

# Kessil

LED Aquarium Lighting

## AP9 X

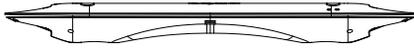


## USER MANUAL

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# INSIDE THE BOX



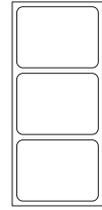
AP9X



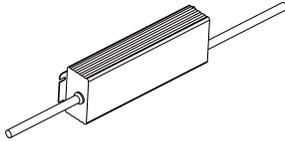
Kessil Sticker



Warranty Card



QR Code Stickers  
(This is for wireless connection process, please SAVE these stickers)



Power Adapter

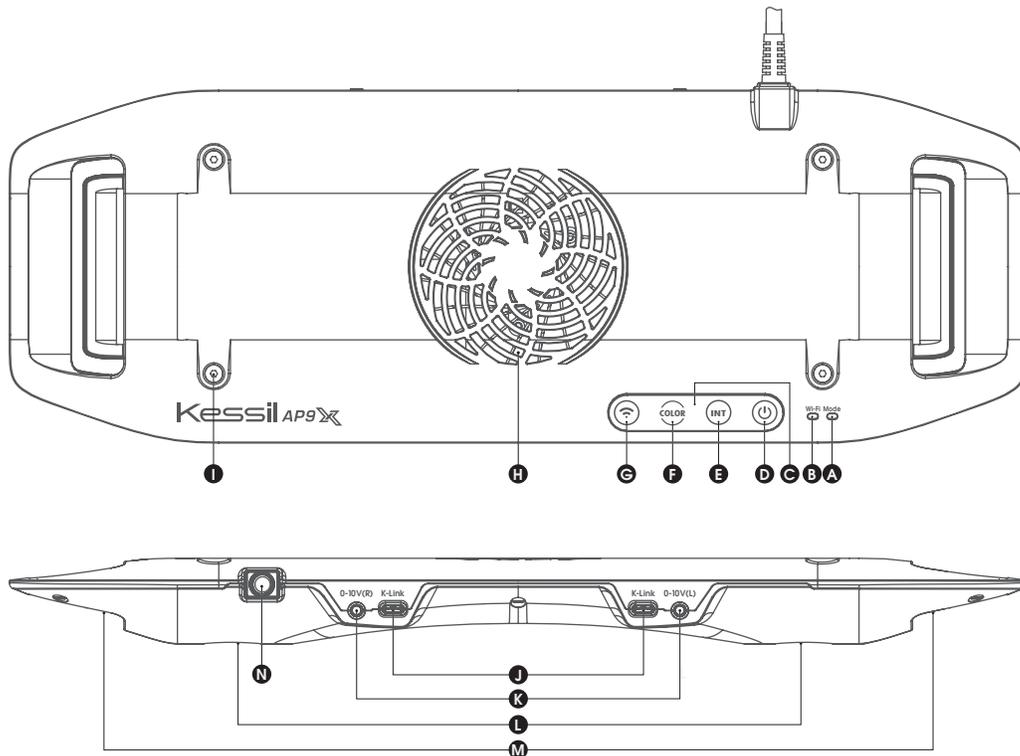


AC Adapter Cable  
(Plug type varies from country to country)



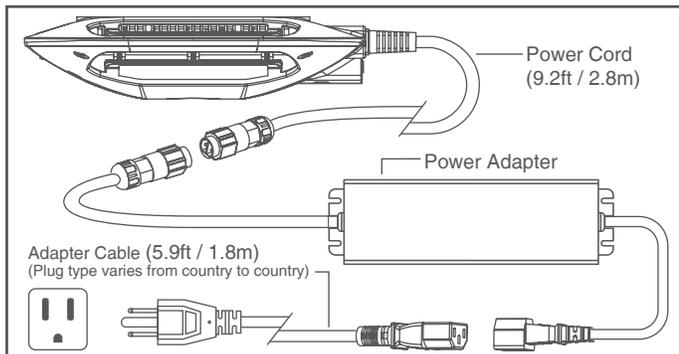
Screw Hook & Hanging Bracket x4

# PARTS DIAGRAM



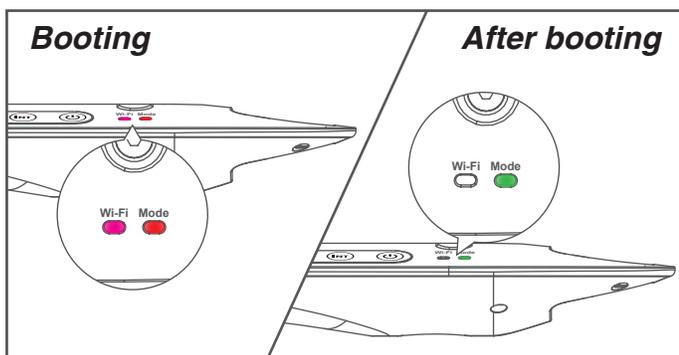
- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li><b>A</b> Mode Indicator</li> <li><b>B</b> Wi-Fi Indicator</li> <li><b>C</b> Touch Panel - Touch once to activate</li> <li><b>D</b> Power - Turn the AP9X on or off.</li> <li><b>E</b> Intensity - Adjust the intensity of the light.</li> <li><b>F</b> Color - Adjust the color of the light.</li> <li><b>G</b> Wi-Fi - Turn on/off the Wi-Fi signal.</li> <li><b>H</b> Fan (Air Inlet)</li> </ul> | <ul style="list-style-type: none"> <li><b>I</b> Screw Holes - For AP9X Mounting Arm / Hanging Kit / Brackets</li> <li><b>J</b> K-Link Ports</li> <li><b>K</b> 0-10V Output Ports</li> <li><b>L</b> LED Arrays + Reflectors</li> <li><b>M</b> Vents (Air Outlet)</li> <li><b>N</b> Power Cord</li> </ul> |
|---|---|

# INSTALLATION



## Step 1 Power

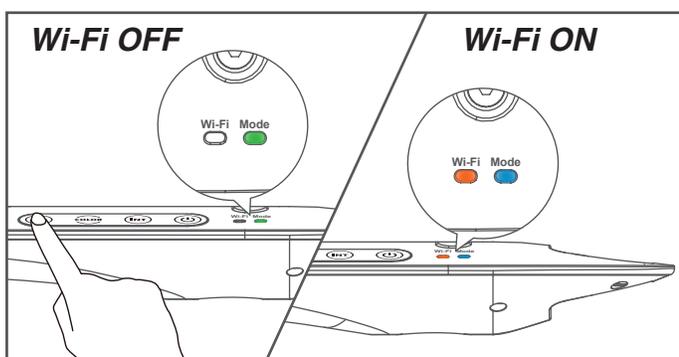
Connect the AP9X to the Power Adapter and plug it into a wall outlet. The Wi-Fi Indicator (B) will be **solid purple** to indicate booting mode (it may take up to 40 seconds).



## Step 2 Booting

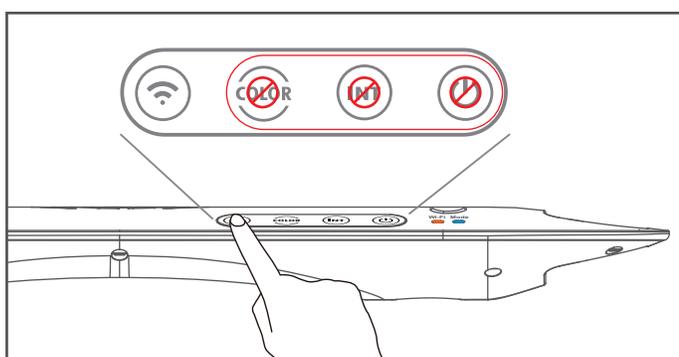
The AP9X requires up to 40 seconds to boot. The Wi-Fi Indicator (B) will first show **solid purple** light, and then disappear. The Mode Indicator (A) will then show **solid green** light.

**\* The light will be turned on automatically. DO NOT place the AP9X on any object.**



## Step 3 Turn On Wi-Fi for App Connection

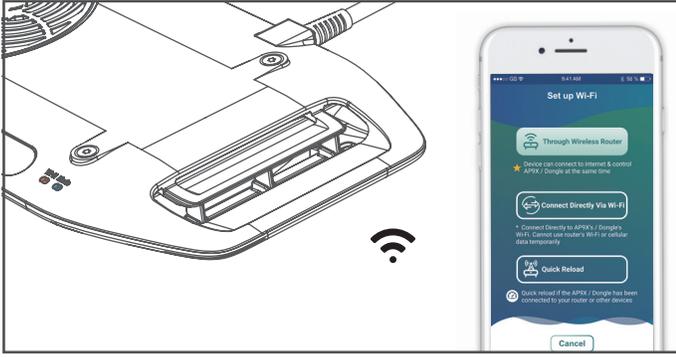
Touch and hold the Wi-Fi (G) button for 3 seconds to turn on Wi-Fi signal. Do the same to turn off Wi-Fi signal.



## NOTE Control Buttons Disabled

When the Wi-Fi of AP9X is turned on (Wi-Fi indicator is ON), control buttons are disabled. Turn off Wi-Fi (press "Wi-Fi" (G) button for 3 seconds) for manual control on touch panel.

# CONNECTION



## Step 1 Download “Kessil WiFi” App

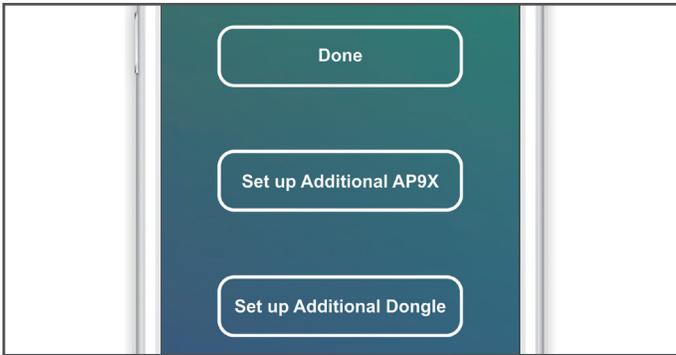
Download the “Kessil WiFi” app\* in App Store or Google Play Store.

\* Only supports iOS 10.0 or above and Android 5.0 or above



## Step 2 Connection

Open the “Kessil WiFi” app and follow the instructions in the app to connect to AP9X. You will need the QR Code Sticker provided in the package. **If you wish to enter the password manually, the password is reverse of the S/N of the AP9X (capital letter matters).**

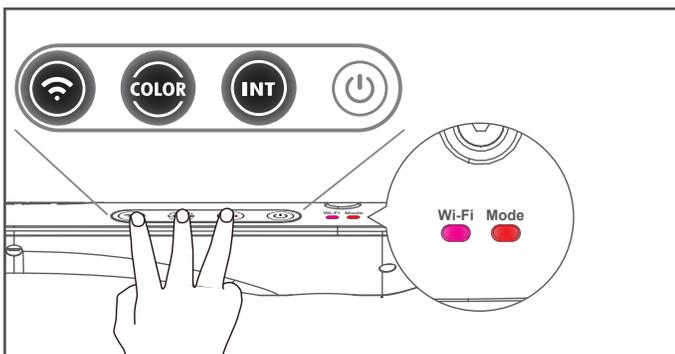
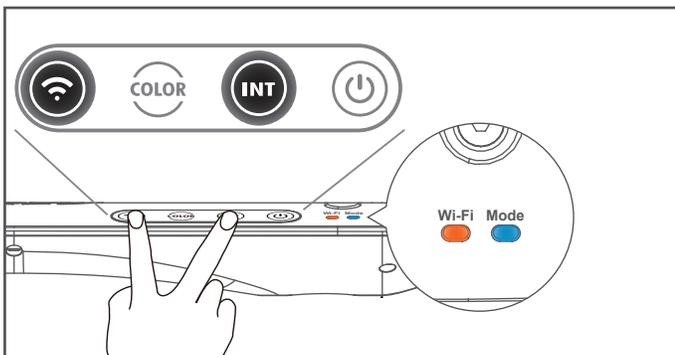
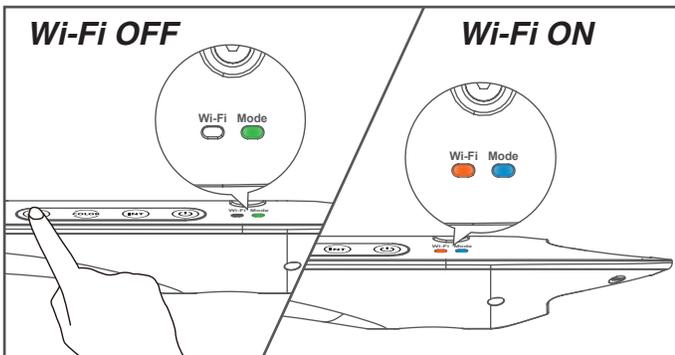
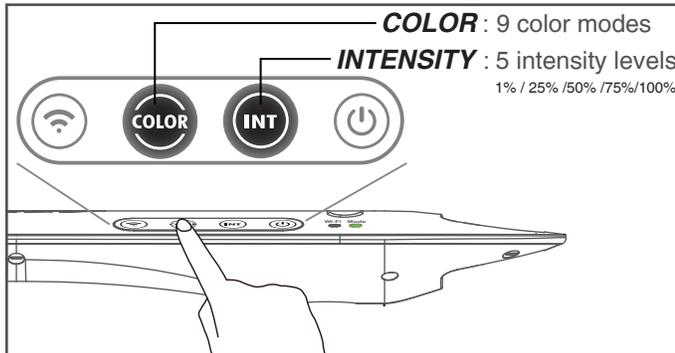
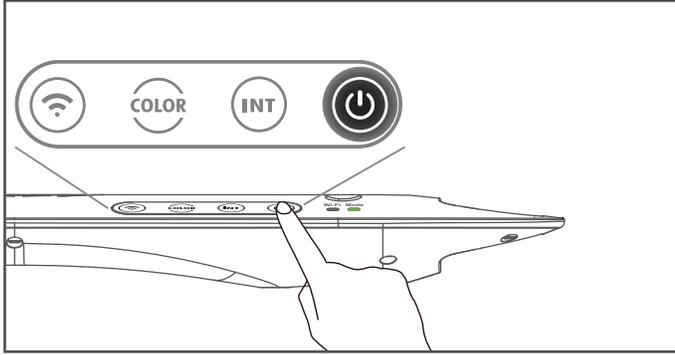


## Step 3 Set up More AP9X

If you have more AP9Xs, choose "Set up Additional AP9X". Choose "Done" if you complete the setup.

# TOUCH PANEL

Touch the Touch Panel (C) once to activate



## • Turn On/Off the AP9X

Touch the Power (D) button to turn on/off the AP9X. When the AP9X is off, the Power (D), Intensity (E), or Color (F) buttons can be used to turn on the AP9X.

## • Manual Control

Touch the Intensity (E) button and Color (F) button to adjust the intensity and color of the AP9X. Intensity levels and color modes are in cycles.

## • Turn On Wi-Fi for App Connection

Touch and hold the Wi-Fi (G) button for 3 seconds to turn on Wi-Fi signal. Do the same to turn off Wi-Fi signal.

## • Reset the AP9X Wi-Fi Configuration

Touch and hold the Intensity (E) & Wi-Fi (G) buttons simultaneously for 3 seconds to reset the Wi-Fi configuration (i.e. to reconnect). The Mode indicator (A) will first disappear and then **blink red** at 3 seconds. User's settings will not be deleted. The Wi-Fi Indicator (B) will change to **solid orange**.

## • Factory Reset the AP9X

Touch and hold the Intensity (E), Color (F) & Wi-Fi (G) buttons simultaneously for more than 10 seconds to reset the AP9X. The Mode indicator (A) will first disappear and then **blink red** at 10 seconds. User's settings will be deleted. The Wi-Fi indicator (B) will be **solid purple** to indicate booting mode (may take up to 40 seconds) - See INSTALLATION Step 2.

# WI-FI INDICATOR STATES

		Wi-Fi_AP Mode <small>(Allow other Wi-Fi devices to connect to itself)</small>	Wi-Fi_STA Mode <small>(To connect to a wireless router or master Kessil Wi-Fi enabled products)</small>
Wi-Fi ON	Booting	Solid Purple	Solid Purple
	Standby / No Connection	Solid Orange	Solid Red
	Connected	Solid Blue	Solid Green
Wi-Fi OFF		No Light	No Light



## Solid Purple

The AP9X requires up to 40 seconds to boot. The AP9X Wi-Fi Indicator (B) will show **solid purple** light.



## Solid Orange

Standby mode, ready to be connected.



## Solid Blue

AP mode. Successfully connected to mobile device and act as the master (through "Connect Directly Via Wi-Fi").



## Solid Red

Attempting to connect. If it stays for more than 3 minutes, reset AP9X's WiFi configuration (Touch and hold the Intensity (E) & Wi-Fi (G) buttons simultaneously for 3 seconds) and add the AP9X in the app again.



## Solid Green

STA mode. Successfully connected to wireless router or to a master Kessil Wi-Fi enabled product as slave.



## Blinking Green

When updating the AP9X's firmware through Kessil WiFi app, the Wi-Fi Indicator (B) will **blink green** light.

# MODE INDICATOR STATES

	Mode
Booting	Solid Red
Control buttons enabled	Solid Green
Control buttons disabled	Solid Blue



## Solid Green

Control buttons enabled. Able to control other K-Link daisy-chained fixtures.



## Solid Blue

Control buttons disabled when the Wi-Fi of AP9X is turned on or when there is a K-Link signal input (e.g. Spectral Controller X).



## Solid Red

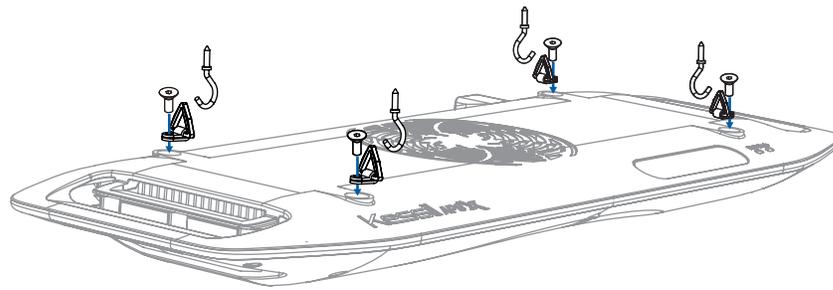
The AP9X requires up to 40 seconds to boot. The AP9X Mode Indicator (A) will show **solid red** light.



## Blinking Red

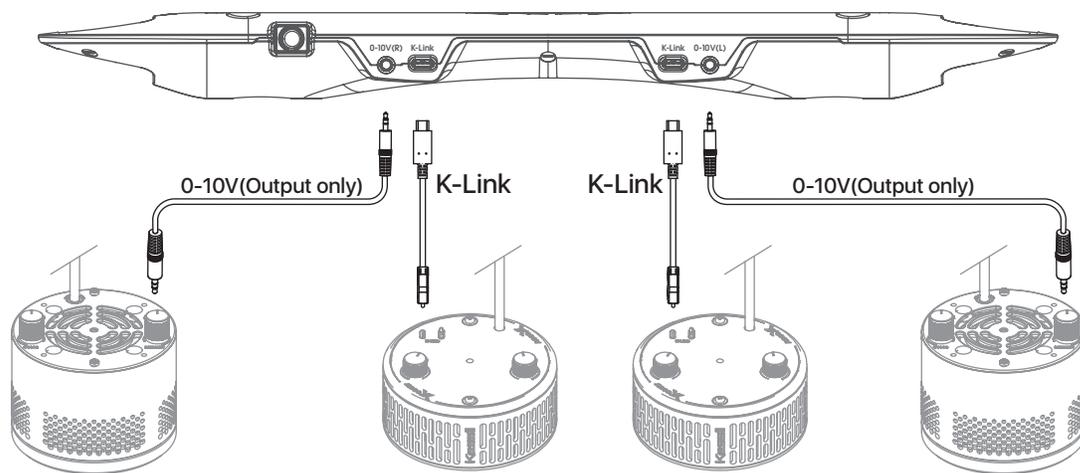
Error mode. One of the main causes is signal collision, touch and hold the Wi-Fi (G) button for 3 seconds to turn off Wi-Fi signal.

# MOUNTING



- Hang the light with the four Screw Hooks and the four Hanging Brackets.
- To install the Hanging Brackets, remove the screws on the AP9X, use the same screws to secure the fasteners with triangular rings (Hanging Brackets) onto the light fixture.

# CONTROLLING MULTIPLE K-LINK & 0-10V FIXTURES

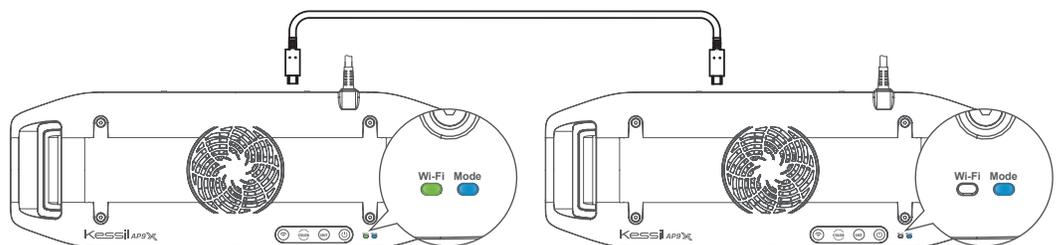


- Two K-Link ports (J): Connect and control multiple X-series K-Link fixtures using "Kessil WiFi" app and K-Link Cables. When connecting Kessil Wi-Fi enabled products, make sure to turn off the Wi-Fi signal of the slave fixtures. When controlling them (Tuna Blue only) manually, tuning controls on any light control all other lights in chain.
- Two 0-10V Output ports (K): Connect and control multiple 0-10V fixtures using "Kessil WiFi" app.

# AP9X DAISY-CHAIN SCENARIO



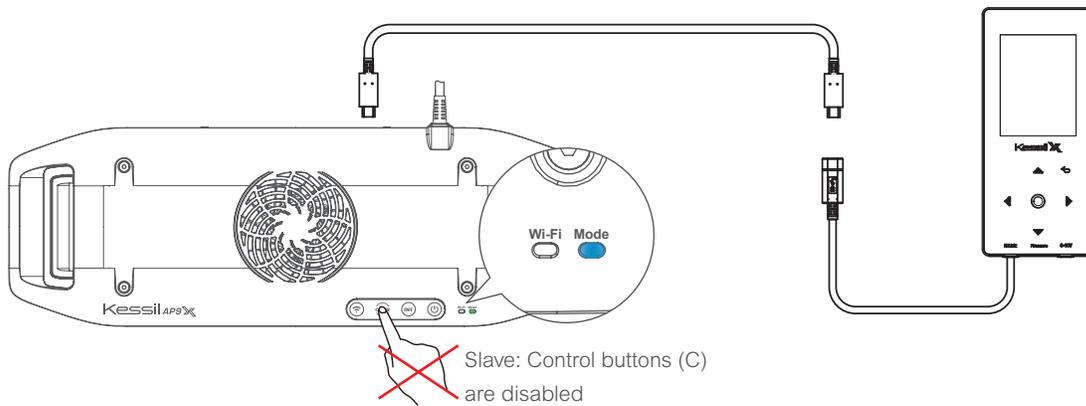
Wireless Router



Multiple AP9X (up to 32 K-Link fixtures) can be connected using "Kessil WiFi" app and K-Link Cables. Only the master AP9X should have Wi-Fi signal turned on (Wi-Fi indicator (B) is ON), Wi-Fi signal on the other fixtures should be OFF.

Mode Indicator (A) will be **solid blue** and control buttons are disabled.

# CONTROLLED BY SPECTRAL CONTROLLER X



- AP9X can be connected and controlled through Kessil Spectral Controller X with a K-Link Cable.
- The AP9X control buttons will be disabled.

## MAINTENANCE

1. Keep the Fan (Air Inlet) (H) and Vents (Air Outlet) (M) clear of dust. To clean the fan, unplug the unit and insert the tip of a CO2 dust blower (or similar dust blower) in one of the venting holes for the Fan (Air Inlet) (H). Hold and spray. You can also gently vacuum out the dusts through the venting holes.
2. Keep the LED Arrays + Reflectors (L) clean. If the array lenses and reflectors become contaminated with water, dust, or other particles, unplug the unit and clean them with isopropyl alcohol. Wet a cotton swab or a napkin in isopropyl alcohol, gently wipe the surface, and let it dry.
3. Keep plastic covers for K-Link Ports (J) and 0-10V Output Ports (K) plugged in when the ports are not in use. Keep the ports clean all-time.

## TROUBLESHOOTING GUIDE

Please make sure to perform maintenance before doing any troubleshooting.

Problem	Cause / Solution
Light doesn't turn ON	Make sure the unit is connected to the power adapter and the power adapter is plugged into an outlet with the correct specifications.
	Make sure the power adapter has the right specifications.
	Make sure electrical power is available to the AC outlet being used.
	Make sure the device is operating within the specified operating temperature range. If unit overheats, it will automatically shut down.
Unit is flickering	Make sure the power adapter has the right specifications.
	Make sure the unit has not overheated by operating at a room temperature above 100°F/40°C.
	Make sure the fan is operating properly.

# SAFETY INSTRUCTIONS

1. **Caution:** Misuse of this device contrary to these instructions may result in physical injury or damage to the product.
2. **DO NOT** use a power adapter outside of the specifications. This is a fire hazard and may lead to unit failure.
3. **DO NOT** use outdoors. This unit is intended for indoor use only.
4. **DO NOT** expose unit to an extremely humid environment or submerge unit in water. This may lead to unit failure.
5. **DO NOT** place working illuminator in close contact with any objects. This may cause objects to heat up and the unit to overheat.
6. **KEEP** LED Arrays + Reflectors (L) away from sharp objects. Sharp objects may break the array lens and lead to unit failure.
7. **DO NOT** cover or place objects on the power adapter. Power adapter should not be contained in an airtight space.
8. **DO NOT** block or cover the Fan (Air Inlet) (H) or Vent (Air Outlet) (M). This may cause the device to overheat and lead to failure.
9. **ENSURE** that the light is correct and securely mounted.

# INSTRUCTIONS DE SECURITE

1. **Attention:** Une mauvaise utilisation de cet appareil contrairement à ces instructions peut entraîner des blessures ou endommager le produit.
2. **N'UTILISEZ PAS** d'adaptateur secteur en dehors des spécifications. Il s'agit d'un risque d'incendie et peut entraîner une panne de l'unité.
3. **NE PAS** utiliser à l'extérieur. Cet appareil est destiné à une utilisation en intérieur uniquement.
4. **N'exposez PAS** l'appareil à un environnement extrêmement humide et ne l'immergez pas dans l'eau. Cela peut entraîner une panne de l'unité.
5. **NE** placez **PAS** l'illuminateur de travail en contact étroit avec des objets. Cela peut provoquer une surchauffe des objets et une surchauffe de l'appareil.
6. **Gardez** la matrices LED + le réflecteurs (L) loin des objets pointus. Des objets tranchants peuvent briser la lentille du réseau et entraîner une défaillance de l'unité.
7. **NE PAS** couvrir ni placer d'objets sur l'adaptateur secteur. L'adaptateur secteur ne doit pas être contenu dans un espace hermétique.
8. **NE PAS** bloquer ou couvrir le ventilateur (entrée d'air) (H) ou l'évent (sortie d'air) (M). Cela peut entraîner une surchauffe de l'appareil et entraîner une panne.
9. **ASSUREZ-VOUS** que la lumière est correcte et solidement montée.

# FCC STATEMENT

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

## FCC Caution:

- Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.
- This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

## Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 8 inches (20cm) between the radiator & your body.

# SPECIFICATIONS

Unit Dimensions and Weight			
Dimensions	16.46" x 5.71" x 1.42" (418mm x 145mm x 36mm)		
Weight	2.29 lbs (1.04 kg)		
Illuminator		Power Adapter	
Power Consumption	185W maximum	Input	100-240V~ AC 50-60 Hz
Input Voltage	48V DC $\pm$ 5%	Output	48V DC, maximum 4.2A
Wi-Fi Module			
Operating Frequency	IEEE 802.11b/g/n(2.4GHz) & IEEE 802.11a/ac(5GHz)		
Network Encryption Type	WPA-PSK / WPA2-PSK <small>(Do not support WEP, WPA-Enterprise, WPA2-Enterprise, and Monitor Mode.)</small>		

## Kessil Lighting

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kessil.led



kessiltube



@kessil



@kessilled



kessil.com

This is a LED light source emitting 40 % or more of total radiation power of the range 250-800 nm in the range of 400-480 nm, and intended for coral growth.