

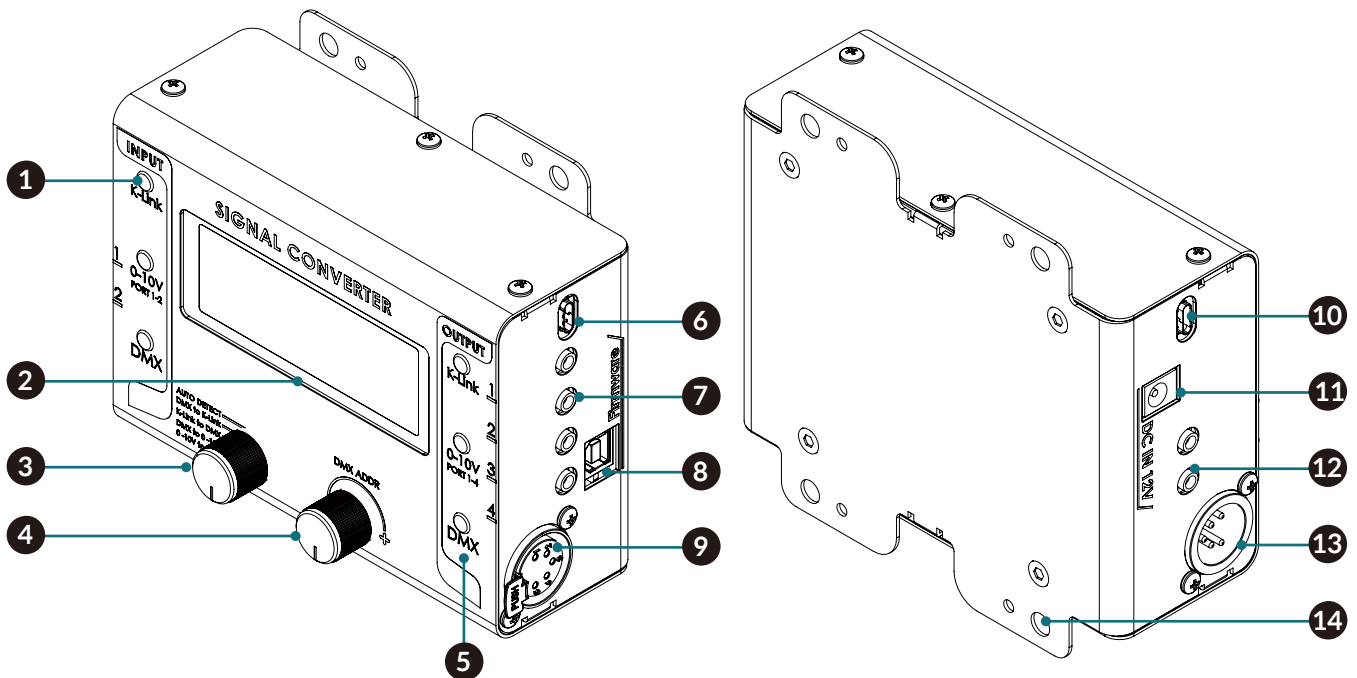
# Kessil Signal Converter Box

## User Guide

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### A - Table of Contents



- 1. Input K-link / 0-10v / DMX Indicator
- 2. Display
- 3. Mode selection Knob
- 4. DMX address control Knob
- 5. Output K-link / 0-10v / DMX Indicator
- 6. Output K-link port
- 7. Output 0-10v port\*4

- 8. USB-B 2.0 Male (For firmware update)
- 9. Output DMX port XLR-5
- 10. Input K-link port
- 11. Power DC IN 12v
- 12. Input 0-10v port\*2
- 13. Input DMX port XLR-5
- 14. Wall mount

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## B - Auto Detect / Group Changes

Group Changes are ONLY used in DMX to K-Link Mode. The signal converter box can control up to 5 distinct K-Link groups in DMX to K-Link Mode. Use this setting to change a lamp from its default group in order to control in a different section.

By default, each K-Link enabled lamp is assigned to a group based on it's spectrum.

Spectrum	Default Group ID
Tuna Blue (Saltwater)	1
Tuna Sun (Freshwater)	2
Refugium	26

Each Signal Converter can Control up to 5 distinct groups of lamps, and each group corresponds to a set of DMX addresses. The group breakdown is below.

Group ID	Compatible Spectrums	DMX Addresses
Group 1	Tuna Blue Only (Default)	1-5
Group 2	Tuna Sun Only (Default)	6-10
Group 26	Refugium Only (Default)	11-15
Group 3	All Spectrums	16-20
Group 4	All Spectrums	21-25
Group 5-25, 27-32	Not Compatible with Signal Converter	N/A

- To Change to Group ID of a fixture, use the steps below.
  - Power on Signal Converter and set knob to "Auto Detect".
  - Connect K-Link Lamp to "Output K-Link".
  - Lamp Fixture details will appear on the screen.
  - Press the DMX Knob, and turn to select the new Group ID. Press the DMX knob to save.

## C - DMX to K-Link Mode

Use this mode when controlling K-Link enabled Kessil fixtures (A360X, A500X, AP9X) with an external DMX controller. Ensure the mode selection knob is turned to DMX to K-Link mode, and the green indicator is illuminated on DMX for the input side, and K-Link for the output side.

Each Signal Converter box has the ability to control 5 distinct groups of K-Link enabled fixtures, each with a DMX footprint of 5 channels (25 total DMX channels). See Section B for more information on groups and their corresponding DMX channels.

For larger DMX installations, the starting DMX address of the Signal converter box can be changed (e.g.

If you want the signal converter box to respond to DMX addresses 200-225, you will need to change the DMX address of the signal converter box to 200)

- To change the DMX address of the Signal Converter box, use the steps below.
  - Turn the mode selection knob to "DMX to K-Link". The current DMX address will be displayed.
  - Press the DMX address knob, turn to select the new DMX address, and press the DMX address knob again to save.
  - The new DMX address should be displayed on the home screen.

Each K-Link Fixture has a 5 channel DMX Footprint. See below for DMX mapping of each function for the 3 different K-Link spectrums.

	Ch	Function	Range
Tuna Blue Spectrum	1	Intensity	0%-100%
	2	CCT	20,000K-10,000K
	3	Violet	0%-100%
	4	Red	0%-100%
	5	Green	0%-100%

	Ch	Function	Range
Tuna Sun Spectrum	1	Intensity	0%-100%
	2	CCT	9,000K-6,000K
	3	Unused	N / A
	4	Red	0%-100%
	5	Amber	0%-100%

	Ch	Function	Range
Refugium Spectrum	1	Intensity	0%-100%
	2	Color	Blue > Grow > Bloom > Red > White
	3	Unused	N / A
	4	White	0%-100%
	5	Green	0%-100%

- To use the DMX to K-Link function
  - Connect and power all lamps, controllers, and the signal converter box.
  - Set the lamps in their appropriate group based on the desired use and DMX channels (see section B - Group Changes for more information).
  - Set the signal converter box to the appropriate starting DMX address.
  - Lamps should now respond to input from external DMX controller.

## D - K-Link to DMX Mode

Used when controlling W-Series Kessil fixtures (W360, W500, W2K) through the Spectral X Controller or WiFi Dongle (USB-C). Ensure the mode selection knob is turned to K-Link to DMX mode, and the green indicator is illuminated on K-Link for the input side, and DMX for the output side.

If using the WiFi dongle, please note that the unit should only be connected via "Direct Connection" to the network that is output by the WiFi dongle, and will not work with other Kessil WiFi networks (WiFi Dongle / AP9X).

Connect the WiFi Dongle via the Kessil WiFi app, and set up via direct connection. When properly set up, the dashboard will display Default TB, Default TS, and Default RF. All of these will show 1 lamp in the group, regardless of how many lamps or spectrums are connected. If there are any issues setting up the Kessil WiFi Dongle, please reference the main Kessil troubleshooting page at [www.kessil.com](http://www.kessil.com), or email our customer support team at [kessil@kessil.com](mailto:kessil@kessil.com)

If using the Spectral X Controller, plug in the Spectral X Controller to the signal converter and wait for the dashboard to appear.

Once the desired K-Link device is powered and connected to the signal converter box, the phone app (if using the WiFi dongle) or Spectral X Controller can now be used to control the DMX output according to the following table.

	Function	Corresponding DMX Channel
Tuna Blue Spectrum	Intensity	1
	CCT	2
	Violet	3
	Red	4
	Green	5

	Function	Corresponding DMX Channel
Tuna Sun Spectrum	Intensity	6
	CCT	7
	Unused	8(not useable)
	Red	9
	Amber	10

	Function	Corresponding DMX Channel
Refugium Spectrum	Intensity	11
	Color	12
	Unused	13(not useable)
	White	14
	Green	15

- To control DMX channels beyond channel 15 with K-Link devices, change the signal converter DMX channel to the desired starting channel. The signal converter will always control a block of 15 DMX channels.
  - If the signal converter box is set to DMX channel 50, then the Tuna Blue spectrum will control channels 50, 51, 52, 53, and 54. Tuna sun will control 55-59, and Refugium will control channels 60-64.

## **E - DMX to 0-10v Mode**

Use this mode to control 0-10v A-Series Kessil fixtures (A80, A160WE, or A360WE) through an external DMX controller.

- Port 1 = DMX Channels 1 and 2
- Port 2 = DMX Channels 4 and 5
- Port 3 = DMX Channels 7 and 8
- Port 4 = DMX Channels 10 and 11

## **F - 0-10v to DMX Mode**

Use this mode when controlling W-Series Kessil fixtures (W360, W500, or W2K) with a 0-10V input.

Input Port 1 outputs to DMX channels 1 and 2

Input Port 2 outputs to DMX channels 4 and 5.

Adjusting the DMX address of the signal converter box will also change the output channels of the 0-10v input.

- If the signal converter box is set to DMX channel 50, then 0-10v Input 1 will output to DMX channels 50 and 51. 0-10v Input 2 will output to DMX channels 53 and 54.