ORGANIC LIGHTING®

USER MANUAL

RGB 160, RGB 240

PLEASE READ THESE INSTRUCTIONS CAREFULLY BEFORE INSTALLATION & LEAVE A COPY FOR THE END USER/ MAINTANANCE ENGINEER FOR FUTURE REFERENCE.

UL ETL CE F RoHS IP40/IP68 R 1.2" BEND RADIUS III 5 System UV RESISTANT FROST RESISTANT SEA WATER RESISTANT SWIMMING POOL ENVIRONMENT CRI 80+ MAC ADAM 2 SDCM

Warning

This product comes with a 5 year warranty.

Warranty void if:
1. The installation guide has not been consulted (installation mistake).
2. The installation is not done by a certified installer.
3. Local rules and guidelines are not respected.
4. The invoice cannot be shown and/or has been altered.
5. Damage is caused by negligence, abnormal use or improper handling, use, maintenance and/or cleaning of the product.

This product is intended for professional use only! This product must be installed by a qualified and certified installer according to local rules and guidelines. Organic Lighting Systems, Inc. cannot be held liable for (consequential) damage and/or injuries due to unintended use and/or installation errors.
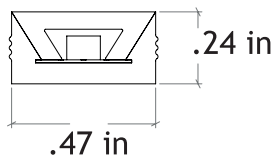
Product Information

The OrgaLED® LED strip (IP40) is a high quality, flexible LED strip with a unique co-extrusion technology. Designed for an endless range of indoor and outdoor applications.
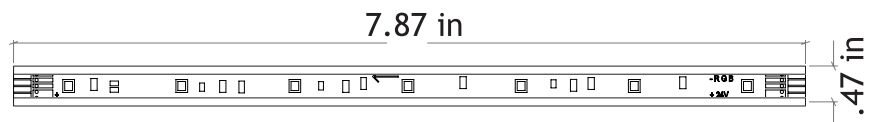
* For use in wet environments, use mirror welded connectors or IP68 waterproof kits.
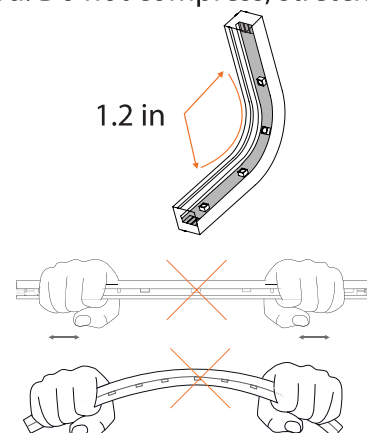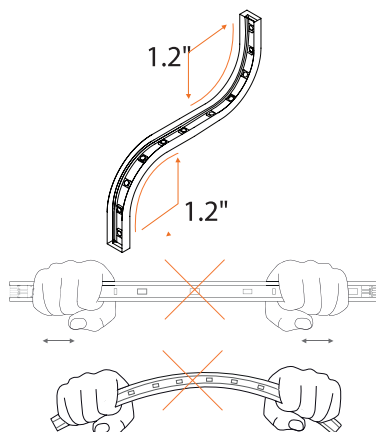
Product Dimensions

OrgaLED strip front view:
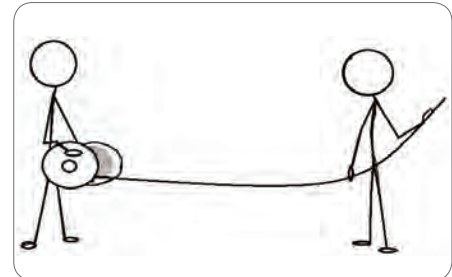
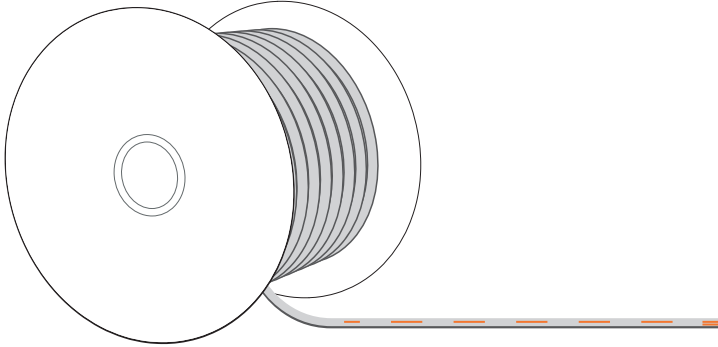OrgaLED strip top view, cuttable sections:

.24 in

.47 in

7.87 in

.47 in

Bending Radius

Maximum bending radius is 1.2 in. Solely bend up or downward. Do not compress, stretch or bend the LED strip.
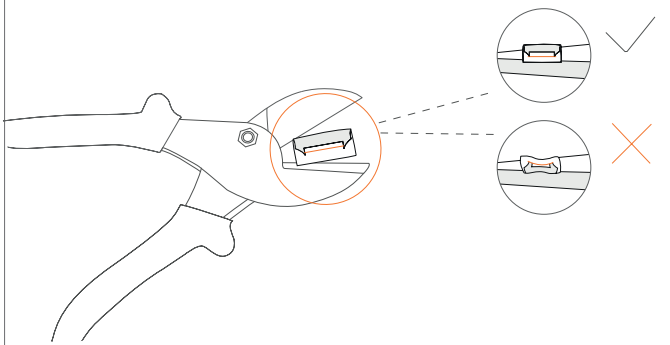
1.2"

1.2"

1.2 in

2

ORGANIC LIGHTING

1

⚠ **10ft lengths require a second person's assistance.**

⚠ The LED strip has to be unreeled on a horizontal surface at the time of installation. Do not unreel the spool of LED strip before installation. Lengths over 10ft should be installed with the help of a second person to support the strip to ensure that the connector is not stressed.
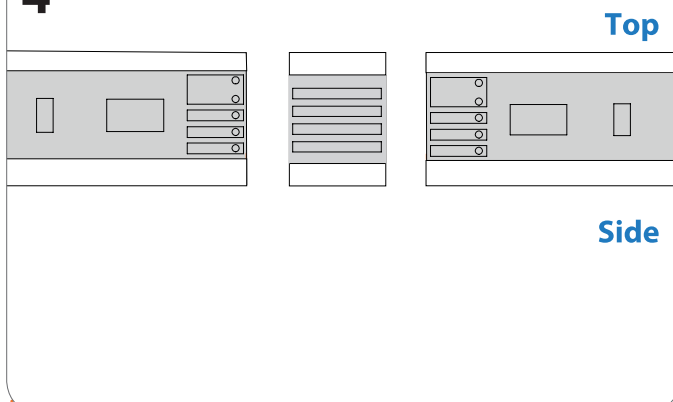
2

Place the OrgaLED® LED strip on the base of the cutting tool. Not doing so may result in a deformed LED strip.

3
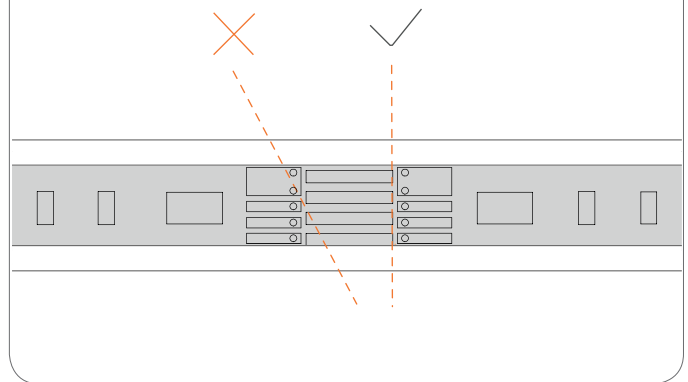
Top view | Make sure the cut is vertical as illustraded in the image above. Only cut on the dotted lines to prevent damaging the LED strip.

4

**Top**

Side

⚠ Dispose of the unnecessary material through waste recycling of electrical and electronic equipment.

3

Depending on the area where the OrgaLED® LED strip is installed we offer a range of solutions to cope with external factors. The product portfolio includes a range of IP40, IP67 and IP68 connectors. Below the different connectors are displayed for use in various environments.
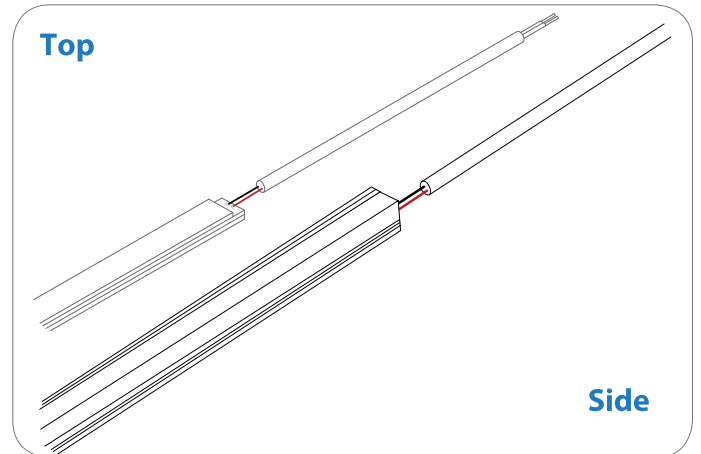
Top ... **Side**
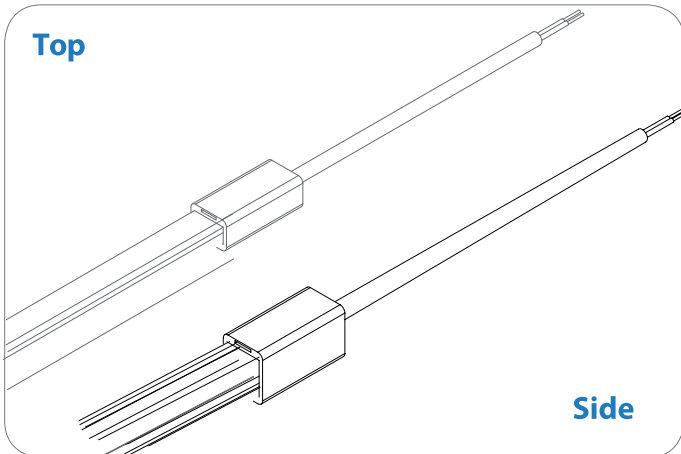
Indoor environment | (IP40)
OrgaLED® Top Connector Set, 16'L
Product code: 011205
OrgaLED® Side Connector Set, 16'L
Product code: 011207

Top ... **Side**

Indoor environment | (IP20)
Solder

Top ... **Side**
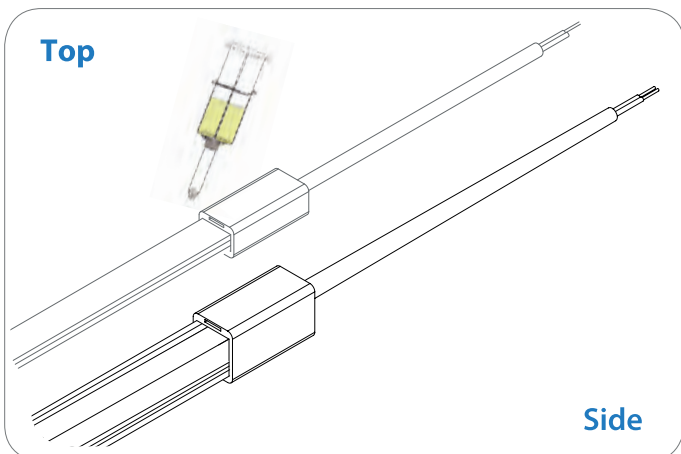
Wet environment | (IP67)
Factory Waterproofing
Product code: 011508

Top ... **Side**
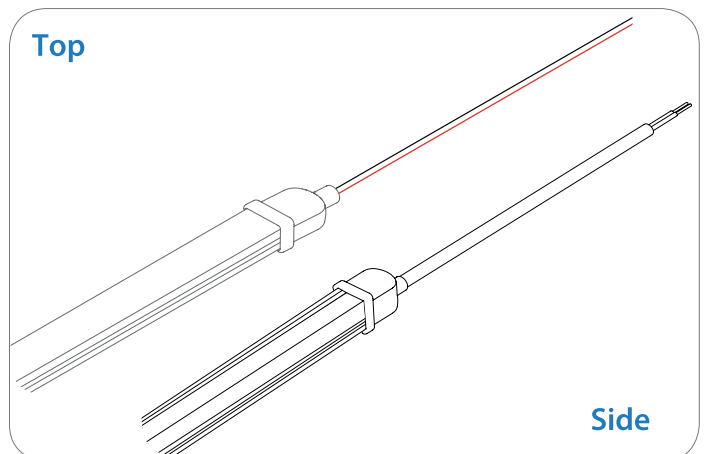
Submersible, chlorine resistant | (IP68)
Mirror Top Welded Connector
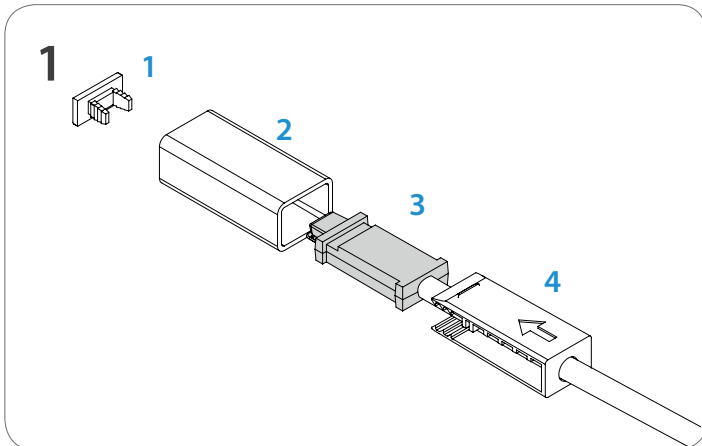*Factory Connected
Product code: 011290
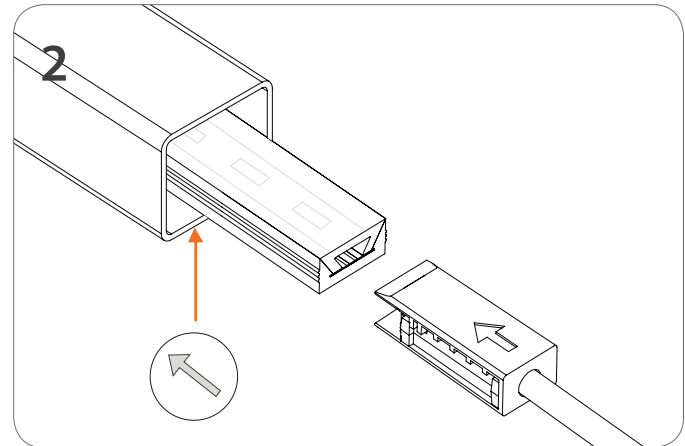**Mirror Side Welded Connector**
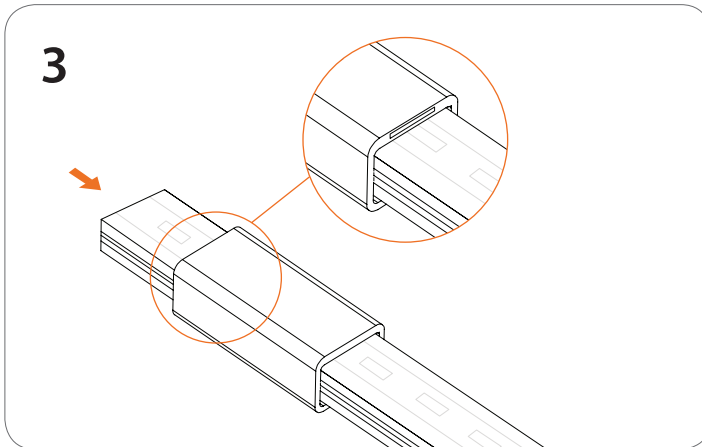*Factory Connected
Product code: 011291
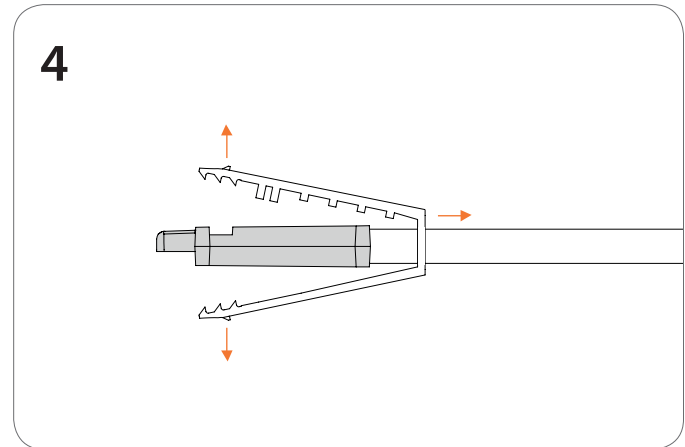
4

Connections (IP40)

1

The OrgaLED® IP40 Connector consists of: End cap (1), Shell (2), Connector (3), Clamp (4).

2

Take into account the direction of the arrow on the bottom of the OrgaLED® LED strip and align it with the arrow on the clamp (4).

3

Place the shell (2) over the LED strip. Make sure the side with the small-est opening is put on first.

4

Side view | Slide the clamp (4) over the cable to reveal the connector (3).

5 Top
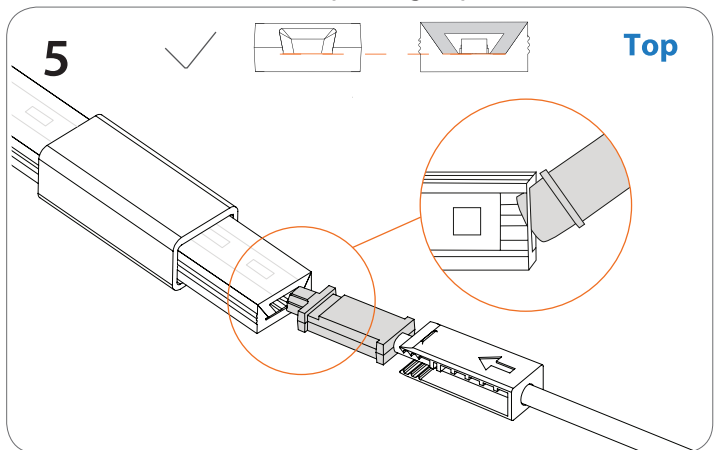
Slide the Top connector (3) sideways into the hollow chamber of the OrgaLED LED strip.
Side view | Do **not** cut the PCB!

6 Side

Side view | Make sure the connector and the PCB are perfectly horizontally alligned.

5

7

Slide the clamp (4) over the connector (3) and make sure that the arrow is on the upper side.
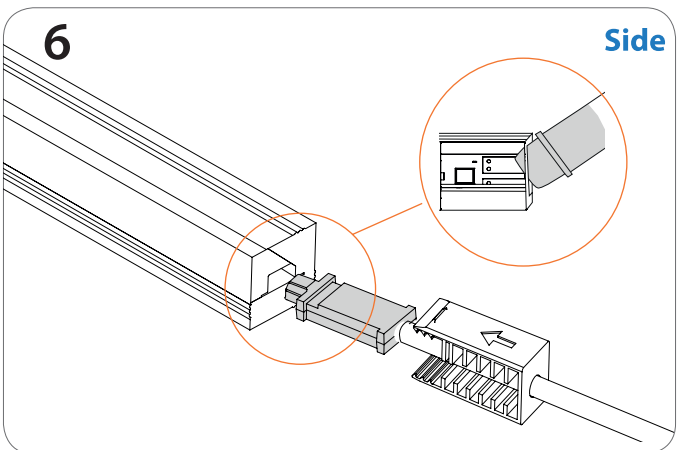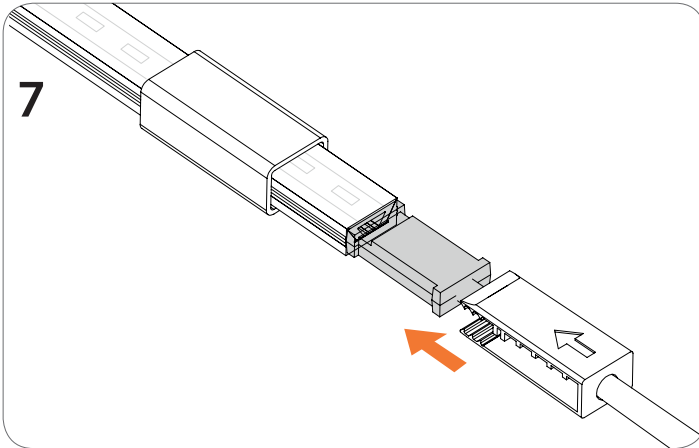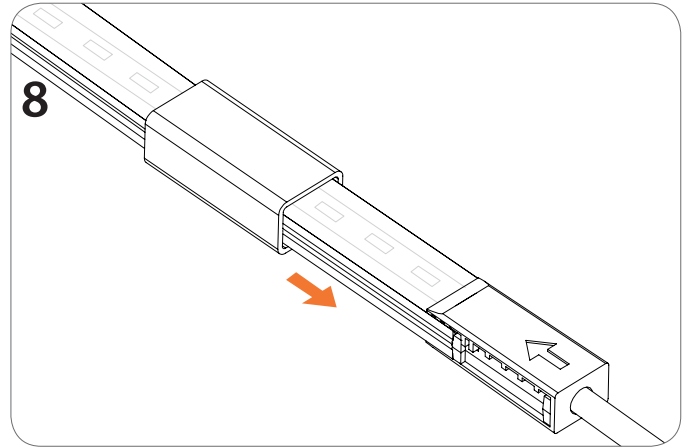
8

Slide the shell (2) partly over the clamp (4).

9
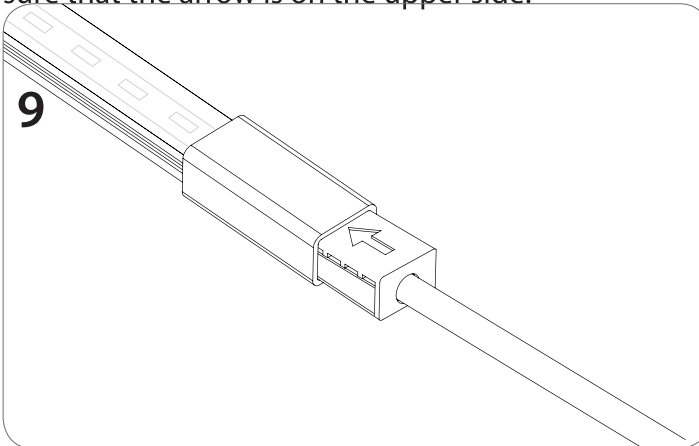
Test the OrgaLED® LED strip before you slide it fully over the clamp (4).

10
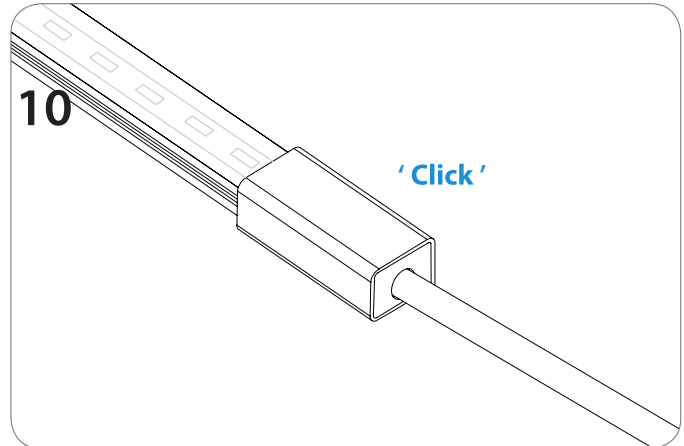
' Click '

Slide the shell (2) entirely over the clamp (4) and push firmly until it 'clicks'.

11
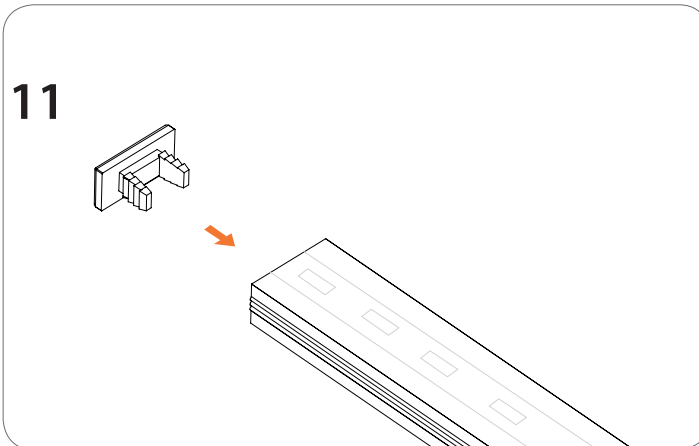
Finish the connection by inserting an end cap (1) in the hollow chamber on the end side of the OrgaLED® LED strip.

12
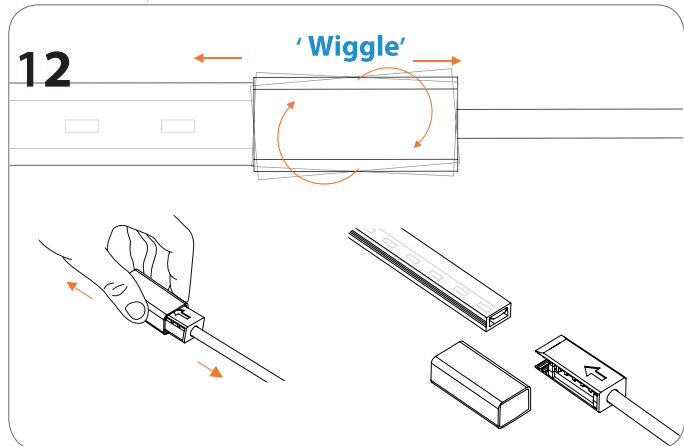
' Wiggle'

Uninstalling the connector multiple times may weaken the connection point over time. To remove 'wiggle' the connection from the LED and pull apart in the opposite direction. Do **not pull on the cord.

6

3

.31 in ⌀ .013 in

⌀ .02 in^2

Solder the wires to the PCB. We advise to use a cable with an area not higher then 0.02 in.

3

The end result after cutting the LED strip extrusion should look similar to the image above.

Side view | Do **not** cut the PCB!

9

662°F

Solder the wires to the connector pads, making sure the solder does not flow out of the pad areas, which could cause a short.

4
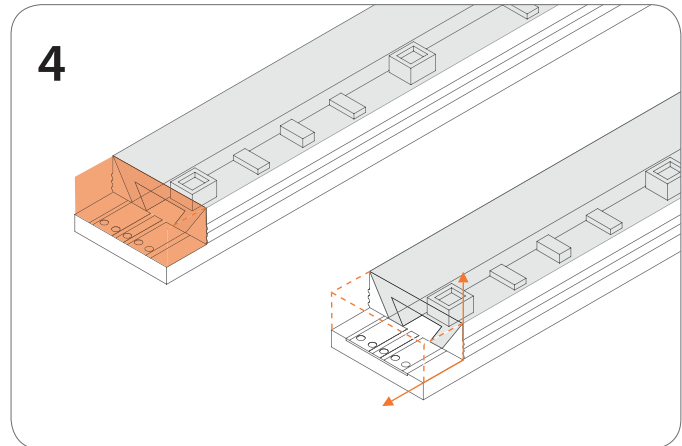
Top view | Only cut the LED strip extrusion on the dotted line of the extrusion to prevent damaging the PCB. Carefully cut this part of the extrusion, we recommend folding up to use as a cover once the solder is finished.
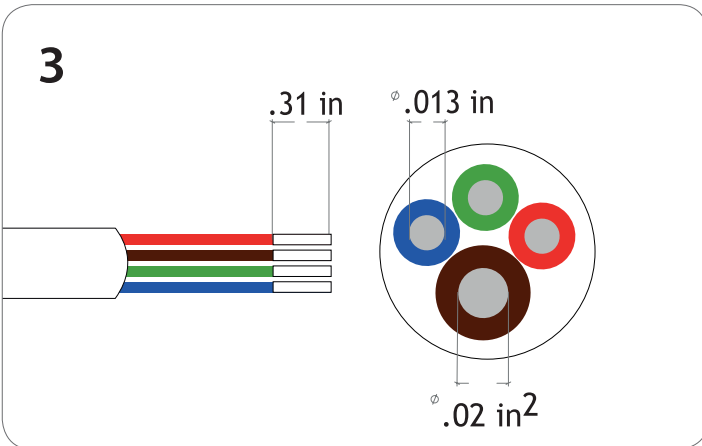
4

662°F
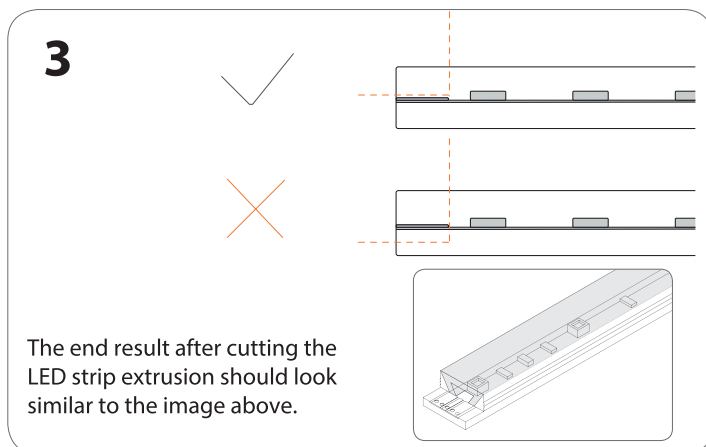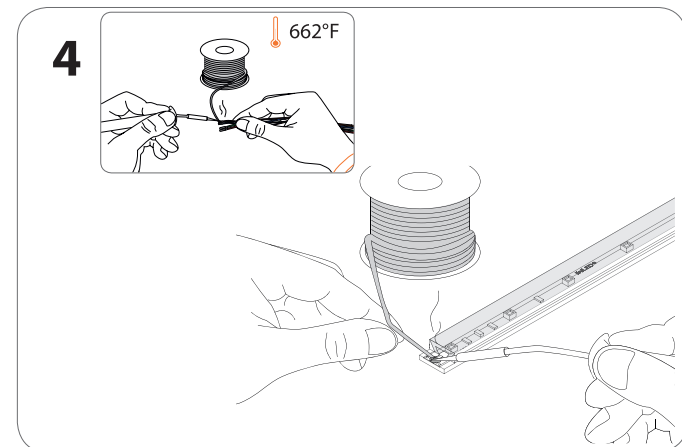
Pre-solder the connector pads before soldering the wires**.** 662°F

10

Connect the OrgaLED® LED strip to the power supply (24 V DC) con-stant voltage.

7

*Read the instructions and safety precautions before installation, usage and storage of the products to secure safety of the user and reliability of the product. **Hand over the instructions to the end-user and/or those responsible for installation, maintenance and usage.***

- Organic Lighting Systems, Inc. cannot be held responsible for improper handling, product installation, usage or storage.

Handling

- Handle with care.
- The product may not be modified or converted otherwise than prescribed.
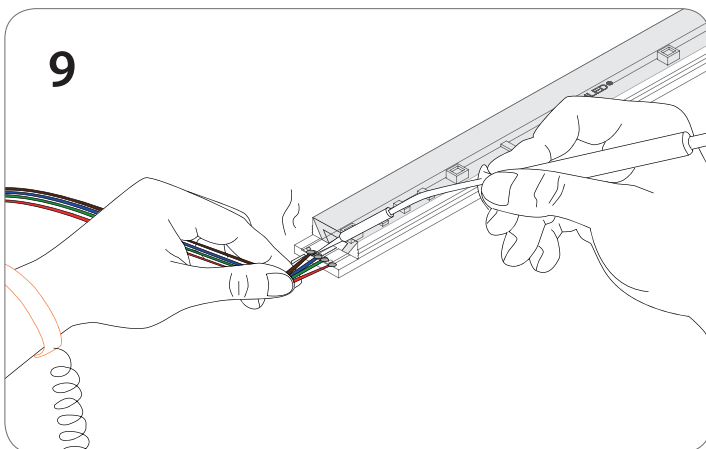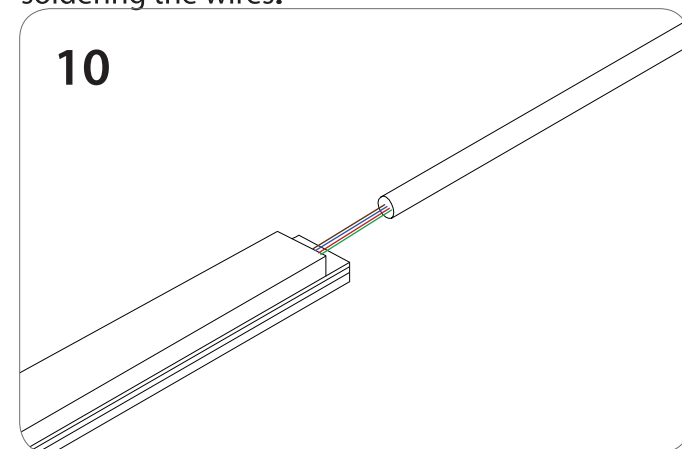- Products are transported in proper packaging. Products should remain packed until installation.

Installation

- Attention: The power has to be switched off the main power supply or the connection before installation. Not doing so may damage the product.
- Use a suitable LED power supply/driver: 24 V DC constant voltage. Do not drive the product on other voltages than described in their datasheet/products specifications.
- Installation has to be done by a certified professional with knowledge of electrical circuits or a specialised maintenance person known with valid directives.
- General and local construction, safety- and installation regulations should be respected.
- Use only supplied parts, accessories and required tools as prescribed in the installation manual to guarantee a safe installation and use of the product.
- Products may solely be installed in the areas according to their prescribed IP-rating, IK-rating, temperature range and chemical resistances.
- Do not fasten anything on the product, same applies for hanging.
- Do not install the product in the following cases:
    - Damage is visible on the product or its cables.
    - The inside of the product is moistened or dirty.
    - The product or its cables have been modified. It could lead to an electrical shock or a short circuit may occur.
- Children may not play unsupervised with electrical products as they cannot judge the dangers in dealing with electrical circuits correctly.

Operation and Use

Solely use the product when its working correctly. If not, switch the power off immediately and advise an electrical specialist in the following case.

- Damage is visible on the product.
- The product does not function.
- Smoke or steam rises from the product.
- Crackling sounds are noticeable.
- The product is overheating.
- Repairs on the installation may only be performed by qualified electricians. Product repairs may solely be done by Organic Lighting Systems, Inc.

Cleaning and Maintanence

- Attention: Disconnect the power before maintenance and cleaning.
- Dust and dirt accumulated over time should be removed from the light-emitting surface to assure optimal functioning of the product.
- Paints, solvents and corrosive cleaning chemicals may not contact and thus affect the product.

Environment and Waste

- Exterior decorative lighting should only be used after sunset.
- This product may not be treated as household waste. Dispose of the material through the waste recycling of electrical and electronic equipment.
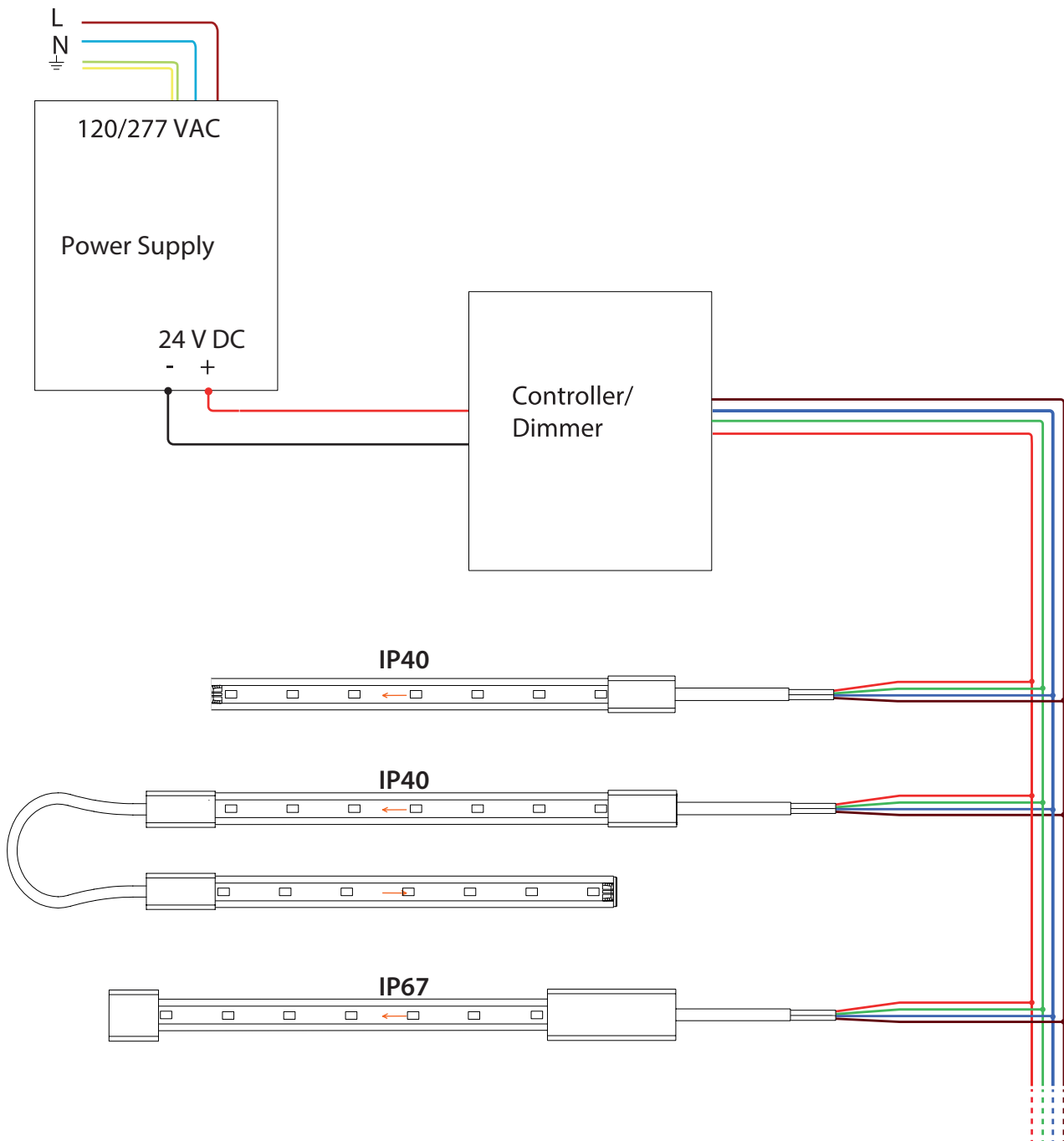
Connect the LED strip as indicated in the figure above.

The following chart gives the maximum 24V supply cable run lengths based on 22AWG, 20AWG, 18AWG, 16AWG and 14AWG wire gauge to avoid voltage drop to the strips, with a 3ft liniLED connector cable length.

A wiring plan with branches from a single power supply connection cannot exceed the maximum connector strip length shown on the charts and if complex will require special electrical calculations to ensure adequate power to maintain full LED output.

Top/Side Connector, 3ft   **Result**
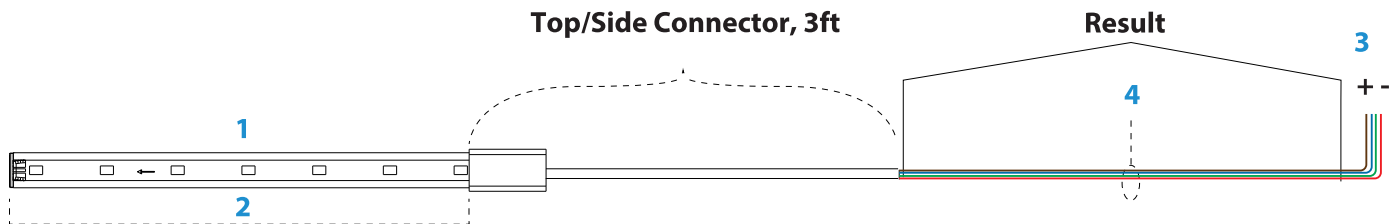
Result = Maximum cable length based on the cable thickness and power supply voltage.

1. Color Temperature	RGB 160							
2. LED Strip Length	3'		6'		16'		33'	
3. Voltage	24V DC	25V DC	24V DC	25V DC	24V DC	25VDC	24V DC	25V DC
4. Cable Size 22 AWG	206'	399'	101'	197'	38'	76'	17'	36'
20 AWG	441'	355'	142'	279'	81'	164'	36'	78'
18 AWG	587'	1137'	288'	563'	108'	218'	49'	103'
16 AWG	882'	1710'	433'	847'	163'	328'	73'	156'
14 AWG	1469'	2846'	720'	1409'	271'	547'	121'	259'

1. Color Temperature	RGB 240					
2. LED Strip Length	3'		6'		16'	
3. Voltage	24V DC	25V DC	24V DC	25V DC	24V DC	25VDC
4. Cable Size 22 AWG	206'	399'	101'	197'	38'	76'
20 AWG	441'	855'	141'	279'	81'	164'
18 AWG	586'	1137'	288'	399'	108'	218'
16 AWG	882'	1710'	433'	847'	163'	328'
14 AWG	1469'	2846'	720'	1409'	271'	547'

Product Specifications

| RGB Top	RGB 160	RGB 240
Product code	011602	012139
Luminous flux	42 lm/ft (R-14.93, G-27, B-3.65)	71.65lm/ft (R-24.7, G-45.12, B-7.32)
Luminous efficiency	29 lm/W	31.7 lm/W
Beam angle	110°	
Dimensions	0.21 x 0.47 in	

RGB Side		
Product code	011760	011597
Luminous flux	29.5 lm/ft (R-10, G-18.9, B-2.4)	51.2 lm/ft (R-16.7, G-33.5, B-5.4)
Luminous efficiency	20 lm/W	23 lm/W
Beam angle	110°	
Dimensions	0.47 x 0.47 in	
Power (24 V DC)	1.46 W/ft	2.26 W/ft
- Red	0.61 W/ft	0.82 W/ft
- Green	0.61 W/ft	0.88 W/ft
- Blue	0.24 W/ft	0.61 W/ft
Power (25 V DC)	1.52 W/ft	2.35W/ft
CRI	> 80	> 80
Spool length	Max. 164 ft	
Section length	7.87 in	
LED	MULTILED	
Number of LEDs	7 per section / 10.67 per ft	
Max. connection length	32.8 ft	16.4 ft
Operation voltage	24 V DC	
Max. operation voltage	25 V DC	
Dimmable	PWM dimming, 0-10V dimming	
Binning	± 50K (single bin)	
Weight	1.6 oz/ft	
Expected lifetime	B50/L70 > 50,000 hours @ 104 °F	
Degree of protection (IP)	IP40 (IP68 with mirror welded connector)	
Storage temperature	-22 °F - 185 °F	
Operation temperature	-22 °F - 131 °F	
Minimal bending radius	1.2 in	

Max. connection length between -4 °F and -22 °F is 23 ft (RGB 160) and 11.5ft (RGB 240)

Symmetric Diagram
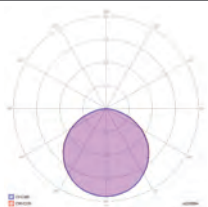
Asymmetric Diagram

11
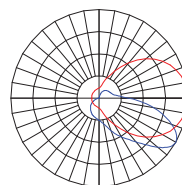
Symbols

UL is a world leader in product safety testing and certification. UL sets standards and tests products to make sure they meet standards.

The ETL Listed mark indicates that your product has been tested by Intertek and found in compliance with accepted UL standards.

Electro Static Discharge (ESD) sensitive device, apply standard ESD precautions when handling the product.

Manufacturer's declaration that the product meets the applicable EC directives.

Suitable for mounting on all surfaces and suitable to cover with insulating material.

Restriction of Hazardous Substances (RoHS): product complies with the RoHS directive and each homogeneous material does not exceed the limits for the materials mentioned under the RoHS directive (Pb, Hg, Cd, Cr6+, PBB and PBDE).

This product can be both IP40 and IP68 depending on the configuration and application. See the documentation for the exact IP rating.

Bending of the LED strip is possible with a radius of ≥ 1.2 inches in the specified direction.

Electrical appliance class III: this product is designed to be supplied from an extra-low voltage (≤ 60.0 V DC or ≤ 42.4 V AC).

System guarantee of 5 years when the complete system consist of OrgaLED® products with the 5 year system warranty logo.

Product is resistant against ultraviolet (UV) light or sunlight. Non-UV resistant products can degrade or discolor fast when exposed to UV.

Product can be cleaned with normal cleaning agents as specified in the datasheet under 'chemical compliances.'

This product can be stored and used below 32 degrees Fahrenheit. Verify the minimum storage and operation temperature in the datasheet for the lowest temperature allowed.

This product can be applied in seawater and its environment. Elements in seawater will have no harmful effect on the product. For chemical specifications see datasheet. Verify the IP rating for proper use.

This product can be applied inside swimming pool environments. Elements in the air will have no harmful effect on the product. For chemical specifications of these elements see datasheet. Verify the IP rating for proper use.

This product is available on request and can be submerged n swimming pools and their environments. Disinfectants will have no harmful effect on product. For chemical specifications of these elements see datasheet. Verify the IP rating for proper use.

The CRI value of this product is 80 or higher.

The binning tolerance of this product is 2 MacAdam.

Disclaimer

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