5 Channel Constant Voltage DMX512 & RDM LED Decoder

SKU: A-D5P-DMXD

The Axion Lighting 5 Channel DMX Decoder offers a perfect way to control single color, tunable white, RGB, RGBW or even RGBWW fixtures

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: 250 / 500 / 1000 / 2000 / 4000 / 8000 / 16000 Hz options for reduced power noise and LED flickering.
- Logarithmic or linear dimming curve selectable.
- Over-heat (95°C), over-load and short circuit protection with automatic recovery.
  - OLA will display when overload alarm present.
  - OHA will display if overheating.
- Automatic DMX signal detection helps to know if there are line issues.
- Default Output Level setting allows you to set the light level if the DMX signal is lost.
- 6 modes of independent self-testing built-in
- CE, EMC, and LVD certified.
- 5 year warranty

CE RoHS emc LVD

Input and Output			Safety and EMC			Environment	
Input voltage	12-48VDC		EMC standard (EMC)	ETSI EN 301 489-1 V2.2.3 ETSI EN 301 489-17 V3.2.4		Operation temp.	Ta: -30° C ~ +55° C
Input current	20.5A					Max Case Temp.	Tc: +75° C
Output voltage	5 x (12-48)VDC					IP rating	IP20
Output current	5CH,4A/CH		Safety standard (LVD)	EN 62368-1:2020+A11:2020		Package	
Output power	5 x (48-192)W		Certification	CE,EMC,LVD		Size	L203.2x W50.8 x H50.8mm
Output type	Constant voltage		Warranty			Gross weight	0.907kg
			Warranty	5 years			

Mechanical Structures and Installations
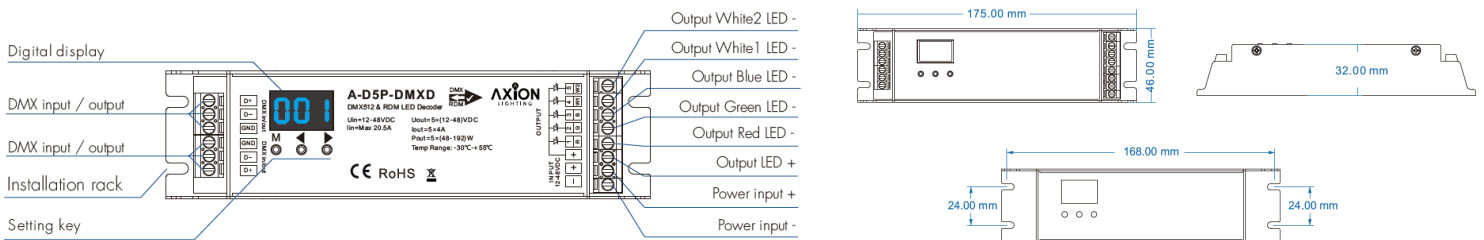
Wiring Diagram
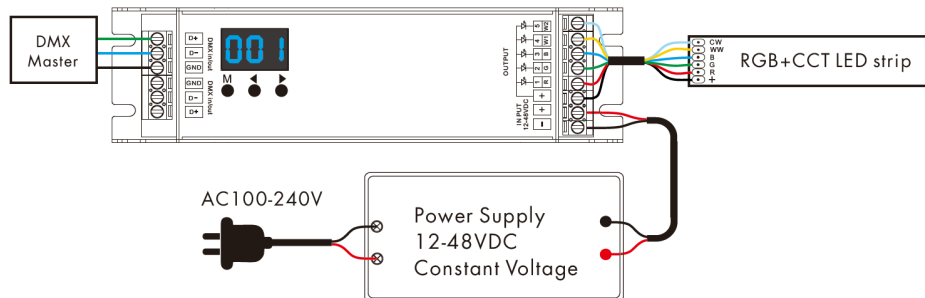
Note

- A DMX signal amp is typically required if more than 10-15 decoders are connected. This is especially true if the distance between the decoders is very long (250 ft+).
- If there appears to be signal loss, you can try connecting a 0.25 watt 90-120 Ohm terminal resistor at the end of the DMX signal line.
- If the display reads OLA, that indicates an overload alarm (wattage to high).
- If the display reads OHA, that indicates an overheating alarm.
- Alarms should clear automatically if the problem is resolved (may take up to 30 seconds).

Operation Settings

- Long press the M and < key at the same time for 2 seconds. Short press the M key to switch between settings:
  - Decode Mode
    - Short press the < or > key to switch between 1/2/4 channel decode mode (d-1, d-2, or d-4). When set as 1 channel mode, the decoder will only occupy a single DMX address and dim all the outputs at the same level. The same is true for 2 channel mode where channels 1/3 and 2/4 will dim together.
- Grey Level
  - Short press the < or > key to switch between 8bit (b08) or 16 bit (b16).
- Output PWM frequency
  - Short press the < or > key to switch between 250Hz (F02), 500Hz (F05), 1000Hz (F10), 2000Hz (F20), 4000Hz (F40), 8000Hz (F80), or 16000Hz (F16).
  - The higher the PWM frequency, the lower the output current however it's useful to eliminate power noise and reduce visible flickering.
- Output brightness curve
  - Short press the < or > key to switch between Linear Curve (C-L) or Logarithmic Curve (C-E)
- Default output level
  - Short press the < or > key to change the default brightness 0-100% level (d00 to dFF) when no DMX signal input is detected.
- Automatic blank screen
  - Short press the < or > to enable (bon) or disable (bof) the automatic blank screen.
- To exit the menu, long press the M key for 2 seconds or wait 10 seconds with no button presses.

DMX Decoder Mode

- Short press the M key to switch between DMX decoder mode and RGB controller mode.
- Press the < or > key to adjust the value.
- Long press MODE and > for 2 seconds to start the quick self-test feature.
- Long press the < and > key for 2 seconds to restore the unit to factory defaults.

DMX mode
(001~512)

Self-Test Mode

- The decoder will enter self-test mode only when DMX signal is disconnected or lost.
- Short press M key, when the display shows L-1~L-5 it will allow you test each output number.
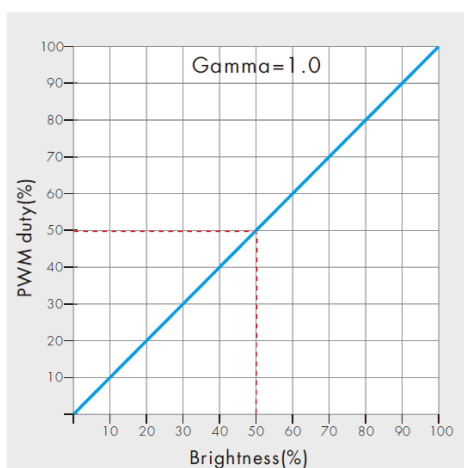- Press the ◀ or ▶ key to switch between L-1 thru L-5.
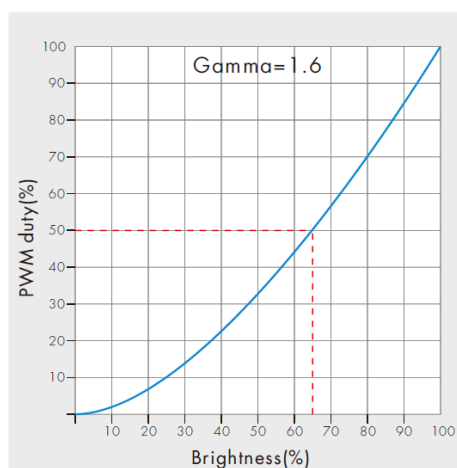

Self-test mode
(L-1~L-5)

DMX Console	DMX Decoder Output
CH1 0-255	CH1 PWM 0-100% (LED R)
CH2 0-255	CH2 PWM 0-100% (LED G)
CH3 0-255	CH3 PWM 0-100% (LED B)
CH4 0-255	CH4 PWM 0-100% (LED W1)
Ch5 0-255	CH5 PWM 0-100% (LED W2)

Dimming Curve Setting

Linear dimming curve

Gamma=1.0

Logarithmic dimming curve

Gamma=1.6

Troubleshooting Steps

Issue	Troubleshooting
General tips	1. 18-gauge wire is recommended for connection to the light fixtures. 2. If using our DMX Controller, verify the firmware is up to date. 3. Start troubleshooting by disconnecting all but one DMX device and verify you have good control before adding more. 4. Connect no more than 32 ft or 10m of LED strip on one line to minimize voltage drop. 5. Oversize your power needs by at least 10-15%
Connected LED Lights do not work	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. 2. Verify you have the proper pinout of the light fixture connected in RGBW order. 3. Check the DMX address and make sure it matches your programming or integration. 4. Ensure that you have a good DMX signal and that you haven't reversed the Data + and Data – wires.
RJ45 Connector Pinout	1: Data + 2: Data – 3-6: Empty 7-8: Ground
Wrong colors are being displayed	1. Verify you are using 8 bit or 16 bit mode in your integration. By default our decoders come in 8 bit mode. 2. Make sure you only have one DMX master or controller connected to the bus. 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.
When connecting multiple decoders, some closest to the DMX Controller stop working.	1. Try adding a 120 Ohm resistor to the last DMX decoder in the line. 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