Wi-Fi LED Lighting Controller

Model: ALWIFI14

Compatible with Android and Apple (iOS) smartphones and tablets.

Works with five types of LED lighting (both 12- and 24-volt):

- White and single color LED lighting – provides 0-100% full range dimming
- White color adjustable LED tape lighting – dimming and CCT control
- Standard RGB LED lighting – full function color control and effects
- RGB + white four-channel LED enhanced color control and effects
- RGB + CCT dual white five-channel enhanced color control and effects

Features

- Works with or without a wireless network. Use your phone as a simple remote or use any existing wireless network for advanced control features
- Connect and control up to 50 Wi-Fi controllers with one device*. Control individually or in groups for large area, multi-zoned lighting control (requires router and network connection)
- Control your lighting remotely from anywhere in the world when configured through your network
- Sync lighting to the beat of music stored locally on your device, or use your microphone to sync to ambient music
- Programmable – set the time of day to turn your lighting on or off
- When used with RGB LED lighting, use the color wheel touch screen to create virtually any color. Create your own color-changing effects or choose from 20 preprogrammed modes. Bookmark and save favorite colors and effects. Match colors in your environment using your device’s camera, or manually enter RGB values for precise color selections

*If you are using RGB color changing LED lighting and wish to control multiple Wi-Fi controllers with one device, only static colors will synchronize and dim in unison. Color-changing effects will not stay synchronized due to the various cycling speeds of each unit.

CONNECTING

Low-voltage safe, the Wi-Fi controller is direct wired inline between the low voltage output of your power supply and your LED lighting.

Typical Wiring Diagram

- Each Wi-Fi controller requires a separate LED power supply. Never connect multiple Wi-Fi controllers to one power supply
- Use only with standard 12- or 24-volt DC constant voltage power supplies. The voltage output of your power supply must be the same as your LED lighting
- Do not use with dimmable LED power supplies
- All wiring must be in accordance with national and local electrical codes, low-voltage Class 2 circuit. If you are unclear as to how to install and wire this product, contact a qualified electrician
- Always read and follow the Installation Guidelines provided with your LED lighting and power supply
Connect based on the type of LED lighting you are using

1. White and single color LED lighting – provides 0-100% full range dimming
2. White color adjustable LED tape lighting – dimming and CCT control
3. Standard RGB LED lighting – full function color control and effects
4. Four-channel RGB and White connection – enhanced control and effects
5. Five-channel RGB connection and CCT connection – enhanced control and effects

![Diagram of LED lighting connections]

**Note:** To enable the maximum length of white LED lighting, connect two legs of LED lighting to the Wi-Fi controller using the W1 and W2 port connections as shown at right.

Each leg can support up to 4 amps of LED lighting
- 48 watts x 2 = 96 watts max with 12-volt lighting
- 96 watts x 2 = 192 watts max with 24-volt lighting

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**App Installation**

**Download and connect the free Armacost Lighting app**

Go to Apple iTunes Store or Google Play for Android devices. Search for Armacost Wi-Fi MyLED, and download and install the app.

Make sure the controller is correctly installed and powered on before attempting to use the app to connect your device.

1. Go to Settings on your mobile device.
2. Enable Wi-Fi and open the Wi-Fi networks list on your device.
3. By default, the Armacost Wi-Fi LED Lighting Controller will appear with the network name (SSID) of “ArmacostXXXXXXXXXX.” The Xs represent a combination of letters and numbers unique to each Wi-Fi controller.
4. Connect your device to the Wi-Fi controller. A password isn’t required.
5. Open the Armacost Lighting app. The application will automatically scan for the Armacost Wi-Fi LED Lighting Controller.
6. You will see a screen where you can connect to your network’s wireless router or direct connect to the Wi-Fi controller. Note: you can access this function at any time through the setup menu.

**Note:** If connecting to your wireless network, the link light on the front of the Wi-Fi controller will illuminate. This indicates that your connection is successful and you will be able to access your Wi-Fi controller through your wireless network.

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**Direct wireless connection versus connecting to your network via your router**

If you do not have or do not want to connect to your network through your wireless router, choose direct connect to the controller. With this method, you will not have access to your network while connected to the Wi-Fi controller. Using direct connect, you cannot group controllers for multi-zone control.

Armacost Lighting recommends connecting to your home network via your wireless router in order to enable full app features. By going through the router setup, you will link your Wi-Fi controller through your existing wireless network. This will allow you to access the Internet and your controller without switching between Wi-Fi networks. Additionally, you will have access to the remote access settings, and any Wi-Fi controller connected to the same network can be grouped together for synchronized control across multiple zones.
The first time you connect to the Wi-Fi LED controller, you will be prompted to select the type of lighting you are connecting. Choose the mode that applies to the type of lighting you are using. For example, if you are using single color or white LED lighting, select “DIM,” and your app will then be configured as an LED dimmer.

- **DIM**: Single Color Dimmer
- **CCT**: Color Temperature Adjustable
- **RGB**: RGB Multicolor
- **RGBW**: RGB + Single Color
- **RGBWW**: RGB + Dual Color

Next, you will see a list of all Wi-Fi controllers connected to this network. Here, you can access settings and controller properties as well as turn your lighting on/off. Tap the controller name to begin using your lighting, or press and hold to change basic device properties.

**IMPORTANT**

If the app displays the error message at right, press the refresh button in the upper-right corner. If the Wi-Fi controller still does not appear, turn your device Wi-Fi connection off and back on and check your network settings.

**Factory Reset**

If you incorrectly entered your network password or have another incorrect setting, the link light will not turn on. You will not be able to access the Wi-Fi controller and you will need to do a factory reset.

1. Locate the pinhole on the front of the unit, labeled RESET.
2. Using the included straight pin, or a paper clip, insert straight into the pinhole to depress the reset button.
3. Continue to press and hold the reset button for five seconds, then release.

The unit will power off and back on and cycle the lighting to indicate the reset has been successful. You can now connect back to your Wi-Fi controller using its default settings. Return to step 1 under “App Installation.”
Several app functions and settings are available through any controller configuration. To access and modify these settings, you must first be successfully connected to a controller.

**Settings Menu**

Access the Settings Menu by clicking the settings “gear” icon in the upper-left corner of the controller list screen. Select from the connected Wi-Fi controllers to change the settings for that specific device.

You will be prompted to select from three categories: General Settings, Remote Settings, and Change Device Type.

Change Device Type will bring up the controller configuration prompt, as selected in the initial controller setup. Here you can change your device between the 5 different configuration types.
General Settings

The General Settings menu contains basic controller and network information settings.

Here you can view the IP and MAC addresses of your selected controller, set the controller name, and modify network configuration properties.

To change the network name and login credentials of controller (for direct-connection use) tap Change under Wi-Fi Controller Security Settings. This option can only be accessed while directly connected to the controller. Once connected to a wireless router, this network will be unavailable to connect to, and this option will not be accessible. Uncheck “Link to wireless router” under Network mode to restore these settings.

To connect to a wireless router and existing wireless network, tap the box under Network mode. There, you will be prompted to select a wireless router and enter your password to complete the Network Mode setup.

Select and confirm Load factory defaults to restore the controller to its factory settings.

Connecting to a Router

Before attempting a connection to your wireless network, make sure you have adequate signal strength for a reliable connection to your Wi-Fi LED Lighting Controller.

The Wi-Fi LED Lighting Controller has the ability to be configured under your existing wireless network. This allows you to keep your iOS or Android device connected to your home network and maintain an internet connection, while still having the ability to control your lights. You can link multiple Wi-Fi controllers together using this method, and set them up in groupings for simplified control. Additionally, when connected through your wireless network, your range of control is expanded to include any areas covered by your network signal.

You can initiate the router setup by any of the following methods:

- Following the prompt on initial configuration
- Accessing the settings menu and pressing Link to wireless router

Repeat the process for any additional controllers that you would like to have simultaneous control of. The maximum number of devices is dependent on your network equipment and capabilities. To use the grouping function, all controllers must be setup on the same Wi-Fi network in order to be recognized by your iOS or Android device.
Remote Settings

Requires Network mode connection to an internet-connected wireless network

The Remote Setting mode will allow you to control your device from anywhere with an internet connection. You need to authorize any device in which you want a remote connection. To begin, access Remote Settings from the settings menu. Tap the check box under remote status. The Wi-Fi controller will restart as it accepts your device as an authorized controller.

When successfully activated, all controllers authorized for remote control by your device will appear under Authorized Controller(s). Tap each controller to change the remote name, or to deactivate your device authorization.

On the main controller list view, the options for Local and Remote are present. Local will show only the connected Wi-Fi controllers on your current Wi-Fi network. Tap Remote to view your authorized remote controllers.
Timer Mode

The Timer mode allows you to set an automatic turn on or turn off of your lighting at a specific time with the option to set a specific mode on turn on. These modes are configured based on your device configuration, and will change depending on this setting.

Access the timer by tapping the clock icon on the controller interface page, see the next section for this location.

To begin, tap “add timer.”

Configure the time, the days of the week to repeat, and the light mode, whether turning on or off, and the controller mode upon turn on.

Press save to save your timer. Note, the controller must be continuously powered on for the timer function to work properly.

Controller Grouping

Your Wi-Fi controllers can be grouped together for simultaneous control of multiple separate lighting zones. Only controllers configured in the same lighting mode can be joined in a group.

To create a group, tap Add Group at the bottom of the controller list page. Alternatively, press and hold a controller and tap Add to Group. If no group has been previously created, you will be prompted to create one at that time. Enter a group name and tap OK to confirm.

Add additional controllers to your group by pressing and holding the name of the controller, the selecting Add to Group.

Note: Due to timing differences between individual controllers, color-changing effects in the Functions and Customs Tabs will not stay in synch.

CONFIGURATION-SPECIFIC APP USER INTERFACES

There are a number of great app functions available through the Wi-Fi MyLED app. These features are made available depending on your lighting type and controller configuration. Only functions applicable to your specific lighting type will be accessible.

Each Controller configuration will feature a consistent navigation bar at the top of the screen. This includes the menu button (to return to the controller list page), your controller name, the timer icon and the power button to toggle your lighting on and off.
Dimming Mode

*White or single-color lighting*

The Dimming mode for white or single-color LED lighting will display the dimming wheel. Drag the cursor between the light and dark areas or the wheel to adjust the brightness of your lighting. The dimming percentage is displayed in the upper left corner of this interface, and ranges from 0 to 100%, in 1% increments.

Tap the small circles at the bottom to instantly bring the lighting to full brightness, or full dimming.

CCT Mode

*Color Temperature Adjustable Lighting*

In CCT mode, you will have a similar control wheel to the dimming mode. Drag the cursor between the warm and cool white areas of the wheel to adjust the ratio of these two color temperatures. The percentage of each is displayed in the upper corners of this interface.

Tap the yellow and white small circles to jump to full warm white or full cool white.

The dimmer slider bar at the bottom of the screen will allow you to adjust the brightness of your lighting, while preserving your color temperature ratio.
**RGB Mode**

**RGB Color-Changing Lighting**

**Colors**

The first interface is the color selection page. Here, you can drag your finger across the color wheel to instantly change the current color display of your lighting.

Change the brightness of your lighting by adjusting the brightness slider bar toward the bottom of the screen. Dimming capabilities range from 0 to 100% in increments of 1%.

You can choose up to five custom colors to quickly return to at any time. To set a custom color, press and hold one of the DIY buttons below the color wheel. Your color selection will now appear in the in the position it was programmed in. The percentage indicated within the window is the brightness value. Single tap the color box to return your lighting to that color at any time.

You also have the ability to precisely select custom values for the Red, Green, and Blue LED chips individually. Tap the RGB box in the upper left corner where these values are displayed. This will bring up a prompt that allows you to dial in each of the colors to the specific value of your choice.

Adjust each of the colors manually, using the plus and minus buttons to make single digit adjustments to the values. Tap confirm to finalize your selection.

This custom preset color can now be saved to the DIY buttons at the bottom of the screen for quick access in the future.
Functions

The Functions page allows you to choose between 20 pre-programmed color changing effects. Use the scroll wheel to cycle through the different modes, or use the M– and M+ buttons to step forward or backward through the effects. The speed slider adjusts the frequency of the selected effect.

<table>
<thead>
<tr>
<th>Effects list</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Seven Color Cross Fade</td>
</tr>
<tr>
<td>Fades between seven different colors</td>
</tr>
<tr>
<td>2-8 Gradual Change Effects</td>
</tr>
<tr>
<td>Continuously ramps the brightness of the selected color(s)</td>
</tr>
<tr>
<td>9-11 Two Color Cross Fade</td>
</tr>
<tr>
<td>Fades between the two indicated colors</td>
</tr>
<tr>
<td>12-19 Strobe Effects</td>
</tr>
<tr>
<td>Pulses the select color on/off</td>
</tr>
<tr>
<td>20 Seven Color Jumping Change</td>
</tr>
<tr>
<td>Jumps between seven colors with no fade</td>
</tr>
</tbody>
</table>

Custom

Using the Custom page, you can create and save your own color-changing effects. By default, there are no saved Custom Color Modes. Press Add Mode to begin the custom effect creation.

Enter a name for your new color effect mode in the Name field at the top of the custom effect creation screen.

You can choose up to 16 colors to feature in your custom effect. The colors begin at the top left position and cycle through, left to right and top to bottom. To add a color, select a square in the order in which you want the color to appear, and a color wheel will appear in a pop-up window. Select the color you desire and press OK/Confirm. You can delete a color by pressing and holding it.

Note: To ensure proper cycling through all your colors, start your color selections in the upper-left position, and make sure there are no blank positions between your colors.

Choose between three transition effects:

Gradual: Gently fades between your color selections

Jumping: “Jumps” between your color selections with no fade effect

Strobe: A quick pulse of each color; the LEDs remain off between color selections

Finally, set the desired transition speed using the speed slider at the bottom.

Once your mode is set to your preference, select the Save button at the top. You will be brought back to the Customs page, and your new mode will appear with a summary of the color, transition, and speed information.
Press the Play button to send a lighting mode to the controller and begin the effects. Press Edit to make changes to your color mode, or press delete to delete a specific custom mode.

Music
The Music page allows you to synchronize multi-color lighting effects in time with your favorite music.

Press the Select Music button to choose from the music stored locally on your device. Checking multiple boxes adds more than one song to your playlist. Use the play/pause, forward, and back buttons to navigate through your selected music.

The Rock, Normal, Jazz, and Classical buttons at the bottom select different cycles and synchronization styles, depending on the type of music you are listening to. Choose the effect that fits your music style, or try each of them to discover the effects that you like best.
**MIC**

*Requires on-board microphone enabled on your device*

The MIC (Microphone) function allows your lighting to fluctuate in time to music and sounds external to your device, using your mobile device’s built-in microphone.

Use the slider bar to adjust the sensitivity of your microphone for optimal effects based on the volume of your audio source. Once the MIC function is active, you can press the Home button on your device and start up any sound or music application. Your lighting will synchronize with this audio.

*Note: To use audio from other Apps, the Wi-Fi MyLED app will need to continue running as a background process. Do not completely exit the application.*

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**Camera**

*Requires on-board camera enabled on your device*

The Camera function allows you to use your device’s camera to select colors in your environment. The lighting will blend the RGB colors for an approximate representation of your selected color.

There are two modes of image capture – automatic, and manual, selectable from the bar at the top of the screen. Automatic mode will instantly adjust your lighting based on the color currently viewed in the center of your camera image.

Manual mode will not automatically change the color. Tap the button below the center of the image to capture that color and adjust your lighting accordingly.
**RGBW Mode**

*RGB+W (multicolor plus white) 4-channel lighting*

In RGBRGBW mode, you will have all the functions of RGB mode available for use. In addition to the functions described above, you will also have a single channel dimmer for the White circuit on RGB+White LED lighting.

This dimmer functions in the same manner as the single-color dimmer mode. Drag the cursor around the circle to scroll from 0 to 100% brightness in 1% increments. Tap the smaller circles on either side to quickly transition to 0% or 100% brightness.

**RGBWW Mode**

*RGB + CCT (multicolor plus color temperature adjustable) 5-channel lighting*

As with RGBW mode, RGBWW mode has all of the standard RGB functions available for use. Additionally, this mode also features a color temperature adjustment for the dual white channels available with this style of lighting.

Use the slider bars to independently adjust the values for the Warm White and Cool White color temperatures. Four preset color temperature blends are available for use. Additionally, you can save a custom color blend by pressing and holding the DIY buttons at the bottom of the screen.
TROUBLESHOOTING

**LED tape light strip does not light, flickers, or there are limited or inconsistent colors**

Make sure the power supply and RGB color controller are turned on and receiving power. Confirm you have maintained correct polarity on all wire connections (12V+ to white, red to red, green to green, and blue to blue) when joining RGB LED strips and when connecting wires to the RGB color controller and to the power supply.

Press the Reset key. If any other color appears other than a warm/yellow white, then you have a bad connection or polarity is not correct. Ensure that all connections are secure. If you have a failed connector, you can easily solder wires to the LED tape and solder splice connections. Soldering is the best method for making extra reliable electrical connections. Never use connectors in RV or boat applications due to possible vehicle vibrations. To learn about best soldering practices, visit armacostlighting.com/installation.

**Static colors display uneven brightness or a color shift**

This may be due to voltage drop. Shorten the length of your RGB lighting installation or reduce the length of RGB power wire and/or use thicker wires. Refer to your RibbonFlex Pro specific model’s Installation Guidelines for options on other installation configurations that may reduce voltage drop.

**Direct connection issues**

If your mobile device cannot see the Wi-Fi controller’s default wireless network, check the following:

- Make sure the Wi-Fi controller is powered on.
- Confirm that the external antenna is properly connected and has a snug connection.
- Make sure you have the latest version of the Armacost Lighting App.

If you changed the default password of the Wi-Fi controller and can no longer connect directly to the device, contact support@armacostlighting.com.

**Router connection issues**

If you are having issues connecting your Wi-Fi LED Lighting Controller to your wireless network, confirm that the controller has the correct SSID and password information for the wireless network. Verify the network is active by connecting successfully with your mobile device. Ensure that your Wi-Fi network has adequate signal strength at the controller’s location. A good rule of thumb is to check that your mobile device has two or more bars of Wi-Fi signal strength at the controller.

If you have a good Wi-Fi signal and the network information is correct, power off your controller and turn power back on after 10 seconds. Reset your network’s router as well. Wait three minutes, and attempt to establish a connection over your home network. If the above steps do not work, reconnect to your Wi-Fi controller’s default network by performing a factory reset as described in the next section. After the device is reset, connect to the controller’s Wi-Fi network and attempt to connect to your router again.

**Cannot download Armacost Lighting App**

To ensure you have an active internet connection, quit out of the Play Store or the App Store and restart the program. For faster, more consistent download speeds, download the application while connected to an active Wi-Fi network instead of your mobile provider’s data connection.

For help additional help, contact support@armacostlighting.com.

**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Input voltage</th>
<th>12-volt or 24-volt DC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application</td>
<td>12-volt RibbonFlex Pro and other 12-volt or 24-volt dimmable LED lighting</td>
</tr>
<tr>
<td>Output current</td>
<td>4A/channel – 20A total</td>
</tr>
<tr>
<td>Output channels</td>
<td>5</td>
</tr>
<tr>
<td>Maximum lighting load</td>
<td>480 watts</td>
</tr>
<tr>
<td>Max load with 12-volt DC lighting</td>
<td>240 watts</td>
</tr>
<tr>
<td>Max load with 24-volt DC lighting</td>
<td>480 watts</td>
</tr>
<tr>
<td>Working temperature</td>
<td>15 to 120°F (-10 to 49°C)</td>
</tr>
<tr>
<td>Wireless working frequency</td>
<td>2.4 GHz</td>
</tr>
<tr>
<td>FCC ID</td>
<td>2AIPIALWIFI14</td>
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<tr>
<td>Connection method</td>
<td>Common Anode</td>
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<tr>
<td>Remote distance (direct-connect)</td>
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</tr>
<tr>
<td>Default Wi-Fi SSID</td>
<td>ArmacostXXXXXXXXX</td>
</tr>
<tr>
<td>Country of origin</td>
<td>China</td>
</tr>
</tbody>
</table>

Limited one-year warranty. This product is for dry location use only. Improper installation, improper powering, abuse, or failure to use this device for its intended purpose will void warranty. Proof of purchase is required for all returns. Questions? Email support@armacostlighting.com.

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. Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user authority to operate the equipment.

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