ELC

dmXLAN nodeGBx 8
User Manual

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The ELC dmXLAN nodeGBx 8 comes in two variations:

DLN8GBX   8 fully programmable DMX ports & dual Gigabit port stand-alone switch with user interface

DLN8GBXSL   8 fully programmable DMX ports & dual Gigabit port switch for slave operation to dmXLAN switchGBx

Both nodes offers data splitting, merging, softpatching and backup when programmed using ELC's dmXLAN software. All DMX ports are fully-isolated.

Every DMX port has a RGB LED indicator which can be programmed via the dmXLAN software. The output of the DMX ports is measured continuously and detected changes and errors are appearing on the node's display and in dmXLAN.

The DLN8GBXSL can only be used as a slave to the dmXLAN switchGBx 10 or dmXLAN switchGBx 18. The DMX ports can be configured via the user interface of the switch or with the dmXLAN software. By connecting slave units to the switch you can build a system rack with up to 120 fully programmable DMX/RDM ports.

Features

- Active output measurement

- RGB LED for every DMX port

- 8 Bi-directional DMX ports on the front panel, RDM compatible

- 2 1GB Ethernet ports on the back panel

- Supports sACN, Art-Net & Shownet

- Remote programming and monitoring and fixture parameter override

- DMX Input normal or backup

- DMX Output normal, HTP, Priority merging, Softpatch (channel by channel), programmable merging with DMX channel control

- Local control via color touchscreen, rotary encoder/selector pushbutton

- Support for WYSIWYG, ESP, Capture

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Main menu overview

The main menu shows the device name at the top of the display. Underneath the device name is an overview of all DMX front ports (numbers 1-8) and two 1GB Ethernet back ports. The mode each port is set to is displayed underneath the port number. If there is a color assigned to the port, the port information field will be outlined in that color. The RGB LED indicator positioned next to each front port will light up in the corresponding color. Rotating the encoder will browse through the DMX ports and show the current mode and color for each port separately. The status field of the 1GB Ethernet back ports - located on the bottom of the display - will show if there is an active ethernet connection (*1GB* next to the port number indicates a live connection).

Setup menu overview

Viewing DMX values

To get an in-depth look at the values of the DMX channels of your configuration, select the *View DMX* option. Next, choose which port's values you want to view. Once the port has been selected, the screen will show an overview of the bars for the first 120 channels. Rotating the encoder will scroll through the higher channels. For a different representation of the DMX channels, press and hold the encoder, then rotate it to switch to a different view. In this manner, the screen can be made to show 120 bars, 40 bars, decimal values, percentages and 120 bars RGB. Pressing the encoder will return you to the *View DMX* port selection menu.

RDM Control

The Remote Device Management submenu allows communication between the nodeGBx 8 and RDM compliant devices through the 8 bi-directional RDM front ports. From the *RDM Control* menu, configuration, status monitoring and management of connected RDM devices is possible for each port separately. To use Remote Device Management, simply scroll through the port list and select any port that has an RDM device connected to it by pressing the encoder.

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Quick DMX Setup

To quickly configure the DMX settings for multiple ports of the nodeGBx 8, access the *Quick DMX Setup* menu. This is a faster way to configure DMX for a range of ports all at once, rather than having to set up each port by itself.

Upon entering the *Quick DMX Setup* submenu, the front port LED indicators will turn light blue, to indicate that DMX setup is active. *First Port* and *Last Port* determine which range of ports you will be setting up. Select one of these choices and subsequently scroll through the ports by rotating the encoder to set the first and last port of the DMX setup you will be configuring. The LED indicators will be lit in light blue for the active range of ports that you have selected (while the ports outside of the selected range will remain dark). Under *Mode*, select whether the selected ports will be set to *Output* mode (*single*, *double*, *triple* or *quad*), *Input* mode or *Disabled*.

When the output or input mode have been selected, the type of protocol to use can be indicated. Go to *Input:* or *Output:* (under *Mode:*) and choose either *Art-Net*, *sACN* or *ShowNet*. Next, you can indicate the starting address. Besides choosing the mode and in-/output type, the LED indicators for your chosen port range can also be modified.

Selecting the *LED* option will offer a choice between setting the LED indicators to the *Universe Color*, a *Fixed Color* or *DMX RGB*. The *Fixed Color* option reveals an extra menu item letting you pick which color to use, while the *DMX RGB* option reveals an extra menu item letting you determine the DMX address.

By default, the LED indicators will slowly blink if there is no DMX. When a port is 'taken over' with the dmXLAN software through an external device, the LED indicator of the port will start to rapidly blink.

Once you have determined all of the options of your DMX setup, choose *Save and Exit* to store them and the selected port range will be ready to go with the chosen settings.

Setting up individual DMX ports

By selecting the menu options *DMX Port 1* through *DMX Port 8*, each DMX port can be set up individually and specifically. In the port menu, first select the *Port Mode*. Each port can be set to either *Disabled*, *Input*, *Output* or *LedString*.

When all the port setup options are set to your liking, choose *Save and Exit* at the bottom of the port setup menu to store the settings for this DMX port.

DMX port as input

When a port is set up as a DMX input it can operate in the following modes;

- Disabled → the DMX input does nothing
- Normal → any valid DMX is sent onto the network (and internal use) using the selected universe (Art-Net)
  - LED indicator setting: fixed color / universe color / DMX RGB
  - Universe: Art-Net / sACN / ShowNet
- Backup → the DMX input will not send data if the selected universe is present on the network. If the selected universe is not present on the network for several seconds and the input has valid DMX, then it will send DMX data. If another sender starts sending the same universe, the input will go back into backup mode.
  - LED indicator setting: fixed color / universe color / DMX RGB
  - Universe: Art-Net / sACN / ShowNet

DMX port as output

When a port is set up as a DMX output it can operate in the following modes;

- Disabled → the DMX output is disabled
- Out Zero → the DMX sends out a DMX test signal with all channels at 0%
- Single → the output sends out the DMX values of the selected (primary) Art-Net universe. The DMX output is enabled the first time it detects the DMX universe on the network (or internal DMX inputs). If the universe on the network fails, the DMX output will go into DMX hold.
- HTP → highest takes precedence
- Priority → as long as the primary universe is active, it will be on the output – otherwise the secondary universe is sent on the output
- Flexpatch → setting used when programmed via dmXLAN software

The primary, secondary and tertiary universes can be set to either Art-Net, sACN or ShowNet.
The Resend option can be used to send the merged signal onto the network again as a new universe. This is helpful when – for example – 3 universes need to be merged together.

The Rate option can be used to set the rate of the dmXLAN nodeGBx8 to either;

- Sync   → the DMX output is synchronized to the universe data on the network. This is the fastest (lowest latency) setting.
  Note: some equipment might not cooperate with this setting very well.
- Fixed rate   → use this setting if the sync mode doesn't work (40/33/25 fps)
- Safe mode   → this mode has a long break and Mark After Break – to be used if none of the above mentioned settings work

The Hold option means that the DMX port will keep sending out the last received data on the network for as long as it does not receive new data from the network. The default for this option is 'Always'. This setting can be changed to time out after a chosen time interval.

DMX port as LedString

The NodeGBx8 can interact with serial LED strips (WS2811/WS2812 chips), thereby eliminating the need for an additional interface.
When a port is set up as LedString it can operate in the following modes;

- Disabled   → the DMX output is disabled
- 3 Universe
- Single   → the output sends out the DMX values of the selected (primary) Art-Net universe. The DMX output is enabled the first time it detects the DMX universe on the network (or internal DMX inputs). If the universe on the network fails, the DMX output will go into DMX hold.
- HTP   → highest takes precedence
- Priority   → as long as the primary universe is active, it will be on the output – otherwise the secondary universe is sent on the output
- Flexpatch   → setting used when programmed via dmXLAN software

The primary / secondary / tertiary universe settings and Resend / Rate / Hold options are similar to the output port mode.

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Setting the device ID

Changing the device's ID is easily done by selecting the *Set ID* option and then alternately rotating and pressing the encoder to set the 3-digit ID for the nodeGBx 8.

Renaming the configuration

The *Rename Config* option lets you pick a name for the node configuration. To enter a new name, select *Rename Config* and alternately rotate and press the encoder to set the new name.

Configuring Blacktrax settings

The ELC nodeGBx also supports Blacktrax light tracking equipment. To set up Blacktrax options, choose the *Blacktrax* option from the Setup menu. There are three different modes to choose from, namely *Disabled*, *Always On* and *Controlled*. On choosing the *Controlled* mode, further options concerning the *Universe* and *Channel* will be revealed to finetune your Blacktrax configuration. The bottom of the Blacktrax menu will show what server you are connected to.

Configuring network settings

To modify the network settings, go to the Settings Menu and select *Network Settings*. In this menu, the nodeGBx 8 can be configured to use either a dynamic IP or a static IP. To do this, highlight the *Dynamic* setting and press the encoder to turn dynamic IP ON or OFF.
Furthermore, the Network Settings menu lets you specify the *IP address* and *Netmask* for the switch. To alter these settings, highlight them and press the encoder to edit the values. Rotate the encoder to change the IP address or netmask values and press the encoder to confirm the entries. Once the network settings have been modified to your liking, select *Save* to store the settings.

Backlight settings

The backlighting of the node can be set to fade out after a set time. By choosing the *Backlight* menu option, you can adjust this time from a minimum of 5 seconds to a maximum of 5 minutes. Alternatively, you can opt to always leave the backlighting on.

Factory default

Resetting the device to factory default will restore all settings to their original configuration and will cancel any changes you have made to the settings. To proceed with returning the device to its default settings, select the *Factory default* option from the Settings menu and press down on the encoder. The device will then ask for confirmation as an extra precaution as this choice is irreversible.

Info screen

Choosing the *Info* menu option will open a screen with information on the nodeGBx 8. This screen shows the device name, serial number, firmware version and the IP address and MAC address of the node.

NodeGBx 8 slave configuration

The dmXLAN nodeGBx 8 Slave version (DLN8GBXSL) can only be used as a slave device to the ELC dmXLAN switchGBx 10 or ELC dmXLAN switchGBx 18. The correct way to connect the DLN8GBXSL to an ELC switchGBx device in slave mode is listed below.

dmXLAN switchGBx 10:   Connect port 5 of the switch to the X1 port of the nodeGBx 8 Slave version

dmXLAN switchGBx 18:   Connect port 9 of the switch to the X1 port of the nodeGBx 8 Slave version

To loop more nodeGBx 8 slave devices onto the switch, connect the X2 port of the first slave device to the X1 port of the next slave device. Repeat this procedure for each following DLN8GBXSL you want to include in the loop.

A maximum of 15 slaves can be connected to the dmXLAN switchGBx 10 and 18 in this manner, enabling a system rack with up to 120 fully programmable DMX ports.

General safety instructions

Read all instructions - especially the safety requirements - in the user manual before use. Save these instructions - the safety and operating instructions should be retained for future reference. Carefully follow all instructions.

Cleaning

Disconnect all connected supply and signal cables before cleaning the unit. Clean with a dry cloth. Do not use any liquids or aerosols on the unit.

Usage

Do not use the unit near water or moisture. - Do not block any ventilation openings, they are necessary for the essential airflow within the unit and protect it against overheating. - Install in accordance with the manufacturer's instructions. - Do not insert any objects through the ventilation slots of the unit, as these could come in contact with live parts or could cause short circuits. This could cause electric shock and/or fire. - Do not install near any heat sources such as radiators, stoves or other apparatus (including amplifiers) that produce heat. - Unplug this apparatus during lightning storms or when unused for long periods of time. Do not place the unit on unstable surfaces. – Do not place any objects on the power cord. Protect it from being walked on or pinched particularly at the plugs and the point where they exit from the device. If the power cord or the mains plug is damaged, let a qualified technician replace it immediately. - Do not defeat the safety purpose of the grounding plug. A grounding plug has two blades and a third grounding connection. The third grounding connection is provided for your safety. If the provided plug does not fit in your outlet, consult an electrician for replacement of the obsolete outlet.

Servicing

Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way such as; damage to the power supply cord or plug, spillage of liquids, objects falling into the apparatus, exposure to rain or moisture, abnormal operation or falling damage. In all of the previous conditions, disconnect the main plug immediately and call your distributor or technical support!

Cautionary instructions

Maintenance and service of the device may only be carried out by qualified service personnel, as when opening and /or removing coverings of the device live parts may be exposed causing the risk of an electric shock.

CAUTION
Risk of electric shock
Do not open !

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated dangerous voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

WARNING

**TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK,
DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE**

Declaration of Conformity

We,

Manufacturers name: ELC lighting b.v.

Manufacturers address: Weerijs 8
5422 WV Gemert
the Netherlands

Herewith take the full responsibility to confirm that the product

Product Category: Lighting control equipment

Name of product: ELC-DLN8GBX / ELC-DLN8GBXSL

Which refer to this declaration are manufactured in the Netherlands and complies with the following product specifications and harmonized standards:

Safety: LVD (Low Voltage Directive) 2014/35/EU, EN62368-1

EMC: 2014/30/EG, EN55032

ROHS (II):   2011/65/EU

With the presumption that the equipment is used and connected according to the manual, supplied with the equipment. All signal input- and output connections must be shielded and the shielding must be connected to the ground of the corresponding plug.

Gemert, February 16, 2018

ing. Joost van Eenbergen