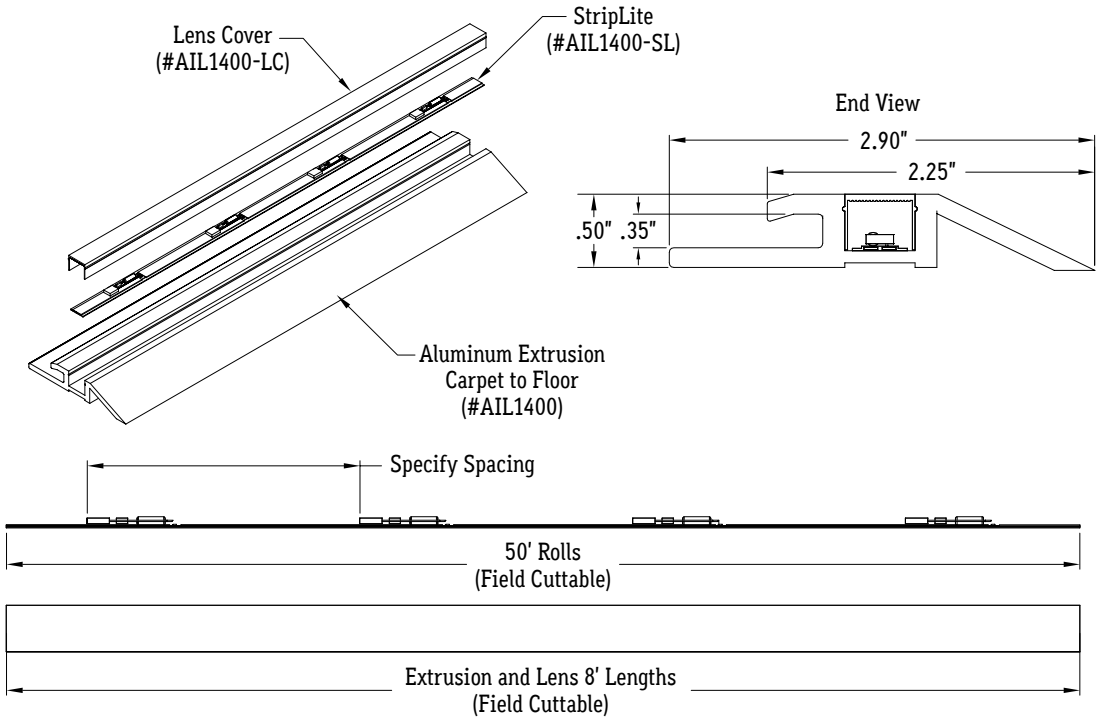
aisleLITE™

Installation Instructions

AIL1400

Overview



IMPORTANT VERIFY CORRECT LUMINAIRE WAS RECEIVED WITH CORRECT COLOR TEMPERATURE AND VOLTAGE BEFORE CUTTING OR INSTALLING. **CALI** WILL NOT BE RESPONSIBLE IF INCORRECT LUMINAIRE IS INSTALLED.

PRODUCT INFORMATION

- For aisle, path, edge lighting
- 24 volts DC for easy and safe installation
- Long life, energy efficient LEDs
- Maximum lamps based on 5 Amps: 120 LEDs
- Plug and light system
- Lead wires are typically 36" long and exit on one end

INSTALLATION RECOMMENDATIONS

- Conduit raceway should be sleeved at one end for low voltage wires going to *trans*FORMER

ELECTRICAL

- AIL1400 requires a 24 volt DC remote *trans*FORMER
- To calculate transformers size find watts per foot (Example: 3" O/C = 4 LEDs per foot x .5W = 2 watts per foot)
- Determine length in feet (Example: 25')
- Calculate Load: Multiply watts per foot x length in feet (Example: 2W x 30'= 50W)
- Choose *trans*FORMER from catalog (Example: TRA60)
- Determine maximum distance using maximum wire length table (Example: Using #14 wire, maximum distance is 35' from *trans*FORMER to first LED based on 50 watts)

INSTALLATION TOOLS REQUIRED

- Electric compound miter saw
- 14.4 to 28 volt cordless drill
- Drill bits - concrete or wood
- Electrical cords
- Safety glasses
- Marker
- Electric hammer drill (optional)
- Phillips bits - sufficient quantity
- Electrical three ways
- Measuring tape
- Chalk line
- Sharp scissors
- Soldering iron with kit

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FEATURES	
APPLICATIONS	Pathway, Aisle Lighting
VOLTAGE	24V
LAMP TYPE	LEDs
LAMP WATTS	.25
DIMMING	Forward Phase (TRA)
MAX LAMPS	432 (Based on 5 Amps) 344 (Based on 4 Amps for Class 2)
SOCKET	Custom
LENGTH	Built to Order
CONSTRUCTION	Aluminum Extrusion
FINISH	Anodized Black
WIRING	Parallel
MOUNTING	Adhesive
LISTING	Dry Location

WARNING

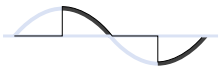
When using AIL1400 for any application, basic safety precautions should always be followed to reduce the risk of fire, electric shock, and personal injury. AIL1400 must be installed in accordance with the NEC or CEC as applicable.

- Do not exceed maximum length per circuit. Each maximum run requires additional power feed from the transformer.
- Do not cover AIL1400 as the covering may cause it to overheat, melt, or ignite.
- Do not install AIL1400 in hazardous locations or closer than 6" from any curtain or similar combustible material.
- Do not use AIL1400 if damaged, such as broken outer jacket, loose connections, or frayed wire insulation. Inspect periodically.
- Do not submerge AIL1400 in liquid.
- Do not mount AIL1400 with staples, nails, or like means that might damage the insulation.
- Do not install AIL1400 in places where it is subject to continuous flexing.
- Do not mount AIL1400 inside tanks or enclosures of any kind without sufficient ventilation.
- Surge protector must be set up for electrical power system to avoid damaging AIL1400 lighting system.
- Do not install in an environment where excessive heat may exist. Ambient temperature -40°F - 122°F (-20°C - 50°C).

DIMMING PROTOCOL (FORWARD PHASE DIMMING)

Technical Requirements For Control Equipment (Forward Phase Dimming)

- Magnetic Low Voltage (MLV) - Magnetic (core and coil, toroidal) transformer-supplied low voltage lighting.
- Electrical Characteristics - Inductive
- Special Requirements - Symmetric cycles (VDC≤2), smooth turn off (positive and negative periods are equal for safe MLV transformer operation)
- Order transformer with TRA prefix.



Symmetric Forward Phase-Control

Click here for list of magnetic transformers
(TRA) Forward Phase Dimming

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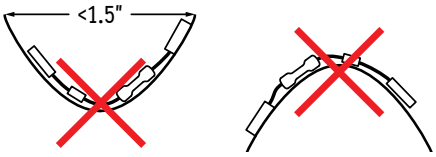
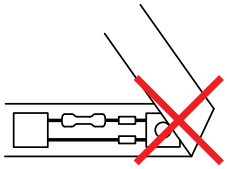
Product Care

Do not bend lightstrip to a diameter of less than 1.5"

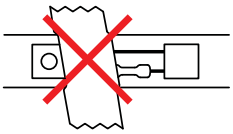


Do not fold, crease, or twist lightstrip

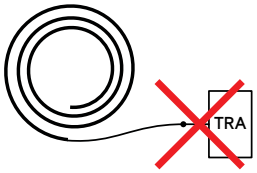


Do not submerge in water

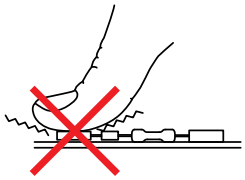
Do not cover lightstrip with any material



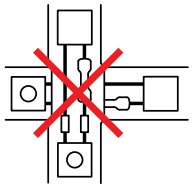
Do not connect lightstrip to power source while spooled or coiled



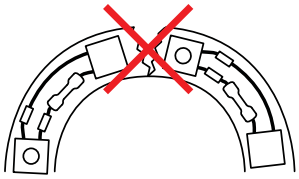
Do not apply excessive pressure to surface of lightstrip or LEDs



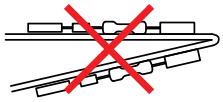
Do not overlap lightstrips at any location



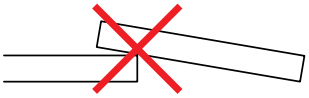
Do not bend lightstrip along a horizontal plane



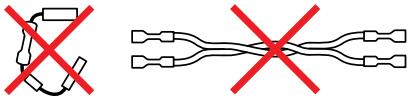
Do not install lightstrip in a zig-zag fashion



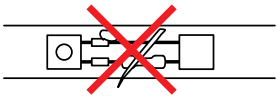
Do not overlap extrusions in any way



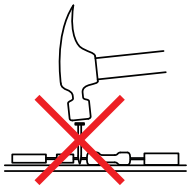
Do not twist or bend LED modules or connectors



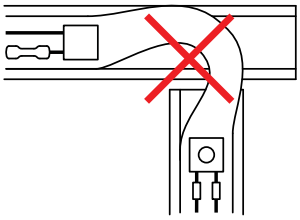
Do not cover with debris



Do not penetrate lightstrip with any foreign object



Do not cross extrusions and twist lightstrip to overlap



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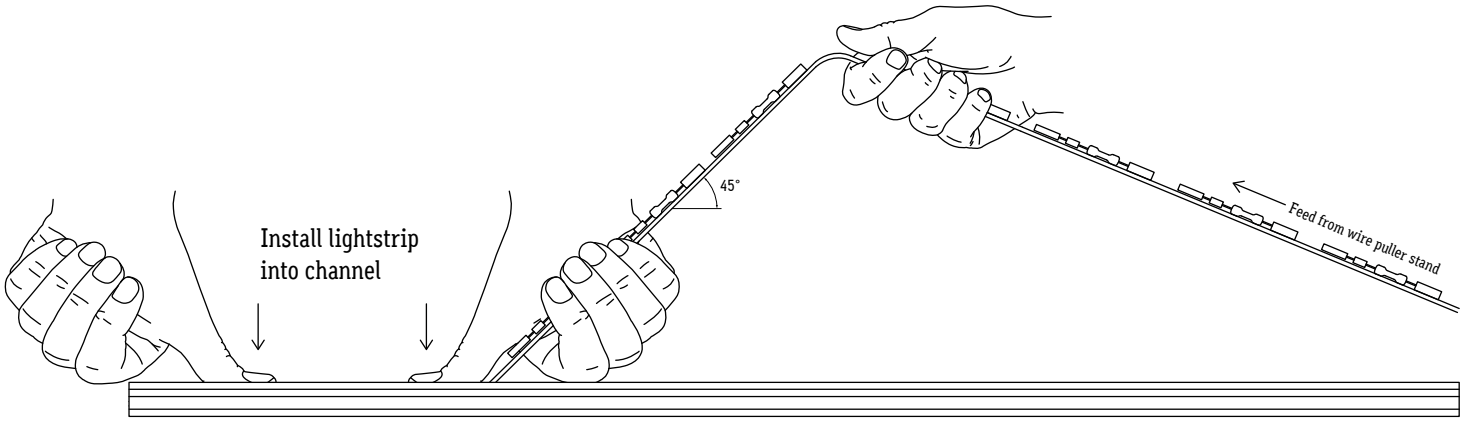
INTERTEK ETL LISTED C US

AIL1400 REQUIRES A TEAM EFFORT TO ENSURE SECURE AND CORRECT INSTALLATION



One person installs lightstrip into channel

Another person unreels lightstrip from spool, holding it at a 45° angle

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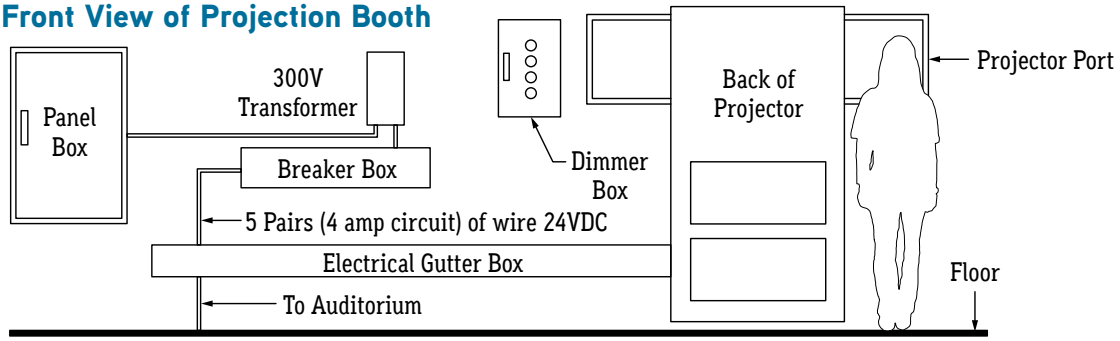
Installation Instructions

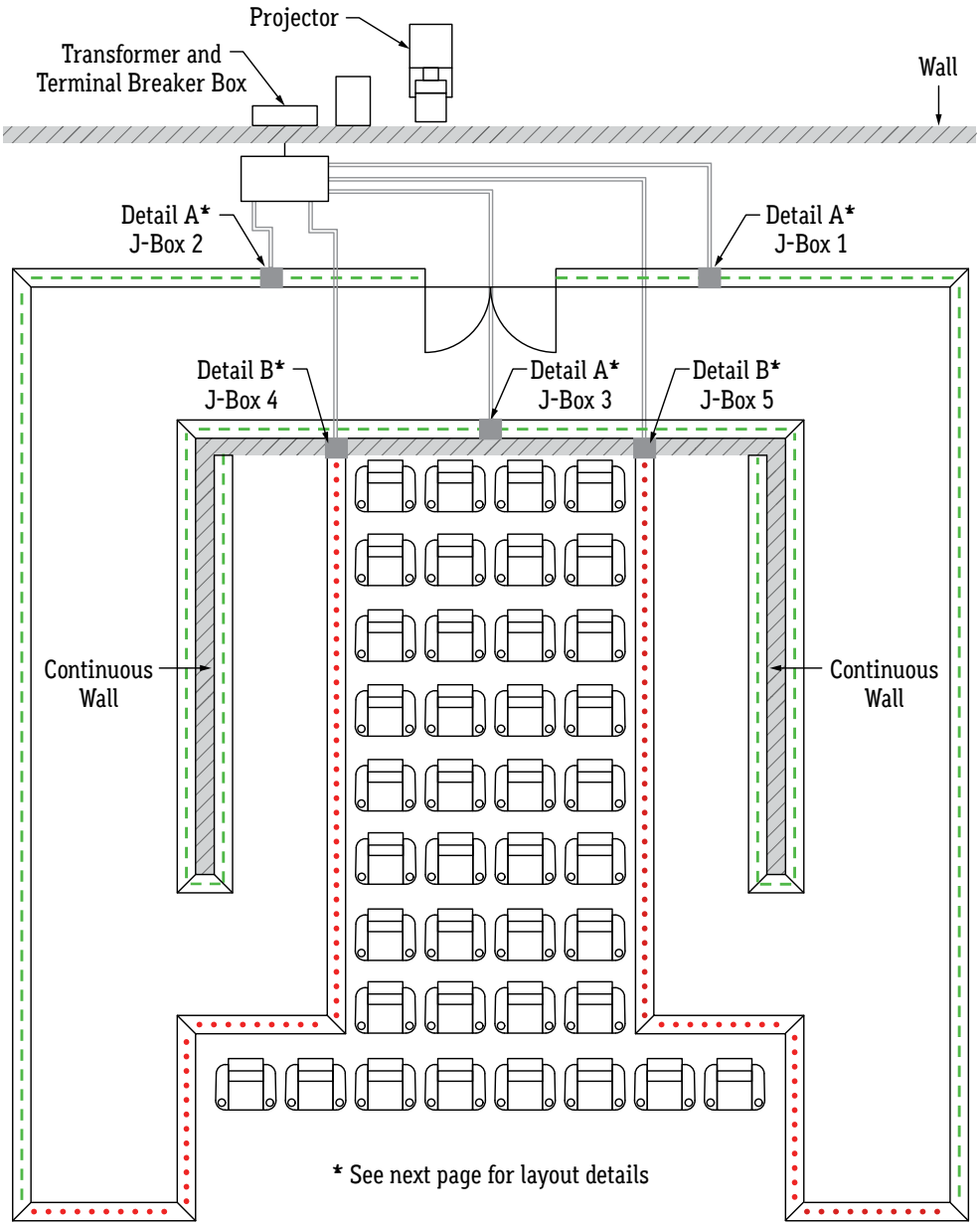
AIL1400

Typical Layout Diagram

Front View of Projection Booth



Top View of Auditorium



LEGEND	
PATTERN	**DESCRIPTION**
.....	Carpet-to-Floor (AIL1400, AIL1500, AIL1600, AIL1800)
- - - - -	Carpet-to-Wall (AIL1100, AIL1200, AIL1300, AIL1700)

TYPICAL LAYOUT FOR AUDITORIUM

(with less than 25 steps per side)

Install 5 J-boxes in the following locations:

- J-box 1: Install on the right side of the entrance
- J-box 2: Install on the left side of the entrance
- J-box 3:Install on the front entrance
- J-box 4: Install on the left side of the aisle
- J-box 5 : Install on the right side of the aisle

TRANSFORMER

Typical transformer used is TRA 300-6F/120V/24VDC
See transformer brochure for other options

Note: Use separate wires for each circuit. Do not use a common ground. Use 14 gauge stranded wire. Use separate colors to identify circuits.

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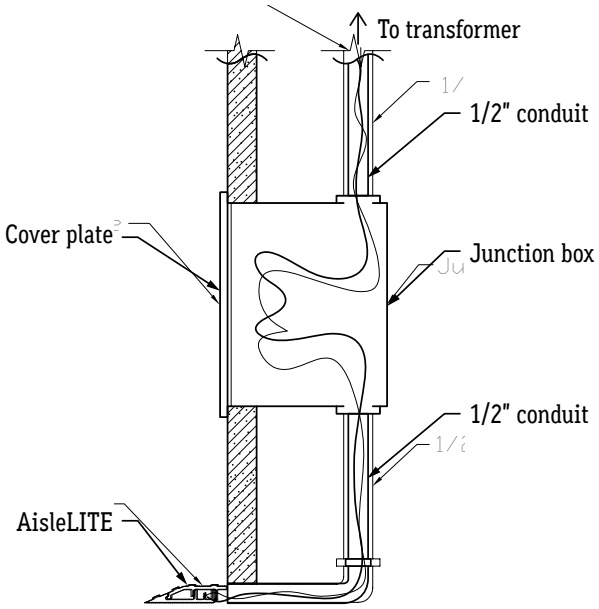
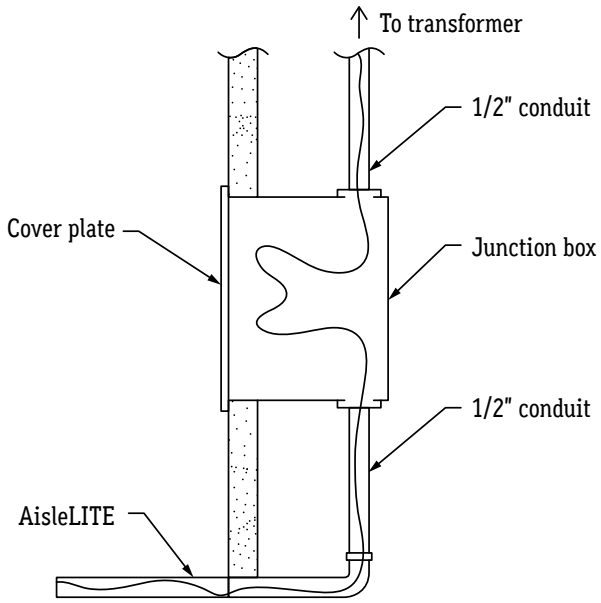
DETAIL A



DETAIL B



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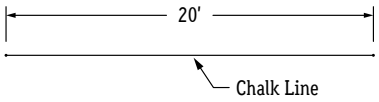
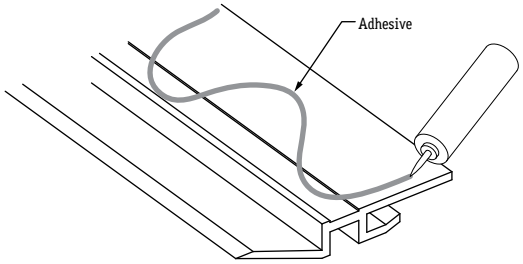
AIL1400

Step by Step

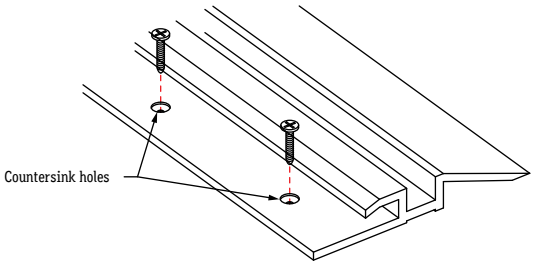
1. Measure area where AIL1400 will be installed.
RECOMMENDATION: Use chalk line to ensure a straight installation.



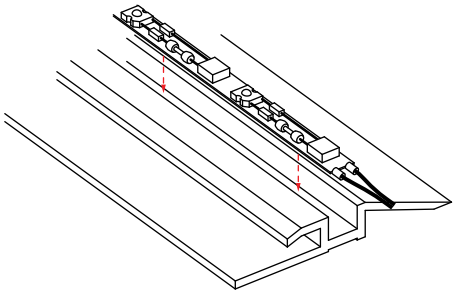
2. Apply adhesive in a zig zag fashion along the underside of extrusion, then lay extrusion along chalk line and ensure it is secured in place.
NOTE: Surface must be flat.



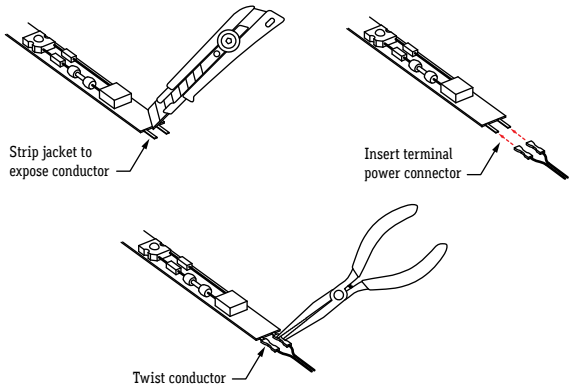
3. Drill holes as needed, then screw channel into desired surface using countersink holes.
NOTE: Surface must be flat.



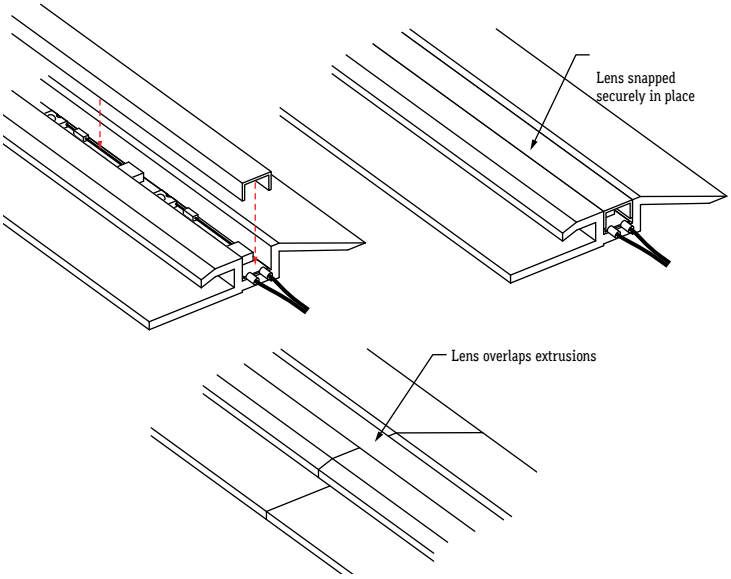
4. Install lightstrip into channel.



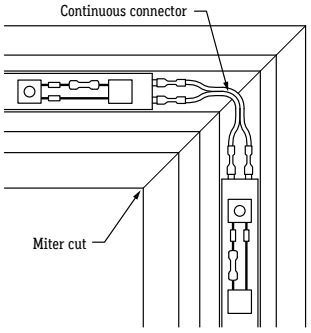
5. To prepare lightstrip for mounting, strip 14/2 flat conductor with utility knife, then twist individual conductors clockwise using needle nose pliers. Connect terminal power connectors into each conductor.



6. Snap cover into base, overlapping lenses with extrusions. Ensure cover is snapped securely in place. Overlap lens where two extrusions meet.



7. Use continuous connector around turns and angles.
Install continuous connector using the steps from the power connector.



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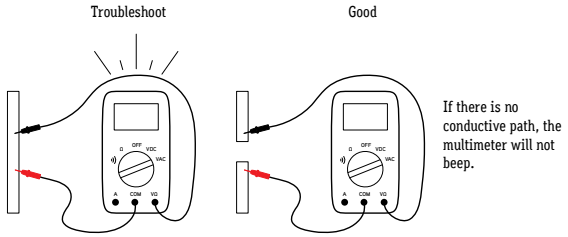
8. Conduct continuity test.

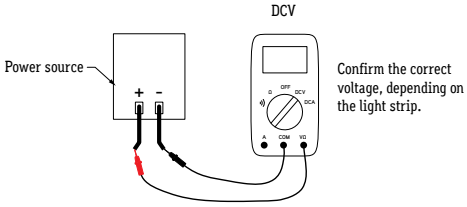


If a conductive path is formed between positive and negative wire, the multimeter will beep. You need to trouble shoot to find the short.

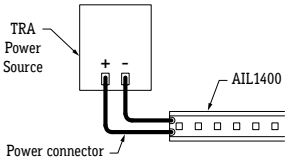
If there is no conductive path, the multimeter will not beep.

See page 9 for troubleshooting guide

9. Set voltmeter to DC voltage, then test power source before connecting.



10. Connect power source to power connector.If LEDs do not turn on, flip polarity (+,-) or power source connection to power connector.



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TROUBLESHOOT

- Do not reset breaker multiple times.
- If the unit is overloaded the breaker will trip shutting off the transformer and lights.
- If the breaker reset button has been held down by hand or any type of pressure (example: duct tape), or if the breaker has been reset multiple times without trouble shooting, the unit will:
  - Burn the transformer bobbin
  - Burn the thermal or magnetic breaker
  - Burn the primary or secondary wires due to high amperage caused by overload and/ or short circuit in line which will not allow the breaker to reset
  - Damage the lighting

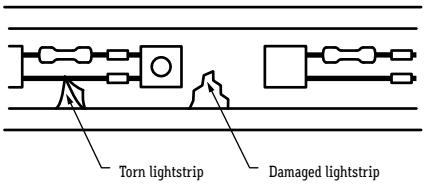
1. Check that voltage does not exceed 24VDC.

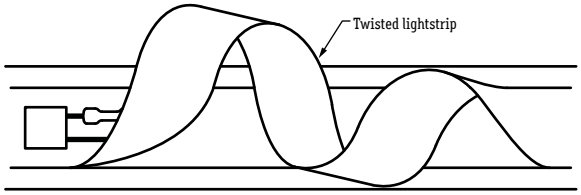
2. Ensure that boost wire on the transformer is not connected. This wire is incompatible with aisleLITE products.

3. Ensure that lighting is equipped with surge protection. Surges in the power grid will cause voltage fluctuations and harm LED longevity.

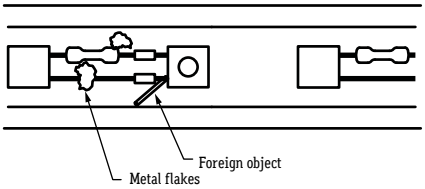
4. Check for short circuits. Short circuits will increase the amperage of the LEDs and cause them to fail.

4a. Turn off power before beginning. Check for any twisting or damage to the circuit in the LED lightstrip. If there is excessive damage and circuit is broken, the lightstrip must be replaced.

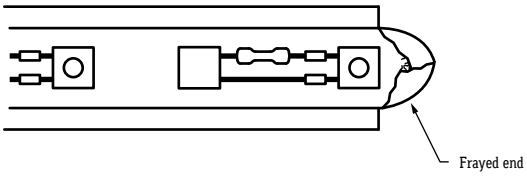




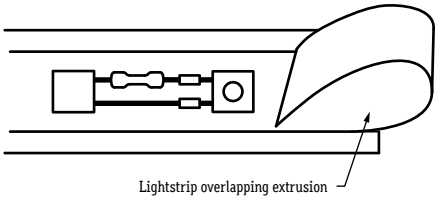
4b. Check for metal particles or other foreign objects causing the short.



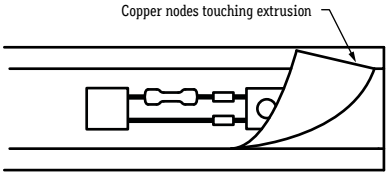
4c. Check if cut is clean and not frayed, causing positive and negative copper pads to touch.



4d. Ensure the run is not too long and overlapping.



4e. Ensure copper nodes are not making contact with aluminum extrusion.



5. Ensure that maximum number of lamps has not been exceeded. See page 2 features for max lamps.

6. After previous items have been thoroughly inspected, perform continuity test on page 9.

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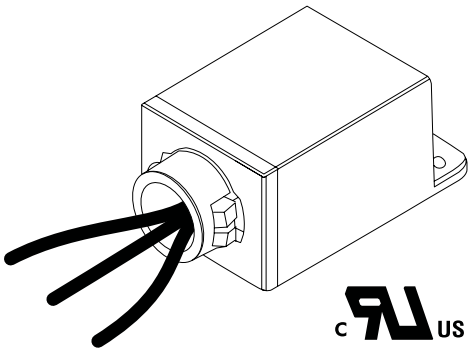
aisleLITE™

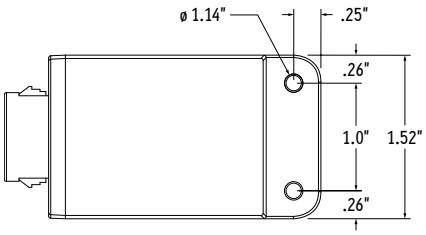
Installation Instructions

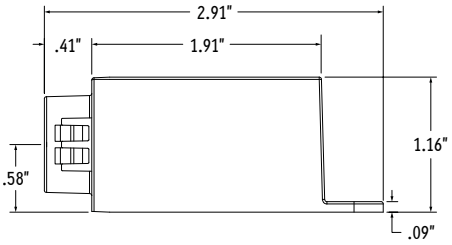
AIL1400

Surge Protector



CASE DIMENSIONS





SURGE PROTECTOR SPECIFICATIONS

MODEL	INPUT VOLTAGE	SURGE PROTECTION LEVEL	MOUNTING	ENCLOSURE MATERIAL	INPUT LEADS	INPUT FREQUENCY
ALS-SP	120V - 277V	10kV, 10kA, ANSI C62.41 Category C	SnapLOCK / Footed	Polycarbonate	6", 18AWG stranded, 105°C stripped, 3/8" tinned	60Hz

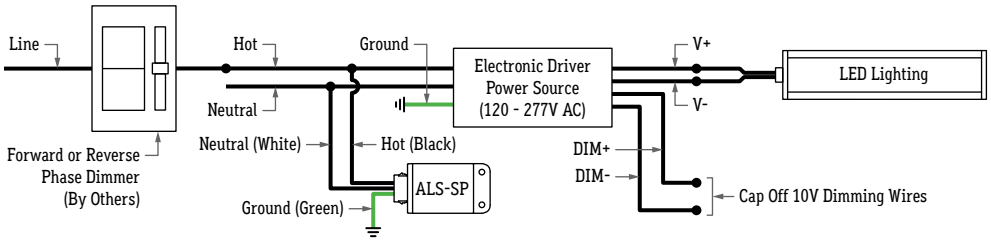
PRODUCT FEATURES

The Surge Series are 3-leaded devices that protect Line-Ground, Line-Neutral, and Neutral-Ground in accordance with IEEE / ANSI C62.41.2 guidelines. Protects against surges according to IE EE C62.41.2 C High (10kA and 10kV). Surge current rating = 10,000 Amps using industry standard 8/20 µSec wave. Surge Location Rated Category C3. UL Recognized Component in the United States and Canada (UL1449). Type 4 Surge Protection Device. High temperature, flame retardant plastic enclosure, 85°C maximum surface temperature rating. Thermally Protected Transient Over-voltage Circuit.

PRODUCT SPECIFICATIONS

The Surge series of products are designed to be used in conjunction with LED Drivers and fixtures to provide an additional level of protection against powerline disturbances in industrial, commercial and residential applications where surge protection to IEEE C62.41.2 is required.

FORWARD PHASE WIRING DIAGRAM



Note: Driver wire colors vary based on model. See individual submittal for more information, or refer to wire callouts on driver labeling. Always confirm wire colors before connecting to power source.

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CLEANING MATERIALS FOR LENSES AND EXTRUSIONS

The use of solvents and/or cleaners which are not compatible with polycarbonate will result in the softening, crazing, and/or cracking of the plastic part. This is especially true of polycarbonate lamps and mounting bases which may be under stress in their normal applications.

COMPATIBLE WITH POLYCARBONATE:

- Mild soap and water
- Mineral Spirits
- Isobutyl alcohol
- VM and P Naphtha
- Varsol No.2
- Mexane
- Freone TF and TE-35
- Ethanol
- Dirtex
- 2% Sol. Reg. Joy
- 10% Sol Bon Ami
- White Kerosene
- Methyl alcohol
- Heptane
- Petroleum Ether/65 degrees C
- Isopropyl alcohol
- Lacryl PCL-2035 polycarbonate cleaner

NOT COMPATIBLE WITH POLYCARBONATE

- Trichlor
- Gasoline
- ll Liquid Detergents
- Acetone
- Carbon Tetrachloride
- Pink Lux (Phosphate free)
- Triclene
- Chlorinated Hydrocarbons
- #1 & #3 denatured alcohol
- Methyl Ethyl Keytone (MEK)
- Texize-8006, 8129, 8758
- MIBK
- Liquid Cleaner – 8211
- Toluol
- Agitene
- Benzol
- Ajax
- Kleenol Plastics
- Lysol
- Stanisol Naphtha
- Oils
- Lemon Joy (phosphate free)
- Diversol
- Lestoil

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