NCCON-SY/ GELP24-100U-GL GELP24-100U-GLX	
				Minimum Loading QTY (Min loading > 20W)	Maximum Loading QTY (Max loading ~ 45W)	Minimum Loading QTY (Min loading > 20W)	Maximum Loading QTY (Max loading~ 54W)	Minimum Loading QTY (Min loading > 40W)	Maximum Loading QTY (Max loading ~ 90W)
Standard	36”	Center	12	2	3	2	4	4	7
		End	9	3	5	3	6	5	10
	48”	Center	18	2	2	2	3	3	5
		End	12	2	3	2	4	4	7
	60”	Center	24	1	1	1	2	2	3
		End	15	2	3	2	3	3	6
	67”	Center	27	1	1	1	1	2	3
		End	18	2	2	2	3	3	5

Electrical Connection Configurations

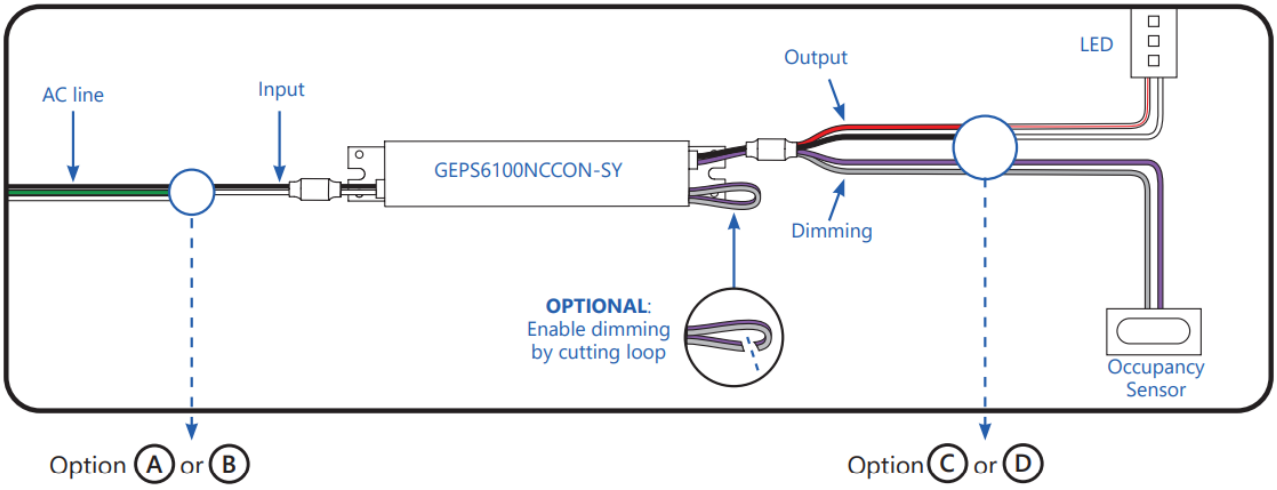
Multiple LED light’s electrical input should be in parallel connection to an LED driver’s output as shown by the example wiring diagram. Refer to the “Maximum LED Driver Loading” table on page 6 to determine the maximum number of LED lights per LED driver.

One End Set (Right and Left) and One Center LED Light

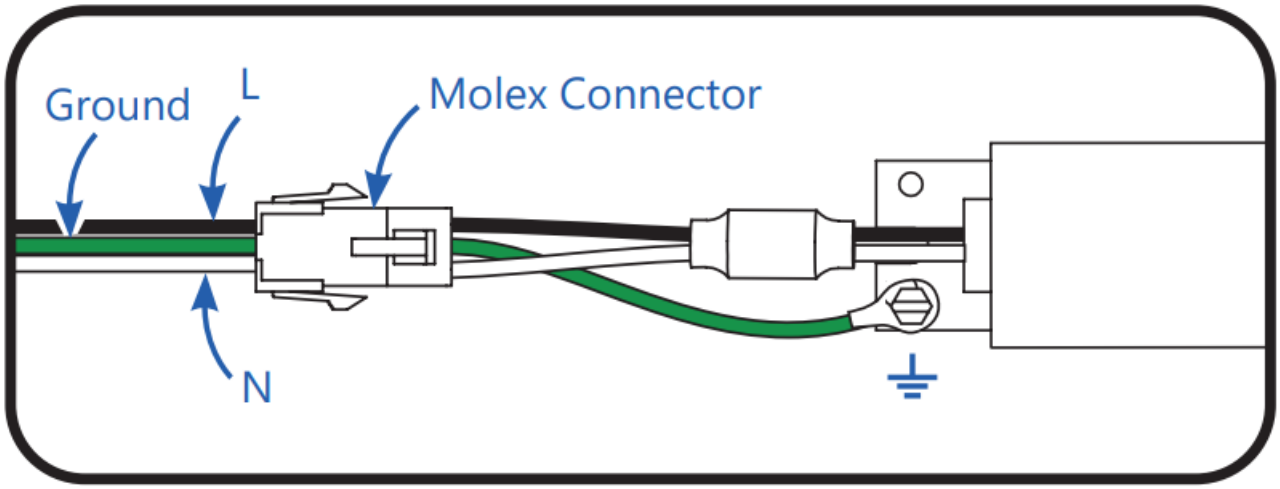


Connecting a GEPS6100NCCON-SY Driver

- Make input and output connections according to the diagrams below.
- Connection methods should be suitable for low-temperature usage and standard cable.
- For non-dimming applications, cap the unused wires with 5/32” (4mm) twist-on wire connectors.
- For dimming applications, cut the dimming loop on the driver output side and make connections to the occupancy sensor.
- **CAUTION:** DO NOT apply voltage or power to the switched control circuit – contact closure only.
- Other methods for automated control such as occupancy sensors that switch the AC power side on and off are not recommended and will void the product warranty.

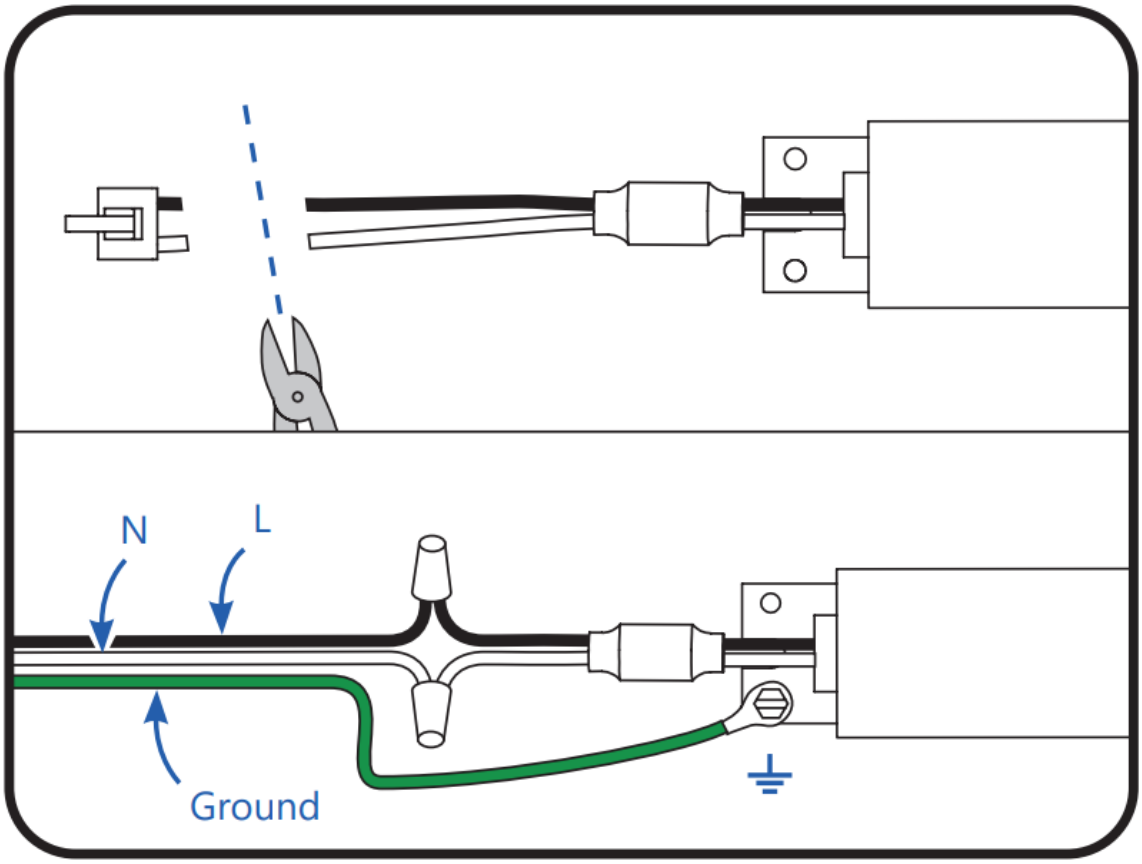


A. Connect DC output using a 4-way connector.

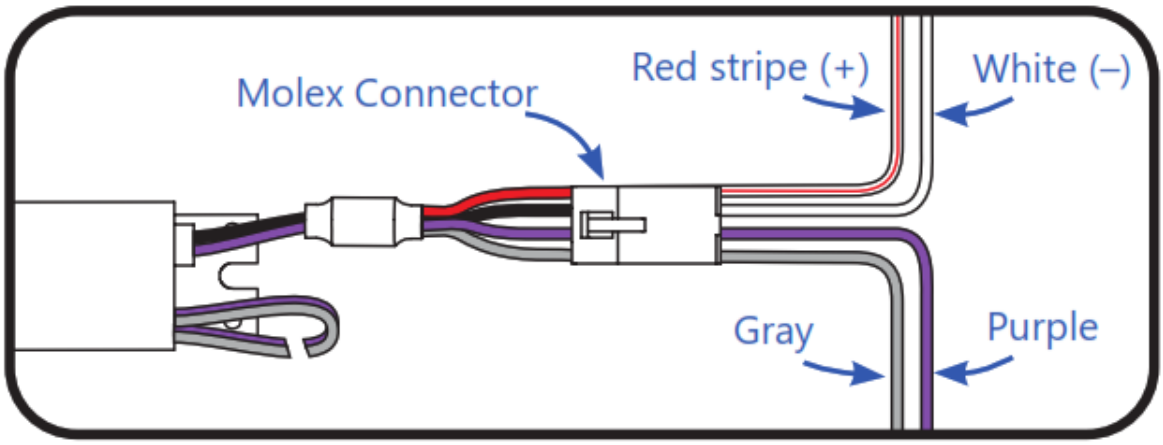


Wire Cavity Table
39-01-4030 (AC)
Cavity 1 – Line 1 (Black)
Cavity 2 – Earth Ground (Green)
Cavity 3 – Neutral or Line 2 (White)

B. Connect AC input using wire nuts.

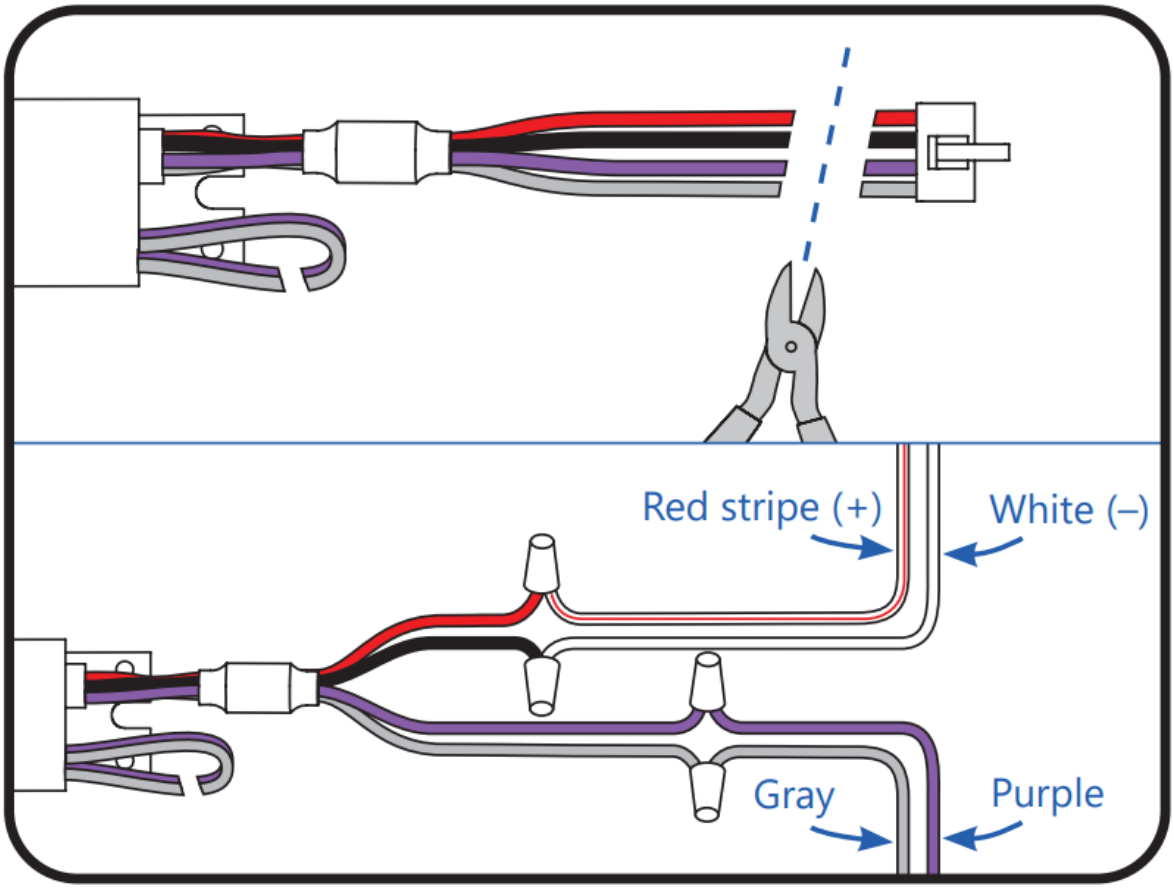


C. Connect DC output using a 4-way connector.



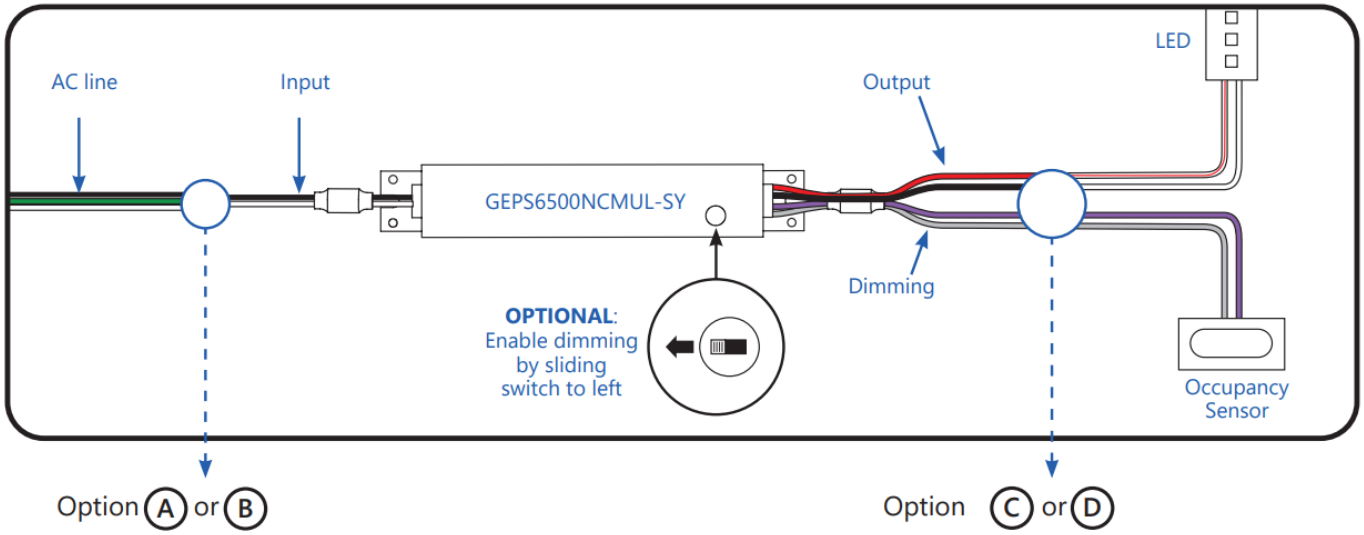
Wire Cavity Table
Molex 39-01-4046 (DC)
Cavity 1 – Output DC (+) (Red)
Cavity 2 – Output DC (-) (Black)
Cavity 3 – Dimming (Purple)
Cavity 4 – Dimming (Gray)

D. Connect DC output using wire nuts.

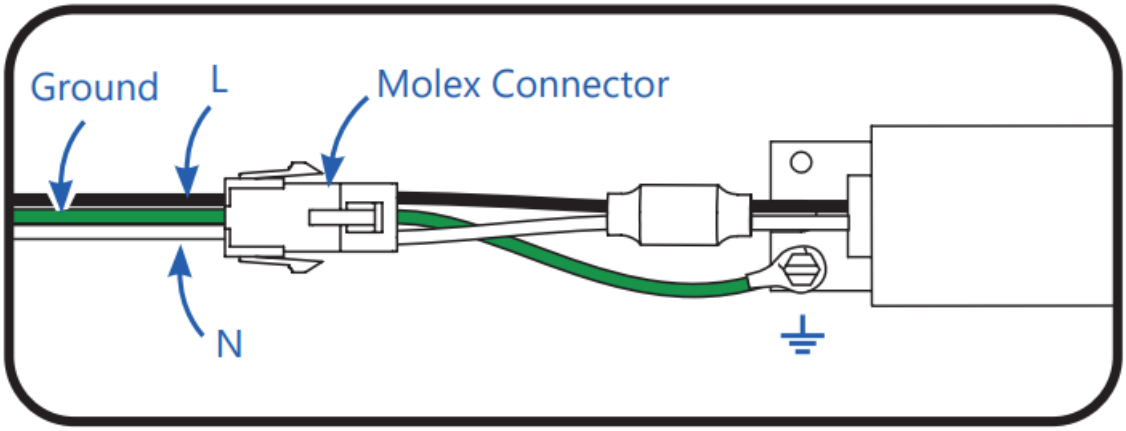


Connecting a GEPS6500NCMUL-SY Driver

- Make input and output connections according to the diagrams below.
- Connection methods should be suitable for low-temperature usage and standard cable.
- For non-dimming applications, cap the unused wires with 5/32” (4mm) twist-on wire connectors.
- For dimming applications, slide the dimming switch to the left and make connections to the occupancy sensor.
- **CAUTION:** DO NOT apply voltage or power to the switched control circuit – contact closure only.
- Other methods for automated control such as occupancy sensors that switch the AC power side on and off are not recommended and will void the product warranty.

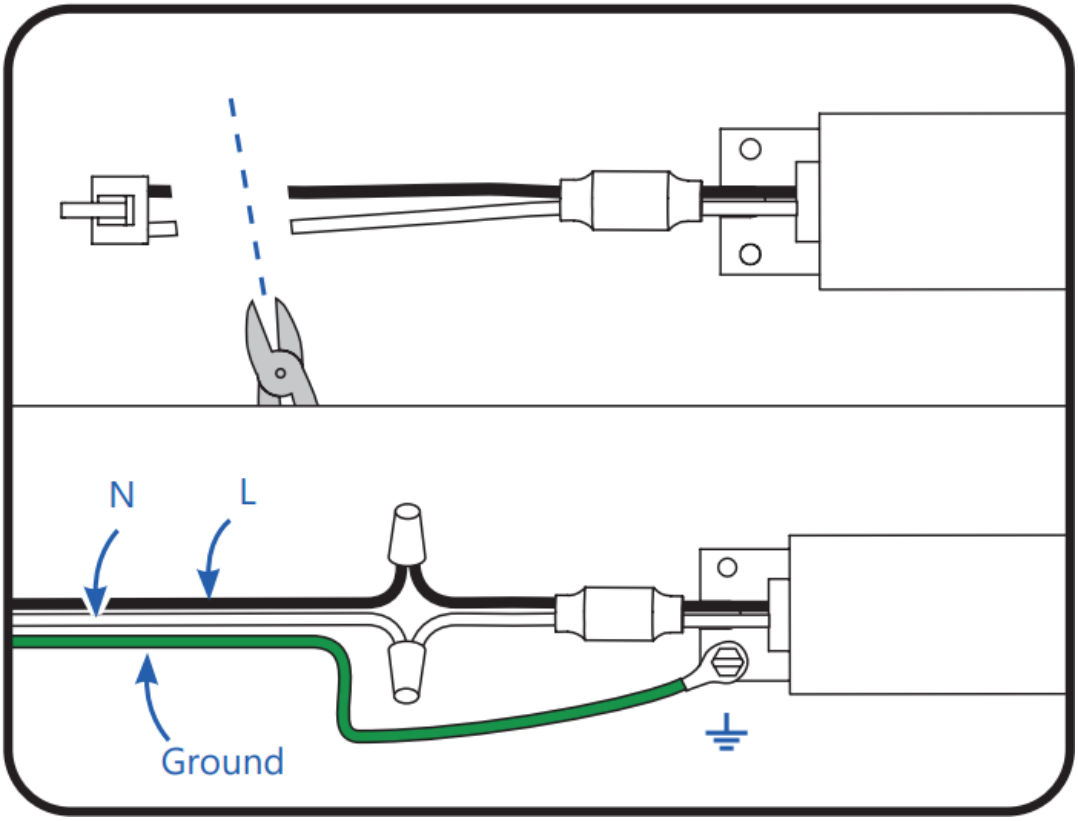


A. Connect DC output using a 4-way connector.

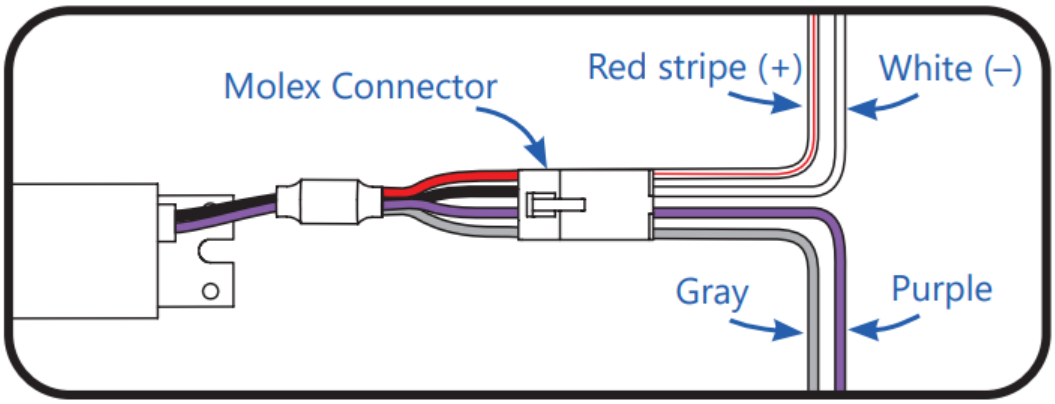


Wire Cavity Table
39-01-4030 (AC)
Cavity 1 – Line 1 (Black)
Cavity 2 – Earth Ground (Green)
Cavity 3 – Neutral or Line 2 (White)

B. Connect AC input using wire nuts.

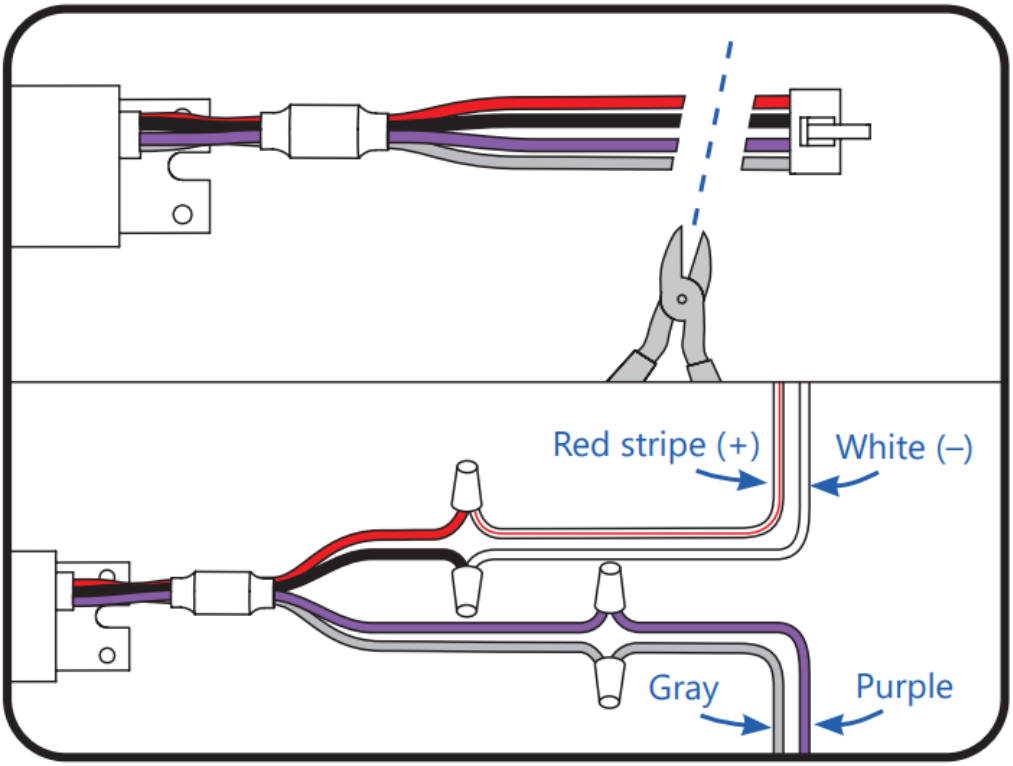


C. Connect DC output using a 4-way connector.



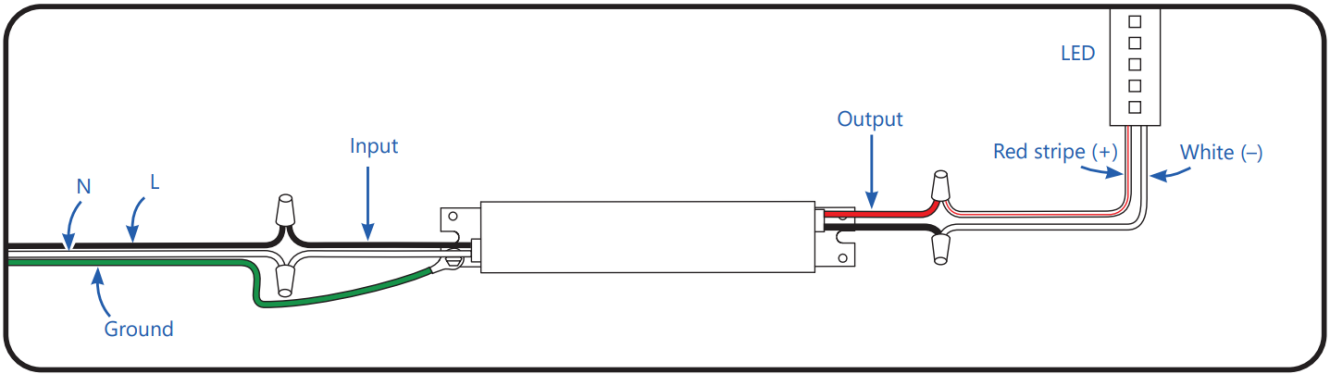
Wire Cavity Table
Molex 39-01-4046 (DC)
Cavity 1 – Output DC (+) (Red)
Cavity 2 – Output DC (-) (Black)
Cavity 3 – Dimming (Purple)
Cavity 4 – Dimming (Gray)

D. Connect DC output using wire nuts.



Connecting a GELP24-60U-GL, GELP24-100U-GLX, or GELP24-100U-GL Driver

- Make input and output connections according to the diagrams below.
- Connection methods should be suitable for low-temperature usage and standard cable.



Periodic Inspection
It is advised that a periodic inspection be made of the refrigerated display case and LED lights for proper function. If excessive moisture or ice buildup is noted, this may be a sign that the door seal is damaged and should be replaced. Please note that prolonged exposure of the LED lights to moisture and ice may result in damage to the LED lights. Any LED lights exhibiting signs of damage such as discoloration or LEDs that are out should be replaced.

Cleaning Instructions

WARNING
Risk of electrical shock. Disconnect power to LED Lights before any cleaning operation.

- The outer lens should be cleaned periodically with a mild liquid dish detergent.
- Do not use chemical cleaners to clean the lens.
- Keep the outside clean. Wipe with a clean cloth lightly dampened with mild liquid dish detergent. Dry with a

clean, soft cloth.

- Do not wipe the lens with a soiled dish cloth or wet towel. These may leave a residue that can damage the finish.
- Do not use scouring pads, powdered cleaners, bleach, or cleaners containing bleach because these products can scratch and damage the finish.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.
This Class [A] RFLD complies with the Canadian standard ICES-005. /CeDEFR de la classe [A] est conforme à la NMB-005 du Canada.
This product is intended solely for the use of commercial refrigerated, display, or case lighting and is not intended for use in any other application.

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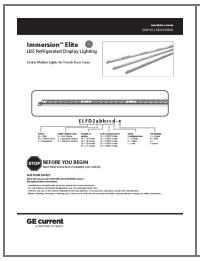
DISP103 (Rev 06/23/21) GE2029-8802

Documents / Resources

	GE current DISP103 Immersion Elite LED Refrigerated Display Lighting [pdf] Installation Guide DISP103, Immersion Elite LED Refrigerated Display Lighting, DISP103 Immersion Elite LED Refrigerated Display Lighting

References

- Commercial Lighting and Lighting Controls | Current - GLI Brands