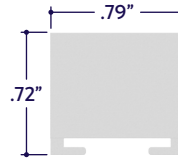


### READ ENTIRE GUIDE BEFORE STARTING INSTALLATION

**Important Notice:** Verify correct luminaire was received with correct color temperature, voltage, and wattage before cutting or installing. ALUZ will not be responsible if incorrect luminaire is installed.

### END VIEW / DIMENSIONS



### GENERAL FEATURES

<b>Applications</b>	Accent, Cove, Under Cabinet Lighting
<b>Lens</b>	Clear, 50% Semi-Frosted, or 100% Frosted
<b>Optics &amp; Asymmetric</b>	15°, 30°, 45°, 60°, 120°, or Asymmetric Optics
<b>Length</b>	Built to Order (+/- 1.8" Tolerance) See <b>Length Restrictions</b> Table for details
<b>Construction</b>	Aluminum Extrusion
<b>Weight</b>	0.38 lbs per foot
<b>Mounting</b>	Mounting Clips (Sold Separately)
<b>Listing</b>	Dry or Damp Location UL1598, CSA C22.2#250.0 UL8750, CSA250 UL2108, 67.1.9, 60.4, CSA C22.2 #9
<b>Driver</b>	Remote
<b>Temperature Ratings</b>	Operating / Startup: -20° to 48°C (-4° to 120°F) Storage: -40° to 76°C (-40° to 170°F)
<b>Installation Link</b>	

### ELECTRICAL

<b>Dimming</b>	0-10V, DMX, DALI
<b>Luminaire Voltage</b>	120V - 277V (UNV)

### MINIMUM & MAXIMUM RUNS

Wattage	1.5W	2W	3W	4W	5W	6W	8W	10W	12W
<b>0-10V &amp; DALI Minimum Run</b>	4'	3'	2'	2'	2'	1'	1'	1'	1'
<b>0-10V &amp; DALI Maximum Run</b>	39'	27'	19'	14'	11'	9'	7'	6'	5'
<b>DMX Minimum Run</b>	4'	3'	2'	2'	2'	1'	1'	1'	1'
<b>DMX Maximum Run</b>	26'	18'	13'	9'	8'	6'	4'	4'	3'

### PRODUCT INFORMATION

- Lighting for accent, cove, edge, pendant, under cabinet lighting
- 24 Volts DC for easy and safe installation
- BIOS Illuminated LEDs
- Can be ordered to specific lengths for when exact dimensions are known  
**Example:** 10 x 10'6"
- Product is shipped in 8' max luminaires
- Different mounting options available (custom mounting available upon request)

### ELECTRICAL REQUIREMENTS

- Low Voltage fixtures require a 24 Volt DC remote driver.
- To calculate driver size, determine Watts per Foot.  
**Example:** 1.5W per Foot
- Determine Length in Feet.  
**Example:** 30'
- Calculate Load: Multiply Watts per Foot x Length in Feet  
**Example:** 1.5W x 30' = 45W
- Choose a driver from catalog.  
**Example:** 60 Watt Driver
- Determine maximum driver distance using Maximum Wire Length Table on drivers page.  
**Example:** 45 watts is between 40W and 60W. Using #14 wire, maximum distance is 37' from driver to first LED.

### INSTALLATION TOOLS REQUIRED

- Electric Hammer Drill
- 14.4 to 28 Volt Cordless Drill
- Phillips Bits
- Utility Knife
- Electrical Cord
- Marker
- Wire Stripper
- Long Nose Pliers
- Drill Bits - Concrete or Wood
- Electrical Three Ways
- Safety Glasses
- Measuring Tape
- Laser Line or Chalk Line

### WARNING

When using luminaires for any application, basic safety precautions should always be followed to reduce the risk of fire, electric shock, and personal injury. Luminaires must be installed in accordance with the NEC or CEC as applicable. ALUZ will not be responsible for damage or malfunction caused by the following:

- Ensure power is off before installation begins, during replacements, additions, or repairs.
- Do not use luminaires if damaged, such as broken boards, loose connections, or frayed wire insulation. Inspect before installing.
- Do not install luminaires in hazardous locations.
- Do not operate outdoor luminaires during daytime hours.
- Do not cover luminaires with any material. Covering may cause LEDs to overheat, melt, or ignite.
- Do not paint on or over fixture lens or LEDs.
- Paint or any other substance on lens or LEDs will cause a shift in color temperature.
- Soffit must be evenly painted with a neutral white to avoid color shift.
- Do not modify luminaires in the field.
- Do not overlap luminaires in any way. (Fig. 1)
- Luminaires have line voltage risk of shock. Consult factory for any malfunctions. Do not attempt to repair.
- Only use luminaire with specified rated voltages. Do not exceed the specified voltage for any luminaire.
- Do not use extrusion as a raceway for additional wire. Non-factory feed through wires inside luminaire will void warranty.
- Ground Fault Circuit Interrupter (GFCI) protections should be provided on circuits or outlets when luminaire is used for outdoor applications.
- Surge protector must be set up for electrical power system to avoid damaging lighting system.
- Do not make wiring connections without referring to wiring diagrams.
- Do not cut wire while energized. (Fig. 2)
- Do not connect DC output from remote drivers in parallel. Parallel connections interfere with dimming capabilities and result in feedback that damages drivers. (Fig. 3)
- Always mount channels and mounting clips on flat, even surfaces.
- Do not exceed maximum run lengths.
- Always follow sequence labeling for continuous runs. Continuous run segments are labeled in alphabetical order.
- Polarity of continuous run segments must be aligned.
- Do not assemble continuous runs prior to installing into mounting clips. Each segment must be installed one by one into mounting clips. The weight of the assembled segments will put strain on junctions, causing the board, pin, or terminals to break.
- Do not install continuous runs without a mounting clip at each junction between two luminaire segments.
- Do not secure luminaire with nails or like means that might damage the wiring inside. Only secure by using mounting clips.
- Do not mount luminaire inside tanks or enclosures of any kind.
- Do not install downward facing luminaires without set screws.
- Do not use improper screw head type on mounting clips. It will cause the mounting clip to open up and become dysfunctional.
- Do not modify mounting clips.
- Do not weld mounting clips to surface. Mounting clips must be mechanically attached with screws appropriate for mounting surface and weight of luminaire.
- Do not mount fixture with less than the minimum number of mounting clips required. See mounting clips section for details.
- Do not install mounting clips on uneven surfaces. Use shims to level out height of mounting clips if necessary.
- Do not install mounting clips after luminaires have been assembled. Install mounting clips first, then install luminaire into mounting clips.
- Do not force luminaire into a space that is too small.
- Do not force luminaire with cord grip into soffit. (Fig. 4)
- Do not install luminaire at an angle within a cove. Only install fixtures straight within a cove. (Fig. 5)
- Do not bend extrusion around radius.
- Do not submerge dry or wet location luminaire in any liquid.
- Do not install wet location in outdoor coves without proper drainage. (Fig. 6)
- Do not install luminaire in any area that is continuously exposed to flowing or pooling water, such as underneath drain pipes, sprinklers, fountains, misters, etc.
- Do not cut, puncture, or penetrate aluminum housing, end caps, or lens covers.
- Do not drop, bang, or rest weight upon luminaire.
- Do not apply excessive pressure to any part of luminaire.
- Do not remove end caps from luminaire.
- Do not bend power cord or continuous connector past permitted bend radius. Bending past permitted bend radius will break the seal of the cordgrip or damage the insulation. 3.5" minimum bend radius for Wet Location. 1.5" minimum bend radius for Dry Location (Fig. 7)
- Do not install in places where the power cord is subject to continuous flexing.
- Do not twist continuous connector or power cord.
- Do not hold, carry, or suspend luminaire by the power cord.
- Do not install on ceilings without mounting clips and set screws. (Fig. 8)

### FIGURES

Figure 1

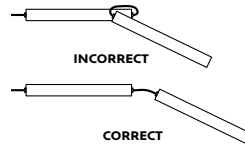


Figure 2

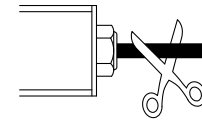


Fig. 3

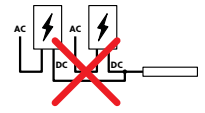


Figure 4

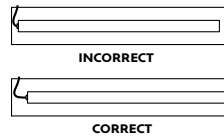


Figure 5

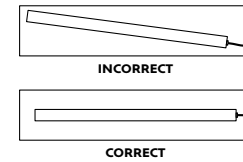


Figure 6

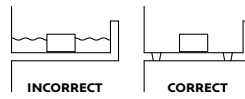


Figure 7

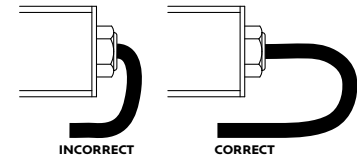
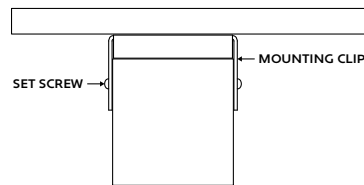


Figure 8



### CLEANING MATERIALS

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

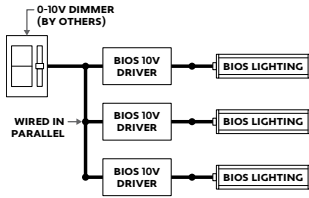
- Mild soap and water
- Mineral Spirits
- Isobutyl Alcohol
- VM and P Naphtha
- Varsol No.2
- Mexane
- Freone TF and TE-35
- Ethanol
- Dirtex
- 2% Sol. Reg. Joy
- 10% Sol Bon Ami
- White Kerosene
- Methyl Alcohol
- Heptane
- Petroleum Ether / 65°C
- Isopropyl Alcohol
- Lacryl PCL-2035
- Polycarbonate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

### NOT COMPATIBLE WITH POLYCARBONATE

- Trichlor
- Gasoline
- 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

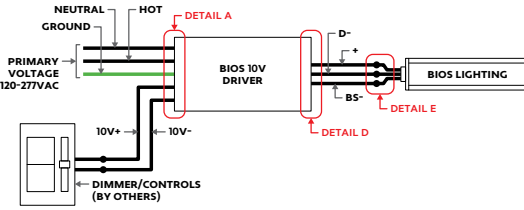
### 0-10V LAYOUT & WIRING

#### Typical Layout



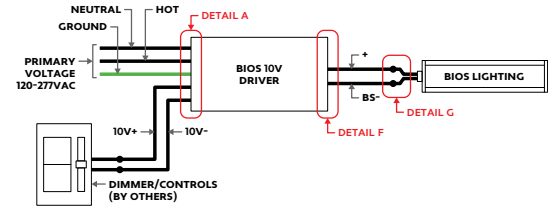
#### Wiring Diagram

Biological Dynamic (BD) / Biological Tunable (BT)



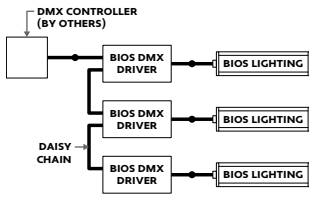
#### Wiring Diagram

Biological Static (BS)



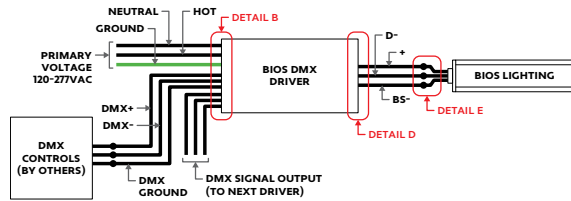
### DMX LAYOUT & WIRING

#### Typical Layout



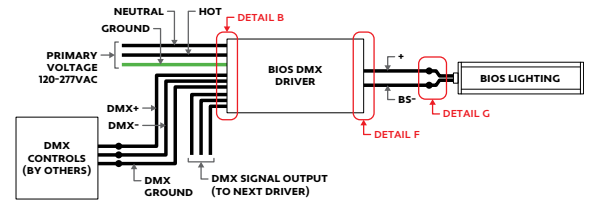
#### Wiring Diagram

Biological Dynamic (BD) / Biological Tunable (BT)



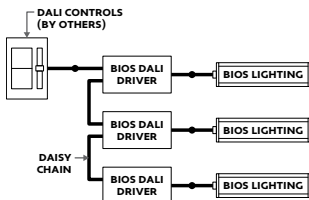
#### Wiring Diagram

Biological Static (BS)



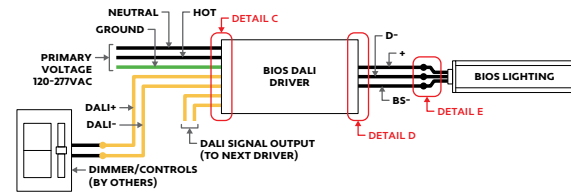
### DALI LAYOUT & WIRING

#### Typical Layout



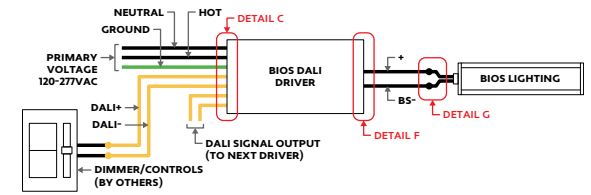
#### Wiring Diagram

Biological Dynamic (BD) / Biological Tunable (BT)



#### Wiring Diagram

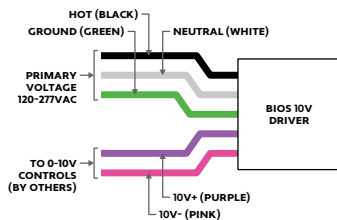
Biological Static (BS)



### DRIVER INPUT DETAILS

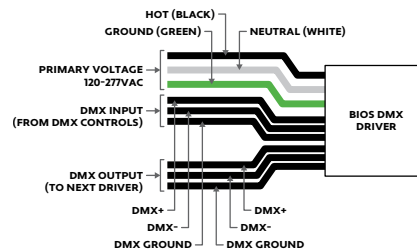
#### Detail A

10V Driver Input



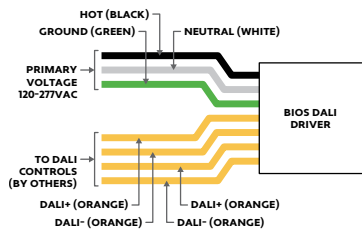
#### Detail B

DMX Driver Input



#### Detail C

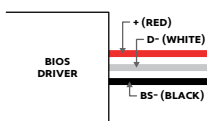
DALI Driver Input



### DRIVER OUTPUT DETAILS

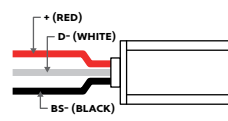
#### Detail D: Driver Output

Biological Dynamic (BD) / Biological Tunable (BT)



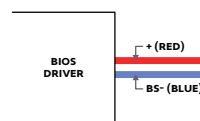
#### Detail E: Fixture Wiring

Biological Dynamic (BD) / Biological Tunable (BT)



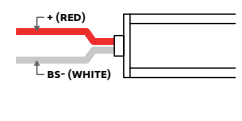
#### Detail F: Driver Output

Biological Static (BS)



#### Detail G: Fixture Wiring

Biological Static (BS)

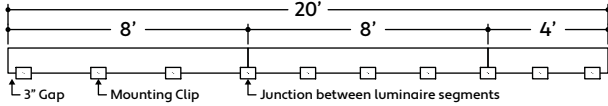


Note: Each BIOS Illuminated luminaire must be paired with a specific driver as marked. Refer to Driver & Luminaire labels to confirm pairs.

### DRY LOCATION APPLICATIONS

- 1 Measure area where fixture will be installed. Use a laser line to create a reference line along installation area, ensuring consistent alignment of mounting clips. Mark location where each mounting clip will be installed along reference line.
- 2 Use 1 mounting clip every 2', rounded up. Use a minimum of 2 mounting clips per fixture segment. For vertical applications, create a stopper at the bottom of the run to prevent sliding.

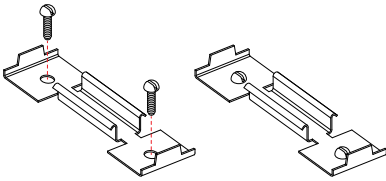
- 3 Use a mounting clip at the junction between two fixture segments.  
**Example: 20' Run.**



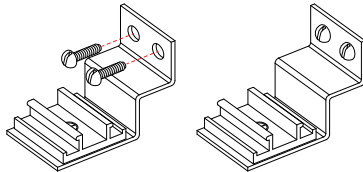
- 4 Lay mounting clips along reference line and pre-drill using an appropriate drill bit for surface material and screw size. Typical screw size is 8/32 x 1".  
**Note:** Allow 1/4" clearance on each side of mounting clip due to lateral expansion. Only install mounting clips on flat, even surfaces.

- 5 Screw mounting clips to surface, then snap fixture into mounting clips.

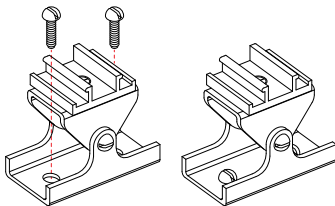
- a Screw MC to surface, then snap luminaire into mounting clips.



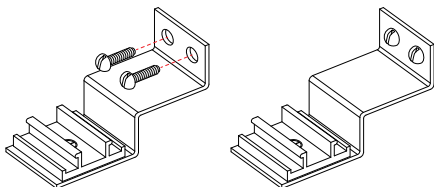
- b Screw MC-2 to surface, then snap luminaire into mounting clips.



- c Screw MC-3 to surface, then snap luminaire into mounting clips.



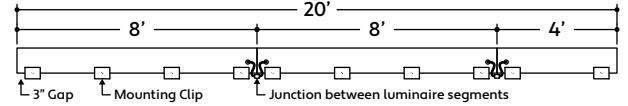
- d Screw MC-4 to surface, then snap luminaire into mounting clips.



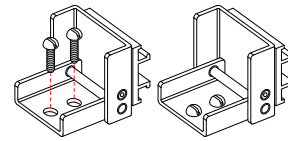
### WET LOCATION APPLICATIONS

- 1 Measure area where fixture will be installed. Use a laser line to create a reference line along installation area, ensuring consistent alignment of mounting clips. Mark location where each mounting clip will be installed along reference line.
- 2 Use 1 mounting clip every 2', rounded up. Use a minimum of 2 mounting clips per fixture segment. For vertical applications, create a stopper at the bottom of the run to prevent sliding.

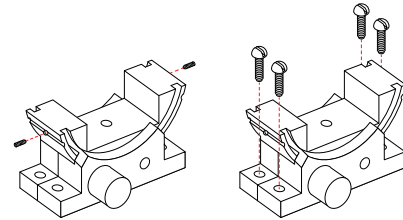
- 3 Space mounting clips evenly throughout the run.  
**Example: 20' Run.**



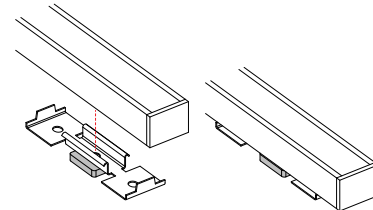
- e Screw MC-ADJ to surface, then snap luminaire into mounting clips.



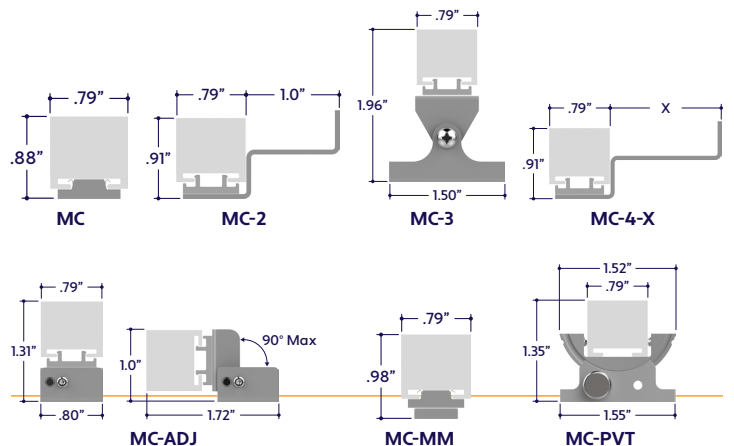
- f Screw MC-PVT to surface, then snap luminaire into mounting clips.



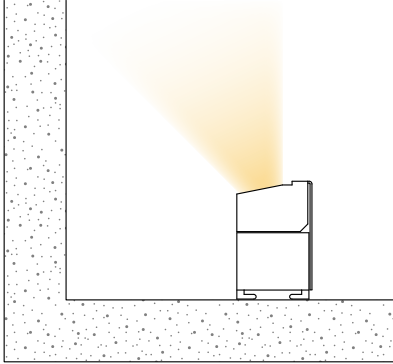
- g Snap luminaire into mounting clips, then attach to metal surface.



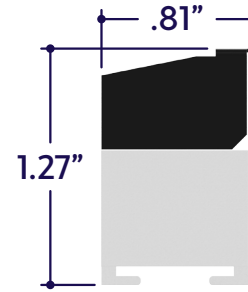
### ASSEMBLED DIMENSIONS



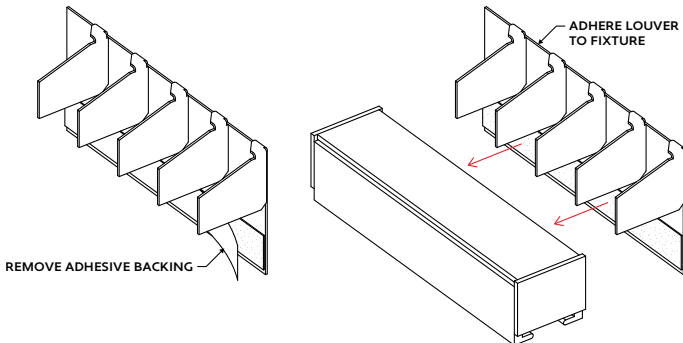
- 1 Determine number of louvers needed. Louvers are available in 1' increments. Specify total length of reflectors needed.
- 2 Determine position of louvers. Position the louver with the open end towards the surface that will be lighted. If using asymmetric optics, ensure the beam is pointed in the same direction as the open end.



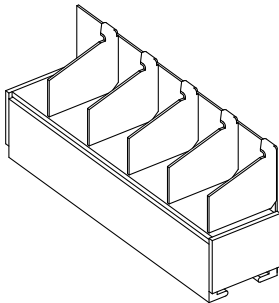
### ASSEMBLED DIMENSIONS



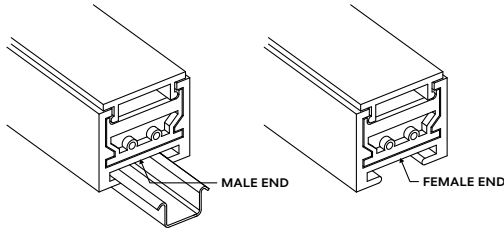
- 3 Before installing, place louvers on fixture in sequence to determine positioning and spacing.
- 4 Remove adhesive backing from double-sided tape on the long side of the louver, then adhere louver to fixture. Align the end of the louver with the end cap of the fixture, and the arc on the blades with the shapes of the fixture lens.



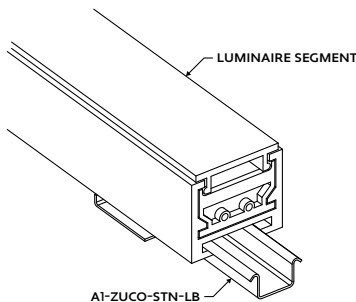
- 5 Complete the installation by ensuring the louver is consistently aligned across the round shape of the lens.



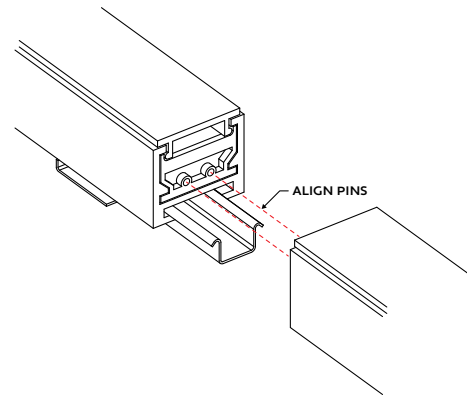
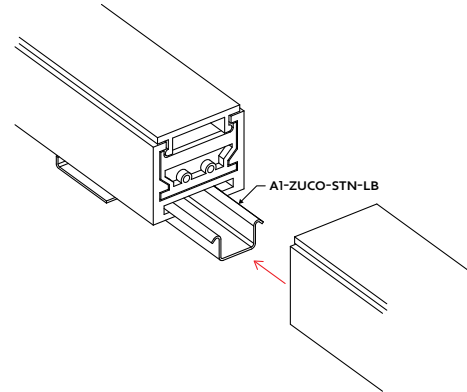
- 1 Measure area where luminaire will be installed. Use a laser line to create a reference line along installation area, ensuring consistent alignment of mounting clips. Mark location where each mounting clip will be installed along reference line.
- 2 Mark location where mounting clips will be installed.  
**Note:** The number of required mounting clips differs for dry and wet location products. Verify number of mounting clips is appropriate for installation environment before installing. Do not install luminaires with inadequate number of mounting clips.
- 3 Lay mounting clips along reference line and pre-drill using an appropriate drill bit for surface and screw size.  
**Recommendation:** 8/32 x 1" countersink screw.  
**Note:** Allow 1/4" clearance for lateral expansion of assembled mounting clips. Only install mounting clips on flat, even surfaces.
- 4 Each luminaire segment has a male and female end used for continuous connections. Lay out each segment next to the mounting clips where they will be installed. Position the segments as follows: power lead end, female end, male end, and so on.  
**Note:** Male end will have a bracket guide to ensure smooth connection of the male and female end.



- 5 Ensure segments are aligned with the bracket of the male end.



- 6 Guide the female end segment into the bracket, then slide toward the male end. Ensure female and male pins are aligned before applying force. Push segments together until they fit snugly with no gaps.



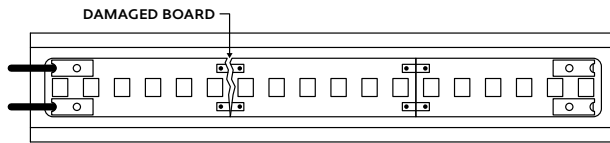
- 7 Continue mounting and connecting segments until entire run has been mounted.
- 8 Perform a continuity test before connecting to power source. Refer to **Continuity Test** for details.
- 9 If applicable, install End Caps at the end of each run. Feed the power lead through end cap exit and connect to power source.

### TROUBLESHOOTING TIPS

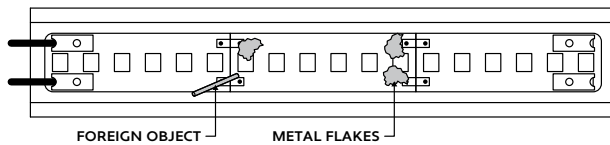
- Do not reset the breaker multiple times.
- If the unit is overloaded, the breaker will trip, shutting off the driver and lights.
- If the breaker reset button has been held down by hand or any type of pressure, such as duct tape, or if the breaker has been reset multiple times without troubleshooting, the unit will:
  - Burn the driver bobbin.
  - Burn the thermal or magnetic breaker.
  - Burn the driver lead wires due to high amperage caused by overload.
  - Short circuit in line which will not allow the breaker to reset.
  - Damage the lighting.

**1** Turn off power before beginning. Verify power is off by using a not contact circuit tester (by others).

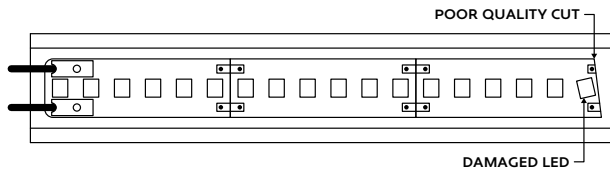
**2** Check the board for damage, such as cuts, punctures, twisting, or crushing. If there is excessive damage to the board, it must be replaced.



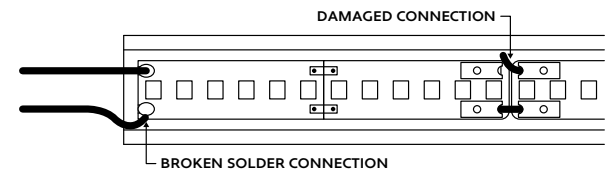
**3** Check the run for any particles that may cause a short. Check the end cap, power connector, and board for any metal flakes or shavings. Clear the run of any shavings or particles if present, then perform a continuity test to confirm the short has been eliminated.



**4** Check board cuts to ensure they are clean. Frayed, split, or sloppily cut boards can damage the circuit, resulting in flickering, dimness, or LED outages.



**5** Check terminal connections between LED boards. If a terminal is loose, damaged, or absent, the board must be replaced. Check soldered connections to LED boards, if applicable.



**6** Check connections in the line. Ensure all splice connections are secure and properly sealed with shrink tube and silicone for outdoor applications. Ensure that wiring is not bent past the permitted wiring bend radius (1.5").

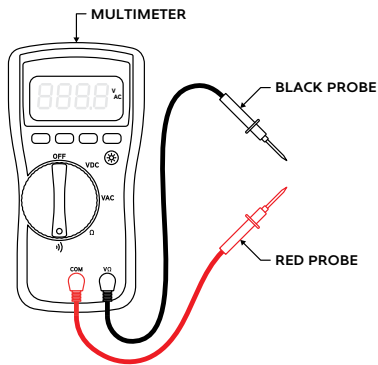
**7** Check the run for any water inside end cap, power connector, or lightstrip. If water or condensation is present, the lightstrip must be replaced.

### CONTINUITY TEST

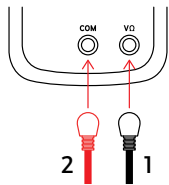
A continuity test is performed to determine if electricity can pass through two points on an electrical circuit. This helps identify shorts or malfunctions in the line or fixture. Use a multimeter or continuity tester to perform the steps below.

- Always perform a continuity test before connecting to power source.
- Malfunctions are not always as obvious as the lights not turning on.
- A short or malfunction in the line or fixture will cause damage over time, irreparably damaging the lighting and voiding warranty.

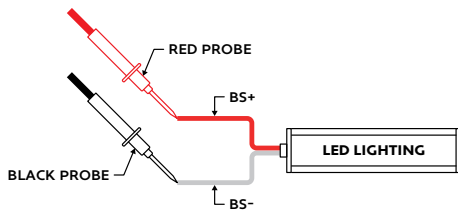
### EXAMPLE OF MULTIMETER (BY OTHERS)



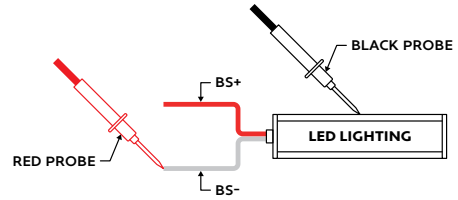
- 1 Turn off power before beginning. Verify power is off by using a non-contact circuit tester (by others). Touch the probe of the tester to the positive wire of the power source. The tester will light up if an electrical current is detected.
- 2 Setup your multimeter tester (by others). First, insert the black probe lead into the COM jack, then insert the red probe lead into the VΩ jack.



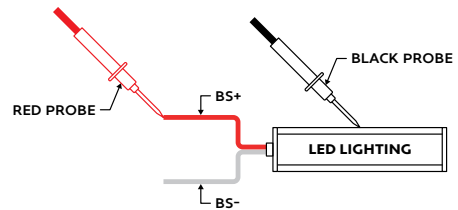
- 3 Verify multimeter is functional by touching probes together. The multimeter should beep, flash, or read 0Ω (ohms) of resistance.
- 4 Touch the red probe to the positive (BS+) wire and the black probe to the negative (BS-) wire of the fixture. If a conductive path is formed between the positive and negative wires, the multimeter will beep, flash, or read 0Ω (ohms) of resistance. Troubleshoot to identify the malfunction in the line. If there is no conductive path formed, the multimeter will not show any feedback.



- 5 Touch the red probe to the fixture extrusion and the black probe to the positive (BS+) wire. If a conductive path is formed between the extrusion and the positive wire, the multimeter will beep, flash, or read 0Ω (ohms). Troubleshoot to identify the malfunction in the line. If there is no conductive path, the multimeter will not show any feedback.



- 6 Touch the red probe to the fixture extrusion and the black probe to the negative (BS-) wire. If a conductive path is formed between the extrusion and the negative wire, the multimeter will beep, flash, or read 0Ω (ohms). Troubleshoot to identify the malfunction in the line. If there is no conductive path, the multimeter will not show any feedback.



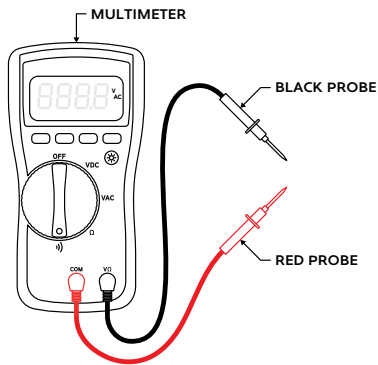
- 7 Set multimeter to DC voltage and test power source. Confirm the correct voltage before connecting fixture to power source. If the voltage reading is more than 1 volt greater than the marked output voltage, there is a problem with the power source or driver.
- 8 Connect fixture to power source via power connector. If LEDs do not turn on, flip the polarity (+/-) or power source connection to power connector.

### CONTINUITY TEST

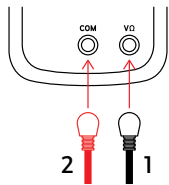
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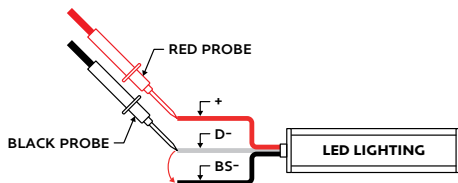
### EXAMPLE OF MULTIMETER (BY OTHERS)



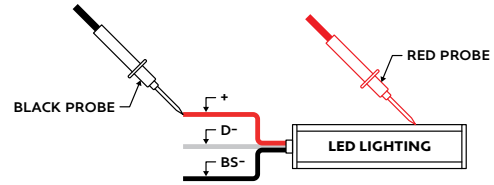
- 1 Turn off power before beginning. Verify power is off by using a non-contact circuit tester (by others). Touch the probe of the tester to the positive wire of the power source. The tester will light up if an electrical current is detected.
- 2 Setup your multimeter tester (by others). First, insert the black probe lead into the COM jack, then insert the red probe lead into the VΩ jack.



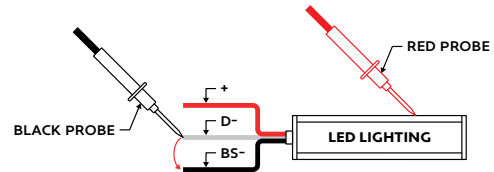
- 3 Verify multimeter is functional by touching probes together. The multimeter should beep, flash, or read 0Ω (ohms) of resistance.
- 4 Touch the red probe to the red wire (+) and the black probe to the white wire (D-), then the black wire (BS-). If a conductive path is formed between the brown wire and any other wire, the multimeter will beep, flash, or read 0Ω (ohms) of resistance. Troubleshoot to identify the malfunction in the line. If there is no conductive path formed, the multimeter will not show any feedback.



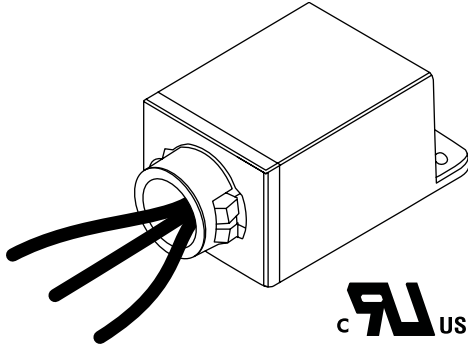
- 5 Touch the red probe to the fixture extrusion and the black probe to the red wire (+). If a conductive path is formed between the extrusion and the brown wire, the multimeter will beep, flash, or read 0Ω (ohms) of resistance. Troubleshoot to identify the malfunction in the line. If there is no conductive path, the multimeter will not show any feedback.



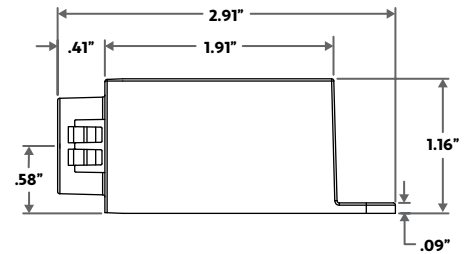
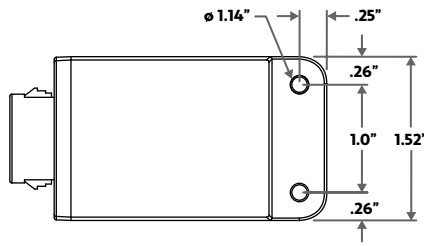
- 6 Touch the red probe to the fixture extrusion and the black probe to the white wire (D-), then the black wire (BS-). If a conductive path is formed between the extrusion and the other wires, the multimeter will beep, flash, or read 0Ω (ohms) of resistance. Troubleshoot to identify the malfunction in the line. If there is no conductive path, the multimeter will not show any feedback.



- 6 Set multimeter to DC voltage and test power source. Confirm the correct voltage before connecting fixture to power source. If the voltage reading is more than 1 volt greater than the marked output voltage, there is a problem with the power source or driver.
- 6 Connect fixture to power source via power connector. If LEDs do not turn on, flip the polarity (+/-) or power source connection to power connector.



### CASE DIMENSIONS



### SURGE PROTECTOR SPECIFICATIONS

Model	Input Voltage	Surge Protection Level	Mounting	Enclosure Material	Input Needs	Input Frequency
ALS-SP	120V - 277V	0kV, 10kA, ANSI C62.41 Category C	SnapLOCK / Footed	Polycarbonate	6", 18AWG stranded, 105°C stripped, 3/8" tinned	60Hz

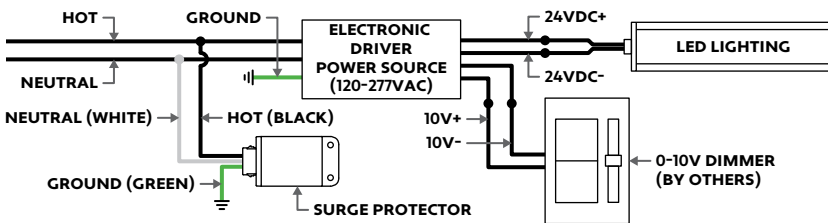
### PRODUCT FEATURES

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 IEEE C62.41.2 C High (10kA and 10kV). Surge current rating = 10,000 Amps using industry standard 8/20 Sec 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.

### 0-10V WIRING DIMMING DIAGRAM



### FORWARD / REVERSE PHASE DIMMING WIRING DIAGRAM

