

ARCHISHAPE® Media Tube

INSTALLATION GUIDE

V1.0



Cover:

ARCHISHAPE® Media Tube RGBW

ARCHISHAPE® Media Tube RGB

ARCHISHAPE® Media Tube DW

ARCHISHAPE® Media Tube Mono

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

1. INTRODUCTION

1.1 General

ARCHISHAPE® Media Tube Diffused View	Length (mm)	Maximum number of pixels (PXL)
AS Media Tube RGBW 1000 10PXL DF R	1000	10
AS Media Tube RGBW 500 5PXL DF R	500	5
AS Media Tube RGBW 300 3PXL DF R	300	3
AS Media Tube RGB 1000 10PXL DF R	1000	10
AS Media Tube RGB 500 5PXL DF R	500	5
AS Media Tube RGB 300 3PXL DF R	300	3
AS Media Tube DW 1000 10PXL DF R	1000	10
AS Media Tube DW 500 5PXL DF R	500	5
AS Media Tube DW 300 3PXL DF R	300	3
AS Media Tube 830 1000 ONOFF DF R	1000	N/A
AS Media Tube 830 500 ONOFF DF R	500	N/A
AS Media Tube 830 300 ONOFF DF R	300	N/A
AS Media Tube 865 1000 ONOFF DF R	1000	N/A
AS Media Tube 865 500 ONOFF DF R	500	N/A
AS Media Tube 865 300 ONOFF DF R	300	N/A

ARCHISHAPE® Media Tube Direct View	Length (mm)	Maximum number of pixels (PXL)
AS Media Tube RGBW 1000 10PXL CR	1000	10
AS Media Tube RGBW 500 5PXL CR	500	5
AS Media Tube RGBW 300 3PXL CR	300	3
AS Media Tube RGB 1000 10PXL CR	1000	10
AS Media Tube RGB 500 5PXL CR	500	5
AS Media Tube RGB 300 3PXL CR	300	3
AS Media Tube DW 1000 10PXL CR	1000	10
AS Media Tube DW 500 5PXL CR	500	5
AS Media Tube DW 300 3PXL CR	300	3

ARCHISHAPE® Media Tube fits into any wall, façade or media lighting application with tight installation space, while the wide beam angle output and 10-pixels-per-meter ensures a smooth illumination experience. This greatly simplifies the lighting installation for building façades, media applications, bridges and more.

Features:

- Available lengths: 300mm (3PXL), 500mm (5PXL), and 1000mm (10PXL)
- Diffused view and direct view
- Three color options: RGBW, RGB, DW (2700K - 6500K), Mono
- DMX512 or ON / OFF
- Daisy Chain System with quick lock connectors
- Outdoor Applications

1.2 Dimensions

FIG.1: ARCHISHAPE® Media Tube Direct View

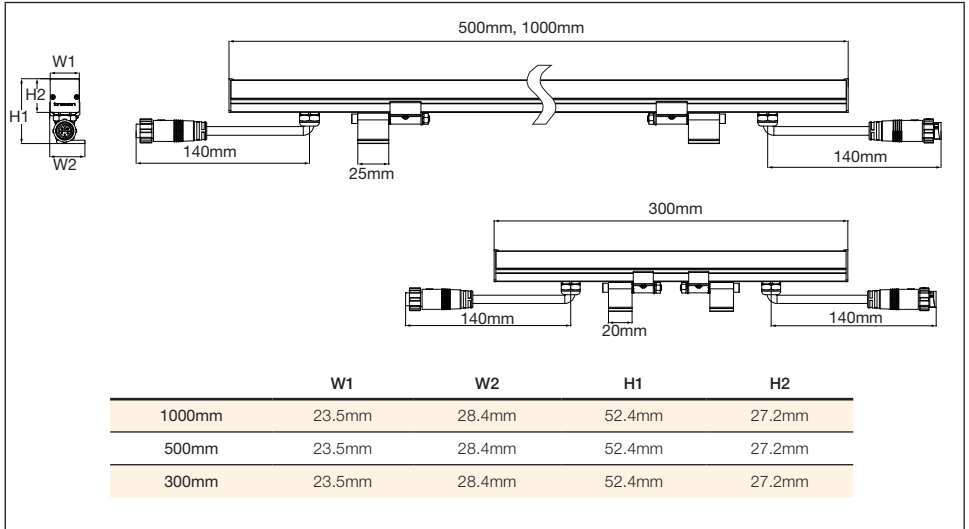


FIG.2: ARCHISHAPE® Media Tube Diffused View

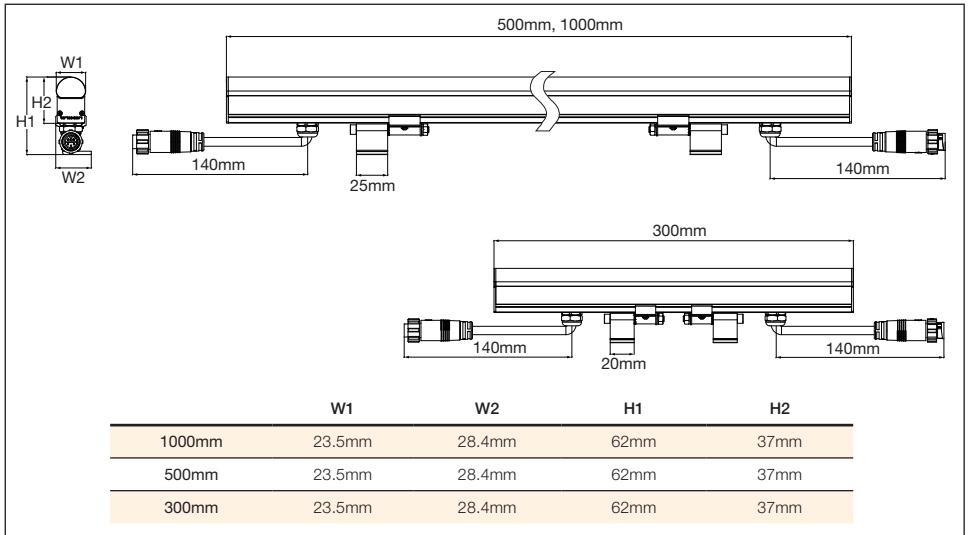
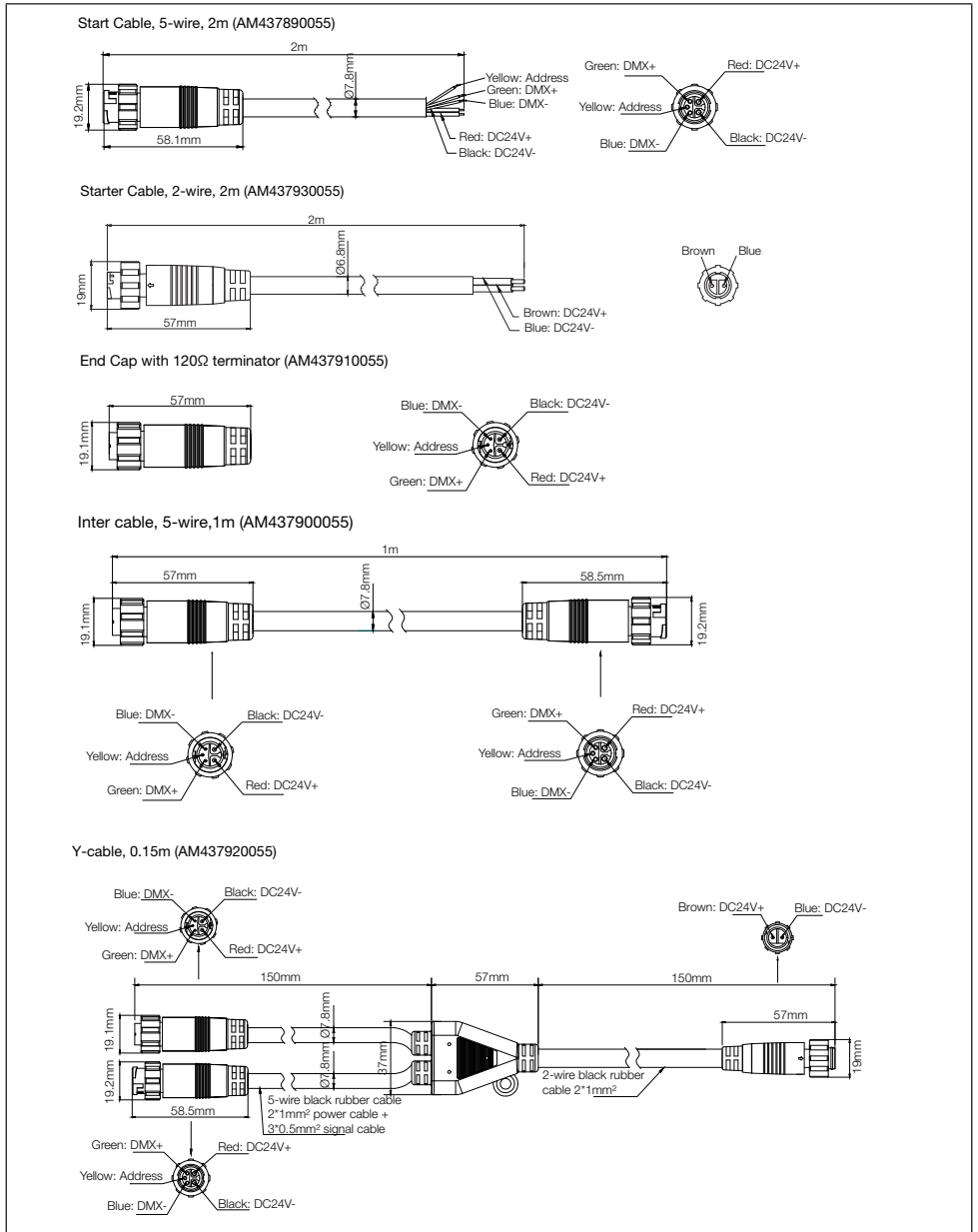
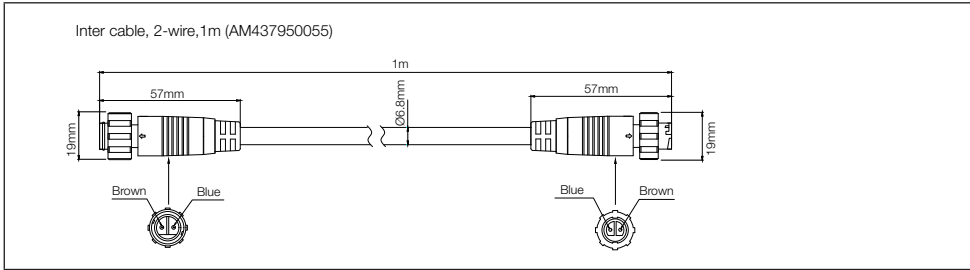


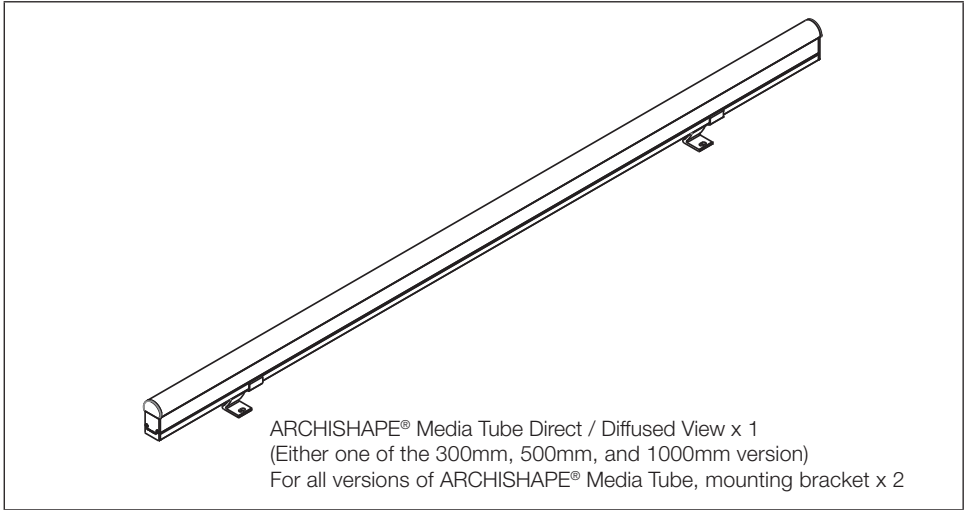
FIG.3: ARCHISHAPE® Media Tube Accessories





1.3 Packing Contents

FIG.4: Packing Contents



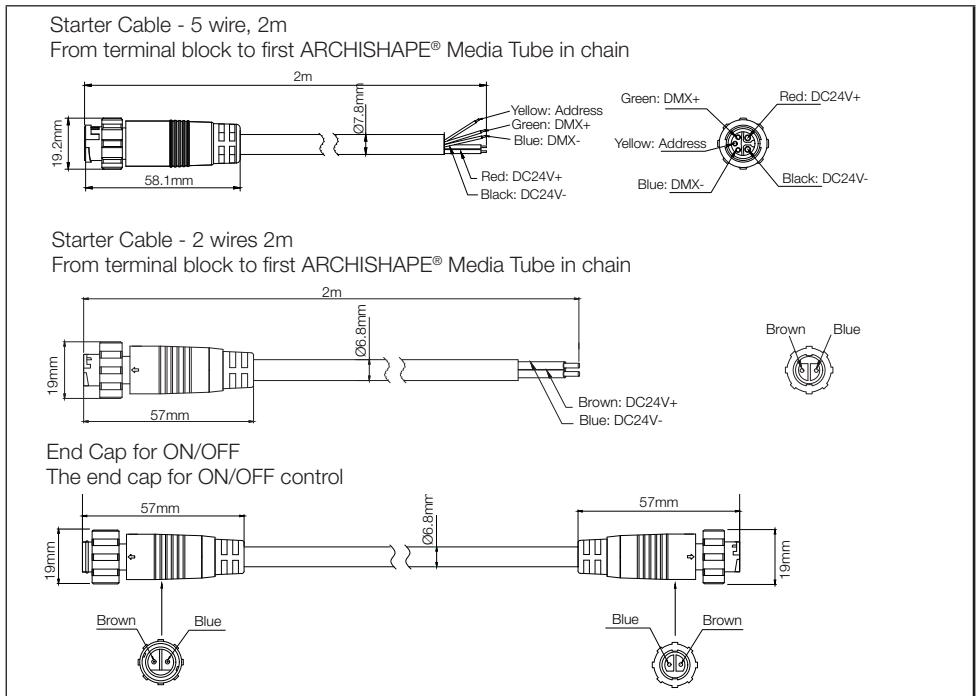
2. INSTALLATION

2.1 Points To Consider

Plan your installation before mounting the ARCHISHAPE® Media Tube. The following should be considered for a successful installation.

- Weather conditions and ambient temperature of installation site.
- Appropriate cable lengths (cable gauges described in system diagram). Please consult your local Traxon office or authorized agent for necessary aid.
- The number of the ARCHISHAPE® Media Tube and appropriate LED Engines.
- DMX512 to be used to control the ARCHISHAPE® Media Tube.
- Distance between each Tube for thermal expansion and maintaining pixel pitch.
- Mounting distances should be paid attention on.
- Proper surge protection.

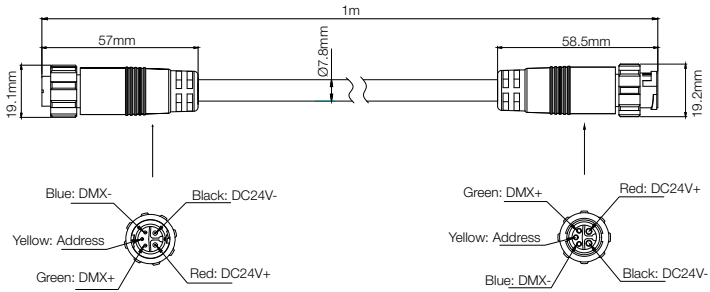
FIG.5: ARCHISHAPE® Media Tube Cable System



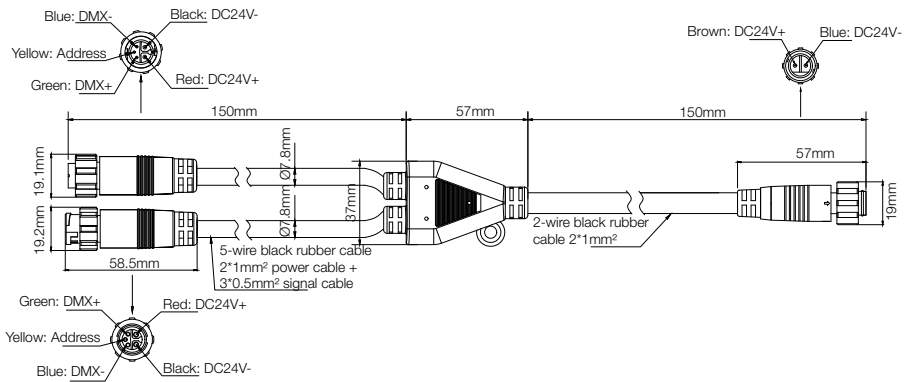
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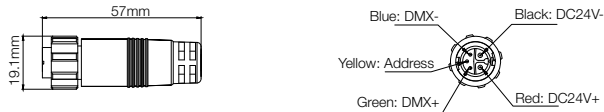
Interconnection Cable - 5 wire, 1m
From ARCHISHAPE® Media Tube to another ARCHISHAPE® Media Tube



Y Cable - 0.15m
To combine power and data to ARCHISHAPE® Media Tube



End Cap with 120Ω Terminator
The end cap includes DMX data terminator



2.2 Pre-Installation Checks

2.2.1 Installation Checklist

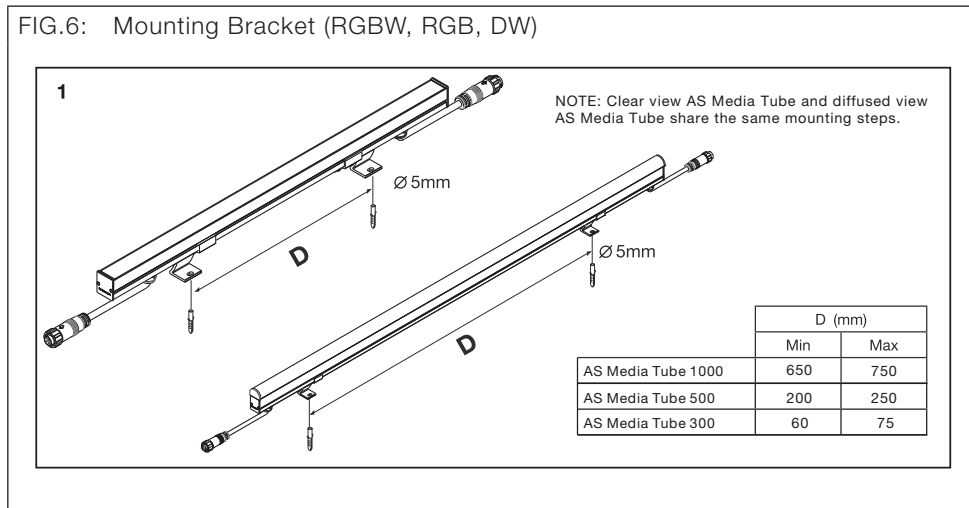
1. Prepare cables and all necessary accessories (Waterproof Quick Lock End Caps etc).
2. Perform functional check of the ARCHISHAPE® Media Tube. Take care not to damage cables/connectors during pre-installation checks.
3. Ensure all pre-installation checks laid out below have been followed.
4. Mount the ARCHISHAPE® Media Tube on-site. If the installation is to be left uncompleted overnight, place all non-connected LED Engines and the ARCHISHAPE® Media Tube in an indoor environment.

Ensure all the Interconnection Cables, ARCHISHAPE® Media Tube and LED Engines are initially stored in a dry area to guarantee the complete sealing of the system from water before installation.

2.2.2 Mounting Bracket

5mm screws with spring washers and washers are needed to fix the mounting bracket. The mounting brackets can be moved and the bracket distances are recommended values.

FIG.6: Mounting Bracket (RGBW, RGB, DW)



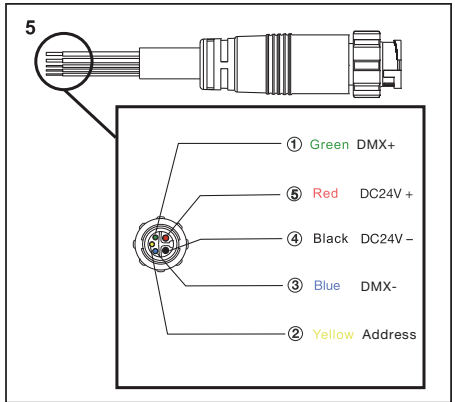
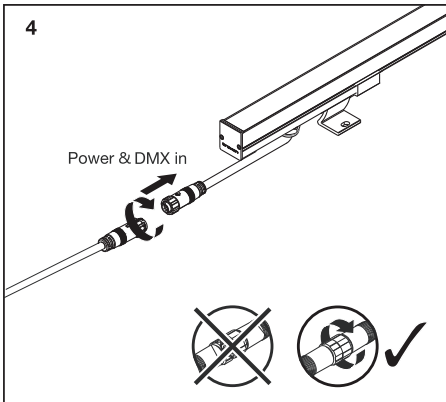
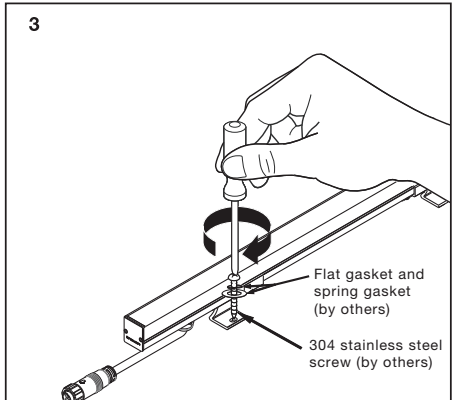
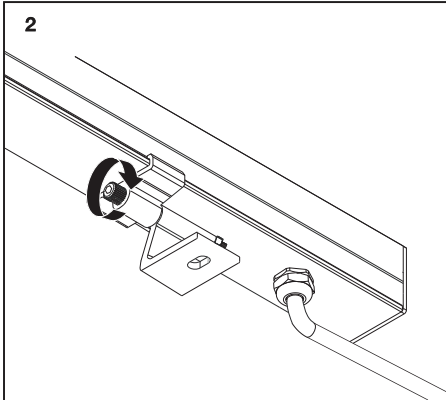
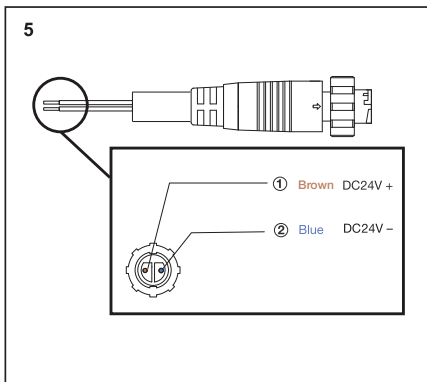
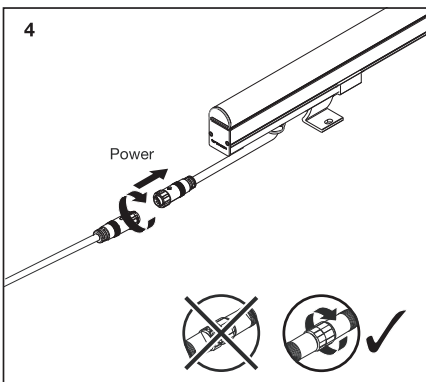
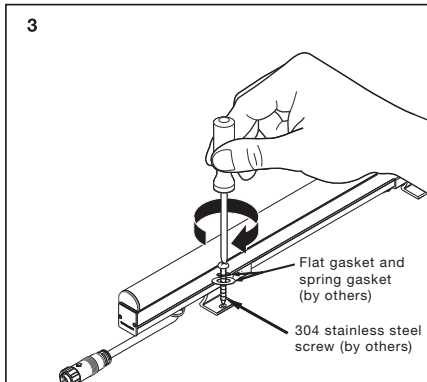
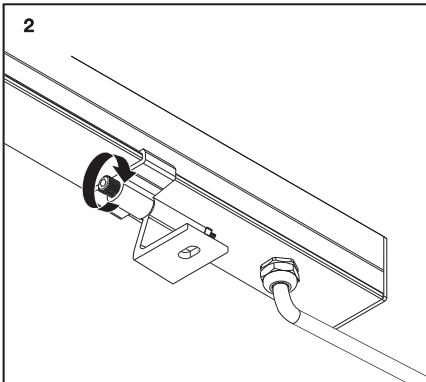
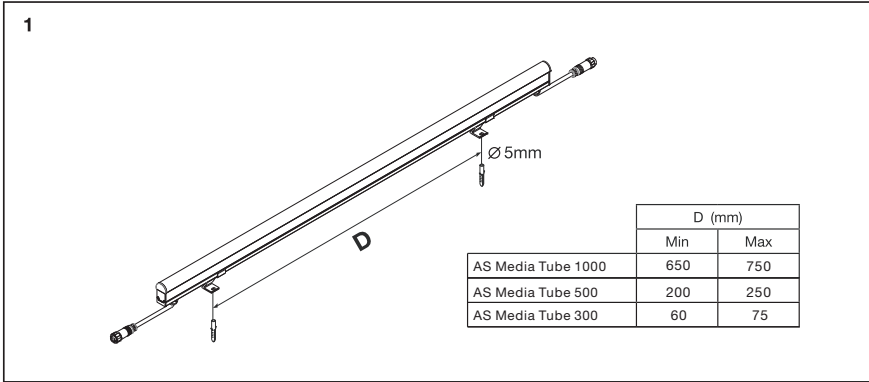


FIG.7: Mounting Bracket (Mono)



2.2.3 Installation Sequence

1. Measure the correct distances for brackets and install the ARCHISHAPE® Media Tube fixtures.
2. Connect the ARCHISHAPE® Media Tube in the daisy-chain manner outlined in the System Diagram to form large installations.
3. Perform functional check on all the ARCHISHAPE® Media Tube and inspect cables and brackets for any damage. Check for any abnormalities with the control signal.
4. Report any functional defect found to your nearest Traxon Technologies office. DO NOT attempt to install the ARCHISHAPE® Media Tube with functional defects on-site.

2.3 On-Site Installation



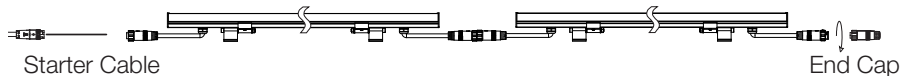
- DO NOT attempt installation in wet or severe weather conditions.
- DO NOT leave and expose any ARCHISHAPE® Media Tube or LED Engines unconnected under wet/raining or snowing environment.
- IP failure induced by stressed/damaged cables during or after installation will not be under warranty by Traxon Technologies.
- ALWAYS keep the cables protected from sharp objects and ensure no damage is generated on the cable.

Failure to keep ARCHISHAPE® Media Tube within the operating temperature range of -30°C to $+50^{\circ}\text{C}$ / -22°F to $+122^{\circ}\text{F}$ and storage temperature range of -40°C to $+70^{\circ}\text{C}$ / -40°F to $+158^{\circ}\text{F}$ will void the product's warranty.

2.3.1 On-Site Installation

1. Fix brackets to installation surface with anchor bolts or screws.
2. The ARCHISHAPE® Media Tube are interconnected using the IN and OUT cables/connectors on each end of the tube. Connectors will make an audible "click" when connected. Gently pull on the cables in opposites directions to ensure they are fully locked and do not come loose. Below diagram shows the Tube connections. Always remember to affix an Quick Lock Waterproof End Cap (sold separately) for the OUT connector of the final Tube in each daisy chain. See System Diagram for details.

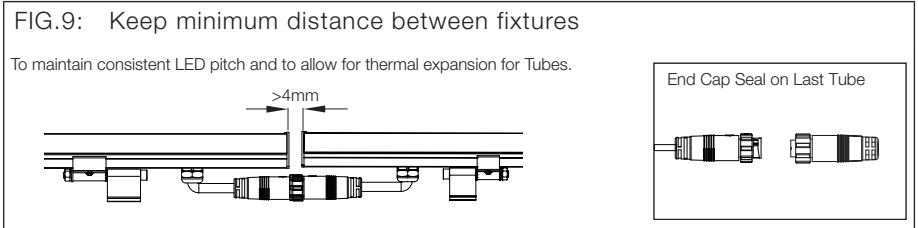
FIG.8: ARCHISHAPE® Media Tube Connections



NOTE: Any water ingress incurred due to improper installation of cable connectors or Waterproof Quick Lock End Caps will not be covered under warranty by Traxon Technologies.

Be sure not to compress the IN/OUT cables.

NOTE: To keep LED pitch consistent and allow for thermal expansion, be sure to keep a minimum distance of 4mm (0.16") between consecutive ARCHISHAPE® Media Tube (see below diagram).



3. The first tube of the daisy-chain group has to be connected to the control system via Waterproof Junction Box (not included). Starter cables, Data and Power cables, and video fiber optic cables have to be installed through conduits.
4. Set up the control system indoors as detailed in the System Diagram and connect to the ARCHISHAPE® Media Tube outside. Start up each unit and verify correct function.

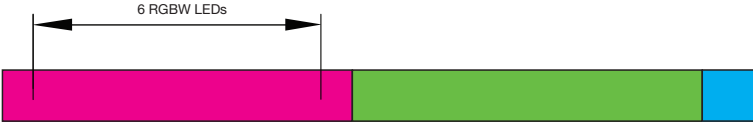
3. SAFETY AND OPERATION


- CAUTION - Unplug the power supply from the mains power before connecting any cables as this can damage the products.
- CAUTION - Avoid looking directly into the LED light source at close range for your own safety.
- Persons installing this product should make sure:
 1. The installation complies with all applicable codes, state and local laws, ordinances, standards and safety regulations.
 2. The installation environment is carefully studied and suitable surge protection measure(s) is taken.
 3. He or she is qualified for the handling of electrical equipment.
- 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.
- Ensure product operates within the specified temperature range. (Refer to 7. TECHNICAL SPECIFICATION for more details.)
- The Allegro Media Tube Lite does not contain any user-serviceable parts. Opening of the luminaire will void the warranty.
- Do not use the product if any part of it, or the power cables are damaged.
- Only use product for specified voltage, do not exceed. (Refer to 7. TECHNICAL SPECIFICATION for more details.)
- Always maintain connection to ensure waterproofing.
- 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.
- 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.
- Please study this Installation Guide thoroughly and check the latest Technical Specification Sheets available from the Traxon website www.traxontechnologies.com before setup.
- Any non-compliance of the Installation Guide will void the Traxon warranty.

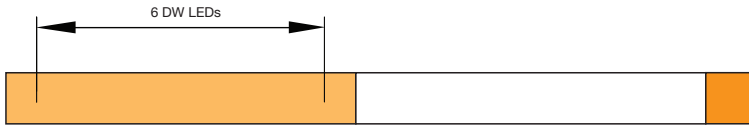
4. SYSTEM CONFIGURATION

4.1 LED CONTROL

The LEDs on the ARCHISHAPE® Media Tube are controlled by DMX512. For RGBW, each pixel on the Tube uses six RGB 3 in 1 LEDs and six white LEDs, for R, G, B and W channels. Pixel number 1 begin on the IN connector side, and it uses the first four channels. RGB and DW work in a similar way, but use less pixels per length.

	
RGBW	
Pixel n	Control Channel Number
R	$+4(n-1) + 1$
G	$+4(n-1) + 2$
B	$+4(n-1) + 3$
W	$+4(n-1) + 4$
Where: n is pixel number along the Tube. (Pixel 1 is located near the IN connector.)	

	
RGB	
Pixel n	Control Channel Number
R	$+3(n-1) + 1$
G	$+3(n-1) + 2$
B	$+3(n-1) + 3$
Where: n is pixel number along the Tube. (Pixel 1 is located near the IN connector.)	



DW

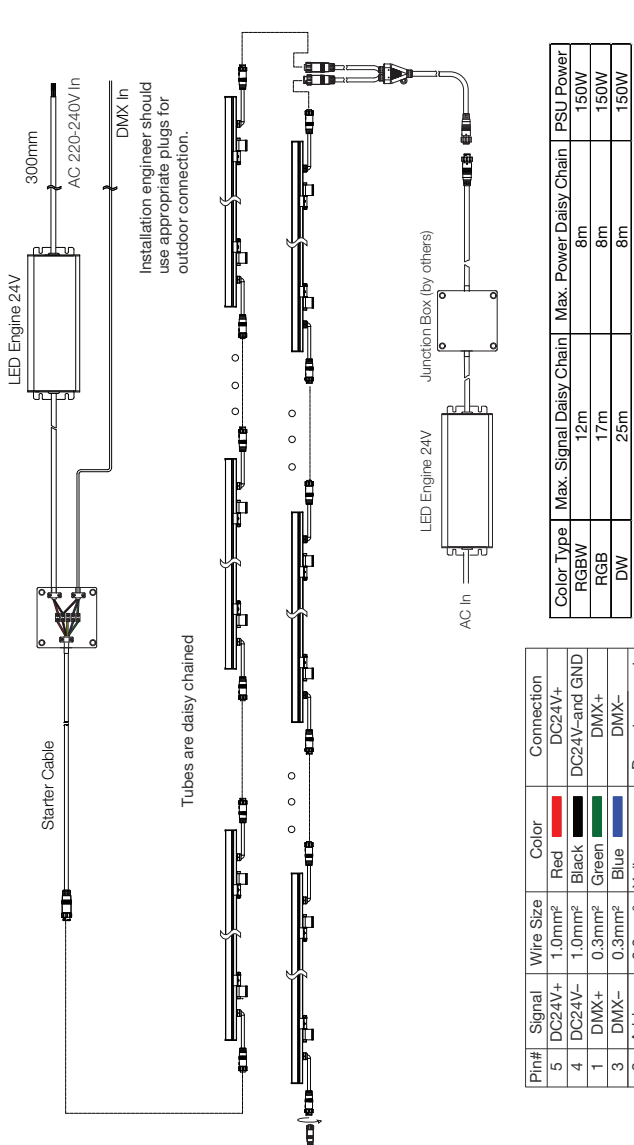
Pixel n	Control Channel Number
---------	------------------------

WW	$+ 2 (n-1) + 1$
----	-----------------

CW	$+ 2n$
----	--------

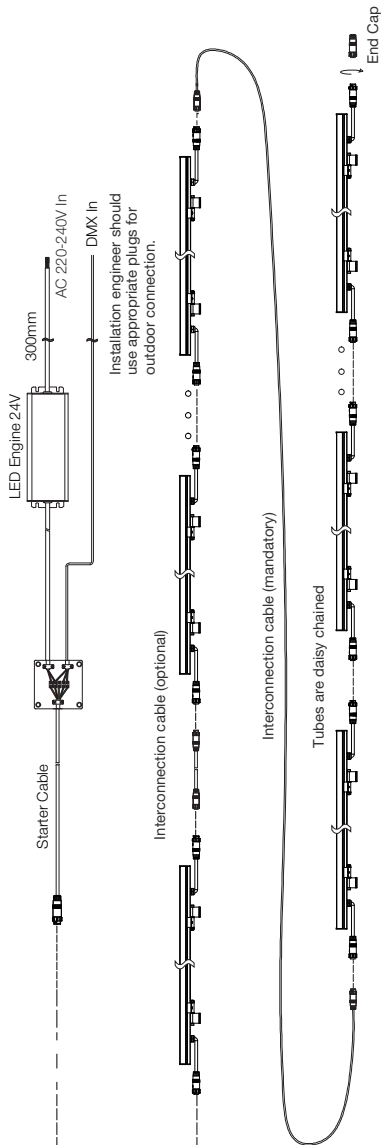
Where: n is pixel number along the Tube.
(Pixel 1 is located near the IN connector.)

FIG.10: System Diagram



The Address wire only need to be connected during address configuration, it is not needed during operation. This wiring diagram shows only typical connections. Actual wiring depends on LED Tube configuration and installation. Actual no. vary according to cable lengths and signal source. Please consult your local Traxon office for act.

FIG. 11: System Diagram-Snake Model (Direct View)

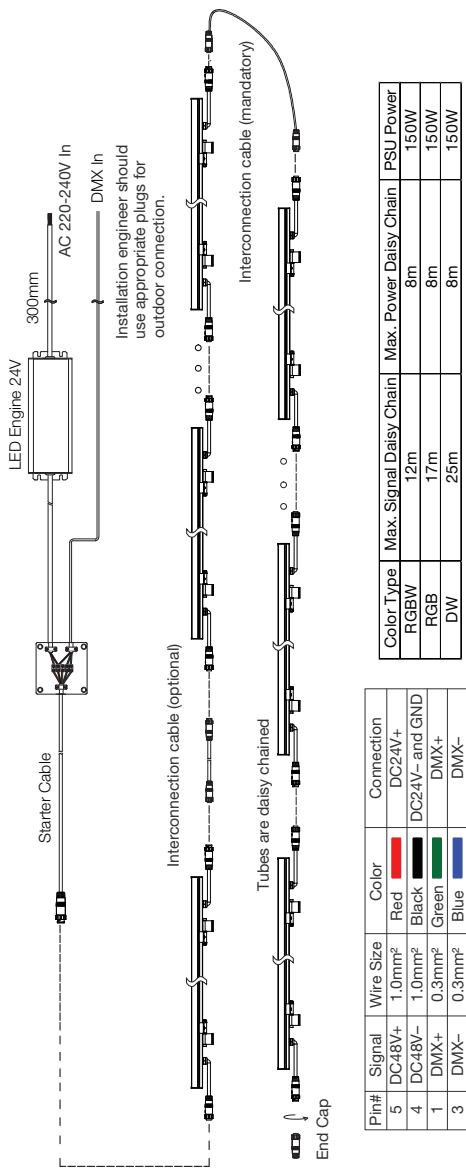


Color Type	Max. Signal Daisy Chain	Max. Power Daisy Chain	PSU Power
RGBW	12m	8m	150W
RGB	17m	8m	150W
DW	25m	8m	150W

Pin#	Signal	Wire Size	Color	Connection
5	DC48V+	1.0mm ²	Red	DC24V+
4	DC48V-	1.0mm ²	Black	DC24V- and GND
1	DMX+	0.3mm ²	Green	DMX+
3	DMX-	0.3mm ²	Blue	DMX-
2	Address	0.3mm ²	Yellow	Do not connect

The Address wire only need to be connected during address configuration, it is not needed during operation. This wiring diagram shows only typical connections. Actual wiring depends on LED Tube configuration and installation. Actual no. vary according to cable lengths and signal source. Please consult your local Traxon office for aid.

FIG. 12: System Diagram-Snake Model (Diffused View)

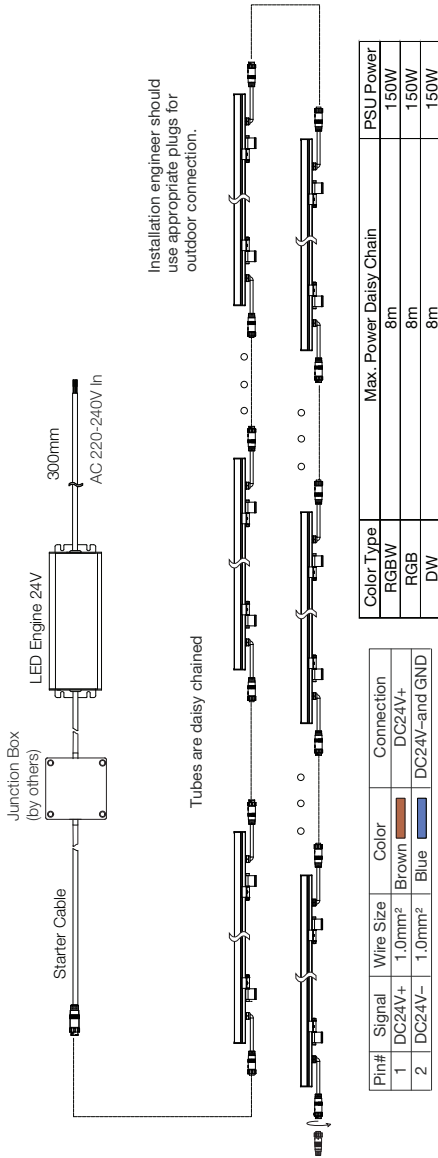


Color Type	Max. Signal Daisy Chain	Max. Power Daisy Chain	PSU Power
RGBW	12m	8m	150W
RGB	17m	8m	150W
DW	25m	8m	150W

Pin#	Signal	Wire Size	Color	Connection
5	DC48V+	1.0mm ²	Red	DC24V+
4	DC48V-	1.0mm ²	Black	DC24V- and GND
1	DMX+	0.3mm ²	Green	DMX+
3	DMX-	0.3mm ²	Blue	DMX-
2	Address	0.3mm ²	Yellow	Do not connect

The Address wire only need to be connected during address configuration, it is not needed during operation.
 This wiring diagram shows only typical connections. Actual wiring depends on LED Tube configuration and installation. Actual no. vary according to cable lengths and signal source. Please consult your local Traxon office for aid.

FIG.13: System Diagram (Mono)



The Address wire only need to be connected during address configuration, it is not needed during operation.
 This wiring diagram shows only typical connections. Actual wiring depends on LED Tube configuration and installation. Actual no. vary according to cable lengths and signal source. Please consult your local Traxon office for aid.

5. 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.

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">• Check Mains Power• Check power supply leads and wire connections• Ensure output wires are connected with proper polarity• Check if LED Engine's secondary output is working as specified.
Shadowing	Light source covered	<ul style="list-style-type: none">• Check for cables, wires or unwanted debris covering LED light source
Modules are dim	Excess products connected	<ul style="list-style-type: none">• Ensure the power supplies are not overloaded due to an excess of products connected
Flickering	Incorrect power input/ Excess products connected	<ul style="list-style-type: none">• Ensure the input voltage is correct• Ensure the power supplies are not overloaded due to an excess of products connected

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. TECHNICAL SPECIFICATION

ARCHISHAPE® Media Tube RGBW

Color Range:	16.7 Million additive RGB colors; White 6500K
Light Source:	18 RGBW 4 in 1 / 30 RGBW 4 in 1 / 60 RGBW 4 in 1 (Direct) 18RGB+18White / 30RGB+30White / 60RGB+60White (Diffused)
Beam Angle:	95° (Direct) / 110°x170° (Diffused)
Power Input*:	24V DC
Power Consumption (typ).:	4.2W / 7W / 14W
Weight:	0.35kg / 0.52kg / 0.85kg
Operating Temperature:	-30°C to +50°C / -22°F to +122°F
Storage Temperature:	-40°C to +70°C / -40°F to +158°F

ARCHISHAPE® Media Tube RGB

Color Range:	16.7 Million additive RGB colors
Light Source:	18RGB / 30RGB / 60RGB
Beam Angle:	95° (Direct) / 110°x170° (Diffused)
Power Input*:	24V DC
Power Consumption (typ).:	4.2W / 7W / 14W
Weight:	0.35kg / 0.52kg / 0.85kg
Operating Temperature:	-30°C to +50°C / -22°F to +122°F
Storage Temperature:	-40°C to +70°C / -40°F to +158°F

ARCHISHAPE® Media Tube DW

Color Range:	White CCT 2700K-6500K
Light Source:	18 2700K+18 6500K / 30 2700K+30 6500K / 60 2700K+60 6500K
Beam Angle:	90° (Direct) / 115°x170° (Diffused)
Power Input*:	24V DC
Power Consumption (typ).:	4.2W / 7W / 14W
Weight:	0.35kg / 0.52kg / 0.85kg
Operating Temperature:	-30°C to +50°C / -22°F to +122°F
Storage Temperature:	-40°C to +70°C / -40°F to +158°F

ARCHISHAPE® Media Tube Mono

Color Range:	White CCT 3000K (Diffused) / 6500K (Diffused)
Light Source:	18 3000K / 30 3000K / 60 3000K (Diffused) 18 6500K / 30 6500K / 60 6500K (Diffused)
Beam Angle:	110°x170°
Power Input*:	24V DC
Power Consumption (typ).:	4.2W / 7W / 14W
Weight:	0.35kg / 0.52kg / 0.85kg
Operating Temperature:	-30°C to +50°C / -22°F to +122°F
Storage Temperature:	-40°C to +70°C / -40°F to +158°F

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.

8. 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.traxontechnologies.com for all warranty terms and conditions.

Our Brands

traxon e:cue

OSRAM