VIVID RGB LIGHTING

TUBO Rigid RGB Pixel Tube

Key Features

Double Sided Lighting

Translucent Polycarbonate Tube

Encased Electronics

Thin Housing
↓ 7/10in
↑ 18mm

Full-color RGB pixels

IP66 Dust and Waterproof

24 Month Warranty

CERT RoHS Certified and Built to CE, UL, ETL Standards

Many Applications

• Theater and Concert Stage Elements
• Trade Shows
• Interior and Exterior Architecture
• Themed Environments
• Nightclubs
• Museums and Art Installations
• TV Production
• Holiday Light Shows
• Dynamic Icicle Lighting

Further Reading

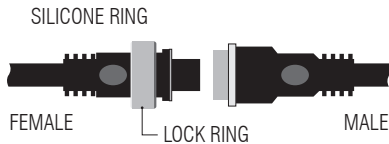Visit us online for the most up-to-date product information:

www.VividRGBlighting.com

Introducing Tubo

TUBO is a sleek performer, featuring full 360° visibility of 16 double-sided individually addressable RGB pixels. Our standard meter length has 32 surface mounted LEDs packed into each crystal clear tube. **TUBO** is ready to rocket colors across your next project. Hang them in formation for an instant double-sided screen or randomly for dynamic full color effects. Mount them at any angle and in any pattern to create completely new displays.

Fortified against the elements, **TUBO** is set to sparkle indoors or out and at less than 3/4" in diameter, it virtually disappears. Also available in .5 meter and 1.5 meter lengths.

More than just pretty pole, Tubo is ready to add sparkle to your next event!

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Connectors

4-PIN keyed aviation-style connector with weathertight lock ring.

SILICONE RING

FEMALE   LOCK RING   MALE

System Overview

POWER & CONTROL

◄ Power and data input feed.

▲ Up to 5 Tubes per power feed

▲ Up to 10 Tubes per data stream

◄ Cable terminated with end cap or cable loop.
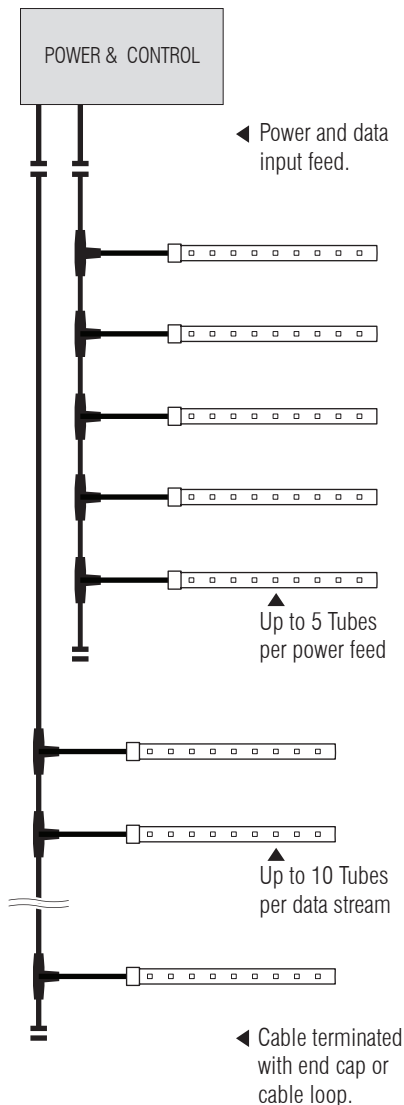
Standard Configuration Part Order No. TUBO–1–16–36"–BB

Each module consists of a .7" diameter tube, 40.25" long with 16 pairs of RGB LEDs. A 36" black cable with integrated power and control terminated with a 4-pin connector.

Use with T-Connector cables.

Crystal clear polycarbonate housing, sealed for maximum fixture life and IP66 rated for

12V–TUBO–1–16–36"–BB

Inset Cap   .7" Diameter

~2.4"

40.25"   36"
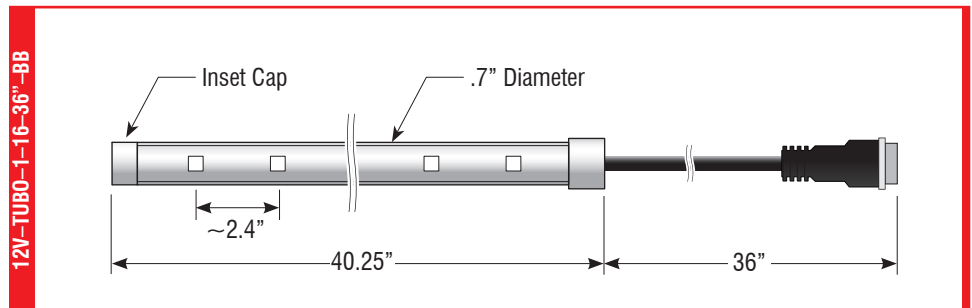
Technical Specifications*

OUTPUT	LUMEN MAINTENANCE	50,000+ hours
	LED CHANNELS	Red, Green, & Blue
	GRAYSCALE	256, 8-bit
ELECTRICAL	INPUT VOLTAGE	12V DC
	POWER	8.00W / Tube
CONTROL	INTERFACE	1-Wire DMX512 - 170 Pixels
	CONTROL SYSTEM	VPD, Color Mimic, or compatible third-party DMX controller
PHYSICAL	TEMPERATURE RANGES	-20ºC – 50ºC / -4ºF – 122ºF
	HUMIDITY	Any
SAFETY	ENVIRONMENT	Dry, damp, wet locations; IP66

*Due to continuous improvements and design innovations, specifications subject to change without notice.

Build-to-Order Configurations

Minimum Order Quantity: 20 tubes per configuration
Production Lead Time: 8 weeks after receipt of order

Custom options:
- Tube length 1/2m, 1m, 1.5m
- Pixel spacing / density
- Cable length
- Cable color—black, white, and clear.
- Other options upon request, call for more information.

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Typical Wiring Instructions

Input cables connect to controller & power supply and provide a common ground between them.

Extension cables extend distances between components.

End caps provide a waterproof termination at the end of each string.

TUBO String Power

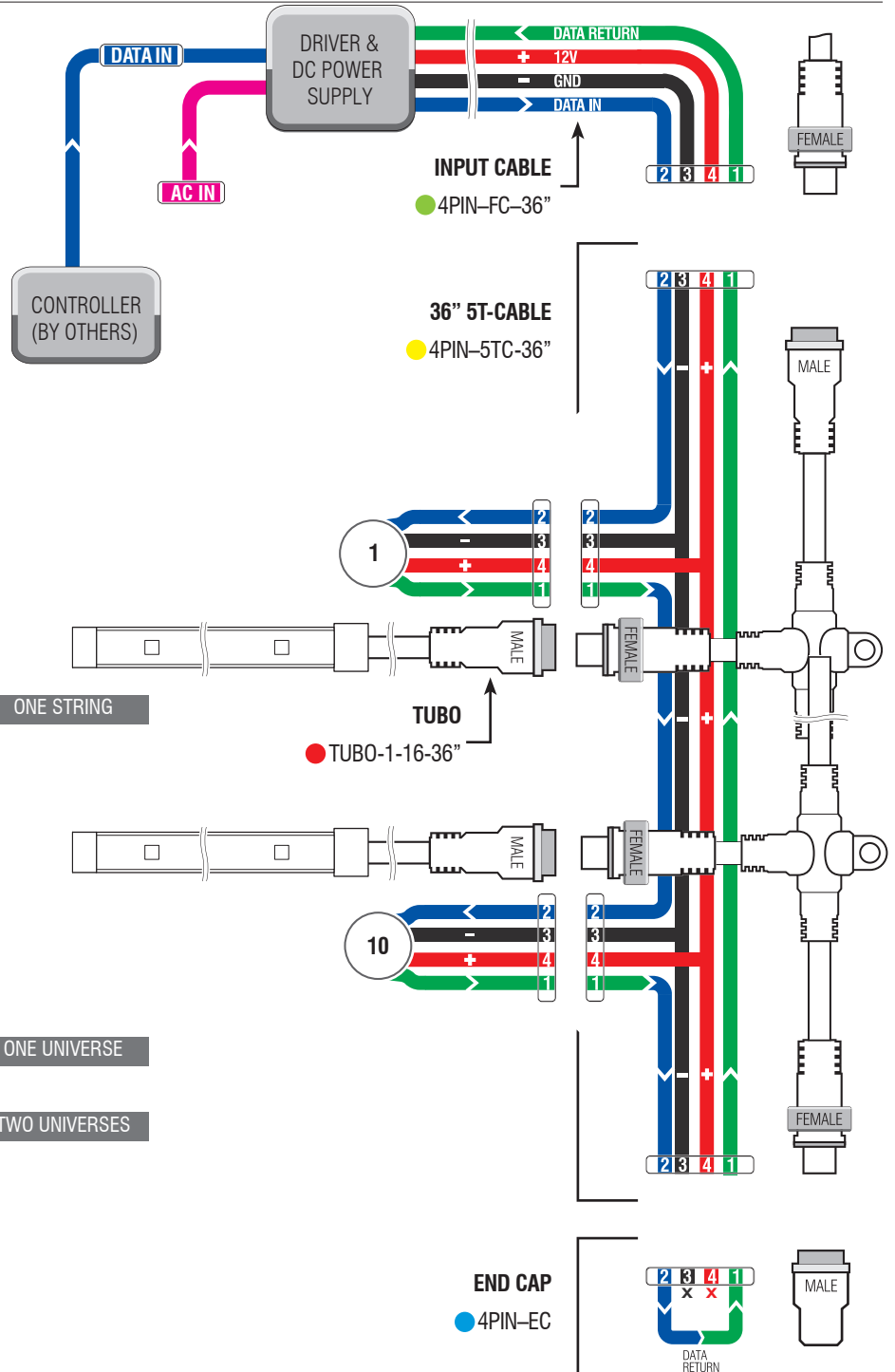Use total watts to determine necessary power supply capacity.

Maximum power draw is 9.50 W per TUBO at 12 V DC.

TUBOS	AMPS @ 12V	TOTAL WATTS	
1	.800 A	9.50 W	ONE STRING
2	1.60 A	19.00 W	
3	2.40 A	28.50 W	
4	3.20 A	38.00 W	
5	4.00 A	47.50 W	
6	4.80 A	57.00 W	
7	5.60 A	66.50 W	
8	6.40 A	76.00 W	
9	7.20 A	85.50 W	
10	8.00 A	95.00 W	ONE UNIVERSE
20	16.00 A	160.00 W	TWO UNIVERSES

NOTES

Figures in this chart allow for **5%** headroom.
Typical per-tube wattage is **8.50 W.**

IMPORTANT

Keep the power supply as close as possible to the strings to minimize voltage drop. Excessive voltage drop will cause color shift and/or intermittent operation.

Due to continuous improvements and design innovations, specifications subject to change without notice.

DATA IN

DRIVER & DC POWER SUPPLY

AC IN

CONTROLLER (BY OTHERS)

DATA RETURN
+ 12V
– GND
DATA IN

INPUT CABLE
● 4PIN–FC–36"

FEMALE

36" 5T-CABLE
● 4PIN–5TC-36"

MALE

1

MALE

TUBO
● TUBO-1-16-36"

FEMALE

MALE

10

FEMALE

FEMALE

END CAP
● 4PIN–EC

DATA RETURN

MALE

System Accessories
& Part Numbers

Vivid RGB Lighting's **12-Volt** products use our **4-PIN** accessory cables and products. Please contact customer support with product compatibility concerns.

System Input Cable
Bare ends connect to controller and power, female end connects to strings.

Stock:

4PIN–FC–36"

*Custom lengths available.

NOTE
Numbers refer to labeled pins in connectors.

Power & Data

4PIN–FC–[Length]

DATA RETURN	1	
DATA IN	2	
GND	3	
24V	4	

Female

System Output Cable
Male end connects to end of strings, bare ends provide data and power output from system.

Stock:

4PIN–MC–36"

*Custom lengths available.

Power & Data

4PIN–MC–[Length]

1	DATA RETURN	
2	DATA IN	
3	GND	
4	24V	

Male

Extension Cables
Through extension of all pins

Stock:

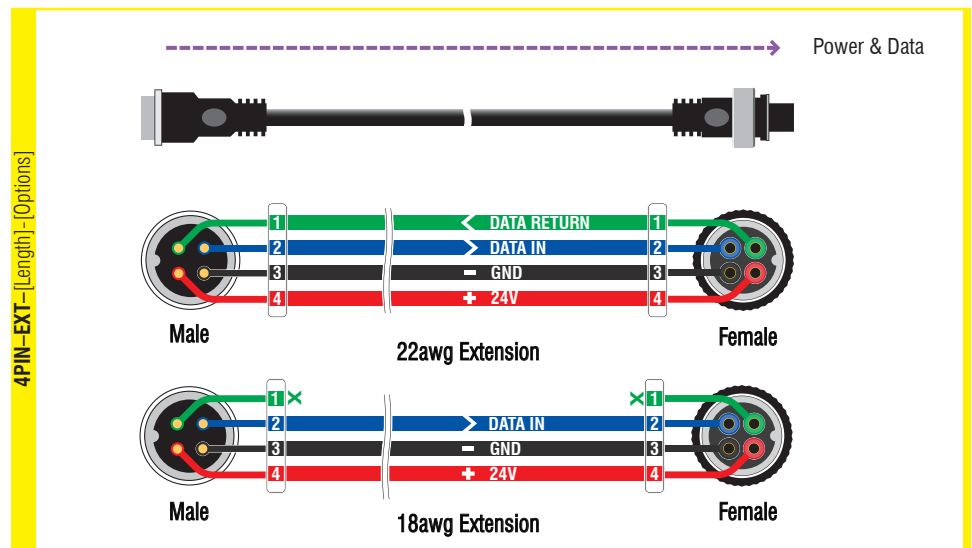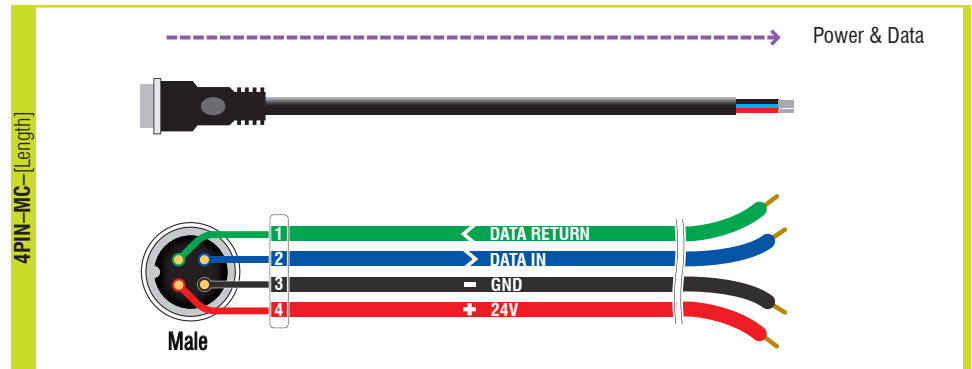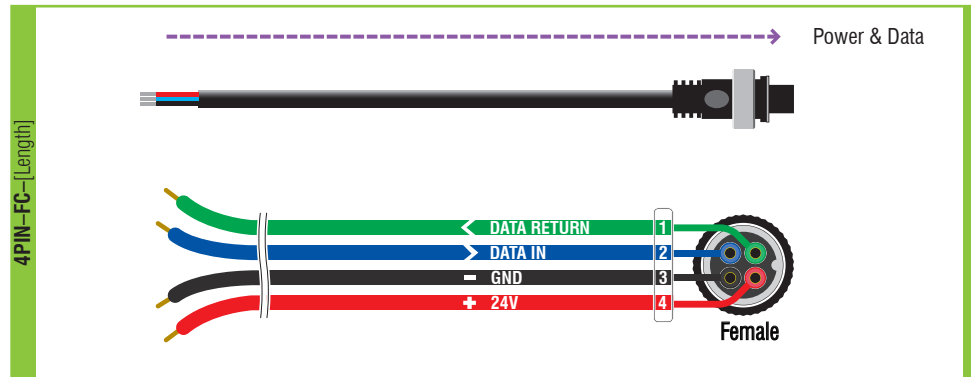|	
4PIN–EXT–60"	(20awg - 5 feet)
4PIN–EXT–120"	(20awg - 10 feet)
4PIN–EXT–300"	(20awg - 25 feet)
4PIN-EXT-120"-3W	(18awg - 10 feet)
4PIN-EXT-300"-3W	(18awg - 25 feet)
4PIN-EXT-600"-3W	(18awg - 50 feet)

*Custom lengths available.

NOTE
18awg extension cables do not return data.

Power & Data

4PIN–EXT–[Length]–[Options]

Male   DATA RETURN / DATA IN / GND / 24V   **Female**
22awg Extension

Male   DATA IN / GND / 24V   **Female**
18awg Extension

*Custom / Build-to-Order
All cables and accessories may be custom designed for your project.

Revised 07/11/2018

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End Caps
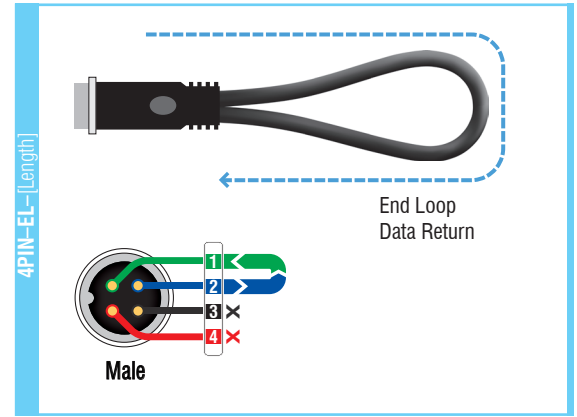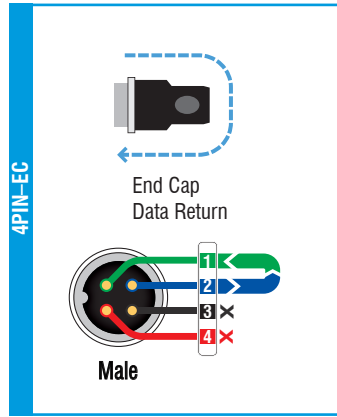Seals cable end with a water tight termination and returns data stream to beginning of string.

Available in simple cap or cable loop for easy hanging.

Stock:

4PIN–EC
4PIN–EL–5"

*Custom lengths available.

4PIN–EC

End Cap
Data Return

Male

4PIN–EL–[Length]

End Loop
Data Return

Male

Mid-Feed Power Input
Allows for power to be input between strings on same data stream.
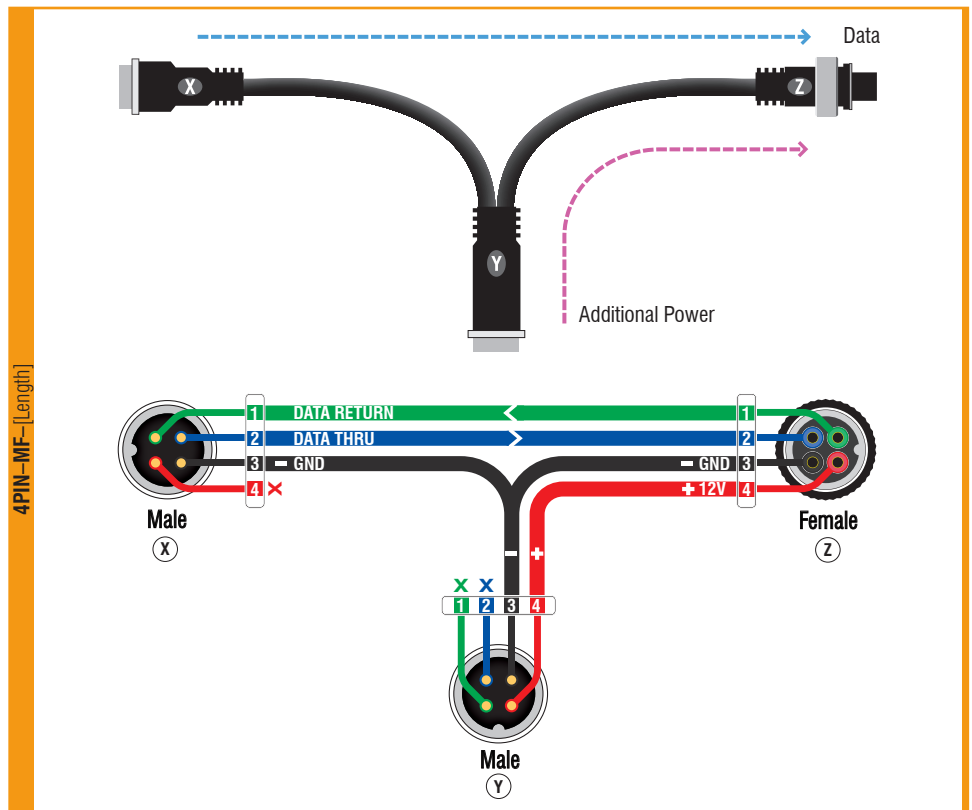
Stock:

4PIN–MF–9"
4PIN–MF–12"

*Custom lengths available.

X: Data input from previous string

Y: Additional power input

Z: Power and data output to next string(s)

4PIN–MF–[Length]

Data

X

Y

Z

Additional Power

1 DATA RETURN
2 DATA THRU
3 GND
4 ✕

− GND 3
+ 12V 4

Male
X

Female
Z

✕ ✕
1 2 3 4

− +

Male
Y

V-Cables

Allows strings to be used in parallel on the same power and data stream.

Stock:

4PIN–VC–9"
4PIN–VC–18"
4PIN–VC–60"

*Custom lengths available.

A: Output to first string sequence **(SEE NOTE)**

B: Output to second string sequence

C: Power and data input

NOTE

The last string of the **A** output of the V-Cable must have an end cap **(4PIN–EC or 4PIN–EL)** installed for data to return to the **B** output. If the strings attached to **A** are disconnected, data will not return and be sent to **B**.

T-Connector Single

Allows for power and data to be sent to each a single module. These can be linked together to created custom distribution of power and data.

Stock:

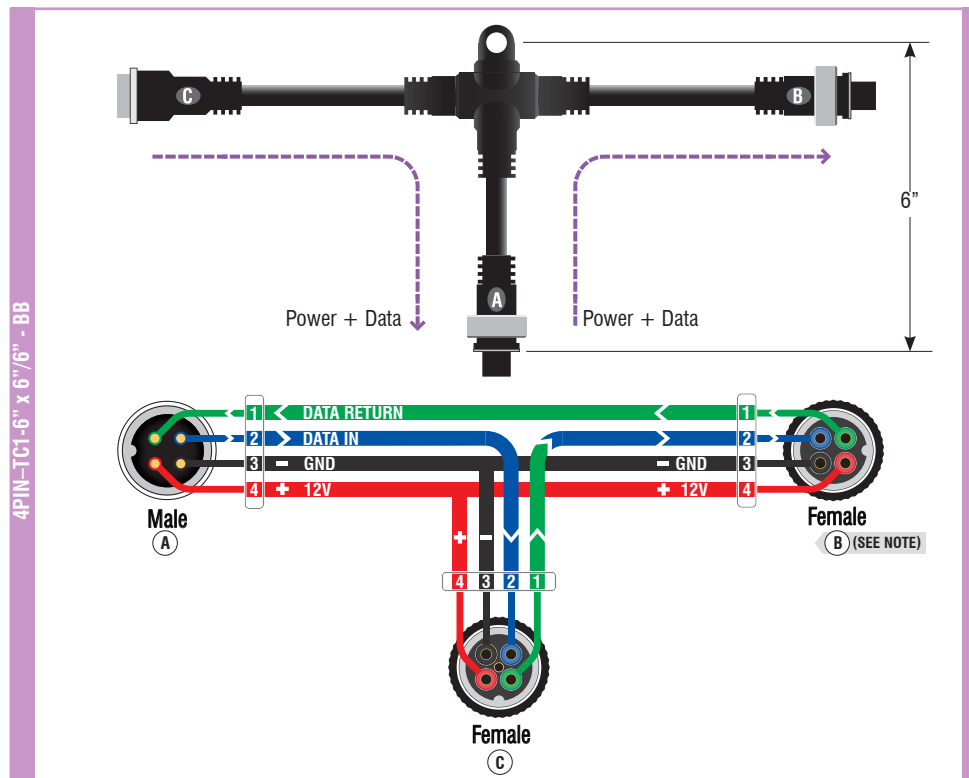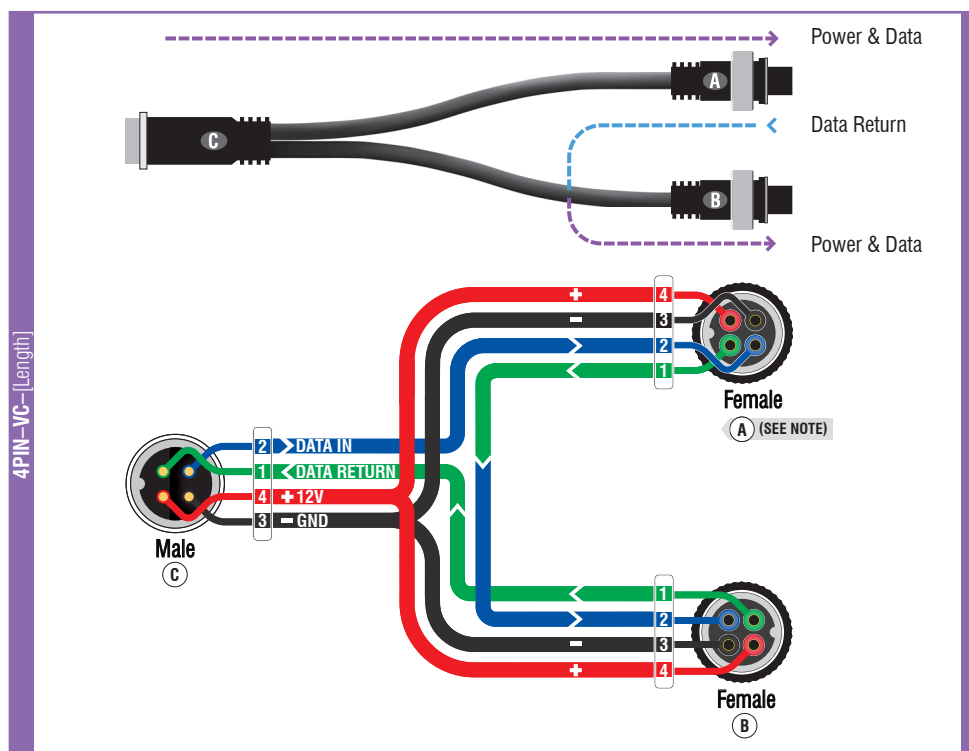| |
|---|
| 4PIN–TC1–6" x 6"- 6"/6"- BB |

*Custom lengths available.

(see next page)

NOTE

The last string of the **A** output of the T-Cable must have an end cap **(4PIN–EC or 4PIN–EL)** installed for data to return to the **B** output. If the strings attached to **A** are disconnected, data will not return and be sent to **B**.

*Custom / Build-to-Order

All cables and accessories may be custom designed for your project.

T-Connector Cable

Allows for power and data to be sent to each module and can be customized to your project.

Stock Configurations:

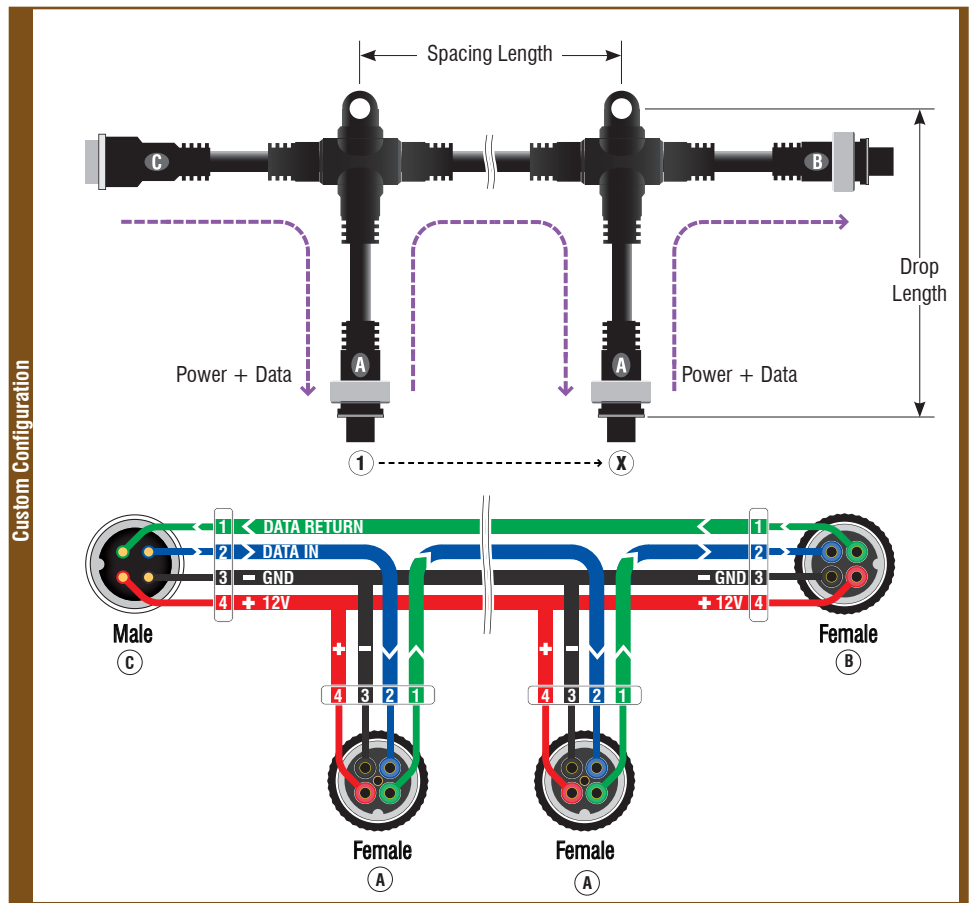| |
| --- |
| 4PIN–TC3–24" x 6"- 12"/12"- BB |
| 4PIN–TC5–6" x 6"- 12"/12"- BB |
| 4PIN–TC5–12" x 6"- 6"/6"- BB |
| 4PIN–TC6–10" x 6"- 5"/5"- BB |

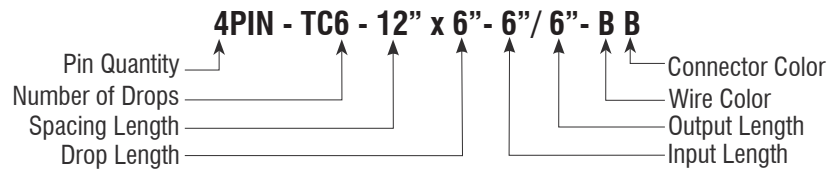*Custom lengths available.

NOTE

T-Connector cable stock changes frequently. Call to confirm availability.

NOTE

The last string of the **A** outputs of the T-Cable must have an end caps **(4PIN–EC or 4PIN–EL)** installed for data to return to the next **A** output, then to **B** output. If the strings attached to **A** are disconnected, data will not return and be sent to **B.**

Custom Configuration

T-Cable Example Code:

4PIN - TC6 - 12" x 6"- 6"/ 6"- B B

- Pin Quantity
- Number of Drops
- Spacing Length
- Drop Length
- Connector Color
- Wire Color
- Output Length
- Input Length

Important

Our systems use 3-, 4-, and 6-PIN connectors for different control data and power voltages. **Please do not interconnect.**

*Custom / Build-to-Order

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