



## 12 Channel Constant Voltage DMX512 & RDM LED Decoder / Master

### SKU: A-D12A-DMXD

RDM / Stand-alone functionality / 8 bit or 16bit decoding/ Four PWM frequencies / Multiple dimming curves / OLED display

#### Features

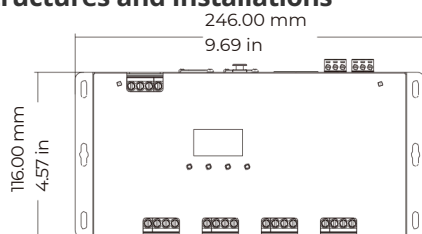
- Fully compliant with the standard DMX512 protocol.
- No DIP switches! Use the integrated buttons and OLED display to configure the DMX address and settings.
- Supports RDM functionality for DMX masters or controllers that take advantage of this enhanced protocol.
- 16 bit (65536 levels) or standard 8 bit (256) level selection.
- PWM dimming frequency selection: 500 / 2000 / 8000 / 16000 Hz options for reduced power noise and LED flickering.
- Output dimming curve gamma value of 0.1 to 9.9 selectable.
- Over-heat, over-load and short circuit protection with automatic recovery.
- CE, EMC, and LVD certified.
- 5 year warranty



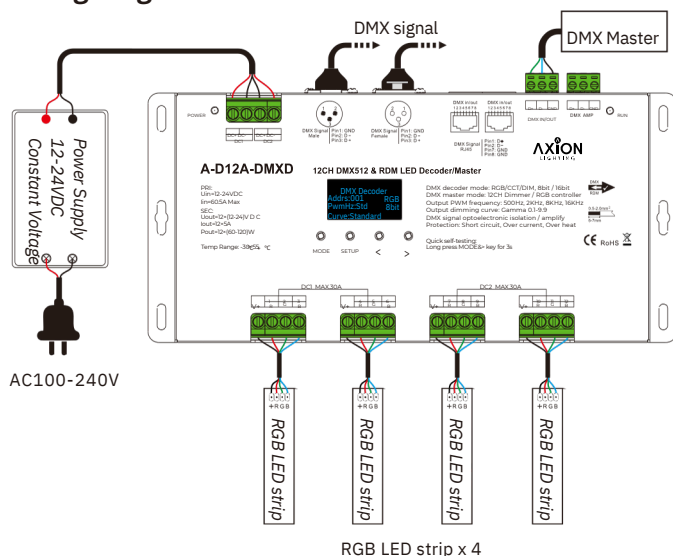
CE RoHS LVD

Input and Output		Safety and EMC		Environment	
Input voltage	12-24VDC	EMC standard (EMC)	EN55032:2015, EN61000-3-2:2014, EN61000-3-2:2013, EN55024:2010/A1:2015	Operation temp.	-30°C~+55°C
Input current	60.5A		Safety standard (LVD)	EN61347-1:2015 EN61347-2-11:2015	Case temp.
Output voltage	12 x (12-24)VDC	Certification	CE,EMC,LVD	IP rating	IP20
Output current	12CH, 5A/CH		<b>Warranty</b>	5 years	<b>Package</b>
Output power	12 x (60-120)W	Size			L10.08 x W4.72 x H7.81 in
Output type	Constant voltage	Warranty		Gross weight	2.23 lb

#### Mechanical Structures and Installations



#### Wiring Diagram



#### Note:

1. Using the green terminal (DMX AMP) will be needed when more than 12 decoders are connected, or the signal line is over 1000'. Signal amplification should not be done more than 5 times on a single line.

2. If signal loss occurs because of a longer signal line or bad line quality, try connecting a 0.25W 90-120Ω terminal resistor at the end of each DMX signal line.



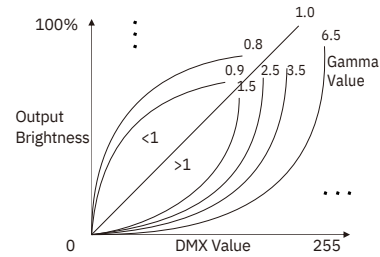
# OLED Screen Interface



- Short press the MODE key to switch between DMX decoder mode, Dimmer mode and RGB controller mode.
- Short press the SETUP key, enter parameter setting state, and switch between each option. Press the < or > key for parameter adjustment. Long press the SETUP key or wait 30s to exit.
- Long press the M & > key for 2s, to enter fast self-testing. Long press the < & > key for 2s, to restore factory default parameters.

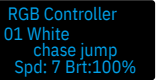
## DMX Decoder Mode

- Address can be from 001 – 512 by setting “Addr”
- DMX Decoder mode can be DIM (1 channel single color), CCT (2 channel color temperature) or RGB (3 channel). Use RGB mode even if you’re using RGBW or RGBWW fixtures.
- Output PWM Frequency can be changed to Standard (Std = 2000 Hz), High (High = 8000 Hz), Mid (Mid = 500 Hz), or Super (Supr = 16000 Hz). Again, a higher PWM frequency will cause a lower output current but helps reduce power noise and visible flickering if detected.
- Bit mode can be changed from the default 8-bit to 16-bit if desired.
- The output dimming curve (for 8-bit only) can be changed from Standard, with a Gamma of 1.6 to Linear or a custom value between 0.1 and 9.9. Leaving it on Standard is recommended and meets most applications. To change the custom value, long press the < or > button.



Each channel brightness setting can be between 0-255 (0-100%) <<&>>. Press the < or > key to switch between pages, each page controls 3 channels.

## DMX Master Mode as RGB Controller



Dynamic RGB mode: 10 types  
 Mode speed: 1-10 level where level 10 is the fastest speed  
 Mode brightness: 10%-100%

## Standalone RGB Controller Mode

- When selecting the option to set the unit up as a standalone RGB controller, it is assumed that the lights connected are only RGB and not RGBW or RGBWW.
- There are 10 modes you can set in this state:
  - 01 – White chase jump
  - 02 – White synchronous fade
  - 03 – White chase fade
  - 04 – RGB synchronous jump
  - 05 – RGB chase jump
  - 06 – Color synchronous gradual
  - 07 – Color jump gradual
  - 08 – RGB synchronous fade
  - 09 – RGB chase fade
  - 10 – All of the modes above loop

## Connecting RGBW Fixtures to the Axion 12 Channel DMX Decoder



## Troubleshooting Steps

Issue	Troubleshooting
General tips	<ol style="list-style-type: none"> <li>1. 18-gauge wire is recommended for connection to the light fixtures.</li> <li>2. If using our DMX Controller, verify the firmware is up to date.</li> <li>3. Start troubleshooting by disconnecting all but one DMX device and verify you have good control before adding more.</li> <li>4. Connect no more than 32 ft or 10m of LED strip on one line to minimize voltage drop.</li> <li>5. Oversize your power needs by at least 10-15%</li> </ol>
Connected LED Lights do not work	<ol style="list-style-type: none"> <li>1. Ensure that you are using a matching 12 or 24 volt power supply for your 12 or 24 volt fixtures. The decoder will not convert the voltage.</li> <li>2. Verify you have the proper pinout of the light fixture connected in RGBW order.</li> <li>3. Check the DMX address and make sure it matches your programming or integration.</li> <li>4. Ensure that you have a good DMX signal and that you haven't reversed the Data + and Data - wires.</li> </ol>
RJ45 Connector Pinout	<ol style="list-style-type: none"> <li>1: Data +</li> <li>2: Data -</li> <li>3-6: Empty</li> <li>7-8: Ground</li> </ol>
Wrong colors are being displayed	<ol style="list-style-type: none"> <li>1. Verify you are using 8 bit or 16 bit mode in your integration. By default our decoders come in 8 bit mode.</li> <li>2. Make sure you only have one DMX master or controller connected to the bus.</li> <li>3. Check other DMX devices to make sure they are not overlapping total count DMX addresses. EG: A 12 channel decoder uses 12 addresses so if one is set to address 1, it will consume DMX addresses 1-12. The next unit should be set to DMX address 13 or higher.</li> </ol>
When connecting multiple decoders, some closest to the DMX Controller stop working.	<ol style="list-style-type: none"> <li>1. Try adding a 120 Ohm resistor to the last DMX decoder in the line.</li> <li>2. If connecting 12 or more DMX devices, you may need to add a DMX booster or use the integrated DMX AMP signal booster found on some decoders</li> </ol>