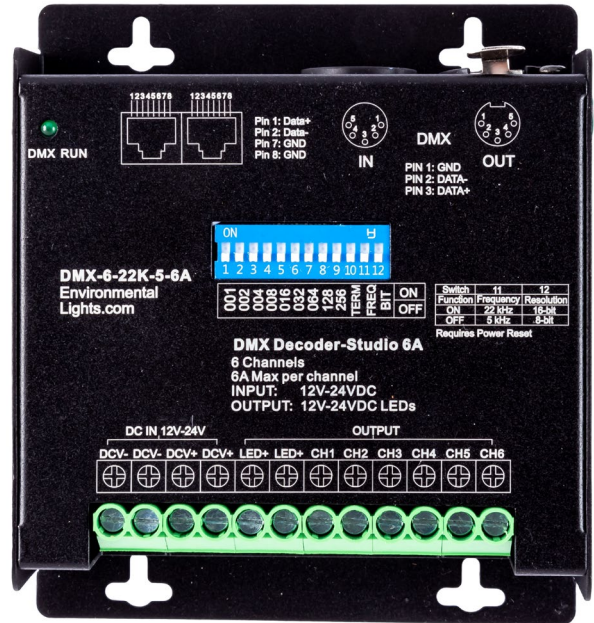
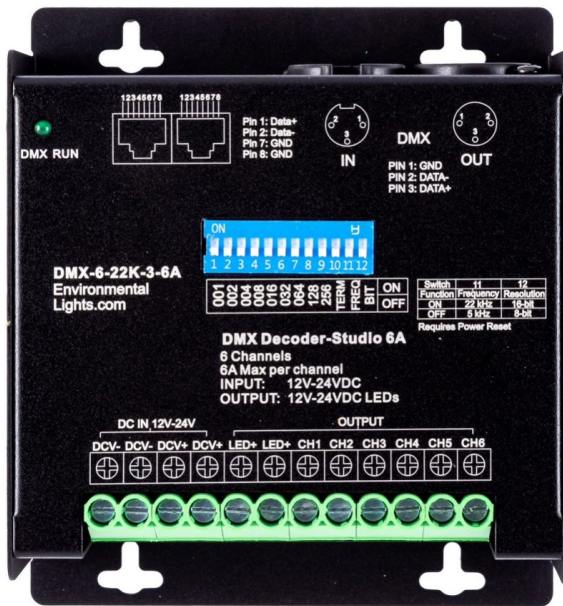


DMX Decoder-Studio 6 Channel-6A per Channel Manual

DMX-6-22K-3-6A / DMX-6-22K-5-6A



The StudioPro 6 Channel DMX Decoders are high-capacity decoders that accommodate up to 6 output channels of LED lighting. Each decoder is equipped with 3-pin or 5-pin XLR DMX outputs. Each decoder takes the DMX output from any standard DMX console or controller, and decodes the signal so you can drive up to 6 channels of LEDs, such as 6-in-1 ColorPlus LED Strip Light or two separate runs of RGB. The switchable PWM frequency up to 22.5 kHz helps prevent flicker on high speed cameras and avoid possible interference with audio recording equipment. It is compatible with both 12 and 24 VDC LED lighting.

Features

- 6 output channels
- 6 Amps per channel capacity
- Drive 432W864W of LED lighting at 12V or 24V respectively
- 3-pin or 5-pin XLR DMX in/out connections
- RJ45 DMX in/out connections
- Switchable 5 or 22.5 kHz PWM output
- Switchable 8-bit or 16-bit DMX input
- Works with 12 and 24VDC LED lighting

Application

This decoder is for any application requiring conversion of DMX to PWM signals while driving up to 6 channels of LEDs.

Operation

Wiring

Confirm the output voltage of the power supply (12 or 24VDC) is the same as the required input voltage of the LED strip lights before connecting power.

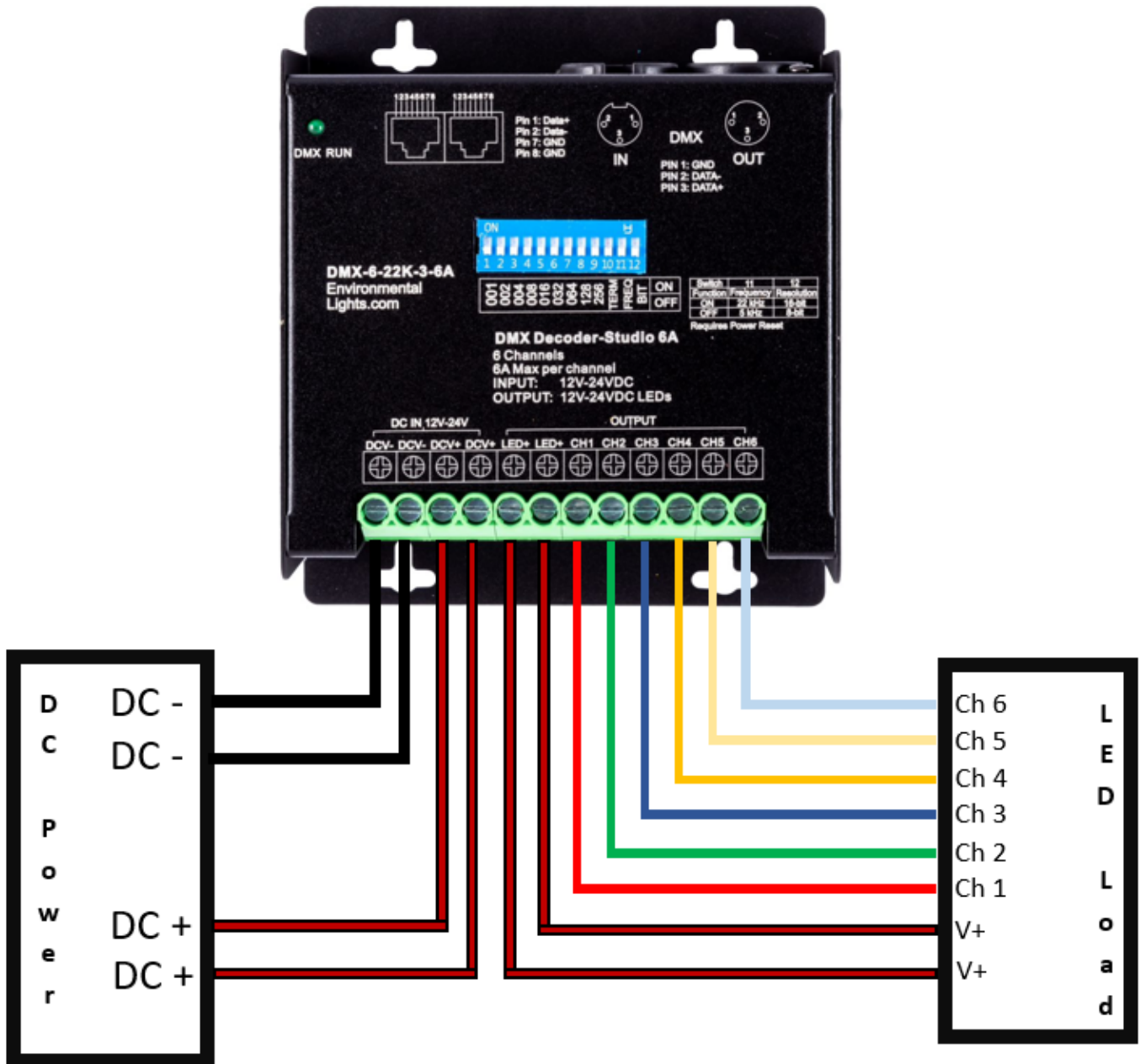


Figure 1: Wiring Diagram for under 30 Amps

Wiring for Over 30 Amperes

- Make sure that the power supply is turned off before wiring the device.
- Use at least 14AWG stranded wire for power supply connections and at least 12AWG for runs greater than 10ft or 3m.
- Connect the negative side of the power supply to both "DCV-" terminals. Use two runs of wire into each terminal for connections over 10ft or 3m.
- Connect the positive side of the power supply and the positive LED leads to both "DCV+" and both "LED+" terminals.
- Connect the negative side LED wires to the terminals marked "R", "G", "B" and "X" for red, green, blue and white. Refer to the DMX Address section below for more information.

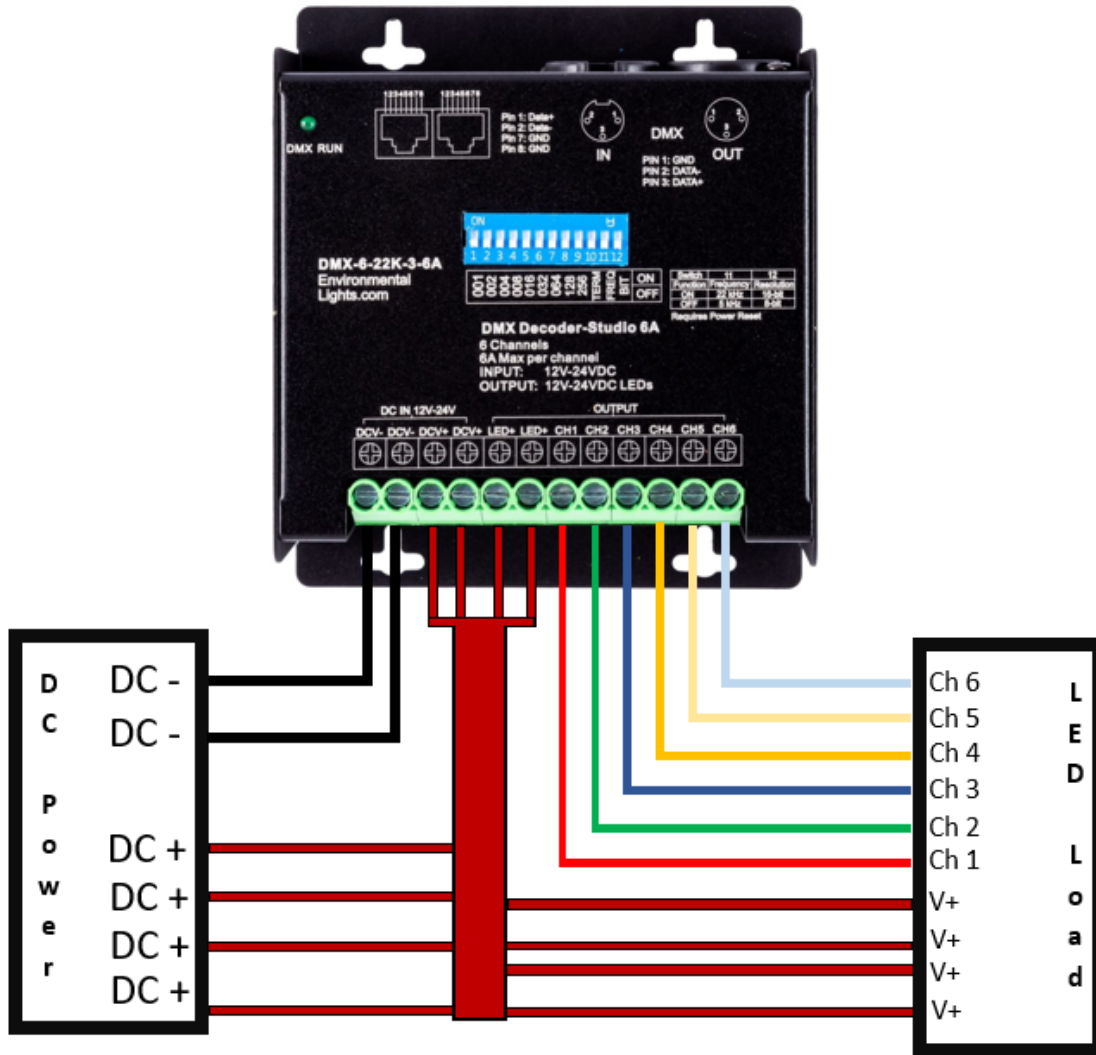


Figure 2: Wiring Diagram for over 30 Amps

DMX Connection

The StudioPro 6 Channel DMX decoder has four ports available for DMX input and output. Pin out diagrams are shown below:

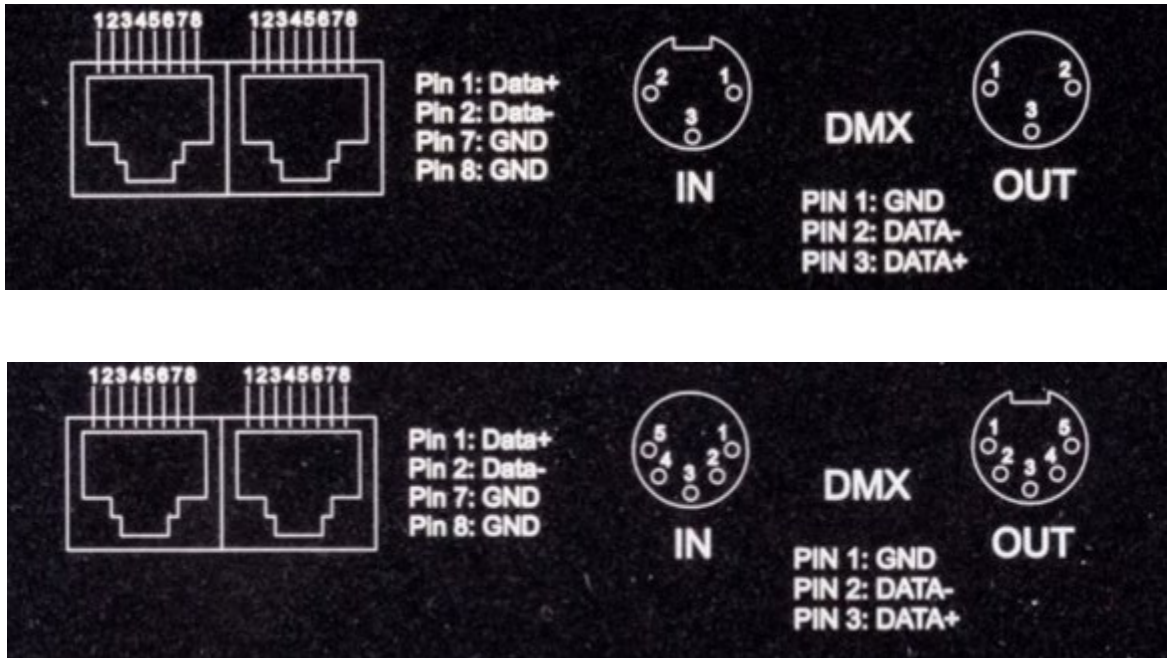


Figure 3a & 3b: Connection ports for DMX-6-22K-3-6A (top) and DMX-6-22K-5-6A (bottom) respectively

- The decoder can have only one DMX input signal at a time.
- Either RJ45 port can be used as an input or output.
- The DMX IN port should be used for DMX input when connecting with DMX cables.
- The DMX OUT port can be used as a DMX pass-through.
- For any system using a DMX decoder, the last decoder in the series should have the termination switch set to "ON". All other DMX decoders should have the termination switch set to "OFF".

8-bit and 16-bit Modes:

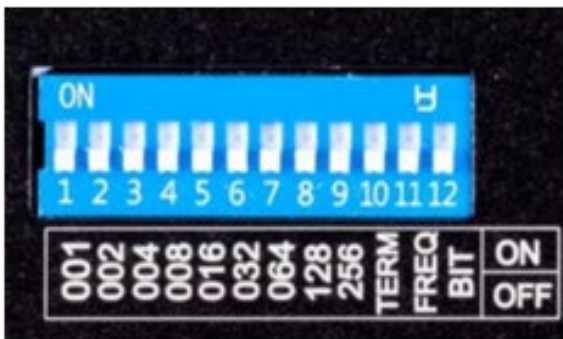
The decoder is capable of operating in standard 8-bit DMX mode or in high-resolution 16-bit mode. The decoder should be left in 8-bit mode unless the DMX controller is configured specifically for 16-bit resolution. 16-bit mode assigns two DMX input channels for each of the four outputs. The first channel operates like a normal DMX channel, 256 steps between off and maximum brightness. The second channel provides 256 micro-steps between each step of the first channel. This allows for over 65,536 adjustment steps, but requires twice as many DMX channels. Always turn off power to the decoder before changing between 8- and 16-bit modes.

DMX Address:

The starting DMX address is set using switches 1-9. Each switch is marked with its DMX value below. Moving any of the switches to the "ON" position adds the indicated value to the starting DMX address. The default setting is when DIP switch 1 is in the "ON" position and all other dip switches are set to "OFF". This sets the starting DMX address to 001. A reference table and examples are shown below.

8-bit Mode	
Output Channel	DMX Address
Channel 1	Set by DIP Switch
Channel 2	Channel 1 + 1
Channel 3	Channel 1 + 2
Channel 4	Channel 1 + 3
Channel 5	Channel 1 + 4
Channel 6	Channel 1 + 5

16-bit Mode	
Output Channel	DMX Address
Channel 1	Set by DIP Switch
Channel 2	Channel 1 + 2
Channel 3	Channel 1 + 4
Channel 4	Channel 1 + 6
Channel 5	Channel 1 + 8
Channel 6	Channel 1 + 10



DIP Switch Setting (1 indicates ON)	DMX Starting Address
100000000	001
010000000	002
100001000	033
001001001	292

Safety Precautions

Please take the following precautions:

1. This equipment, like all electrical equipment, should be installed by a qualified person.
2. Do not expose these LEDs, dimmers or power supplies to intense electro-magnetic fields, including lightning.
3. The controllers and power supplies are not waterproof. Keep them dry.
4. Always observe proper polarity.

When installing LED lighting, it is a good idea to follow this “dry-run” procedure:

1. Be sure you have everything you need before you start.
2. Lay out your lights and power supply on the floor or table.
3. There is some resistance in the LED lighting. If you see any color fading or dimming at the end of a long run, you may have too many LEDs for your power supply and you might need a bigger supply or shorter runs. Call if you need assistance with larger projects.
4. Connect everything and test it to be sure it works and you have it connected properly. It is unlikely, but possible, that some part of your system is defective or was damaged during shipment. If that is the case, it will be very helpful to you to know that before you do all the work involved in installing custom LED lighting systems. You will also know if you damage anything during installation, which is really helpful in trouble-shooting because manufacturing defects and installation damage typically have very different solutions.

Once you have tested the system successfully, you are ready to install it. We recommend you install LEDs, electronic controls and dimmers in such a way that you have access to them in case they fail. All electrical components can fail.