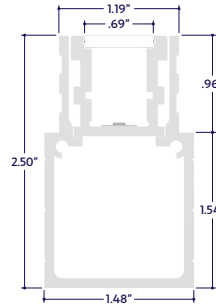


READ ENTIRE GUIDE BEFORE STARTING INSTALLATION

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

Applications	Accent, Decorative, Surface, Recess, Pendant Lighting
Lens	Clear, 50% Semi-Frosted, or 100% Frosted
Viewing Angle	120°
Length	Built to Order (+/- 1/8" Tolerance)
Construction	Aluminum Extrusion
Field Cutting	Not Field Cuttable
Weight	.444 lbs per foot
Mounting	Mounting Channel
Listing	IP67 Location UL2108, 671.9, 60.4, CSA C22.2 #9 UL8750, CSA250
Driver	Remote (Sold Separately)
Temperature Ratings	Operating / Startup: -20° to 48°C (-4° to 120°F) Storage: -40° to 76°C (-40° to 170°F)
Installation Link	

ELECTRICAL

Dimming	DMX, DALI
Maximum Run (Class 1 Applications)	26' (4.5W) 33' (3.6W)
Maximum Run (Class 2 Applications)	18' (4.5W) 23' (3.6W)
Luminaire Voltage	24VDC

PRODUCT INFORMATION

- For accent, decorative, surface, recessed, or pendant lighting.
- 24 Volts DC for easy and safe installation.
- Long life, energy efficient LEDs.
- Can be ordered to specific lengths for when exact dimensions are known
Example: 10 x 10'6"
- Plug and light system.
- Lead wires are typically 36" long and exit on one end.

ELECTRICAL REQUIREMENTS

- Luminaires require a 24 Volt DC remote driver.
- To calculate driver size, determine Watts per Foot.
Example: 4.5W per Foot
- Determine Length in Feet.
Example: 10'
- Calculate Load: Multiply Watts per Foot x Length in Feet
Example: 4.5W x 10' = 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 RECOMMENDATIONS

- Luminaires must be mechanically attached directly to mounting surface using mounting clips, channels, or other appropriate means. Refer to installation step by step pages for details.
- Conduit raceway should be sleeved at one end for low voltage wires going to driver.

INSTALLATION TOOLS REQUIRED

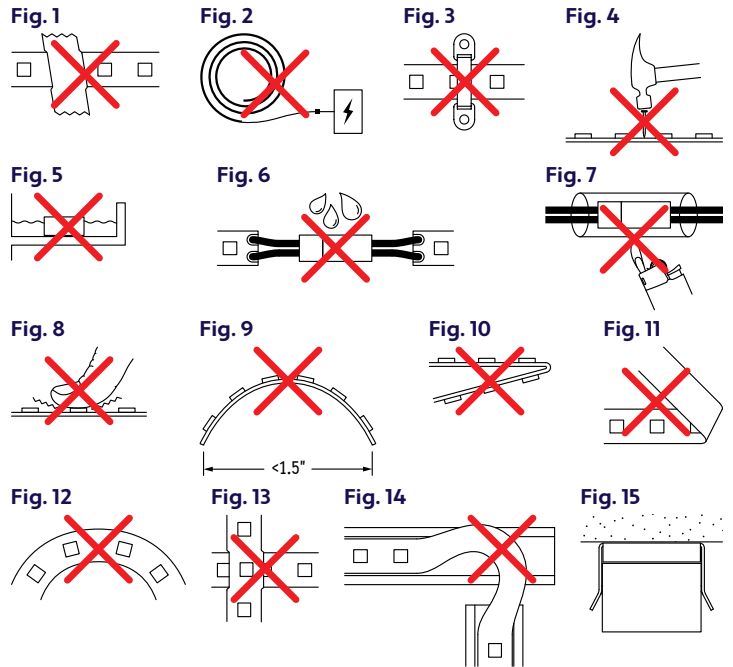
- Electric Hammer Drill
- 14.4 to 28 Volt Cordless Drill
- Phillips Bits
- Utility Knife
- Electrical Cord
- Marker
- Wire Stripper
- Long Nose Pliers
- Drill Bits - Concrete or Wood
- Electrical Three Ways
- Safety Glasses
- Measuring Tape
- Laser Line or Chalk Line

WARNING

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

- Ensure power is off before installation begins, during replacements, additions, or repairs.
- Do not use LED Lightstrip if damaged, such as broken boards, loose connections, or frayed wire insulation. Inspect before installing.
- Do not install LED Lightstrip in hazardous locations.
- Do not cover LED Lightstrip with any material, as it may cause LEDs to overheat, melt, or ignite. **(Fig. 1)**
- 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 LED Lightstrip in the field.
- Do not overlap LED Lightstrip luminaires in any way.
- Only use LED Lightstrip with specified rated voltages. Do not exceed the specified voltage for any LED Lightstrip luminaire.
- Do not use LED Lightstrip extrusion as a raceway for additional wire. Non-factory feed through wires inside LED Lightstrip will void warranty.
- Ground Fault Circuit Interrupter (GFCI) protections should be provided on circuits or outlets when LED Lightstrip is used for outdoor applications.
- Surge protector must be set up for electrical power system to avoid damaging LED Lightstrip lighting system.
- Do not connect wires together, follow provided wiring diagrams.
- Do not cut wire while energized.
- Do not connect LED Lightstrip to power source while spooled or coiled. **(Fig. 2)**
- Do not exceed maximum run lengths.
- Do not mount LED Lightstrip with staples, nails, or like means that might damage the insulation. Mount with double-sided tape and mounting clips.
- Do not install mounting clips over LED diodes. **(Fig. 3)**
- Do not penetrate LED Lightstrip with any foreign object. **(Fig. 4)**
- Do not mount LED Lightstrip inside tanks or enclosures of any kind.
- 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 mount fixture with less than the minimum number of mounting clips required. See mounting clips section for details.
- Do not force LED Lightstrip into a space that is too small.
- Do not force LED Lightstrip with cord grip into soffit.
- Do not install LED Lightstrip at an angle within a cove. Only install fixtures straight within a cove.
- Do not bend extrusion around radius.
- Do not submerge dry or wet location LED Lightstrip in any liquid.
- Do not install wet location in outdoor coves without proper drainage. **(Fig. 5)**
- Do not install LED Lightstrip in any area that is continuously exposed to flowing or pooling water, such as underneath drain pipes, sprinklers, fountains, misters, etc.
- Do not install connectors without shrink tube for wet location. **(Fig. 6)**
- Do not use a lighter or open flame to heat shrink tube. **(Fig. 7)**
- Do not cut, puncture, or penetrate LED Lightstrip aluminum housing, end caps, or lens covers.
- Do not drop, bang, or rest weight upon LED Lightstrip.
- Do not apply excessive pressure to any part of LED Lightstrip or LEDs. **(Fig. 8)**
- Do not bend LED Lightstrip 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. 1.5" minimum bend radius. **(Fig. 9)**
- Do not install LED Lightstrip in a zig zag fashion. **(Fig. 10)**
- Do not fold, crease, or twist LED Lightstrip. **(Fig. 11)**
- Do not bend lightstrip along a horizontal plane. **(Fig. 12)**
- Do not overlap LED Lightstrip at any location. **(Fig. 13)**
- Do not cross or overlap extrusions and twist lightstrip to overlap. **(Fig. 14)**
- Do not install LED Lightstrip 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 LED Lightstrip by the power cord.
- Do not install LED Lightstrip on ceilings without mounting clips. **(Fig. 15)**

FIGURES



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.

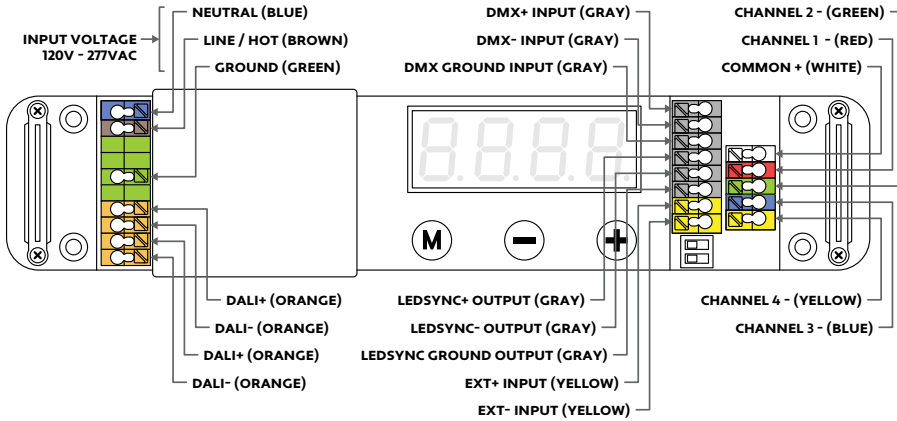
COMPATIBLE WITH POLYCARBONATE

- 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

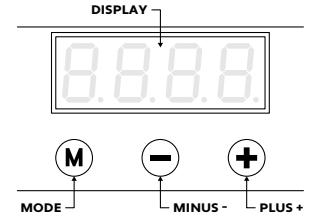
NOT COMPATIBLE WITH POLYCARBONATE

- 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

DIAGRAM OF DRIVER



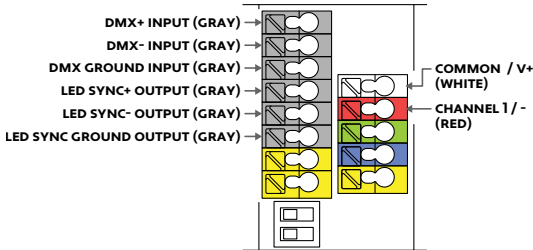
DIGITAL INTERFACE



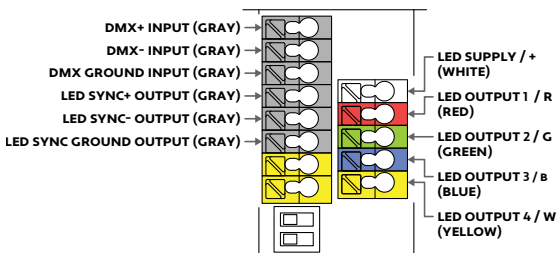
NOTES (DMX)

- Wire colors on diagram correspond to colors of driver terminals.
- Default DMX address of each luminaire is 001. Consult a third party DMX commissioner to modify at time of installation. ALUZ does not provide DMX commissioning.
- DMX Address must be set for each driver. Default DMX address is 001.
- A DMX Control System (by others) must be used to operate the lighting.
- The last driver in a daisy chain sequence must be terminated.
- Driver load not to exceed 100W.
- For best dimming performance, it is recommended to load drivers to a minimum of 50% (50W) and a maximum of 80% (80W).
- Up to 28 drivers may be daisy chained together using shielded cable specified for DMX wiring.
- Ensure DIP Switch 1 is set to ON (Left) to activate 24V operation.

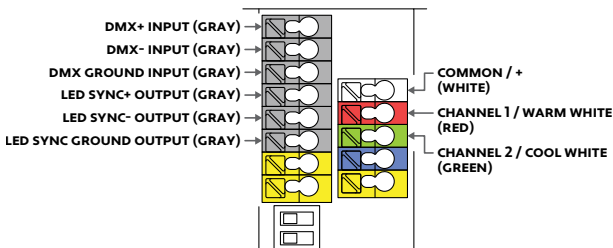
DMX Wiring: Static White



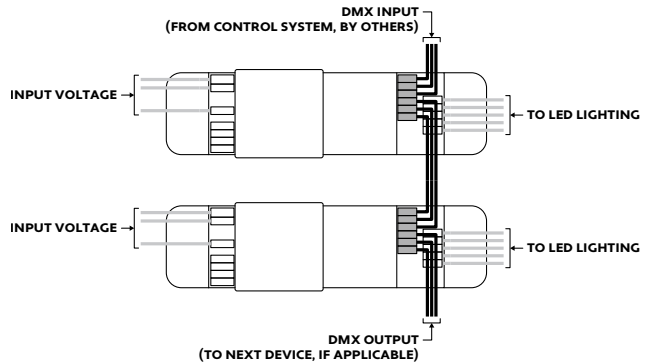
DMX Wiring: RGBW



DMX Wiring: Dynamic White (DWH)



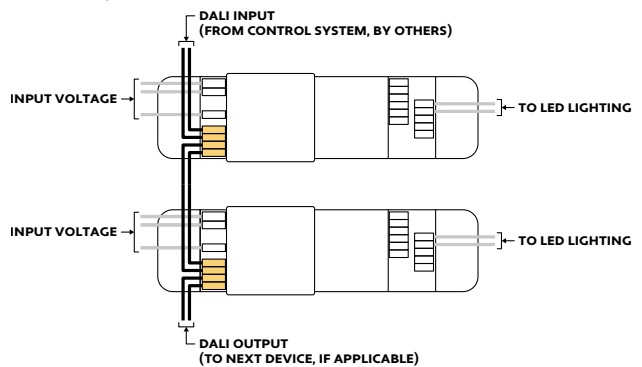
DMX Daisy Chain



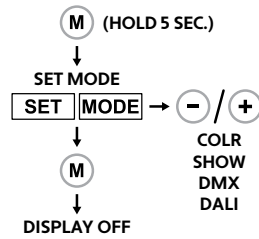
NOTES (DALI)

- Wire colors on diagram correspond to colors of driver terminals.
- DALI commissioning to be performed by a third party at time of installation. ALUZ does not provide DALI commissioning.
- DALI Address must be set for each driver.
- A DALI Control System (by others) must be used to operate the lighting.
- Driver load not to exceed 100W.
- For best dimming performance, it is recommended to load drivers to a minimum of 50% (50W) and a maximum of 80% (80W).
- Up to 28 drivers may be daisy chained together using shielded cable specified for DALI wiring.
- Ensure DIP Switch 1 is set to ON (Left) to activate 24V operation.

DALI Daisy Chain

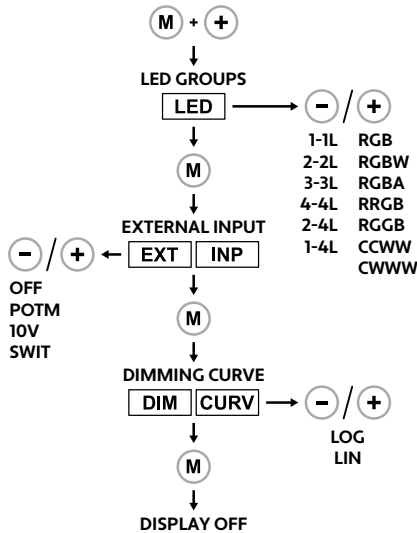


MODE OF OPERATION



- Set Mode to DMX or DALI

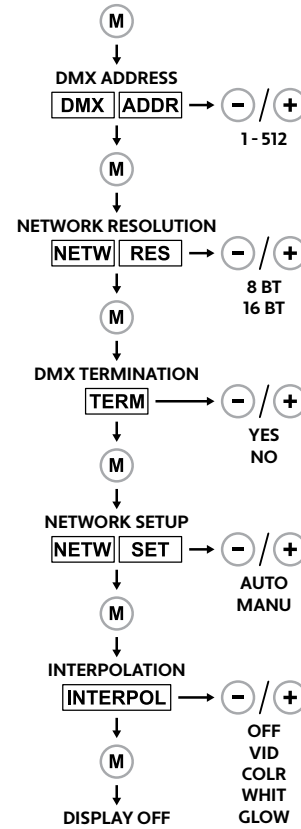
SET LED GROUPS



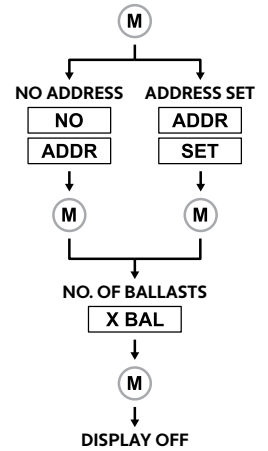
- Set LED Groups to RGBW for RGBW lighting.
- Set LED Groups to CCWW for Dynamic White lighting.
- Set External Input to OFF.
- Set Dimming Curve to Linear.

STANDALONE OPERATION (Network Operation)

Set DMX Address



Set DALI Address



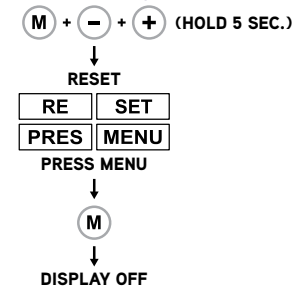
- Consult with a third-party DMX or DALI professional to determine which settings are best for your application. ALUZ does not provide DMX or DALI commissioning.

OTHER FUNCTIONS

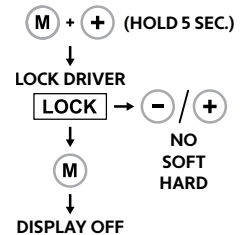
Visual Test



Reset Settings

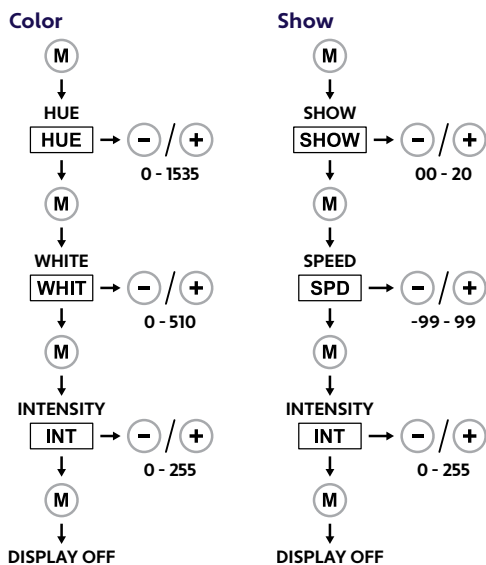


Lock Driver



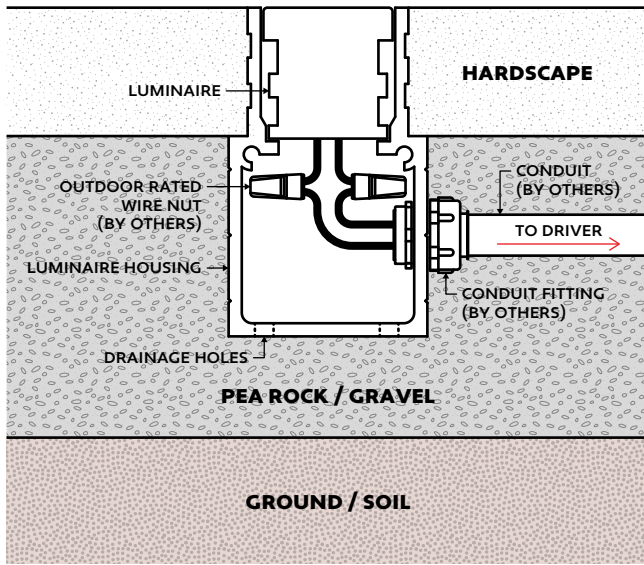
- Always perform the visual test function after wiring to ensure all channels are behaving appropriately.
- Reset driver to factory settings if necessary. It is recommended to reset each driver before adjusting settings for the first time.
- Lock driver if applicable (not recommended).

STANDALONE OPERATION (Color / Show)

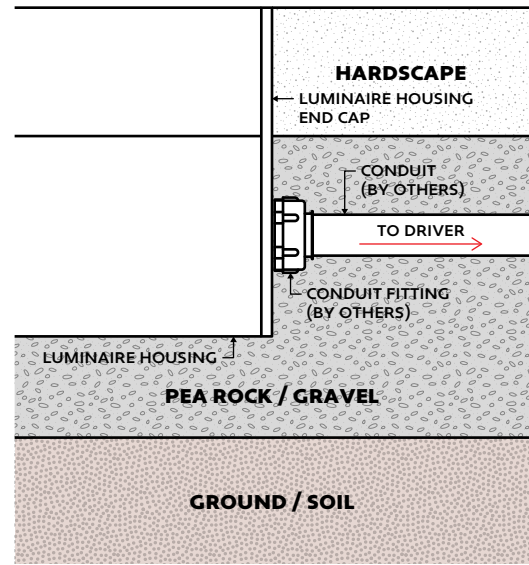


- Standalone Operation should only be used when a control system is not present to control the lighting (not recommended).

**DIAGRAM OF ASSEMBLY
 (Conduit Side Feed)**



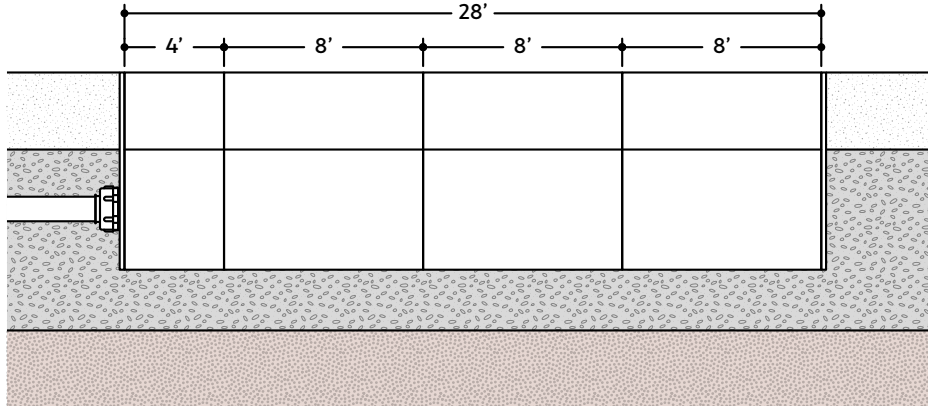
**DIAGRAM OF ASSEMBLY
 (Conduit End Feed)**



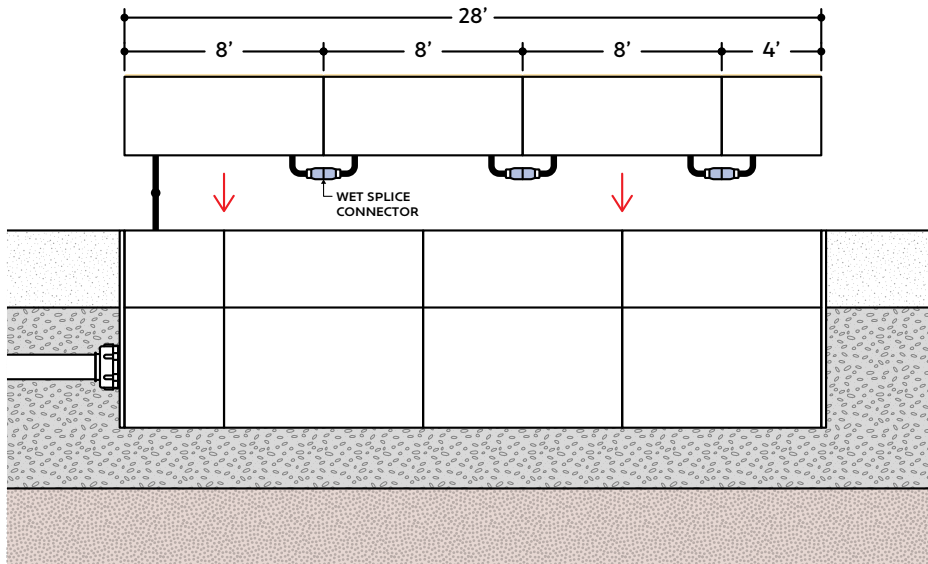
NOTES

- Conduit can enter the Luminaire housing through either the side or the end. Choose the entrance point that best suits your application.
- For Side Feed applications, use the v-groove on the side of the housing as a template for drilling holes.
- For End Feed applications, drill holes in the lower portion of the end cap.
- Refer to Step by Step instructions for additional details.

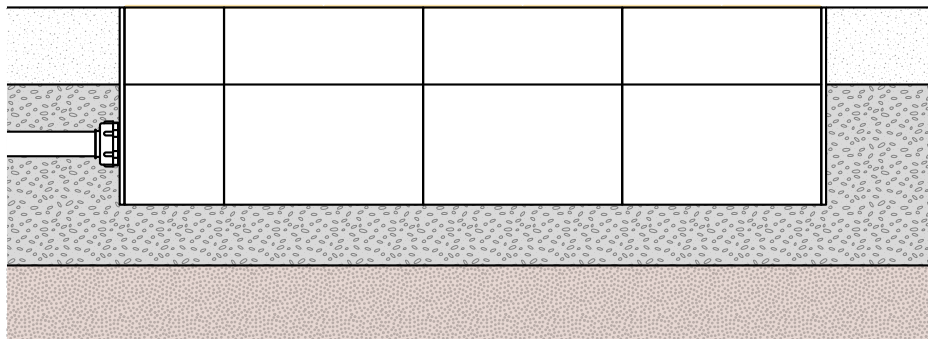
- The following steps illustrate how to arrange the Luminaire Housing in relation to the luminaire. Refer to Step by Step instructions on the following pages for installation details.
- Arrange Luminaire Housing per the below example. Arrange the lengths so that the luminaire overlaps where two segments meet.
Example: $28' = 4' + 8' + 8' + 8'$



- Arrange luminaires along mounted housing and make wiring connections. Connect each segment in sequence to the run.
Note: The seams where two luminaire segments meet are not at the same location where two housing segments meet.

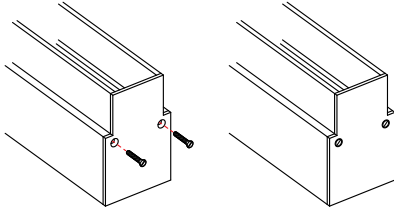


- Install luminaire into housing. Ensure the entire run fits in place and is flush with the surface.



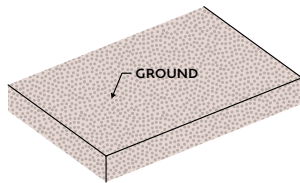
PREPARING LUMINAIRE HOUSING

- 1 Drill 1/4" holes in the bottom surface of each housing segment. Create at least 2 holes per foot, 1 on either side, and staggered throughout the length of the segment.
Note: Refer to Assembly Diagrams for details.
- 2 Test drainage capabilities by dumping water into housing and timing how fast it drains through the holes. Drill additional holes if more drainage is needed.
- 3 Lay luminaires along installation area in desired configuration. Measure the lengths and cut the housings to size accordingly.
- 4 Determine location of conduit feed point. The conduit may enter through the side of the housing or through the end cap. Drill holes as needed for conduit.
Note: Conduit size and fittings by others. Size and location to be determined by installer.
- 5 Install end caps to housings as needed using countersink screws.

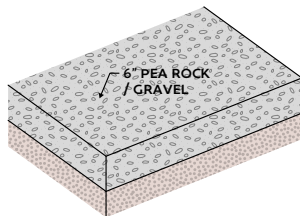


PREPARING INSTALLATION AREA

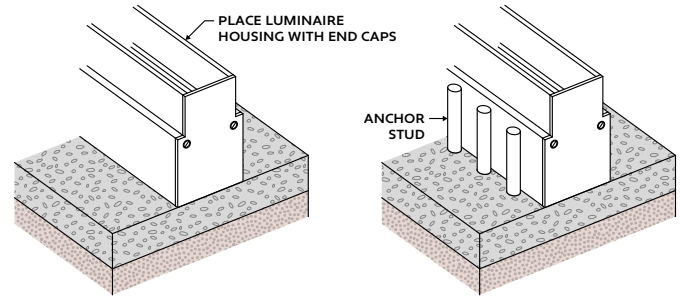
- 1 Prepare the ground surface for installation by ensuring it is evenly compacted and level throughout the installation area.



- 2 Pour at least 6" of pea rock or gravel evenly across entire installation area.



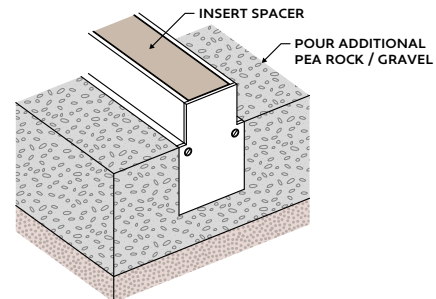
- 3 Lay housings in desired configuration and install anchor studs on both sides of the housing throughout the run.
Note: Size, style, and quantity of anchor studs (by others) to be determined by installer. Anchor studs must be sufficient to keep housing aligned and in place during installation process.



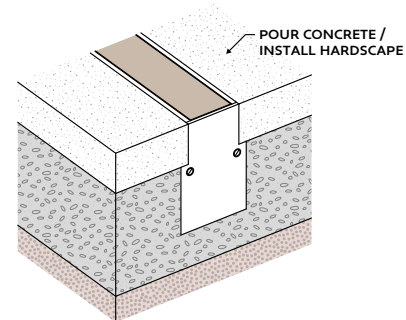
- 4 Once all housings are secured, dry fit the luminaire into the housing to ensure it fits properly. Make adjustments as needed and re-fit until it is precise. The luminaires should fit comfortably within the channel, with no significant gaps.

POURING CONCRETE & INSTALLING LUMINAIRE

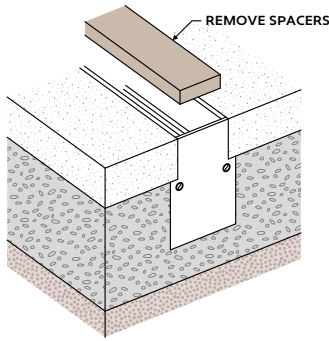
- 1 After all housings are secured, install form retention spacers inside the top portion of channel. Use at least 1 spacer per 2', then mask all visible features with tape. After spacers are installed, pour additional pea rock or gravel to the indicated level per the below diagram.
Note: Use scrap wood or a similar material to create spacers. Spacers help the channel retain its form while under pressure from the concrete pouring process.



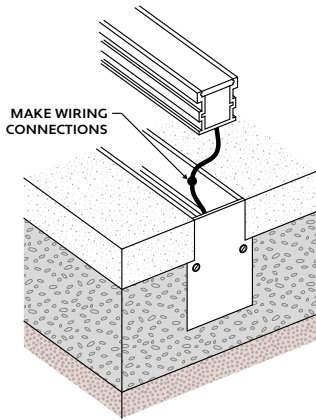
- 2 Pour concrete until it is level with the top of the assembly. Allow to dry completely before removing masking tape.



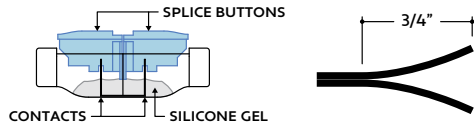
- 3 Remove masking tape, then remove spacers.



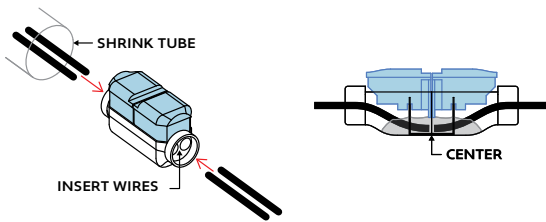
- 4 Lay luminaires along recessed housing and make wiring connections between luminaire segments.



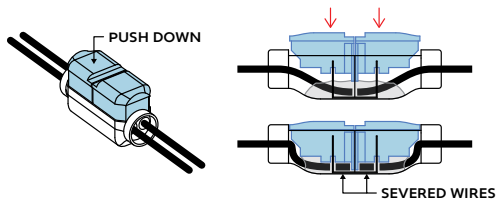
- a Slide shrink tube over wires and connector. Part wires 3/4" for insertion into the wet splice connector.



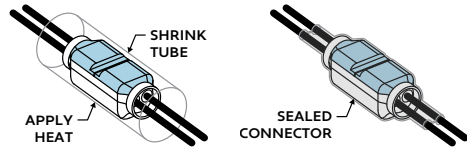
- b Push wires into connector until they stop at the center point. Repeat process for the other side.
Note: The positive wire (+) has a ribbed wire jacket, the negative wire (-) has a smooth wire jacket.



- c Use pliers to push splice buttons down completely until they sever the wire and snap into place.

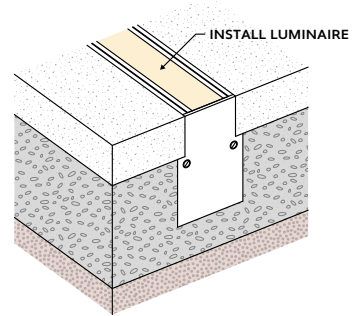


- d Slide shrink tube over connector and apply heat. The shrink tube will shrink down around the connector. Apply silicone around the ends to create a stronger seal.
Note: Do not use an open flame such as a lighter or torch to heat shrink tube.



- 5 Perform a continuity test before connecting to power source. Refer to **Continuity Test** for details.

- 6 Once luminaires are confirmed to be working, install into channels and power on to test the lighting.

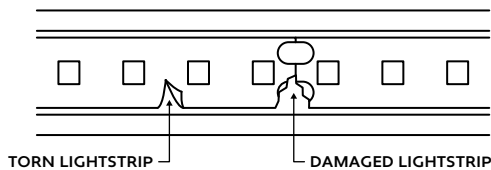


TROUBLESHOOTING TIPS

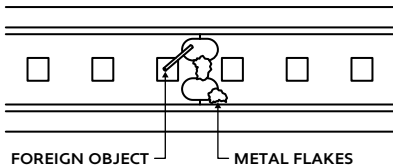
- Do not reset the breaker multiple times.
- If the unit is overloaded, the breaker will trip, shutting off the driver and lighting.
- If the breaker reset button has been held down by hand or any type of pressure, such as duct tape, or if the breaker has been reset multiple times without troubleshooting, 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 non-contact circuit tester (by others).

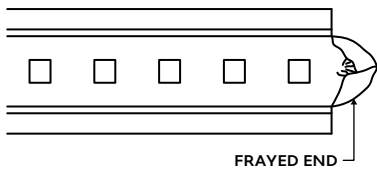
2 Check lightstrip for damage, such as cuts, punctures, twisting, or crushing. If there is excessive damage to the lightstrip, the lightstrip must be replaced.



3 Check the run for any particles that may cause a short. Check the end cap, power connector, and lightstrip 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 lightstrip cuts to ensure they are clean. Frayed, split, or sloppily cut lightstrip can cause the positive and negative contacts to touch, causing a short.



5 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”).

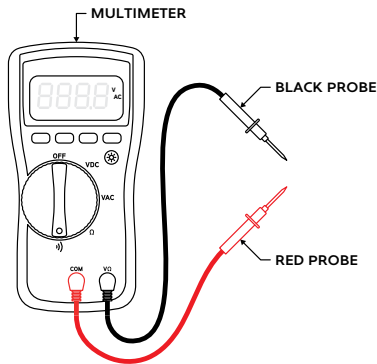
6 Check the run for any water inside end cap, power connector, and lightstrip. If water or condensation is has caused damage, the lightstrip must be replaced.

CONTINUITY TEST

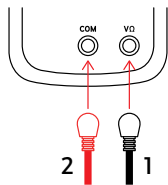
A continuity test is performed to determine if electricity can pass through two points on an electrical circuit. This helps identify shorts or malfunctions in the line or luminaire. Use a multimeter or continuity tester to perform the steps below.

- 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 luminaire will cause damage over time, irreparably damaging the lighting and voiding warranty.

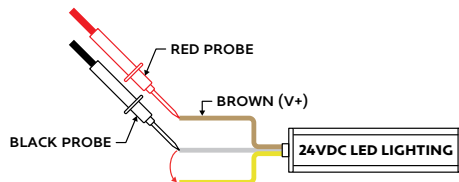
EXAMPLE OF MULTIMETER (BY OTHERS)



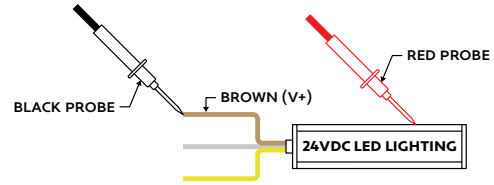
- 1 Turn off power before beginning. Verify power is off by using a non-contact circuit tester (by others). Touch the probe of the tester to the positive wire of the power source. The tester will light up if an electrical current is detected.
- 2 Setup your multimeter tester (by others). First, insert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



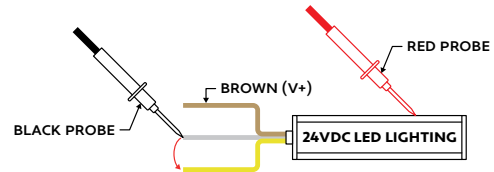
- 3 Verify multimeter is functional by touching probes together. The multimeter should beep, flash, or read 0Ω (ohms) of resistance.
- 4 Touch the red probe to the brown wire and the black probe to the white wire, then the yellow wire. If a conductive path is formed between the brown wire and any other 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.



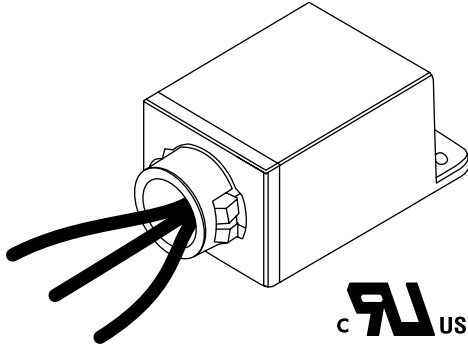
- 5 Touch the red probe to the luminaire extrusion and the black probe to the brown wire. If a conductive path is formed between the extrusion and the brown wire, the multimeter will beep, flash, or read 0Ω (ohms) of resistance. Troubleshoot to identify the malfunction in the line. If there is no conductive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



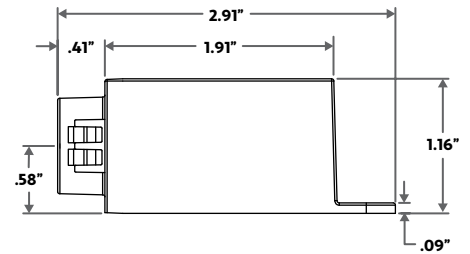
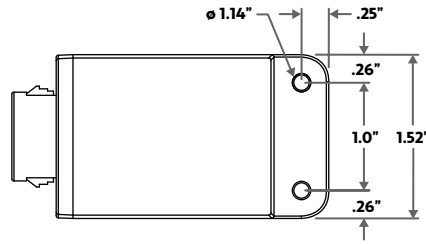
- 6 Touch the red probe to the luminaire extrusion and the black probe to the white wire, then the yellow wire. If a conductive path is formed between the extrusion and the other wires, the multimeter will beep, flash, or read 0Ω (ohms) of resistance. Troubleshoot to identify the malfunction in the line. 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 luminaire 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 luminaire 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

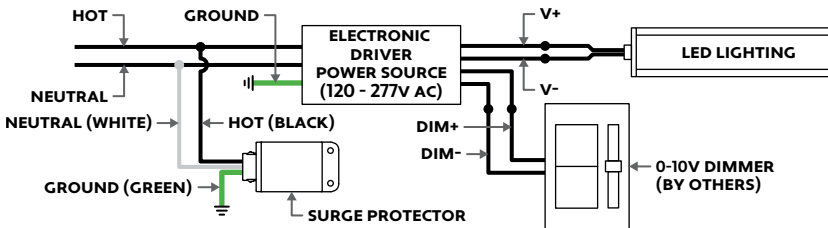
PRODUCT FEATURES

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

