

LC50-U-DX3 Operational & Configuration information

LC50-U-DX3 is compact shape three channel DMX LED driver, which can control each channel independently. The DMX driver has a total capacity of 50W with the possibility to adjust the default output current setting through PC configuration software. The output current can be programmed between 350mA (default factory setting) and 1050mA via Helvar DMX LED configurator. This configurator software allows to modify the DMX network address and some of the driver control settings. Following paragraphs helps getting started with the LC50-U-DX3 LED driver, by using the optional USB to DMX programming dongle (LC50-PR) and configuration software (Helvar DMX LED configurator).

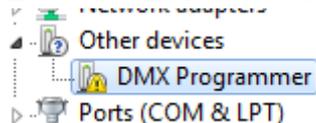


Getting started

Requirements: Microsoft Windows XP, Vista or 7

1. Download Helvar DMX LED configurator software from <http://www.helvar.com/downloads/tools>
2. Install software to your computer:
 - If you are using Windows 7 follow option a)
 - If you are using an older version like Windows Vista or XP choose option b)
3. Strip the supplied Ethernet cable on one end only. Connect the stripped wires to DMX input on the LC50-U-DX3 LED driver according to the wiring diagram below.
 - a) Install the programming dongle software driver separately by using device manager. Type in start menu device manager and start the program. From USB devices select programmer. Update the drivers for this device, and browse from your computer location (C:\Program Files\ Helvar DMX LED configurator\Driver)

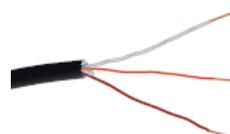
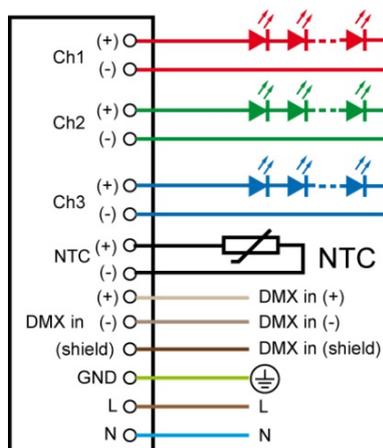
Before installation of driver:



After installation of driver:



- b) The programming dongle software driver installation can be done at the same time with configuration software installation. When the installation wizard offers to select the driver, then browse from your computer location (C:\Program Files\ Helvar DMX LED configurator\Driver)

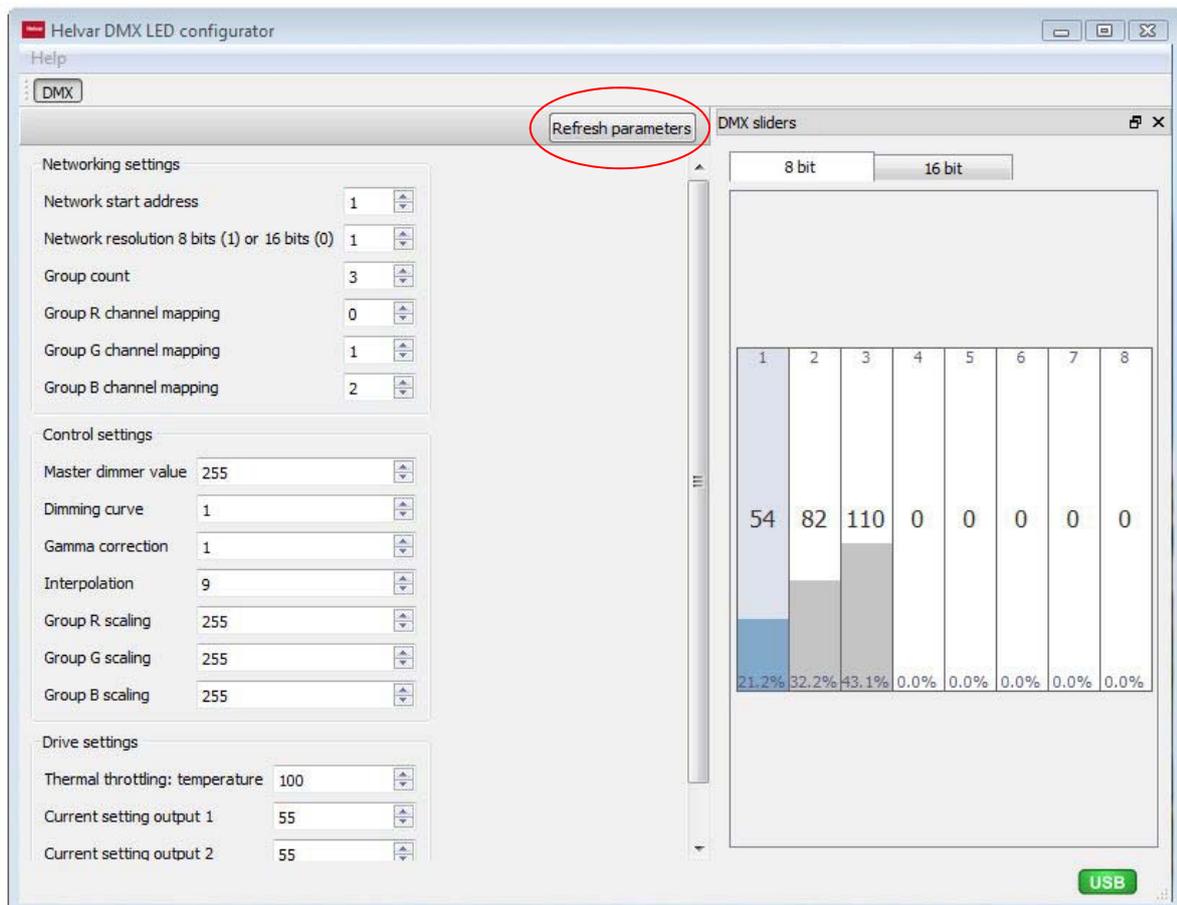


White/orange = DMX in +
 Orange = DMX in -
 Brown = DMX shield

4. Connect LED's and mains to LED driver and connect driver to USB to DMX programming dongle (LC50-PR).



5. Start the Helvar DMX LED configurator software.
6. Switch mains ON to the driver and refresh parameters.



Configuring the LED driver parameters

The Helvar DMX LED configurator allows to configure the DMX network address and some of the driver control settings. Please note that all LC50-U-DX3 drivers are to be programmed individually one at the time. Always configure output current first to avoid damaging the LED load. The output current has a default factory setting of 350mA and it can be modified up to 1050mA in a steps of 10mA. The key driver control parameters are explained below:

Network start address is the DMX address value for first channel of the driver, which can be set between 1 to 512. When using multiple drivers then please ensure that the DMX network start addresses do not overlap, for example: start address 1st driver is set at address 1; the 2nd driver is set at address 4 etc.

Network resolution can be selected between two options 8 bit or 16 bit.

Group count allows to set the number of channels (1, 2, 3 or 4) that will be used to send light set points to the LED driver. For example:

- For white light applications, set group count to 1, so all of the driver's LED outputs receive the same value. Make sure to set all parameters in group R, G and B to 0.
- For RGB or multi-channel applications, set this parameter to 3. Set group R to 0, group G to 1, and group B to 2.

Group R,G,B channel mapping is used together with **Group count**

Master dim value sets one global dimming level for all connected LED groups. This parameter scale present dimming value if configured. To disable this parameter, set it to 255. All set points sent over the network and those of local shows are scaled with this dimming value.

Dimming curve can be chosen linear with 0, or uses **Gamma correction** parameter with selection 1.

Gamma correction allows to choose from square or logarithmic correction.

Interpolation is mainly fade time from light level to other light level. Interpolation allow to achieve smooth dimming.

Group R/G/B scaling allow to set a maximum output level for each output channel. To disable group, set this parameter to 0.

Thermal throttling: temperature allow to choose trigger temperature for NTC input with 47kΩ NTC with beta value 4090.

Current setting output 1-3 allow to program output current in precision of 10mA from 350mA (35) to 1050mA (105).

Operational LED driver information

The LC50-U-DX3 driver can handle different output voltages for each channel. This is ideal for applications that require precise dimming over a wide operational range, like studio lighting. Parameters like the output current and DMX start address are configured through the optional programming dongle LC50-PR.

Helvar recommends to load each output evenly when load voltage is below 20V, and when the output current is set to 350mA. When the driver channels are evenly loaded, then the output current ripple is at its lowest level. In uneven loading output current shape will change so that output with lowest voltage output will occur high frequency current peaks.

1. When loading the LED driver, please ensure that the total loading, for all 3 channels, should not exceed 50W in total.
2. When one of the channels is loaded below 20V, then the maximum loading for the other channels should not be more than double of that value. This is to avoid high current peaks but not more than 1000mA and 5 μ s.
3. When loading only two channels, then it is recommended to use channels 1 and 2.
4. When changing the LED load, then it is always recommended to disconnect the driver from mains power.
5. When powering on the LED driver after a mains breakage, please allow about 10 seconds for the LED driver to measure and automatically re-adjust all its parameters.

Contact your local Helvar representative or visit us online at www.helvar.com

Due to a policy of continuous improvement, Helvar reserve the right to alter specifications without notice at any time.