



# TRAXON

## Allegro Dot M/L INSTALLATION GUIDE V2.2



Cover:  
Allegro Dot M/L Direct View  
Allegro Dot M/L Diffused View

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For your own safety and that of the product, please read this installation guide carefully before beginning setup and installation.

## SAFETY AND OPERATION



Please read through Safety and Operation before start of the installation.

1. CAUTION - Unplug the power supply from the mains power before connecting any cables as this can damage the products.
2. CAUTION - Avoid looking directly into the LED light source at close range for your own safety.
3. Persons installing this product should make sure:
  - a. The installation complies with all applicable codes, state and local laws, ordinances, standards and safety regulations.
  - b. The installation environment is carefully studied and suitable surge protection measure(s) is taken.
  - c. He or she is qualified for the handling of electrical equipment.
4. Do not attempt to install or use the product until installation instructions and safety labels are fully understood. This product is designed for indoor and outdoor use.
5. Ensure product operates within the specified temperature range. (Refer to 5. TECHNICAL SPECIFICATION for more details.)
6. Do not attempt to open the product. Not user serviceable.
7. Do not use the product if any part of it, or the power cables are damaged.
8. Only use product for specified voltage, do not exceed. (Refer to 5. TECHNICAL SPECIFICATION for more details.)
9. Always maintain connection to ensure waterproofing.
10. If the product has been subjected to drastic temperature variances, for example, following transportation, do not connect the fixture until it has reached room temperature, as moisture condensation may cause electric shock and product damages.
11. When installing the products and system power supplies, please ensure they will not be exposed to moisture and extreme heat (and direct sunlight for outdoor products). Besides, keep a clean operating environment for the fixtures and system power supplies.
12. Please study this Installation Guide thoroughly and check the latest Technical Specification Sheets available from the Traxon website [www.traxon-ecue.com](http://www.traxon-ecue.com) before setup.
13. Any non-compliance of the Installation Guide will void the Traxon warranty.

# 1. INTRODUCTION

## 1.1 General

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Allegro Dot is the next generation of intelligent media Allegro Dot family. The Allegro Dots are constructed on a flexible cable with customizable pitch. The Allegro Dots can provide advanced features and flexibility for lighting design and project execution.

The dots are single dot controllable by DMX, RDM, e:pix or Ethernet making this durable, scalable solution equally ideal for vivid accent, text, graphics, and video replay in installations of any size and complexity. Each string is connected via the Allegro Dot Pixel Distributor which can be easily configurable by RDM to form large installations.

The IP66 and IP67-rated, UV-resistant cover and aluminium casing make the Allegro Dot M/L suitable for a variety of outdoor applications.

Features:

- DMX512, RDM, e:pix and Ethernet Control
- Daisy Chain System
- Auto-Addressing
- Smart Junction Technology
- Outdoor Applications (Allegro Dot M/L IP66 & IP67; Pixel Distributor IP66; LED Engine IP67)
- Suitable for irregular surfaces, planes, and configurations
- Optional Diffuser Dome available

## 1.2 Dimensions

FIG.1: Allegro Dot M/L Direct View

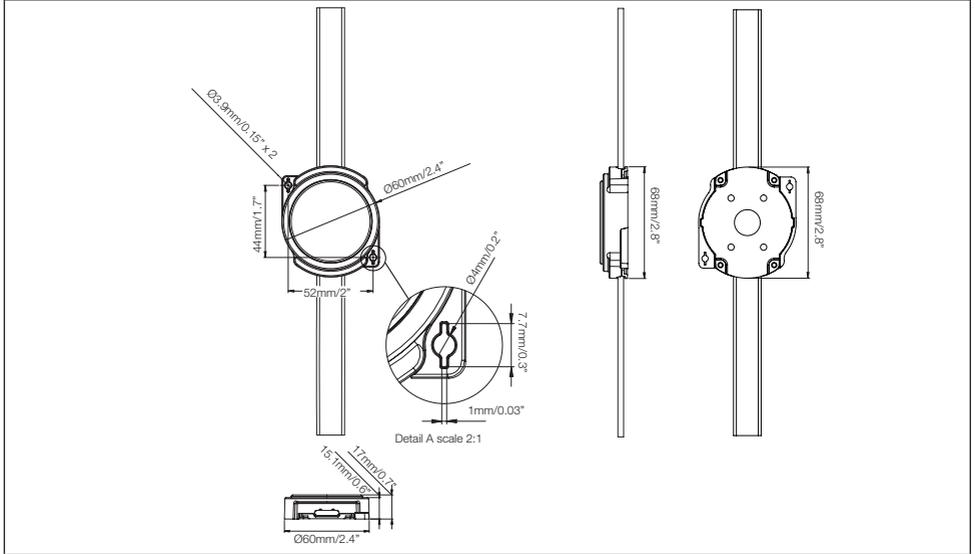


FIG.2: Allegro Dot M/L Diffused View

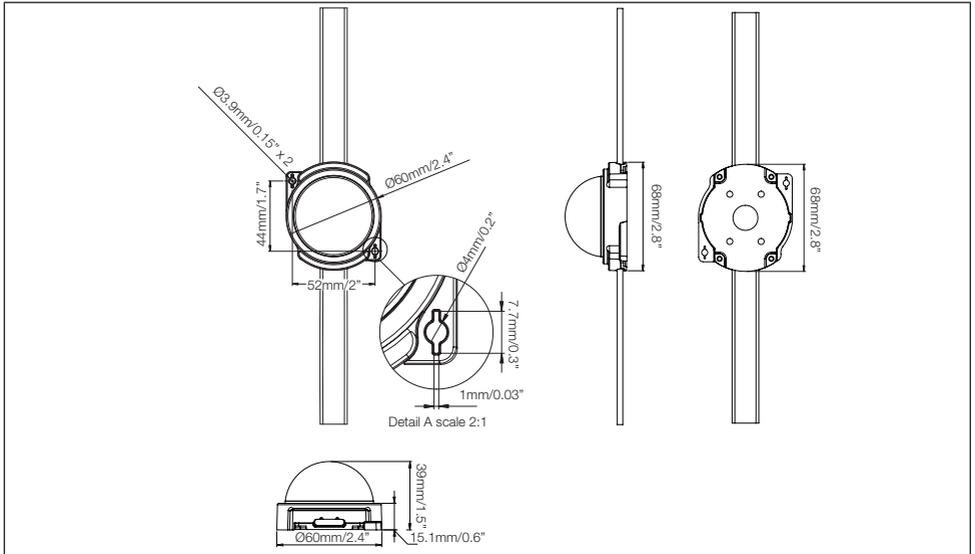
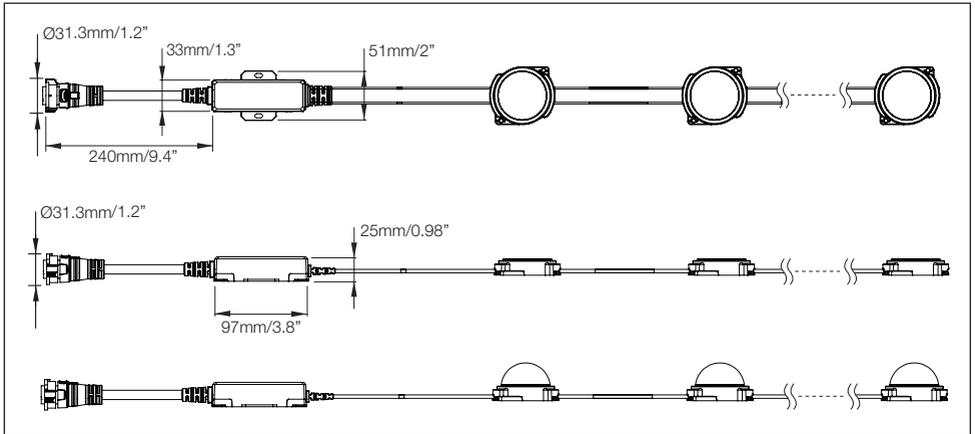
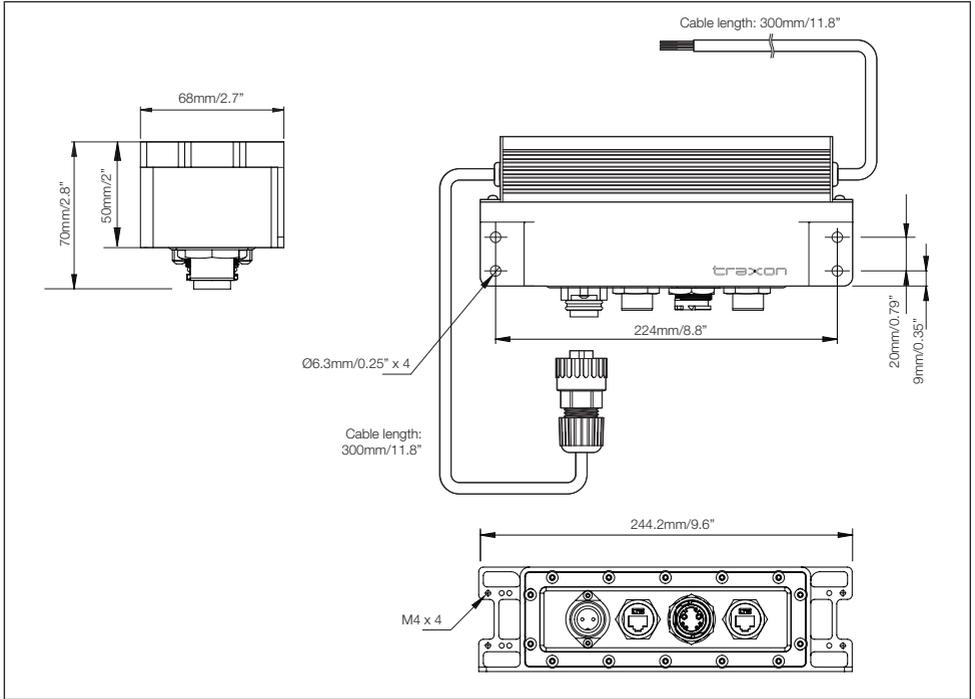


FIG.3: Allegro Dot M/L String



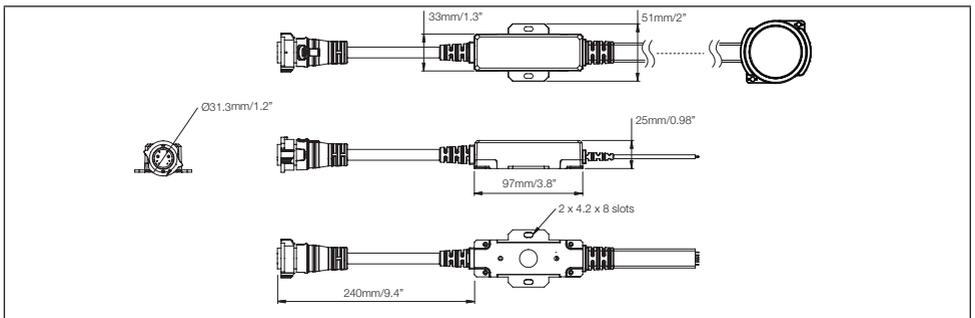
### 1.3 Pixel Distributor

FIG.4: Allegro Dot M/L Pixel Distributor



### 1.4 Smart Junction

FIG.5: Allegro Dot M/L Smart Junction



## 1.5 Packing Contents

FIG.6: Allegro Dot M/L Packing Contents

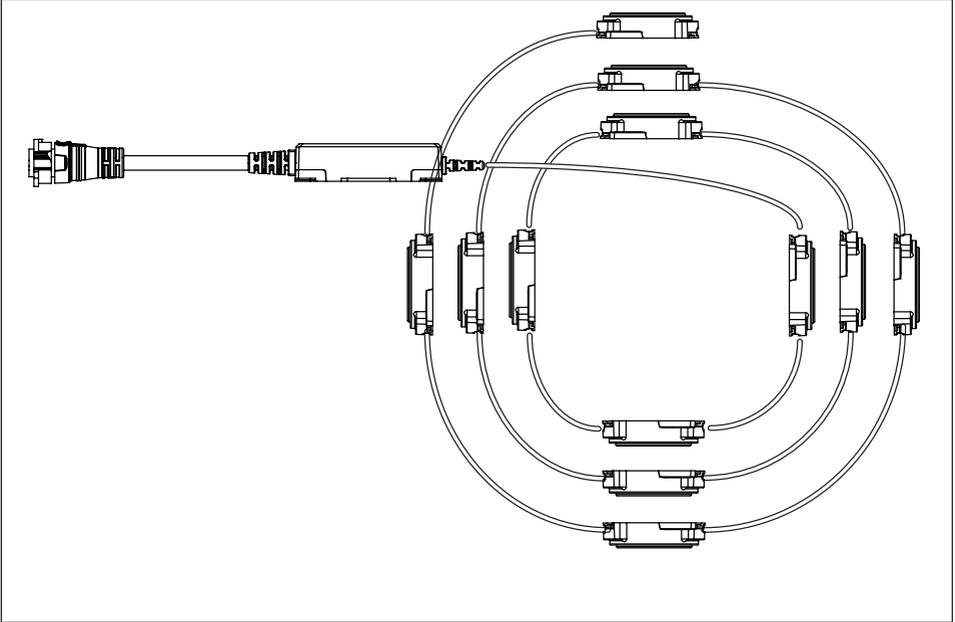
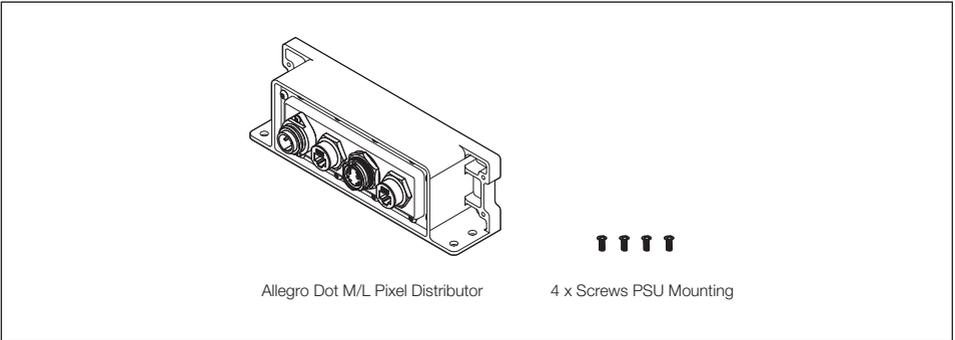


FIG.7: Allegro Dot M/L Distributor Packing Contents



## 2. INSTALLATION

### 2.1 Points To Consider

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Plan your installation before mounting any luminaires. The following should be considered for a successful installation.

- Weather conditions and ambient temperature of installation site.
- Appropriate cable lengths
- Adequate space for better heat dissipation (150mm apart) of LED Engines (see “2.3 On-Site Installation” on page 15).
- Appropriate anchor bolts where necessary to secure the Allegro Dot M/L.
- The number of Allegro Dot M/L and appropriate Pixel Distributors with LED Engines.
- Controller to be used to control the Allegro Dot M/L.

### 2.2 Pre-Installation Checks

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#### 2.2.1 Installation Checklist

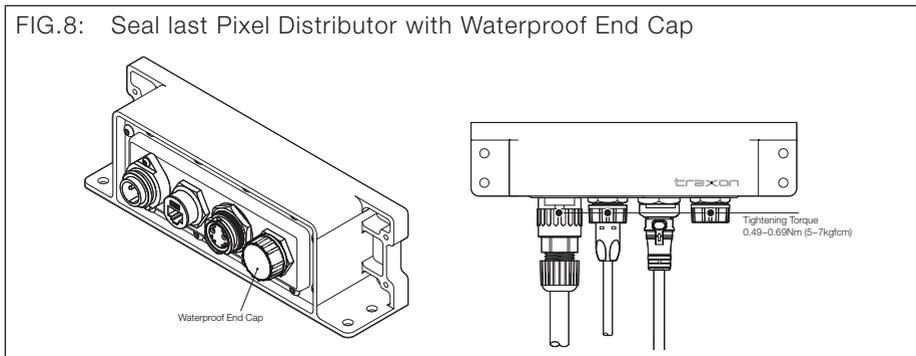
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1. Prepare cables and all necessary accessories.
2. Perform functional check of Allegro Dot M/L.
3. Ensure the DATA OUT connector on all Pixel Distributors are covered by the Waterproof End Cap after testing (see FIG.8 on page 10). Keep Waterproof End Caps safe for reuse.
4. Ensure all pre-installation checks laid out below have been followed.
5. Mount the Allegro Dot M/L on-site. If the installation is to be left uncompleted overnight, place all non-connected LED Engines, Pixel Distributors and Allegro Dot M/L in an indoor environment.

Ensure all the Connection Cables, Allegro Dot M/L with LED Engines and Pixel Distributors are initially stored in a dry area to guarantee the complete sealing of the system from water before installation.

Connector should be properly connected with cable connectors and the DATA OUT of the last Pixel Distributor should be covered by its Waterproof End Cap to ensure IP66/67 rating.

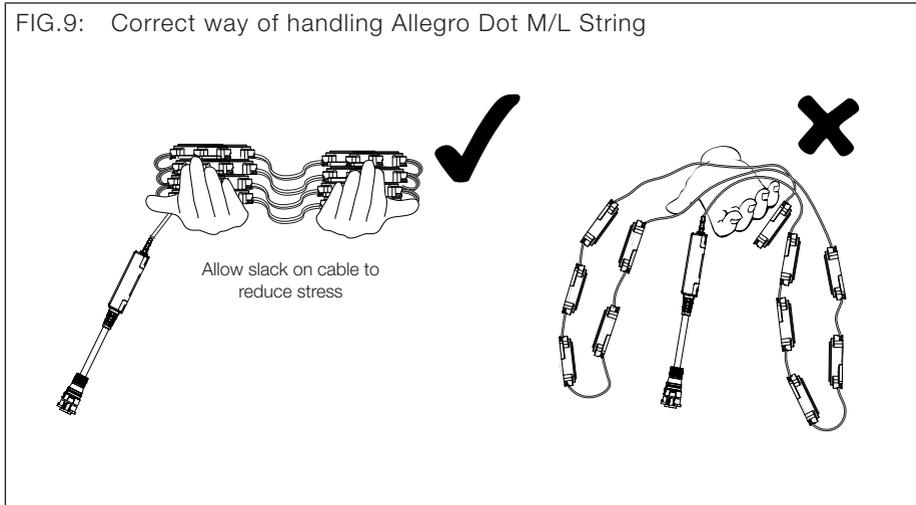
FIG.8: Seal last Pixel Distributor with Waterproof End Cap



## 2.2.2 Handling The Allegro Dot M/L String

When transporting or preparing the Allegro Dot M/L string, please handle with care. To reduce stress on cables, carry by the Allegro Dots and not the cable during transit.

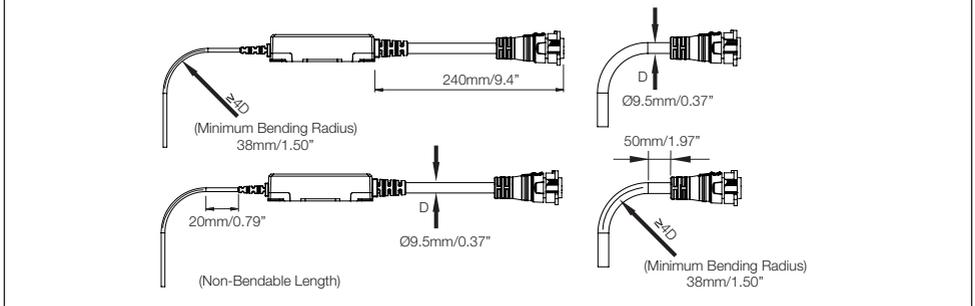
FIG.9: Correct way of handling Allegro Dot M/L String



## 2.2.3 Requirements Of Cable Bending And Twisting

Please take EXTRA precautions before bending or twisting Allegro Dot M/L cable. Quick Lock Lead Cable must NOT be bent below the Minimum Bending Radius (4x Cable Diameter) and the Non-Bendable Length of 50mm near the connector end or near the cable overmold MUST be adhered to.

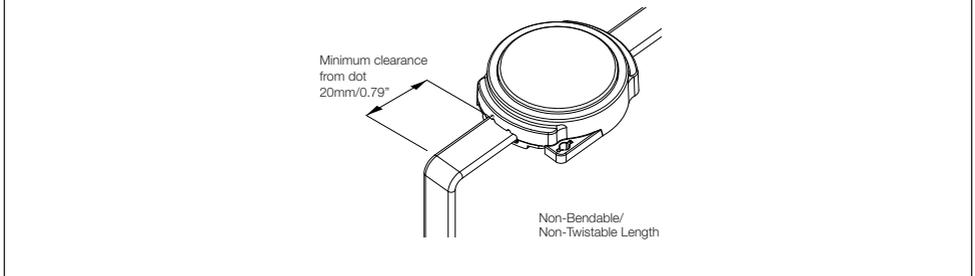
FIG.10: Minimum Cable Bending and Non-Bendable Length Requirement



The flat Allegro Dot M/L Cable must NOT be bent/twisted below 20mm (0.79") from edge of Allegro Dot housing (Non-Bendable/Non-Twistable Length).

Twisting the flat cable is NOT recommended. If twisting is necessary for installation, please adhere to the above Non-Twistable Length and ensure the mounting pitch is greater than or equal to 75% of the normal Allegro Dot to Allegro Dot pitch. The middle part of the cable must be secured to the mounting fixture with a cable tie (see "2.3 On-Site Installation" on page 15 and FIG.17 on page 17). Ensure no damage is generated on the cable.

FIG.11: Minimum Clearance

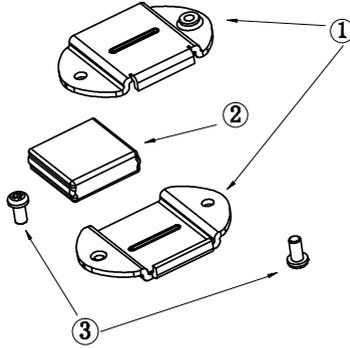


NOTE: Water ingress incurred due to excess cable bending/twisting will not be under warranty by Traxon Technologies.

## 2.2.4 Optional Field-Cut End Cap

End Cap contains the following packing contents:

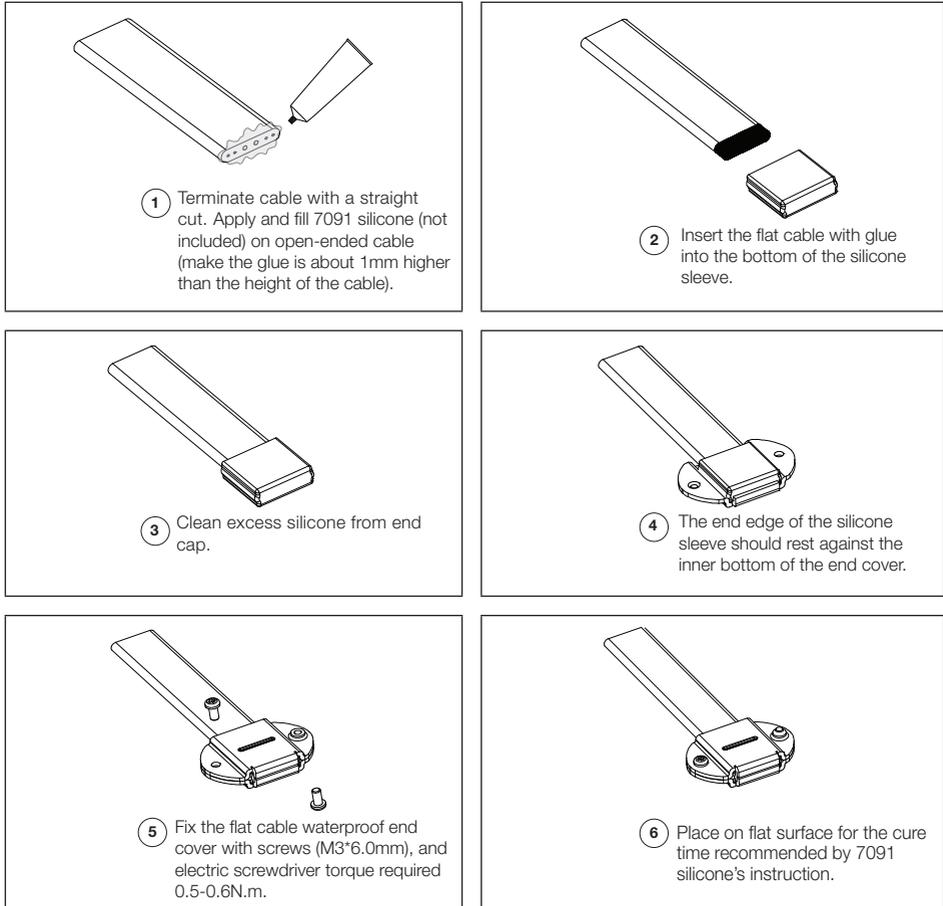
FIG.12: The packing contents included in End Cap



Allegro Dot M/L End Cap (AM355000055, AL DOT M/L FIELD CUT END CAP)	
1	2x End Cover
2	Silicone Sleeve
3	2x Screws (M3*6.0mm)

To prematurely end the length of a string of Dots, the optional Field-Cut End Cap should be used with DOW CORNING 7091 Silicone Sealant applied on open-ended cable. This should be done at least 1-2 days at Room Condition (Temperature: 22°C & Relative Humidity: 50%RH) before on-site installation to allow curing of silicone.

FIG.13: Field-Cut Sealing Procedures



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## 2.2.5 Installation Sequence

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1. Plan for any possible bending of cables (refer to “2.2.3 Requirements Of Cable Bending And Twisting” on page 11).
2. Always keep the Waterproof End Cap on the Pixel Distributors or keep them safe in a container for reuse.
3. Connect Allegro Dot M/L with LED Engines and Pixel Distributors in the daisy-chain manner outlined in the System Diagram to form large installations.
4. Perform functional check on all Allegro Dot M/L and inspect cables for any damage. Check for any abnormalities with the signal.
5. Report any functional defect found to your nearest Traxon Technologies office. DO NOT attempt to install Allegro Dot M/L with functional defects on-site.

## 2.3 On-Site Installation



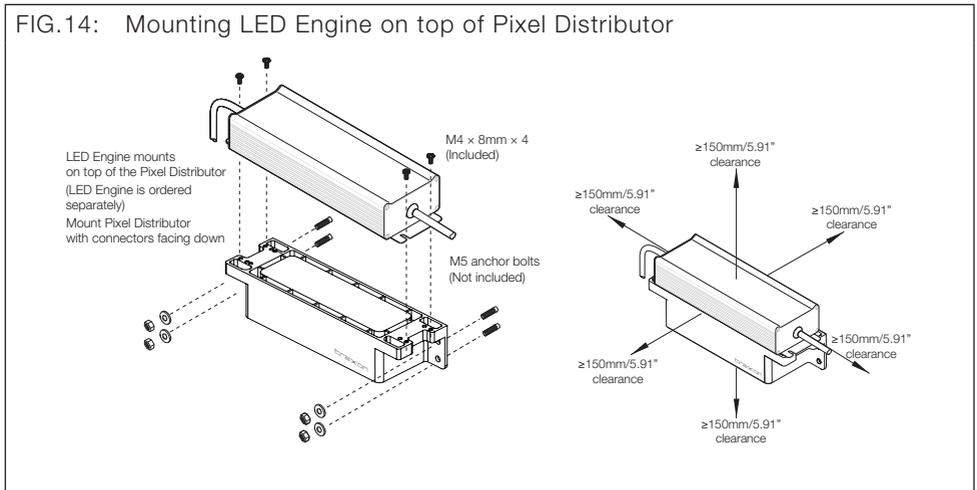
- DO NOT attempt installation in wet or severe weather conditions.
- DO NOT leave and expose any Allegro Dot M/L, Pixel Distributor or LED Engine unconnected under wet/raining or snowing environment.
- Ensure all the cable connectors of Allegro Dot M/L are removed from the Pixel Distributors before installing.
- DO NOT pull on cable of Allegro Dot M/L. IP failure induced by stressed/damaged cables during or after installation will not be under warranty by Traxon Technologies.
- ALWAYS keep the cables protected from sharp objects and ensure no damage is generated on the cable.
- Failure to keep Allegro Dot M/L within the operating temperature range of  $-30^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$  ( $+50^{\circ}\text{C}$  for North America),  $-22^{\circ}\text{F}$  to  $+140^{\circ}\text{F}$  ( $+122^{\circ}\text{F}$  for North America), and storage temperature range of  $-40^{\circ}\text{C}$  to  $70^{\circ}\text{C}$  ( $-40^{\circ}\text{F}$  to  $158^{\circ}\text{F}$ ) will void the product's warranty.

### 2.3.1 Mounting LED Engine

1. Fix LED Engine on top of Pixel Distributor with included M4 screws.

NOTE: Keep adjacent LED Engines and Pixel Distributors a minimum 150mm (5.91") apart for better heat dissipation.

FIG.14: Mounting LED Engine on top of Pixel Distributor

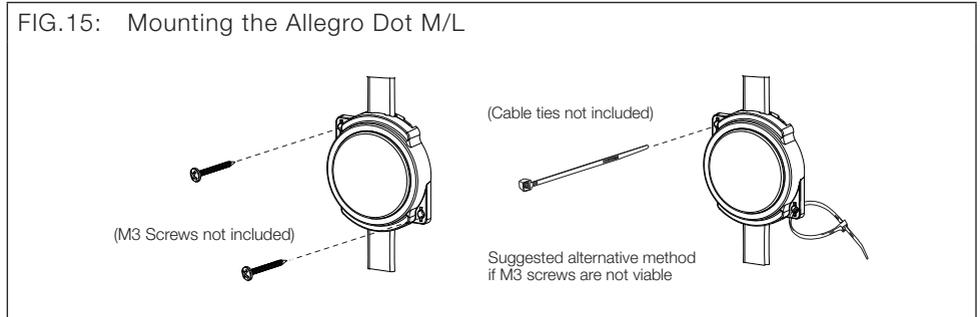


2. Mount the Pixel Distributor with 4 x M5 Anchor Bolts (not included). Recommended orientation is with connectors facing DOWN (see above diagram).

### 2.3.2 Mounting Allegro Dot M/L

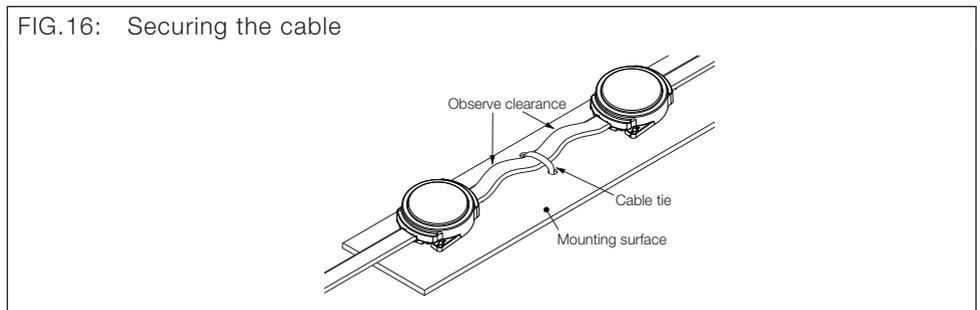
1. Allegro Dot M/L must be mounted without any stress induced at the boundary area of the cable and Allegro Dot.
2. Allegro Dots MUST be mounted to the installation surface via the mounting holes, either by screw or cable tie.

FIG.15: Mounting the Allegro Dot M/L



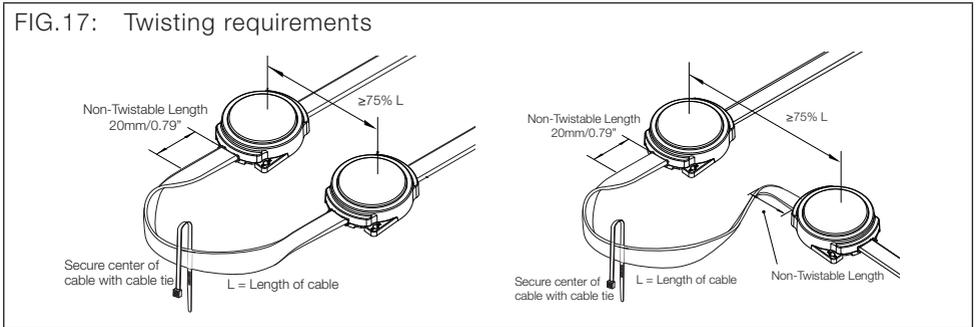
3. Cable segment must not be bent below 20mm from the housing of the Allegro Dot M/L and cable overmold (Minimum Bending Length).
4. Secure the cables between Allegro Dot M/L (every 500mm, using cable tie) and create a small clearance beneath the cable (see below diagram). Ensure no damage is generated on the cable.

FIG.16: Securing the cable



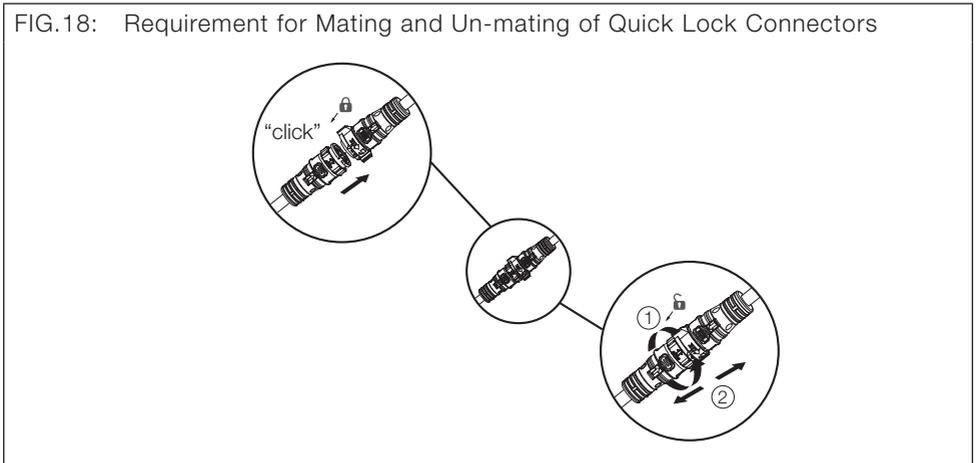
5. If the cable between Allegro Dot M/L requires twisting due to a change in mounting direction, ensure the mounting pitch after-twisting is more than or equal to 75% of the normal Dot to Dot pitch.

FIG. 17: Twisting requirements



6. For the interconnection among Allegro Dot by the Quick Lock Connectors, please refer to the following picture:

FIG. 18: Requirement for Mating and Un-mating of Quick Lock Connectors



### 3. SYSTEM CONFIGURATION

FIG.19: System Diagram – e:net connection

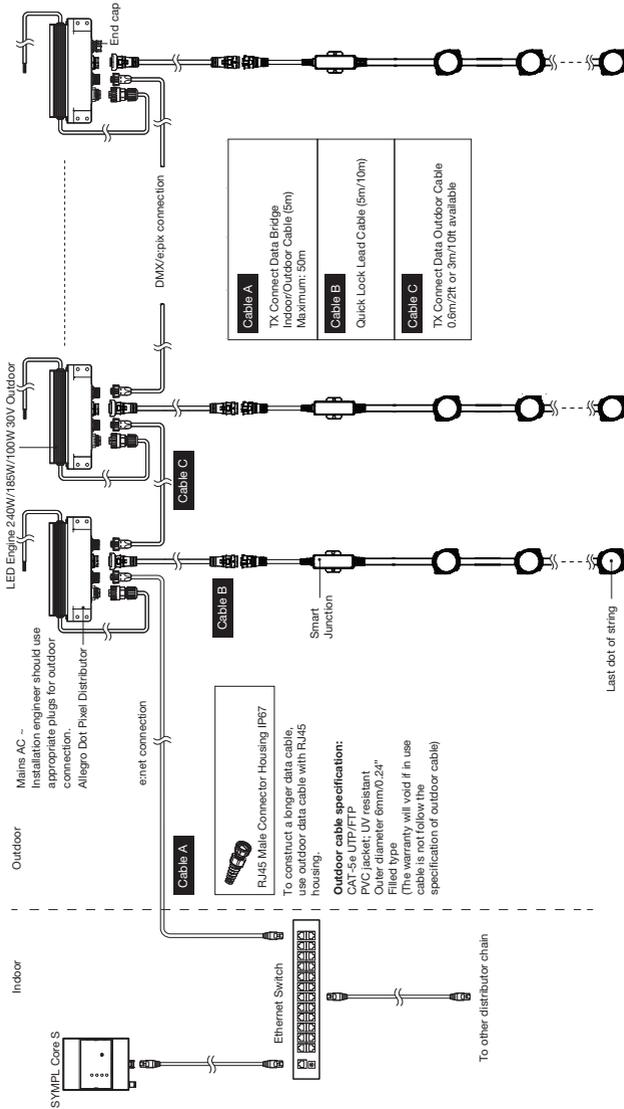
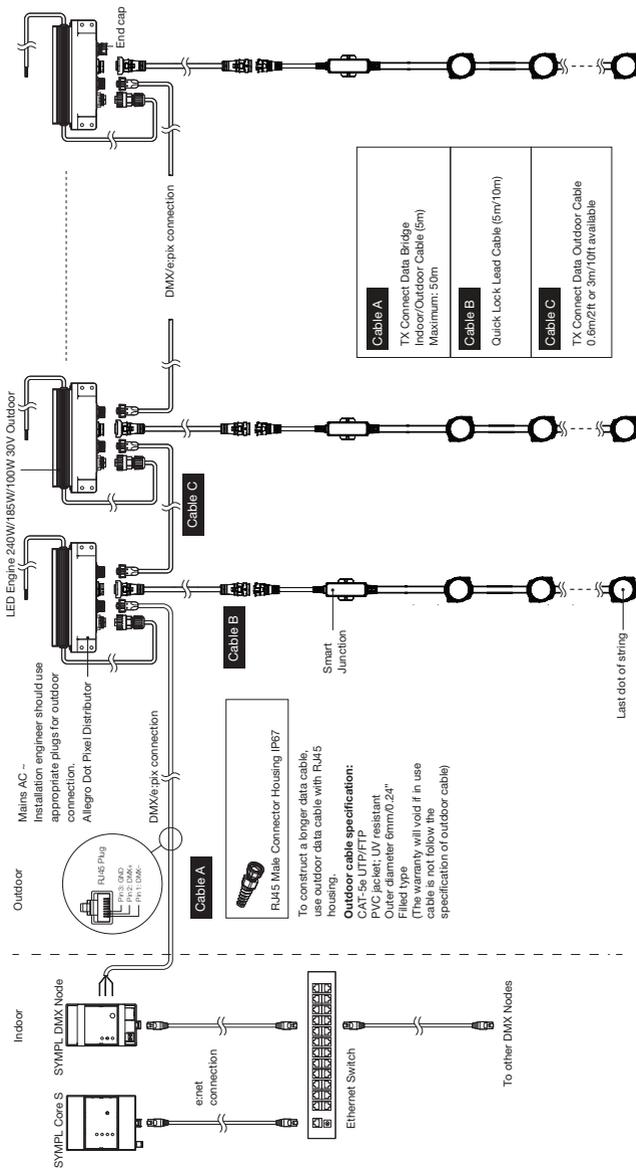


FIG.20: System Diagram – SYMPL DMX/e:pix node



## 4. CARE AND MAINTENANCE

Traxon™ products are of superior design and quality and should be treated with care. The recommendations below will help fulfill any warranty obligations and gain good use and longevity from the products.

- Do not attempt or use the product(s) until you read and understand the installation instructions. Failure to adhere to these instructions could result in serious injury or property damage.
- Do not use product(s) if cables are damaged.
- Do not connect cables and connectors when wet or in wet area. Moisture on bare connectors can cause electric shock and damage to product(s).
- Do not use product(s) in extreme heat environment. Ensure there is sufficient airflow and use cool air circulation if required.
- Do not drop, knock, or shake product(s). Rough handling can damage the electronics and void the warranty.
- Do not use harsh chemicals, cleaning solvents, or strong detergents to clean products. Wipe with a damp cloth on housings and a dry cloth on electronics to remove dirt or dust.
- Do not attempt to service or repair the product(s) unless done by an authorized service personnel. Contact your local Traxon office or distributor for details.
- If the product is not working as specified, please contact your nearest authorized service center or Traxon Technologies office for assistance.

## 5. TECHNICAL SPECIFICATION

Model	Allegro Dot M Direct View	Allegro Dot M Diffused View	Allegro Dot L Direct View	Allegro Dot L Diffused View
<b>Color Range:</b>	16.7 Million additive RGB colors, white CCT 6500K			
<b>Light Source:</b>	RGB: 6 RGB LEDs RGBW: 6 RGB LEDs + 3 White		RGB: 9 RGB LEDs RGBW: 9 RGB LEDs + 3 White	
<b>Beam Angle:</b>	110°	150°	110°	150°
<b>Power Input:</b>	30V DC			
<b>Power Consumption<sup>1</sup>:</b>	RGB: 2W RGBW: 2W		RGB: 2.5W RGBW: 3W	
<b>Weight (Dot):</b>	80g	90g	80g	90g
<b>Weight (Pixel Distributor):</b>	670g			
<b>Operating Temperature:</b>	-30°C to +60°C/-22°F to +140°F -30°C to +50°C/-22°F to +122°F (for North America)			
<b>Storage Temperature:</b>	-40°C to +70°C/-40°F to +158°F			

### 1. Measurement per dot.

As with all electronic devices, LED output degrades over time - a term called lumen depreciation. This also explains why it is nearly impossible to expect photometric performances of two LED products with different service life spans to be the same. The rate of LED degradation is a complex function of many factors such as operating efficiency, duration of continuous operation, and operating conditions (e.g. ambient temperature).

Because LEDs are semiconductor devices, their performances are subject to inherent variability commonly found in semiconductor industry. To improve consistency in performance across the same product, LED manufacturers “sort” LEDs into bins according to different preset parameters, such as forward driving voltage, illumination, etc. Whereas binning is a sorting function, it is not a correction process. Inherent variability in the manufacturing process always results in different binning distributions according to different production lots. Traxon uses automatically binned LEDs on its products, thereby minimizing output variations within the model range.

## 6. TROUBLESHOOTING



CAUTION: Ensure power supply is OFF when disconnecting / connecting cables.

Problem	Cause	Possible Solutions
Product does NOT light up after installation	Incorrect power connection	<ul style="list-style-type: none"><li>• Check Mains Power</li><li>• Check power supply leads and wire connections</li><li>• Ensure output wires are connected with proper polarity</li></ul>
Shadowing	Light source covered	<ul style="list-style-type: none"><li>• Adjust pitch between Allegro Dot M/L strings</li><li>• Check for cables, wires or unwanted debris covering LED light source</li></ul>
Modules are dim	Excess products connected	<ul style="list-style-type: none"><li>• Ensure the power supplies are not overloaded due to an excess of products connected</li></ul>
Flickering	Incorrect power input/ Excess products connected	<ul style="list-style-type: none"><li>• Ensure the input voltage is correct</li><li>• Ensure the power supplies are not overloaded due to an excess of products connected</li></ul>

If problems persist or the product is not working as specified, please contact your nearest authorized service center or Traxon Technologies office for assistance.

## 7. WARRANTY STATEMENT

Traxon Technologies warrants its Products against material or workmanship defects for a period of five (5) years from date of purchase, provided that the purchased items are used under the conditions stated in this user manual.

Please refer [www.traxon-ecue.com](http://www.traxon-ecue.com) for all warranty terms and conditions.



# TRAXON

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[www.traxon-ecue.com](http://www.traxon-ecue.com)