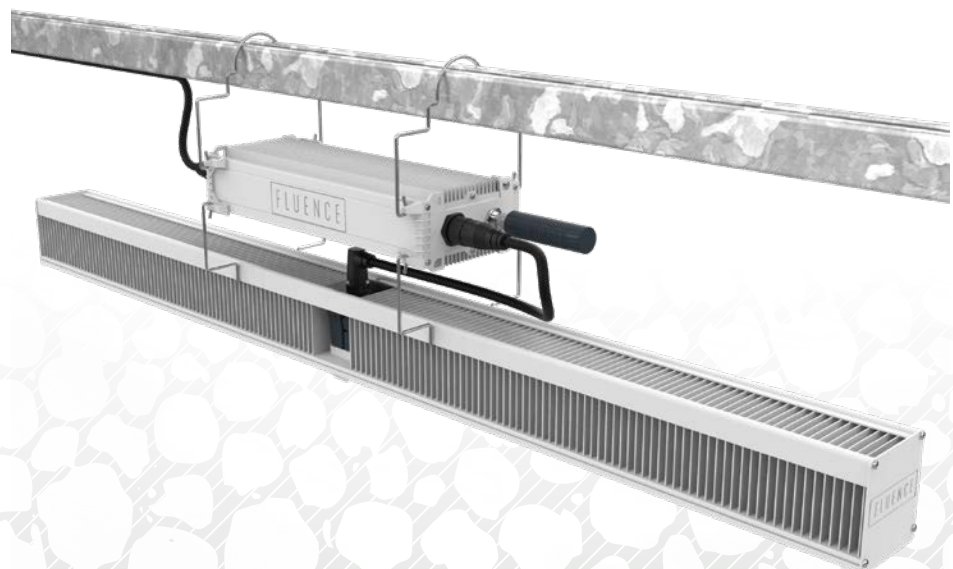




WIRELESS FLEX DIMMING SMALL ZONE QUICK-START INSTALLATION & COMMISSIONING GLOBAL





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1. INTRODUCTION

Thank you for choosing Fluence Wireless Flex Dimming, which utilizes qualified Bluetooth® mesh technology enabled by SILVAIR for wireless control of Fluence luminaires!

1.1 GLOSSARY OF TERMS

Please read first to become familiar with terms that you will see in Wireless Flex Dimming.

Device: A Fluence Wireless Flex Dimming 0-10V Adapter or Receiver. Also referred to as a Node.

Control Zone: A group of devices that are controlled together. A single Zone or multiple linked Zones in the Fluence Wireless Flex Apps is a Control Zone.

Channel: A single 0-10V dimming output on a controller or dimmer. One Channel controls one Control Zone.

Relay: A Bluetooth node which can repeat any signals that it receives to nearby nodes.

Hops: Bluetooth wireless communication travels from relay to relay. A hop is a transmission from one relay to another.

Mesh Networking: A mesh network supports multiple paths from point A to point B, allowing for large networks over a long distance.

Fluence Wireless Flex uses a three-tiered hierarchical structure for mapping devices to their physical location: **Project → Area → Zone**

Project: The top-level grouping, a Project typically denotes an independent installation like a facility or building. It can also represent a single room or floor for smaller installations. Each user can create multiple projects as required. Each project can have a maximum of 8,000 to 10,000 devices.

Area: The mid-level grouping, an Area typically denotes a floor of a building or a house or bay in a greenhouse. Each Project can have 40 – 50 areas. We recommend 200 devices maximum per area, although up to 300 are supported. All devices in an area can be controlled together if desired (through zone linking), but each individual zone can also be controlled separately.

Zone: The lowest-level grouping; all devices in a Zone are controlled together. We recommend 20 – 30 devices per zone. Each project can have up to 2,000 zones.

1. INTRODUCTION

Use this simple procedure to easily install and commission Wireless Flex Dimming for use with almost any 0-10V Analog lighting controller if:

- There are less than 30 devices per control zone.
- The distance from the Wireless Flex Dimming 0-10V Adapter location to the furthest Wireless Flex Dimming Receiver in the zone is no more than 50 ft (15.24 m) with no obstructions in between them, or 30 ft (9.1 m) with obstructions like walls, metal posts, or metal racks.

If there are several zones, zones with more devices per control zone, and/or with longer distances, the installation will require further planning and additional commissioning steps. In this case, please instead refer to the following guides:

Wireless Flex Dimming Hardware Installation Guide

Wireless Flex Dimming External Relay Implementation Guide

Wireless Flex Apps Quick-Start Commissioning Guide

Wireless Flex Dimming Apps Commissioning Guide (full reference for additional functions and features not listed in this guide, and troubleshooting)

All are available for download at: <https://fluence.science/products/wireless-flex-dimming/>.

The installation process consists of two parts:

Part 1: Hardware Installation

Part 2: Commissioning via software apps

Fluence Wireless Flex mobile app for On-site Commissioning

System Requirements:

- iOS device with iOS 12 or higher
- Google Chrome web browser v.70 or higher (required to activate your Fluence Wireless Flex account)
- Bluetooth enabled on iOS device
- Internet data connection (WiFi or cellular, minimum 3G)

Be sure to check in advance that a WiFi or cellular internet connection is available in the location of your 0-10V Wireless Adapters and Receivers/light fixtures. The Internet connection is only required during commissioning.

Fluence Wireless Flex Web App for Off-site Planning

System Requirements:





- Microsoft Windows or Apple computer
- Google Chrome web browser v.70 or higher
- Internet data connection

CHEMICAL EXPOSURE PRECAUTION

Fluence lighting systems are designed to be resilient against crop protection products. Many chemicals used in the Commercial Horticultural Industry are corrosive to electronic equipment. Care should be taken to ensure that only approved crop protection products, cleaning agents and/or other chemicals (e.g., pesticides, fungicides and insecticides) may come in contact with the device. If the device is accidentally exposed to a corrosive liquid or vapor (e.g. VOC –Volatile Organic Compound and H₂S – Hydrogen Sulfide) the device must be rinsed with clean water as soon as possible. The product warranty will no longer apply if the product is repeatedly exposed or remains in the corrosive environment for a prolonged period. It is recommended the devices be removed and protected from the corrosive environment during all periods of aggressive disinfection or sanitization of the facility. The product warranty will be void if the product is repeatedly exposed to Sulfur.

1. INTRODUCTION

1.2 WIRELESS FLEX DIMMING LIGHT FIXTURE / POWER SUPPLY COMPATIBILITY

Fluence Light Fixture	Dimming Port	Wireless Flex Dimming Receiver
<p>VYPR 2p, 2x2 / 120-480V VYPR 2x / 120-400V</p> <p>VYPR 3p, 3x2 / 120-480V VYPR 3x / 120-400V</p> <p>SPYDR 2h, 2i, 2p / 120-480V SPYDR 2x / 120-480V SPYDR Fang 120-277V (replaces included dimmer)</p> <p>RAZR Modular / 120-480V</p> <p>RAPTR / 277-480V</p>	<p>M12</p> 	<p>WFDM-10538-01 WFDM-10538-01-AR Metal Threaded /M12 Female/3-pin</p> 
<p>VYPR 2p, 2x, 2x2 / 120-480V VYPR 3x / 480V</p> <p>SPYDR 2i, 2p, 2x / 120-480V</p>	<p>M16</p> 	<p>WFDM-10537-01 Plastic Push-Lock/M16 Female/3-pin</p> 
<p>VYNE, RAY, RAZR 2/3/4, RAZRx, SPYDRx/PLUS, VYPRx</p>		<p>NOT COMPATIBLE</p>

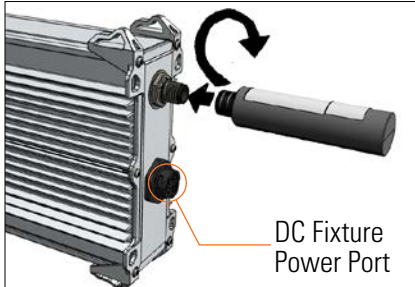
2. HARDWARE INSTALLATION

2.1 WIRELESS FLEX DIMMING RECEIVER

Install a Wireless Flex Dimming Receiver on each Fluence light fixture/power supply.

STEP 1:

Remove the dust cap from the light fixture power supply dimming port. The dimming port is the 3-pin connector located on the DC end of the power supply next to the 2-pin DC fixture power port that connects to the luminaire. Install the correct Wireless Flex Receiver on the Fluence light fixture dimming port per Figure A or B.

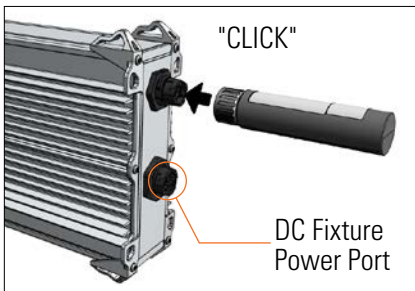


A. M12 (Metal) Dimming Port

Line up the pins and push in. Screw the locking ring clockwise until hand tight. To remove, unscrew the locking ring counterclockwise until loose and pull out.

M12 (Metal) Dimming Port

WFDM-10538-01



B. M16 (Plastic) Dimming Port

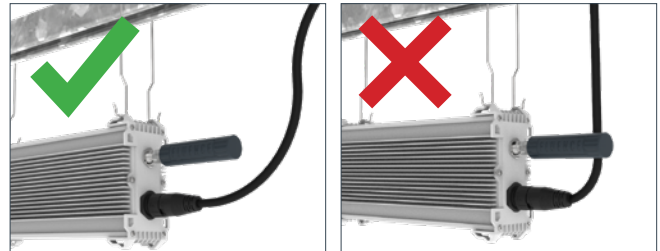
Line up the pins and push on until it clicks. To remove, twist the locking ring a quarter turn counterclockwise and pull out.

M16 (Plastic) Dimming Port

WFDM-10537-01



IMPORTANT: Ensure that the cable for the DC Fixture Power Port is run away from the Wireless Flex Receiver. The cable should not come closer to the Receiver than the distance between the DC Fixture Power Port and the Dimming Port.



STEP 2:

Remove the tear-off portion of the product label and use it to mark the installation location on a site map or list for future reference. This will assist in identification during commissioning. Commissioning worksheets are available at <https://fluence.science/support-center/>



CAUTION: The tear-off portion of the label must be removed prior to final installation. The tear-off portion could possibly detach and fall off over time if not removed.

STEP 3:

Repeat Steps 1-2 for each Fluence light fixture in the installation. Receivers can be installed at any point during or after light fixtures are installed. An uncommissioned Receiver will set the light fixture's level to 100% brightness.

2. HARDWARE INSTALLATION

2.2 WIRELESS FLEX DIMMING 0-10V ADAPTER

Install a Wireless Flex 0-10V Adapter on your 0-10V lighting control system panel or box and connect it to a dimming channel output and 12-24 V DC power. One Wireless Flex Adapter is required per 0-10 V lighting zone/channel.

STEP 1:

For a waterproof application, drill a 3/4" (19mm) hole in the side of the lighting control system panel or box. If the application doesn't require waterproofing, a standard 1/2" trade size (M20) knockout can be used.

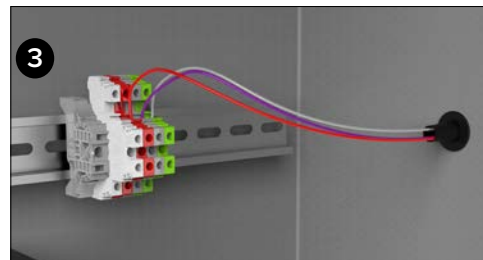


STEP 2:

Insert the panel connector leads through hole and tighten the lock nut.

STEP 3:

Wire the panel mount lead colors per the Pin Assignments table to the 0-10 V DC dimming channel output and a 12-24 V DC power supply. Ensure that the 12-24 V DC power source has adequate surge protection.



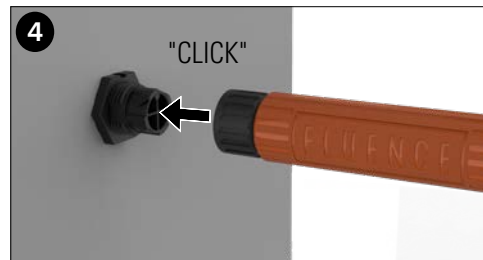
0-10 V ADAPTER PIN ASSIGNMENTS

PIN	PIN Assignment	Lead Color
1	Ground/DIM-	Gray
2	DC Input (12-24 V DC)	Red
3	DIM+ (0-10 V DC)	Purple
4	No Connection	N/A

STEP 4:

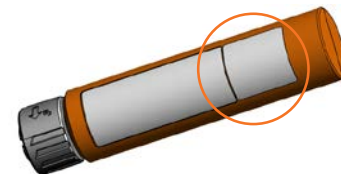
Line up the Adapter pins and push on until it clicks.

To remove, twist the locking ring a quarter turn counterclockwise and pull out.



STEP 5:

Remove the tear-off portion of the product label and use it to mark the installation location on a site map or list for future reference. This will assist in identification during commissioning. Commissioning worksheets are available at <https://fluence.science/support-center/>



CAUTION: The tear-off portion of the label must be removed prior to final installation. The tear-off portion could possibly detach and fall off over time if not removed.

STEP 6:

Repeat Steps 1-5 for each Zone/0-10V Adapter in the installation.

3. COMMISSIONING READINESS CHECKLIST

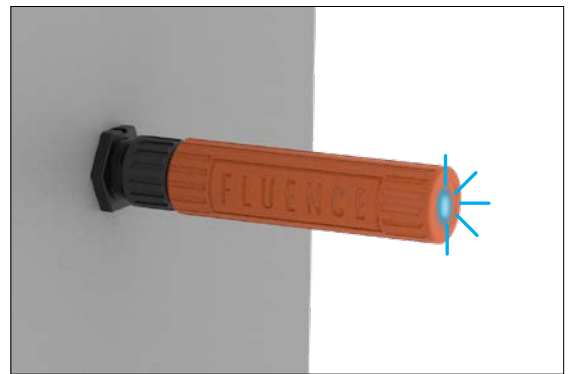
3.1 WIRELESS FLEX RECEIVERS

- All Wireless Flex Dimming Receivers are installed per Section [2.1 Wireless Flex Receiver](#).
- Verify that all light fixtures are powered on at 100% brightness



3.2 WIRELESS FLEX 0-10V ADAPTERS

- All Wireless Flex Dimming 0-10V Adapters are installed per [Section 2.2 Wireless Flex Dimming 0-10V Adapter](#).
- Power all lighting control panels and verify that the blue status LED (the LED may appear white) at the end of each Wireless Flex 0-10V Adapter is illuminated and blinking fast. If the status LED is not blinking, the 0-10V Adapter is not powered.



0-10V ADAPTER AND RECEIVER STATUS LED:

- **No Blinking:** device is not powered
- **Fast Blinking:** not connected to the network
- **Slow Blinking:** connected to a network



IMPORTANT: If the LED is blinking slowly and you have not yet commissioned the device, it must be reset to factory defaults or it will not be found during the device search to connect to your mesh network. While the device is powered, hold a magnet to the center of the housing for 10 seconds.

When all items in the checklist are completed, Wireless Flex Dimming is ready for commissioning!

4. COMMISSIONING PROCEDURE

BEFORE YOU BEGIN

Download the free iOS app to your Apple phone or tablet. Scan the QR code or search “Fluence Wireless Flex” in the Apple app store.

The Fluence Wireless Flex mobile app requires an iOS device with iOS 12 or higher and Bluetooth enabled, as well as an Internet connection (WiFi or cellular, minimum 3G). Google Chrome web browser v.70 or higher is required to activate your Fluence Wireless Flex account.

Be sure to check in advance if a WiFi or cellular internet connection is available in the location of your 0-10V Wireless Adapters and Receivers/light fixtures. The Internet connection is only required during commissioning.

Mobile App

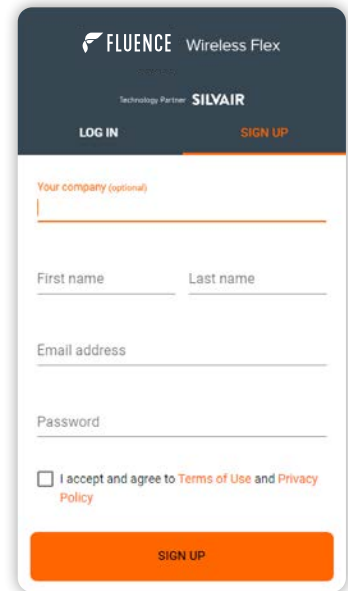
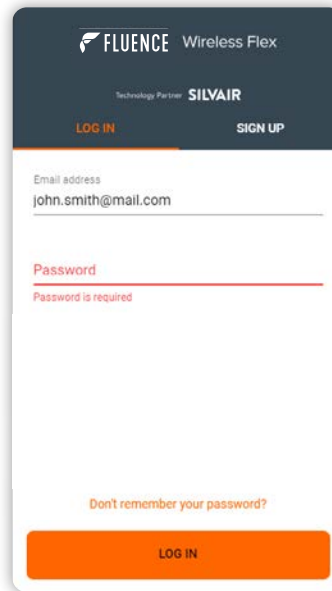


<https://apps.apple.com/us/app/fluence-wireless-flex/id1558821999>

STEP 1:

Create an account and log in.


Open the Fluence Wireless Flex app and tap **SIGN UP**. Enter the required information, check “I accept and agree” to the terms, and then tap **SIGN UP** at the bottom. You will receive an activation email. Check your junk/spam or quarantine folder if you do not receive the email within 5 minutes. **If Google Chrome is not your default web browser, copy the “Confirm” button link from the email, and paste into Chrome and go.** Follow the instructions to activate your account. Return to the Wireless Flex mobile app and tap **LOG IN**, and then log in using your account email and password.

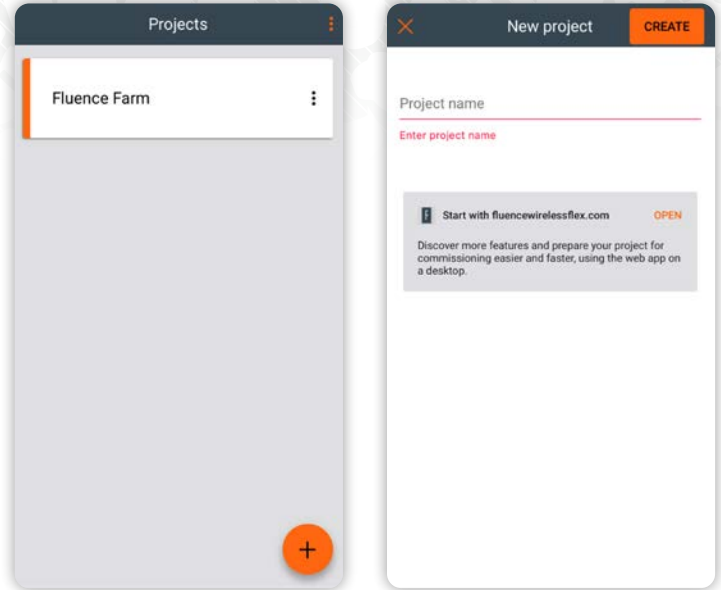



4. COMMISSIONING PROCEDURE

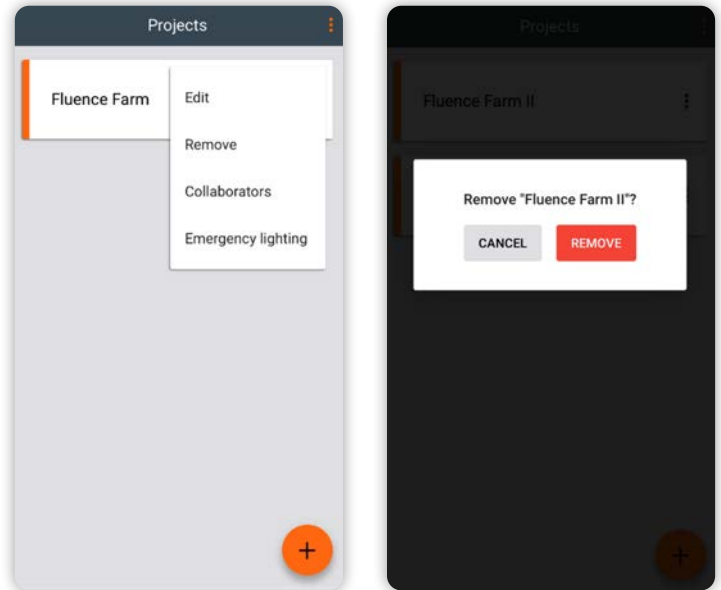
STEP 2:

Create a Project

Tap the  icon to create a project. Name it “Fluence Farm” for example, and then tap **CREATE**.




If you need to remove a Project, all devices must first be removed from all Zones. Tap the  icon to the right of the Project, and then tap REMOVE. Tap the REMOVE button to remove the Project.

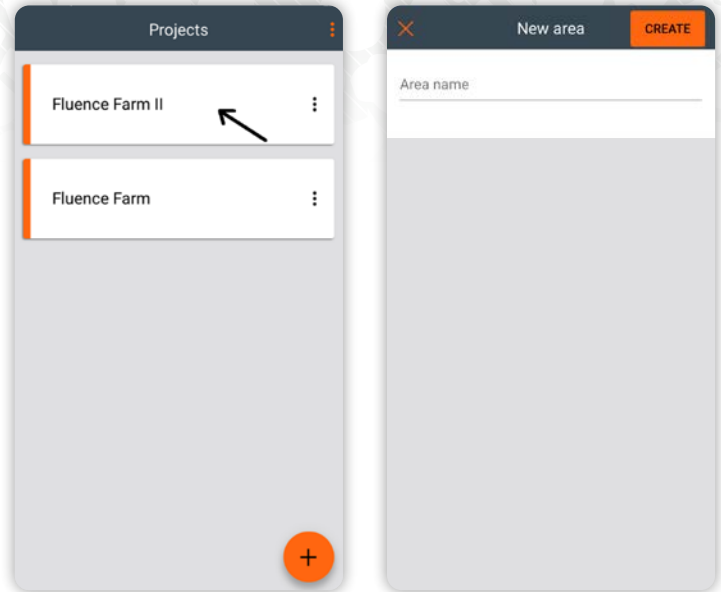



4. COMMISSIONING PROCEDURE

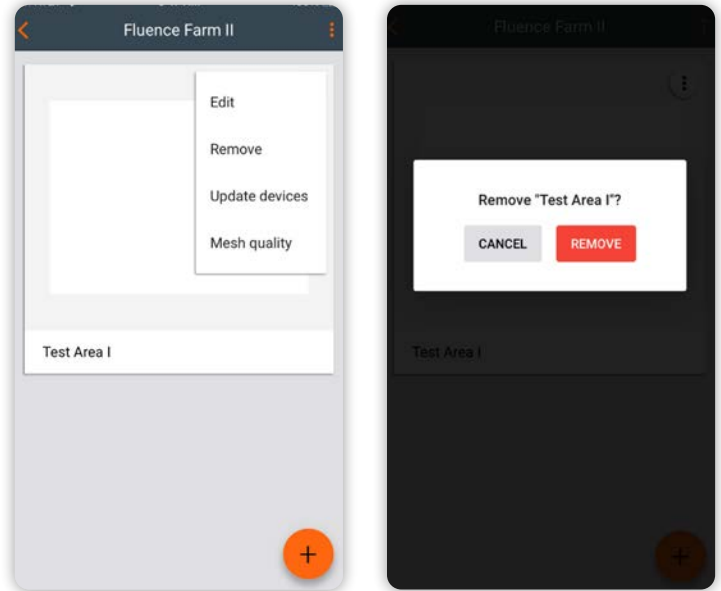
STEP 3:

Create an Area.

After the Project is created, tap on the Project. Tap the  icon to create an Area. Name it "Workbenches" for example, and then tap **CREATE**.



If you need to remove an Area, all devices must first be removed from all Zones. Tap the  icon to the right of the Area, and then tap **REMOVE**. Tap the **REMOVE** button to remove the Area.



4. COMMISSIONING PROCEDURE

STEP 4:

Create Zones.

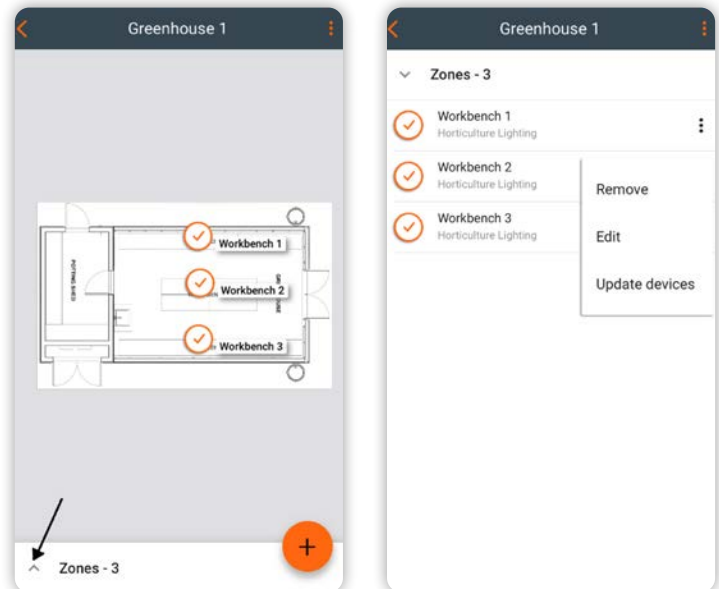
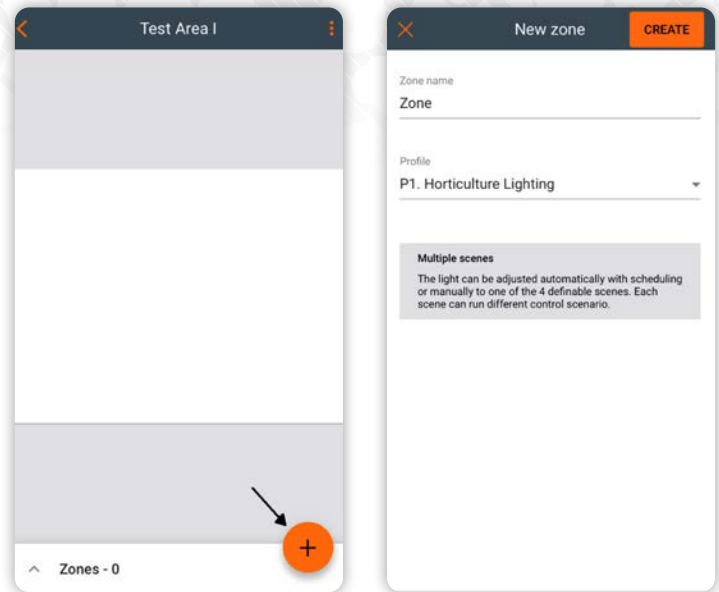
- A** After the Area is created, tap on the Area. Tap the **+** icon to create a Zone. Name it “Workbench 1” for example. Select the **P1. Horticulture Lighting** profile, and then tap **CREATE**.

You can view the name of the Zone by tapping the **⋮** icon at the top right of the screen, and then tap “Show Labels”.

- B** Create a new Zone for each additional control zone.

Tip: If you don't see the second Zone, press and the top Zone for 2 seconds and then drag it across the screen until the other Zones are visible.

If you need to remove a Zone, all devices must first be removed from the Zone. Tap the Zones list on the bottom left of the screen. Tap the **⋮** icon to the right of the Zone, and then tap **REMOVE**. Tap the **REMOVE** button to remove the Zone.



4. COMMISSIONING PROCEDURE

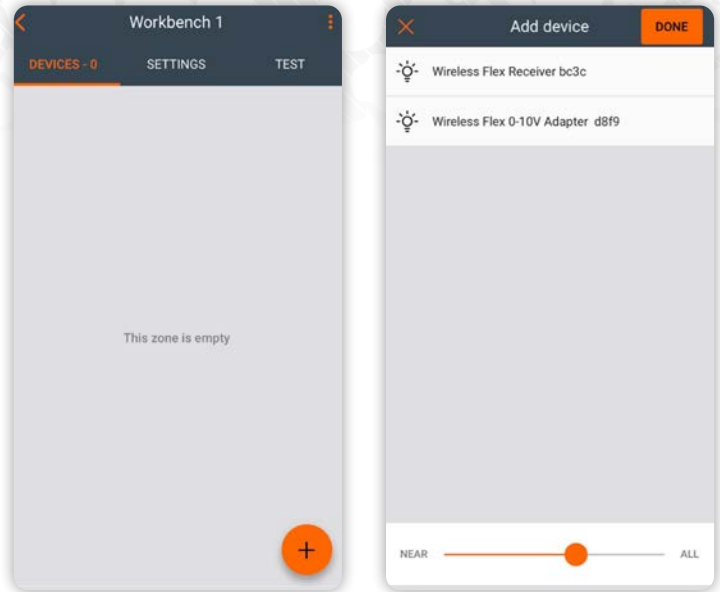
STEP 5:

Add Devices to the Zones:

- A** Tap on the **+** icon for Zone 1. You will see that this Zone is empty.

- B** Tap on the **+** icon on the lower right to begin searching for devices. Move the slider at the bottom all the way to the right to "ALL". A list of the Wireless Flex Dimming 0-10V Adapters and Receivers will appear after a few moments.

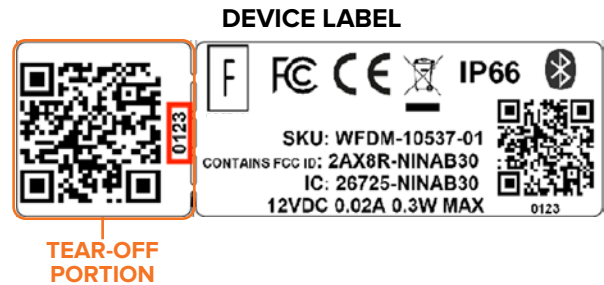
- C** Identify the devices. Devices can be identified in one of two ways, visually or by device label.



VISUAL IDENTIFICATION

When a Receiver device is tapped and selected on the list the light fixture will begin to flash. When a 0-10V Adapter is selected the blue status LED (the LED may appear white) on the end of it will change from blinking fast to blinking slowly.

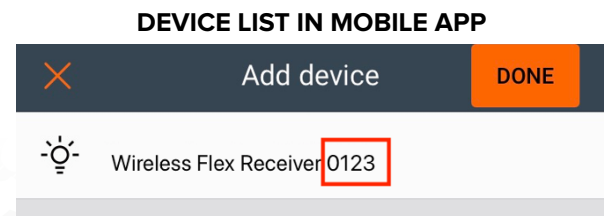
The flashing of the light fixture or LED may be difficult to see in certain conditions, so it is recommended to identify by device label.



IDENTIFICATION BY DEVICE LABEL

The 0-10V Adapter and Receiver have a label with a tear off portion. The alpha-numeric address that matches the label will appear at the end of the device description in the mobile app. If you placed this label on a location map or list during installation, you can easily identify it to add it to the correct Zone.

Commissioning worksheets are available at <https://fluence.science/support-center/>



4. COMMISSIONING PROCEDURE

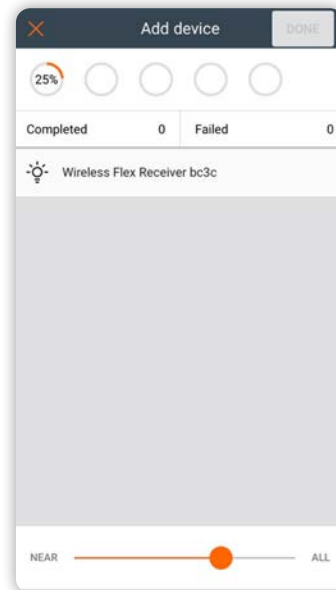
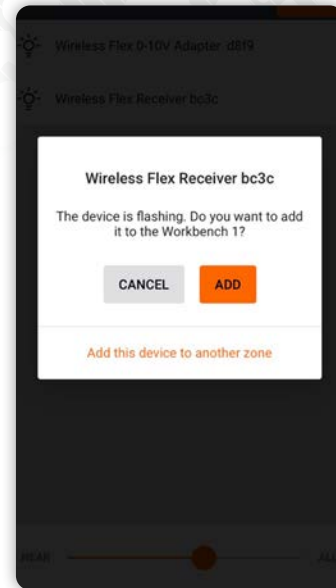
STEP 5: CONTINUED

Add Devices to the Zones.

D If the device selected is correct for the Zone, tap **ADD**. If it belongs to a different Zone, you can tap **Add the device to another zone** at the bottom, and it will take you back to the Area. Tap on the correct Zone **+** icon and then tap **ADD**. You can also tap **CANCEL** to return to the device list to select a different device.

A spinning progress bar will appear at the top. When done you will see “1” next to “Completed”, and the number will increase as you commission more devices to that Zone.

NOTE: If it failed to add the device, tap **TRY AGAIN**. If it continues to fail after several attempts tap **CANCEL**, check the device, and then repeat Steps 5B through 5D.





4. COMMISSIONING PROCEDURE


STEP 5: CONTINUED

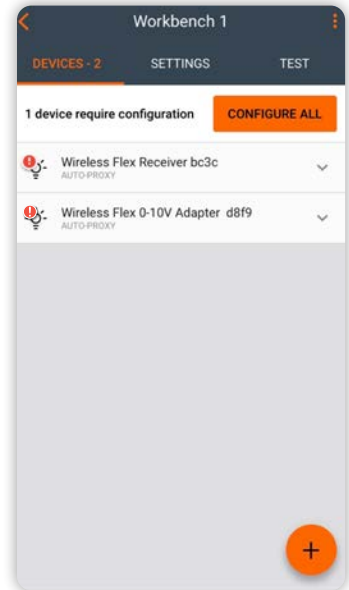
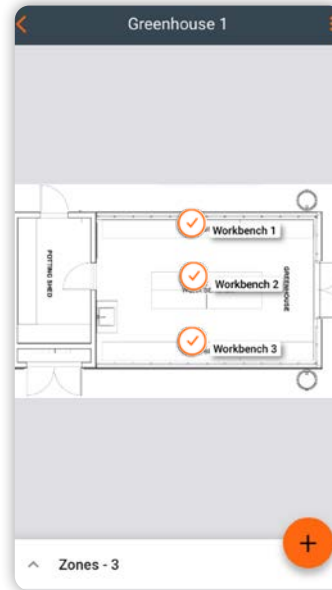
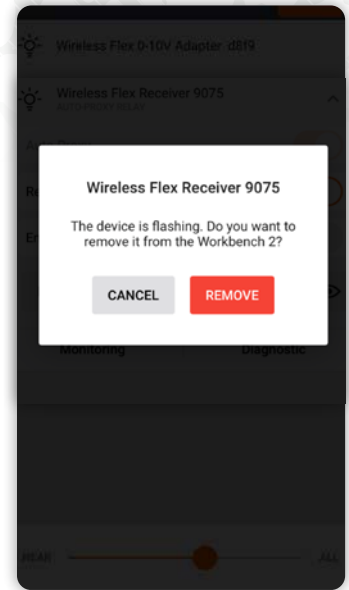
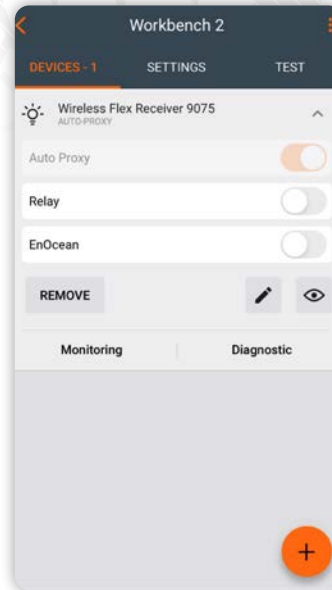
Add Devices to the Zones.

E Repeat Steps 5B through 5D until all devices are commissioned. No devices will appear in the Add Device search list when all 0-10V Adapters and Receivers are commissioned. Use the back arrow at the upper left to return to the Area.

If you need to remove a device from a Zone, tap the Zone  icon. Tap on the device in the list, and then tap the trash can icon. Tap on **REMOVE** (or when the **REMOVE PROXY** button turns orange) to remove the device.

Return to the Area. All Zones in the Area should now display a check mark icon. 


If there is an exclamation mark , tap on it, then tap **CONFIGURE ALL**. This should correct the issue.



4. COMMISSIONING PROCEDURE

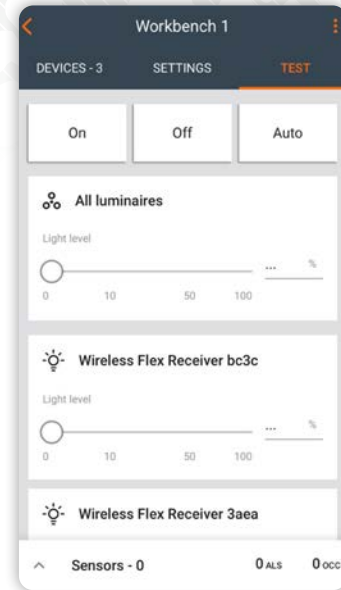
STEP 6:

Test the Installation

A Tap the Zone  icon, and then tap **TEST** above the list of devices. Tap the various buttons and move the “ALL LUMINAIRES” slider to test the light fixtures in the entire Zone. You can test an individual light fixture by moving the slider on a specific device.

A Test each lighting zone via the connected 0-10V controller.

TIP: The Test function in the Fluence Wireless Flex mobile app can be used as an alternate means to control the lights in the event that the primary 0-10V controller encounters a problem, or if one is not connected.



The installation is now complete!

If you encounter any issues while commissioning Wireless Flex Dimming, please refer to the **Wireless Flex Apps Quick-Start Commissioning Guide** and **Wireless Flex Dimming Apps Commissioning Guide** full reference for troubleshooting available at: <https://fluence.science/products/wireless-flex-dimming/>, or contact Fluence Support.

5. COMMISSIONING APPS AND PRODUCT INFORMATION



WIRELESS FLEX DIMMING APPS:

Web App: <https://fluencewirelessflex.com>

First create an account, then download the mobile app.

Mobile App: iOS App Store (free download)

<https://apps.apple.com/us/app/fluence-wireless-flex/id1558821999>

Complete Product Information, Quick Start Guide, and Installation Videos: <https://fluence.science/products/wireless-flex-dimming/>

Support and Application Assistance: support@fluence-led.com

Telephone: +1 (512) 212-4544

Support Hours: M – F 8:00 AM to 5:00 PM US Central Time

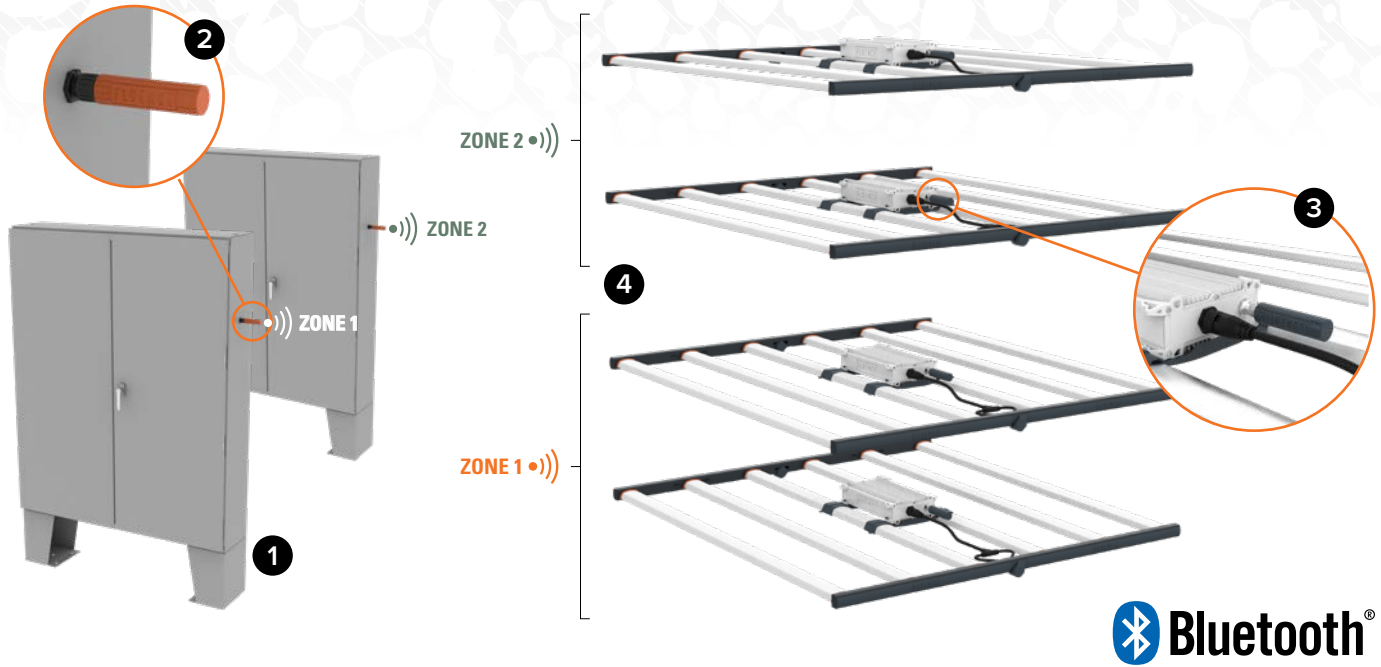
Mobile App



<https://apps.apple.com/us/app/fluence-wireless-flex/id1558821999>

6. SYSTEM DIAGRAM

2 ZONES



COMPONENTS

- 1 Any Lighting Controller with an industry standard 0-10 V DC output and 12-24 V DC power source
- 2 Wireless Flex Dimming 0-10 V Adapters (1 required per zone)
- 3 Wireless Flex Dimming Receivers (1 per power supply/light fixture)
- 4 Fluence Light Fixture

0-10 V ADAPTER PIN ASSIGNMENTS

PIN	PIN Assignment	Lead Color
1	Ground/DIM-	Gray
2	DC Input (12-24 V DC)	Red
3	DIM+ (0-10 V DC)	Purple
4	No Connection	N/A

WIRELESS RECEIVER PIN ASSIGNMENTS

PIN	PIN Assignment	Lead Color
1	Ground/DIM-	Gray
2	DC Input (12 V DC)	Red
3	DIM+ (0-10 V DC)	Purple

7. CONTACT INFORMATION

Support & Business Development:

support@fluence-led.com

For More Information Visit:

<https://fluence.science/products/wireless-flex-dimming/>

In Europe:

<https://fluence-led.com/products/wireless-flex-dimming/>

Our Office Locations:

FLUENCE USA

4129 Commercial Center Drive
Suite 450
Austin, TX 78744

support@fluence-led.com

FLUENCE EUROPE

Marten Meesweg 8–10
3068 AV Rotterdam
The Netherlands

support@fluence-led.com



FLUENCE

Contact FLUENCE
support@fluence-led.com



www.fluence.science