

Description: User Manual LumiCore.  
REVISION: 20220629-REV 2.4.1

**Luminex**  
NETWORK INTELLIGENCE

# LumiCore USER MANUAL



**LUMICORE PRODUCT FAMILY**  
LumiCore

THANKS FOR CHOOSING LUMINEX

MADE IN **BELGIUM**

## General information



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.

L'éclair avec une flèche à l'intérieur d'un triangle équilatéral est destiné à attirer l'attention de l'utilisateur sur la présence d'une « tension dangereuse » non isolée à l'intérieur de l'appareil, pouvant être suffisamment élevée pour constituer un risque d'électrocution.



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 appliance.

Le point d'exclamation à l'intérieur d'un triangle équilatéral est destiné à attirer l'attention de l'utilisateur sur la présence d'instructions importantes sur l'emploi ou la maintenance (réparation) de l'appareil dans la documentation fournie.

### CAUTION

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

### AVERTISSEMENT

POUR RÉDUIRE LES RISQUES D'INCENDIE OU DE DÉCHARGE ÉLECTRIQUE, N' EPOSEZ PAS CET APPAREIL À LA PLUIE OU À L' HUMIDITÉ.

### CAUTION

NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONEL.

### AVERTISSEMENT

AUCUNE PIÈCE CONTENUE À L' INTÉRIEUR NE PEUT ETRE RÉPARÉE PAR L' UTILISATEUR, VEUILLEZ CONFIER TOUTE RÉPARATION À UN PERSONNEL QUALIFIÉ.

### FCC Compliance Statement:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received; including interference that may cause undesired operation.



### IMPORTANT NOTICE: DO NOT MODIFY THIS UNIT!

This product, when installed as indicated in the instructions contained in this manual, meets FCC requirements. Modifications not expressly approved by Luminex Lighting Control Equipment nv may void your authority, granted by the FCC, to use the product.

This Equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

**Industry Canada compliance statement**

This Class A digital apparatus complies with Canadian ICES-003. Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

**European Community Compliance Statement**

This is a class A product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.



**Disposal of Waste Equipment by users in the European Union**  
**Information for Users on Collection and Disposal of Old Equipment.**

This symbol on the products, packaging, and/or accompanying documents means that used electrical and electronic products should not be mixed with general household waste.

For proper treatment, recovery, and recycling of old products, please take them to applicable collection points, in accordance with your national legislation and the Directives 2002/96/EC. By disposing of these products correctly, you will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling. For more information about collection and recycling of old products, please contact your local municipality, your waste disposal service, or the point of sale where you purchased the items.

**[For business users in the European Union]**

If you wish to discard electrical and electronic equipment, please contact your dealer or supplier for further information.

**[Information on Disposal in other Countries outside the European Union]**

This symbol is only valid in the European Union. If you wish to discard these items, please contact your local authorities or dealer and ask for the correct method of disposal.

## Warranty information

**Limited warranty**

Unless otherwise stated, your product is covered by a two (2) years parts and labour limited warranty. It is the owner's responsibility to furnish receipts or invoices for verification of purchase, date, and dealer or distributor. If purchase date cannot be provided, date of manufacture will be used to determine warranty period.

**Returning under warranty**

Any product unit or parts returned to Luminex LCE must be packaged in a suitable manner to ensure the protection of such product unit or parts, and such package shall be clearly and prominently marked to indicate that the package contains returned product units or parts.

Accompany all returned product units or parts with a written explanation of the alleged problem or malfunction.

**Freight**

All shipping will be paid by the purchaser. Items under warranty shall have return shipping paid by the manufacturer only in the European Union. Under no circumstances will freight collect shipments be accepted.

Prepaid shipping does not include rush expediting such as air freight. Air freight can be sent customer collect in the European Union. Warranty is void if the product is misused, damaged, modified in any way, or for unauthorized repairs or parts.

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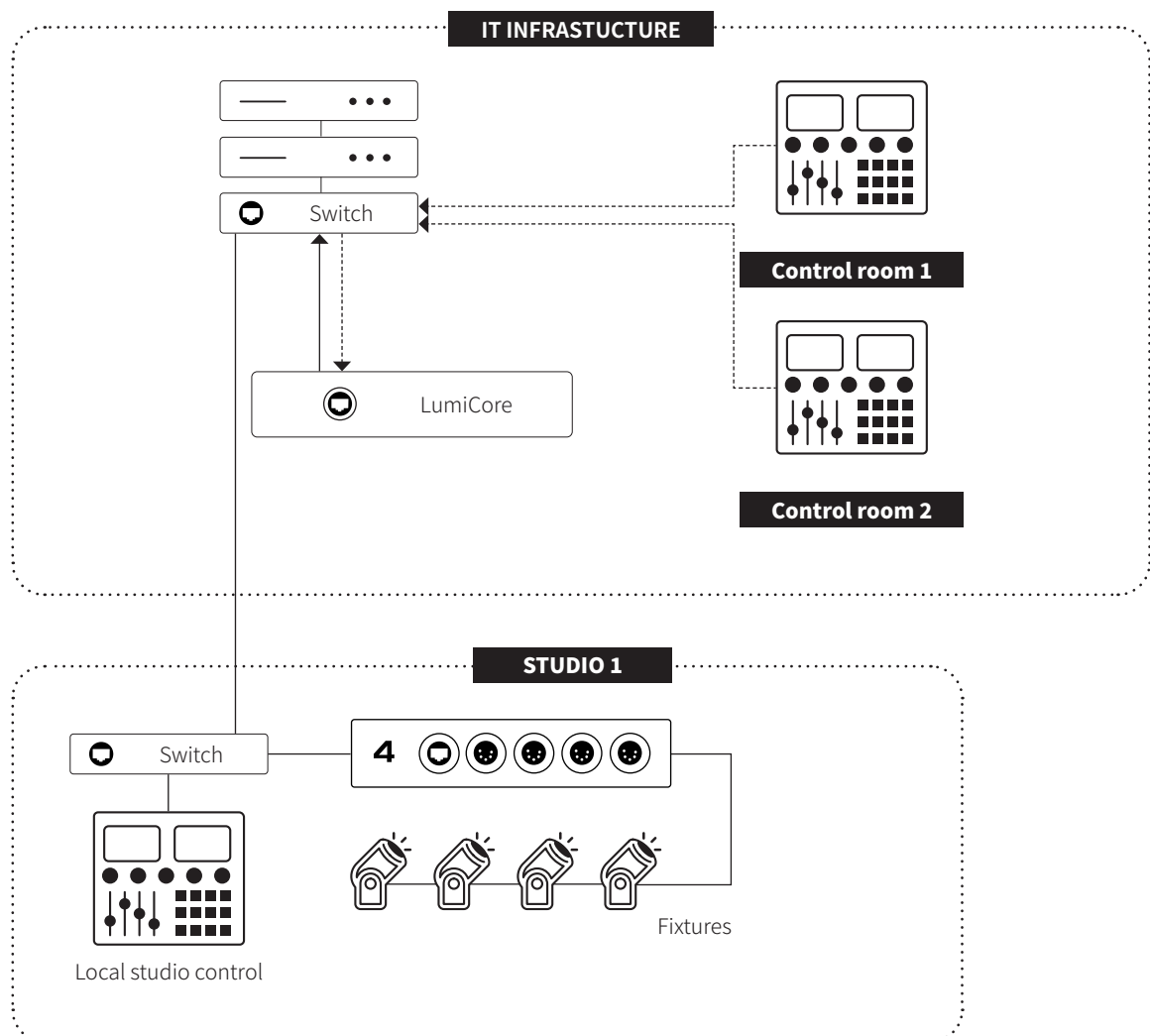
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## 1. Applications

A few examples of applications where the LumiCore can be used:

- Touring & Live events
- Studio's
- Cruise ships/Yachts
- Theatres
- Arena/Stadium lighting
- Architainment lighting
- Theme parks
- Campuses
- Houses of Worship
- ....

Typical Applications:



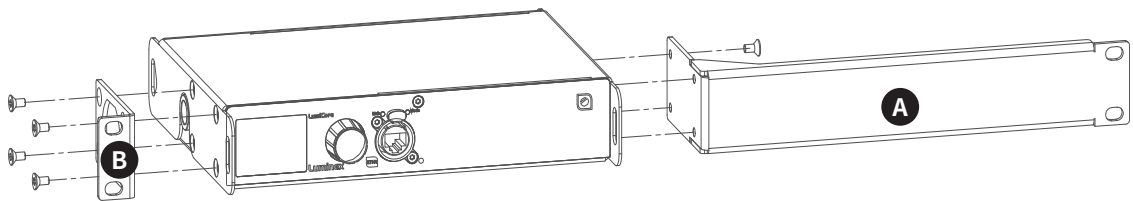
## 2. Installation

### 2.1 Mounting the device

LumiCore is a device that can be mounted in a truss as well as in a rack. Please read the following instructions to make sure the device is mounted and secured correctly.

#### RACK MOUNT

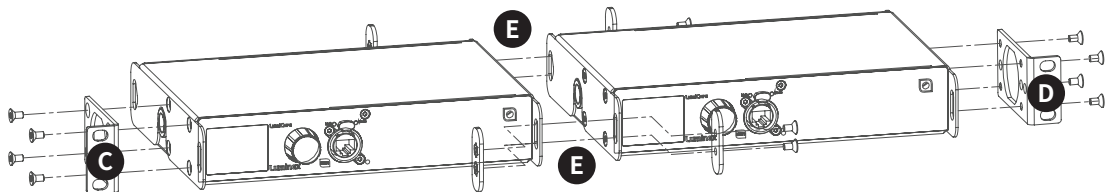
In case you want to mount your LumiCore in a standard 19-inch rack, you must attach the included mounting ears. Connect the longest ear **(A)** to the right-hand side of the device with 4 screws, re-used from the device. Attach the shorter ear **(B)** to the left-hand side again with the 4 screws.



#### RACK MOUNT - TWO DEVICES

In case you want to mount two LumiCore devices or a LumiCore and a LumiCore4 in a standard 19-inch rack you can mount the two devices together. A space saving way as the two devices will only consume a single row in your 19-inch rack.

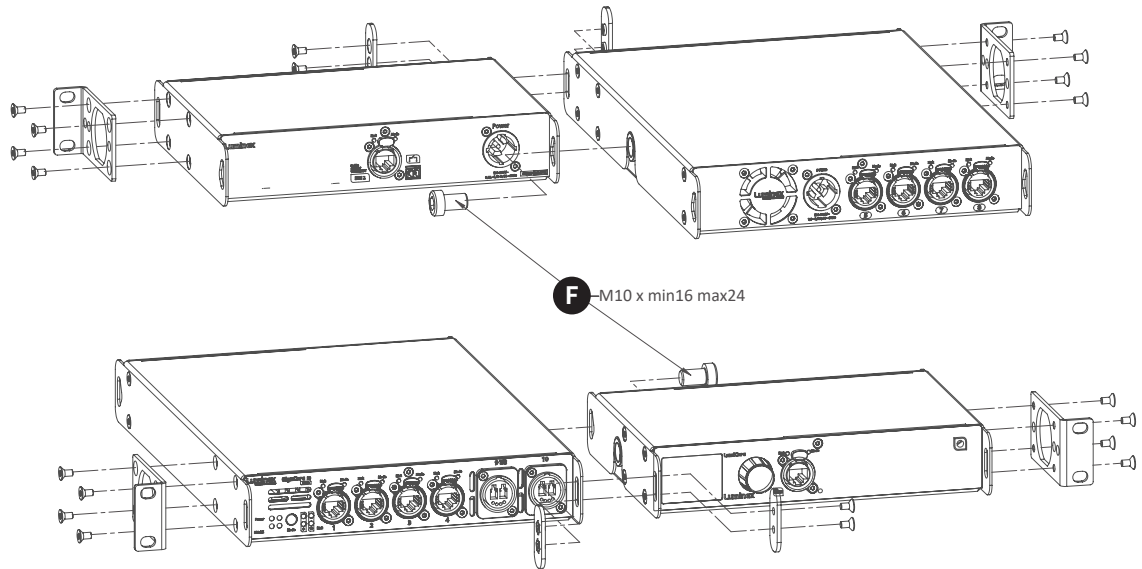
First you attach the shortest mounting ears. Connect the shortest ear **(C)** to the left-hand side of the first device with 4 screws, re-used from the device. Attach the other shortest ear **(D)**, delivered with the second device, to the right-hand side of the second device, again with 4 screws. Use a pair of mounting brackets **(E)** to connect the two devices in the middle at the front. Use a second pair of mounting brackets **(E)**, delivered with the second device, to connect the devices at the rear. Each pair of brackets must be mounted with 2 screws.



To combine a LumiCore device with a Luminex half 19" device, style GigaCore 10, the mounting procedure is slightly different.

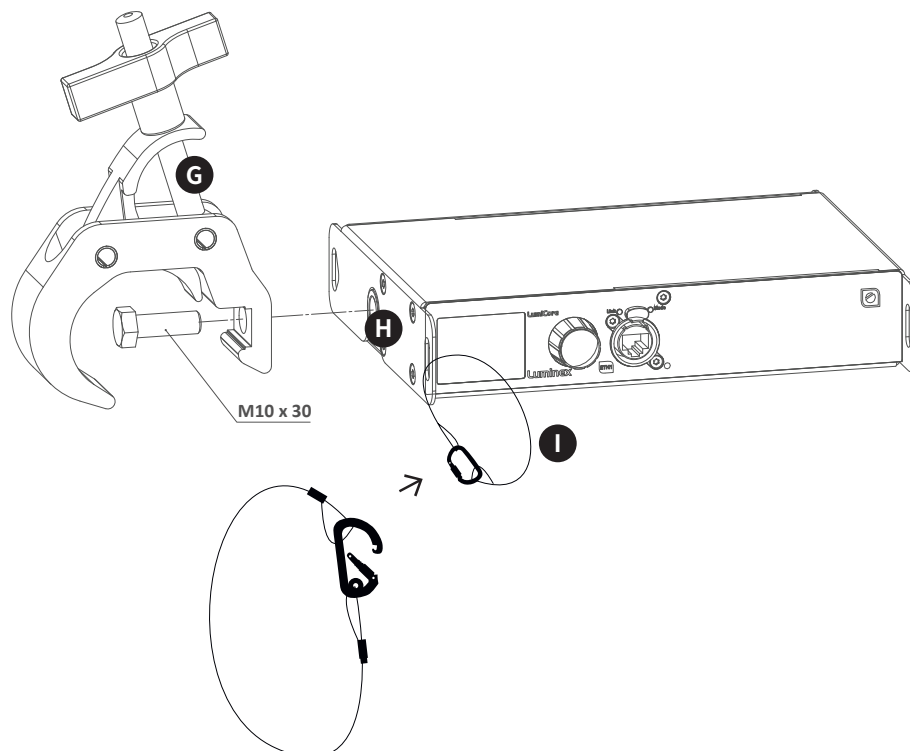
The bolt **(F)**, not included, replaces the couplers at the rear of the device. Use the correct bold, M10x20 socket headcap screw, with a screw wire no longer than 20 mm. You can order this part from Luminex (Part Number: R 90 01042).

Screw the bolt, through the LumiCore back ear, into the side M10 insert and tighten it. The rest of the mounting procedure remains the same.



## TRUSS MOUNT

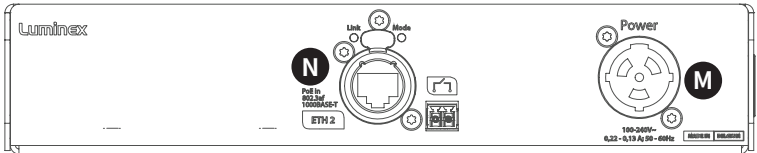
To mount a LumiCore in a truss, you must attach a M10 clamp **(G)** to the M10 insert **(H)**. After that, you can mount the clamp to the truss bars. Additionally, a safety line from the device directly to the truss bars **(I)** is required.





## 2.2 Power up the device

The LumiCore can be powered with a power cable fitted with a Neutrik powerCON TRUE1 connector **(M)** (please contact your local dealer if you do not have a suitable power cable at hand). The device will automatically switch on. To shut it down after use, just un-plug the power cable again. The LumiCore can also be powered with PoE **(N)**.



The LumiCore requires standard AC power distribution from 100-240VAC, 50/60Hz. The mating Neutrik powerCON TRUE1 connector is supplied; however, you will need to purchase or construct a cable appropriate for your application. When installing a new connector please refer to the following wire colour code reference:

Wire*	Connection
Green/Yellow	AC Ground
Blue	AC Neutral
Brown	AC Line

\* International (Harmonised) Standard

Alternatively, the LumiCore series are 802.3af compliant (PoE), so that each LumiCore will act as a PD (Powered Device) and can be powered by any compliant PSE (Power Sourcing Equipment) such as Ethernet switch, midspan and PoE injector. All models can only be powered with PoE via ETH2!

If both AC power and PoE are used the AC power supply will be prioritised, but the PoE will seamlessly take over if the AC power fails.

## 2.3 Connection to the network

To get the LumiCore online in your system, connect either port ETH1 or ETH2 to a computer, or to a port of an Ethernet switch.

Only port ETH2 on the rear of the unit can be used to power the unit through PoE. Check the port labelling for a better identification.

## 2.4 LED indicators

There are various LEDs on the LumiCore. Here is a list of the LEDs, the possible colours, and the meaning of each colour:

NETWORK PORT		
Left LED (Link)	Green	Gigabit connection (flashing: Ethernet traffic)
	Orange	100Mbit connection (flashing: Ethernet traffic)
Right LED (Mode)	Blue	Default colour
	Green flashing	Device booting
	Orange flashing	Firmware upgrade in progress
	Green blinking	Identify in progress
	Group colour	Corresponding to assigned group/VLAN

## 2.5 Connection to the web interface

- The LumiCore IP address can be found at the rear of the unit or on the LCD display.
- Set your computer with a compliant IP address (do not use the same IP address!).
- Connect your computer to the LumiCore with a network cable.
- Launch your favourite web browser.
- Type the IP address of the LumiCore in the address field followed by enter.

## 2.6 Reset

### RESET VIA THE LCD DISPLAY:

When the device is powered up, by default the LCD display shows the status screen with the status of the process engines. To reset the device please follow the following steps:

- Press the jog wheel once to enter the main menu.
- Scroll down until you see Toolbox.
- Press the jog wheel once to enter the toolbox.
- Scroll down until you see Reset.
- Press the jog wheel once to enter the reset menu.
- A pop-up window opens giving you the option to Preserve IP settings and Preserve user profiles.
- Choose which option you want by using the jog wheel to scroll between the two options and press the jog wheel to confirm.
- At the bottom of the pop-up window, you have the option to Reset or Cancel.
- If you choose cancel you get a message that the reset has been cancelled.
- If you choose reset, you get a new screen asking to confirm the reset command. Once 'Yes' is selected the LumiCore will reset.

### RESET VIA LUMINET MONITOR:

LumiNet Monitor is available for Windows and MacOS and can be found in the download section of our website: <http://www.luminex.be/support-2/product-downloads/>

How to reset your LumiCore through LumiNet Monitor:

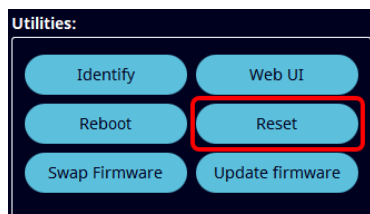
- With a computer connected to the device, open LumiNet Monitor (version 2.3.3 or above).
- Under Tools in the menu bar you find Reset LumiCore.
- Enter the MAC address of the device you want to reset. This can be found on the label with the IP address or via the web-UI.
- Choose if you want to keep the IP settings.
- Choose if you want to keep the profiles.
- Click reset.

### RESET VIA ARANEO:

Araneo is available for Windows and MacOS and can be found in the download section of our website: <https://www.luminex.be/download-araneo/>

How to reset your LumiCore through Araneo:

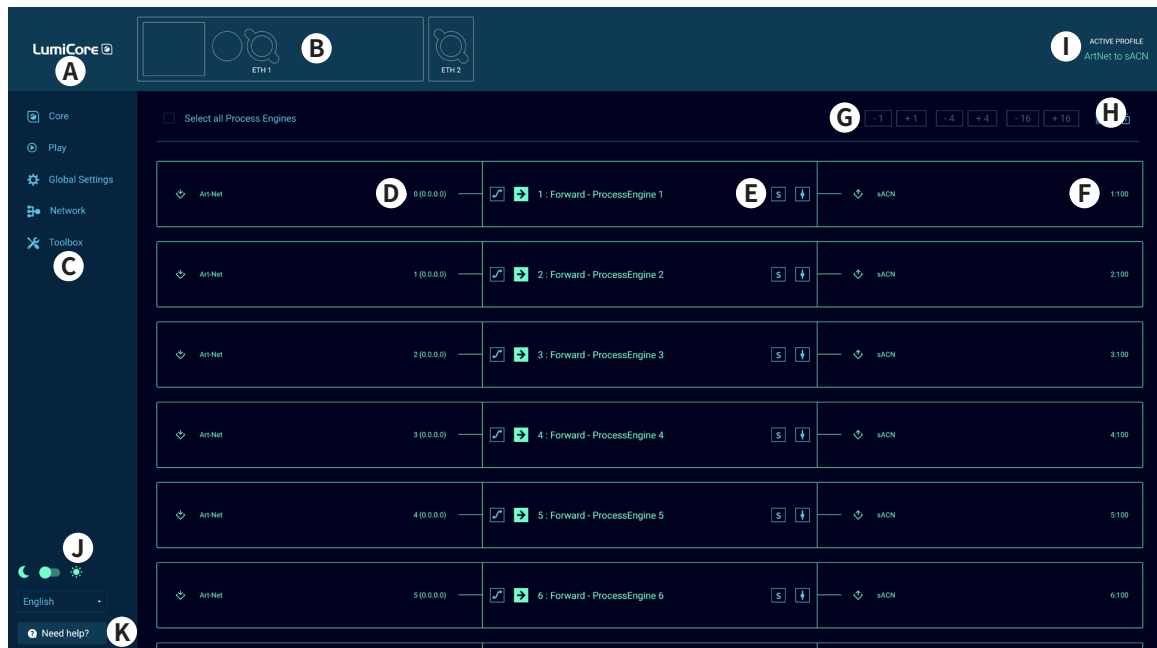
- With a computer connected to the device, open Araneo (version 1.4.0 or above).
- Select the LumiCore you wish to reset.
- The Reset option becomes available on the Utilities section of the system tray at the bottom of your screen in Araneo.
- Choose if you want to keep the IP settings.
- Choose if you want to keep the profiles.
- Click reset.



### 3. Configuration

#### WEB INTERFACE PRESENTATION

Launch your favourite web browser and type the IP address of your LumiCore. Press **enter** to validate.



#### 3.1 Node Page

- (A) **Identify:** Clicking on the Luminex logo will identify your LumiCore in the network. The LCD display will turn green and the Mode LED will flash green for 5 seconds. In the web-UI you get the text “Identified” under the logo and the LCD area will change colour.
- (B) **Drawing of your LumiCore:** A product drawing of the LumiCore.
- (C) **Navigation menu**
- (D) **Input:** According to the mode set on the process engine, the input block will display all relevant information, such as the type of incoming protocol, the universe number and the source IP address.
- (E) **Process engine:** By default, the LumiCore comes with Forward mode to sACN activated on all process engines. The block displays the mode currently set on the process engine; you can change the name. On the left and on the right-hand side of the process engine, are respectively the patch, master/limit and startup icons. The colour of the icon will change if any parameters of these menus are modified. For more details about the process engines and how to configure them please see chapter 6 of this manual.
- (F) **Output:** The output block will display all relevant information, such as the type of outgoing protocol, the universe number, and the destination IP address.
- (G) **Increment/Decrement:** Use these shortcuts to quickly increase or decrease the value of a universe. Select the process engine first, after which the increment/decrement tool becomes available.
- (H) **Reset tool and padlock:** Use this tool to reset one or several process engines. First select the process engine(s) by clicking on the top left corner of the input block followed by the trashcan icon. The padlock allows you to lock the LumiCore configuration page to prevent unsolicited action on the web page. This is an ideal tool for show time.
- (I) **Active Profile:** In this area the current active profile of the LumiCore is being displayed.
- (J) **Theme and language:** Select here if you want to use the dark theme or light theme. Interface supported languages are English, Japanese and Chinese for now.
- (K) **Help:** In case you need help, here you find an onboard helpfile.

## HOW TO RESET A PROCESS ENGINE

To reset a process engine, follow the following steps:

- Hover your mouse over the top left corner of the process engine and select the tick box.
- Click on the trashcan icon at the top right corner above the first process engine.

A blank process engine appears as follows:



If you want to reset all the process engines at once, navigate to the top left above the first process engine and select the tick box “Select all Process Engines”

## HOW TO CONFIGURE A PROCESS ENGINE

To configure a process engine, first click on the SELECT MODE label (the centre block of the process engine), the process engine panel appears.

Click on the icon to select the mode you wish to use. Modes are described in chapter 5 of this manual.

- **Forward**, an input is send to an output.
- **LTP merge**, Latest Takes Precendence with up to four inputs.
- **HTP merge**, Highest Takes Precendence with up to four inputs.
- **Backup**, Input 2 becomes active if input 1 is not available.
- **X-Fade**, Cross-fade between input 1 and input 2.
- **Switch**, with the use of a control source choose which of the up to four inputs is active.
- **Custom**, any of the other modes, or combination of, on a channel level.

At any time, you can click on the Patch button , the Master/Limit button , or the Startup Buffer button to open the relevant configuration panel.

Next, click on the left-hand block, to select your input . According to the selected mode, the number of inputs may vary. A process engine supports up to four inputs.

Input options are:

- **Art-Net**: Select the Art-Net universe to use. You can enter a numeric value between 0 and 32767.
- **sACN**: Select the sACN universe to use. You can enter a numeric value between 1 and 63999.
- **KiNET**: KiNETv2, the port number is automatically matched to the number of the process engine.
- **RTTrPL**, BlackTrax: Select the RTTrPL universe to use. You can enter a numeric value between 0 and 63999.
- **Internal**, the result of another process engine.
- **Play**, one of the recorded shows.

You can give your input a name for easy identification.

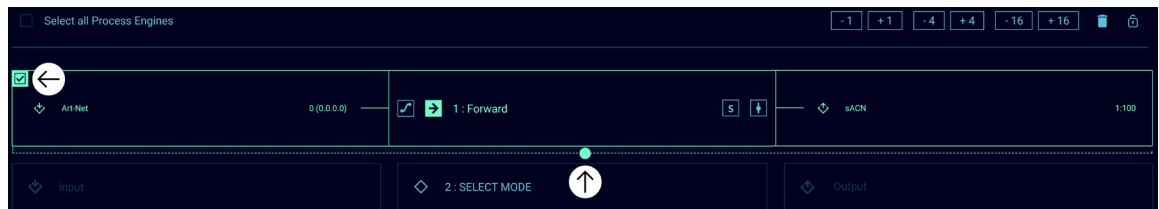
Next, select your output by clicking on the output block, located on the right-hand side.

Here, you can choose between Art-Net, sACN, KiNET or any combination of the four to send data coming from the process engine. The four types of output can be used at the same time, providing you with great flexibility.

Once selected, click on the Save button to store the parameters of your process engine. Your engine is ready to go!

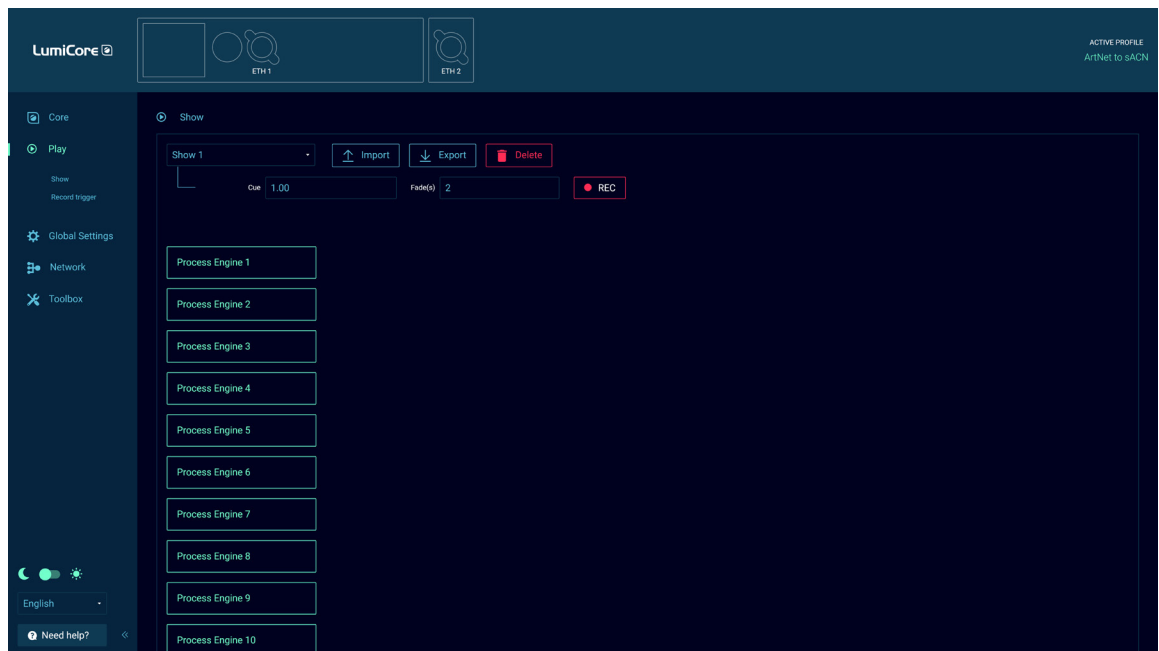
## HOW TO COPY A PROCESS ENGINE

Once you have created your first process engine, select it by clicking on the tick box in the top left corner. A handle appears at the bottom centre of the process engine. Click and drag the handle down, to select other process engines. The LumiCore will automatically increase the universe number for each following process engine. This allows you to create a complete configuration in a snap!



## 3.2 Play page

The play page is divided in two sub menus:



## SHOW

Here you select in which show you want to record cues, which cue number and the fade time in seconds. Other options here are:

- **Import** a show that you have available offline.
- **Export** the show you have selected to your computer.
- **Delete** the selected show.
- **Cue** is the cue number that will be stored next.
- **Fade(s)** is the fade time in seconds assigned to the cue when recorded in the web interface.
- **Rec** records a new cue. Each cue is a snapshot of the output of all process engines.

## RECORD TRIGGER

When you scroll down on the play page you will find the Record Trigger settings.

Here you can set the record channel, this is the channel you will be sending from your control device, the control source protocol and universe. This can also be assigned to a specific source IP address if required.

The following options with corresponding values are available for the record trigger:

101 - record next cue in show 1

102 - record next cue in show 2

103 - record next cue in show 3

-

-

139 - record next cue in show 39

140 - record next cue in show 40

## 3.3 Global Settings

The global settings page is divided in five sub menus:

### CONTROL SOURCE

Here, you can set the type of protocol, the universe number, and the controller IP address for each control source. If the IP address 0.0.0.0 is used all devices in the network generating the assigned control protocol and universe can be the control source. The LumiCore will use an LTP merging policy between the first four sources that become available. When using sACN the priority is also important to consider.

Each control source can be a different protocol, universe, and controller IP.

Press **Save** to apply your settings.

### DEVICE SETTINGS

In this menu, you can set:

- Short name. Enter a name of maximum 17 characters to indicate the core on Art-Net. The following characters cannot be used: ^[~]\*\$.
- Long name. Enter a name of maximum 63 characters to indicate the core on Art-Net. The following characters cannot be used: ^[~]\*\$.
- ID number of the LumiCore. The ID number is used for indication only.

Press **Save** to apply your settings.

### DEVICE INFO

The device info window shows the MAC address and serial number of your device.

### CONTACT CLOSURE

In this menu you can setup the details for the contact closure.

**Protocol** can be Art-Net or sACN.

**Universe** is the universe created by the contact closure.

**Destination IP/Priority** allows you to broadcast or unicast the contact closure's universe when using Art-Net. If no IP is entered the broadcast address will be auto filled. When sACN is chosen as protocol this becomes the priority.

**Channel** is the control channel created by the contact closure.

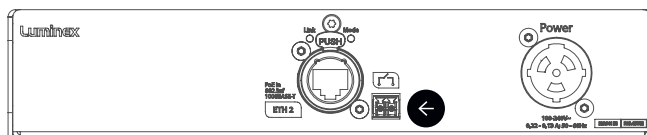
**Open** is the value (0-255) of the control channel when the contact is open.

**Closed** is the value (0-255) of the control channel when the contact is closed.

Press **Save** to apply your settings.

The following values are linked to the options Switch, Play and Backup: (these can be found under the question mark symbol on the Global Settings page/Contact Closure)

- General
  - Do Nothing: 0 - 7
- Switch
  - 8 - 15: Input 1
  - 16 - 23: Input 2
  - 24 - 31: Input 3
  - 32 - 39: Input 4
- Play
  - 8 - 15: Go
  - 16 - 23: Forward
  - 24 - 31: Back
  - 32 - 39: Reset
  - 101 - 140: Record
- Backup
  - 8 - 15: Recovery



## MISCELLANEOUS

**LCD auto-off (sec)** allows you to set the LumiNode to automatically switch off the LCD after the set time. By default, this is set to 600 seconds. If the value is set to zero, the display will always stay ON.

**LCD pin** allows you to set a PIN to lock changing settings via the LCD screen.

Click on the slider to enable the LCD pin.

**Web auth**, for security reasons, a password can be enabled on the LumiNode's web interface.

Click on the slider to enable web authentication, and type in your password.

**Led slider** allows you to change the brightness of the LEDs on the LumiNode.

Press **Save** to apply your settings.

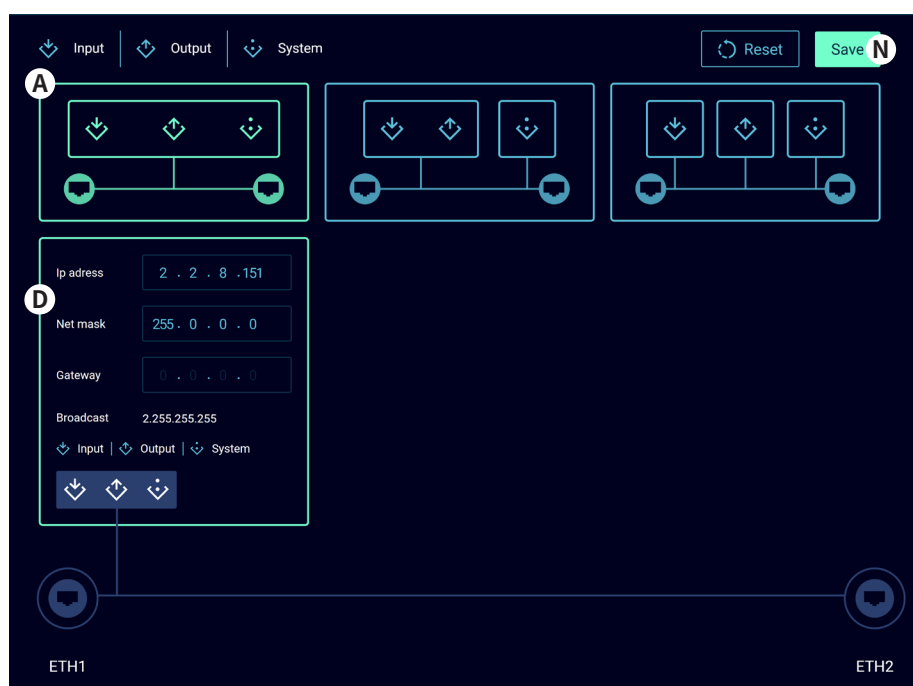


### 3.4 Network

The network page is divided in two scenarios.

#### SCENARIO 1(A): (DEFAULT)

The Lighting data input/output and the management of the LumiNode are all assigned to the same network group and share a single IP address.



In the IP address section (D):

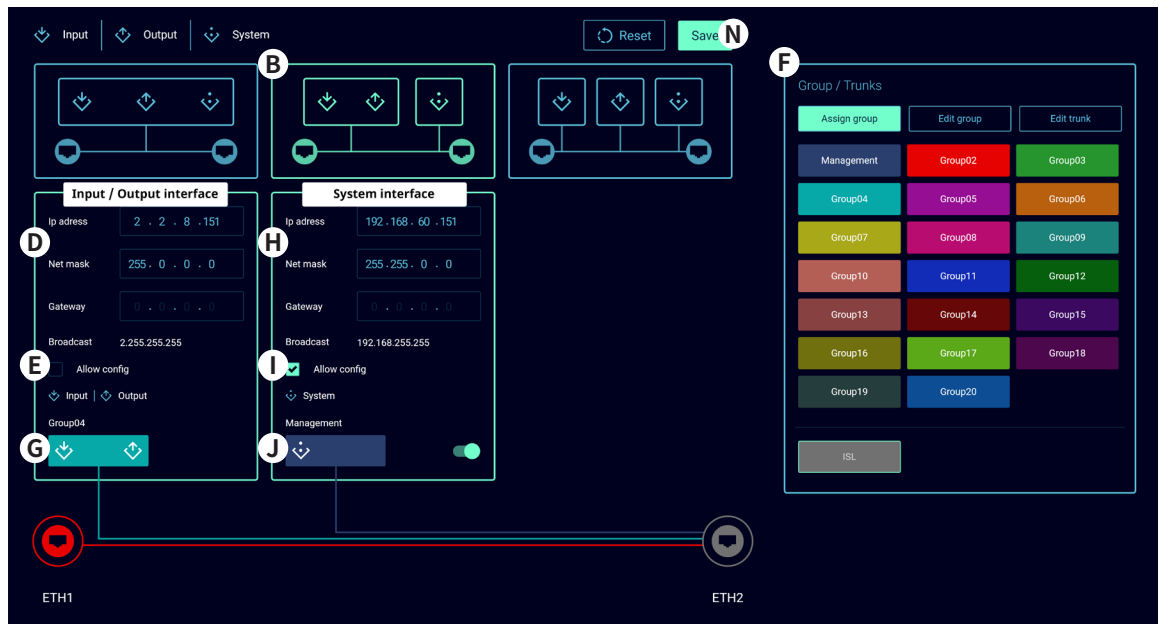
- Enter the IP address you wish to use.
- Enter the subnet.
- Enter a gateway IP address if required.
- Click **Save (N)** to apply the changes.
- Enter the new IP address in your web browser to refresh the page.

#### SCENARIO 2(B): (ADVANCED)

Groups/VLANs including an ISL group (Trunk) can be assigned to ports and interfaces.

This can be useful when data from different applications, in coexistence with the lighting data, needs to be transported over the same network.

The Lighting data input/output and the management of the LumiCore can be separated in different network groups and can each have a unique IP address.



In the Input/Output interface:

- Enter the IP address you wish to use (D).
- Enter the subnet you wish to use.
- Enter a gateway IP address if required.
- Enable/Disable Allow config (E). When disabled, users will not be able to reach the web-UI on this IP address.
- In the Group/Trunks window (F) select the group for the lighting data you wish to use.
- With the group selected, click the group assignment on the input/output interface (G).

In the System interface:

- At the bottom-right of the System interface, use the slider to enable the interface.
- Enter the IP address you wish to use (H).
- Enter the subnet you wish to use.
- Enter a gateway IP address if required.
- Enable/Disable Allow config (I). When disabled, users will not be able to reach the web-UI on this IP address.
- In the Group/Trunks window (F) select the group for the system interface you wish to use.
- With the group selected, click the group assignment on the system interface (J).

Network ports:

Depending on the configuration chosen for the interfaces we now need to assign the correct groups/trunks to the Ethernet ports of the LumiCore.

- Select the group or trunk you wish to assign in the Group/Trunks window (F).
- With the group selected, click the Ethernet port you wish to assign this group to.
- Repeat these steps for the second Ethernet port if required.

In the image above, the example shows that we have assigned an ISL to ETH2, we used the management group for the system interface, and we used group 4 for the input/output interface. Finally, we assigned group 2 to ETH1 to give the user access to this group on the front of the LumiCore.

When all the settings are done, click **Save (N)** to apply the configuration.

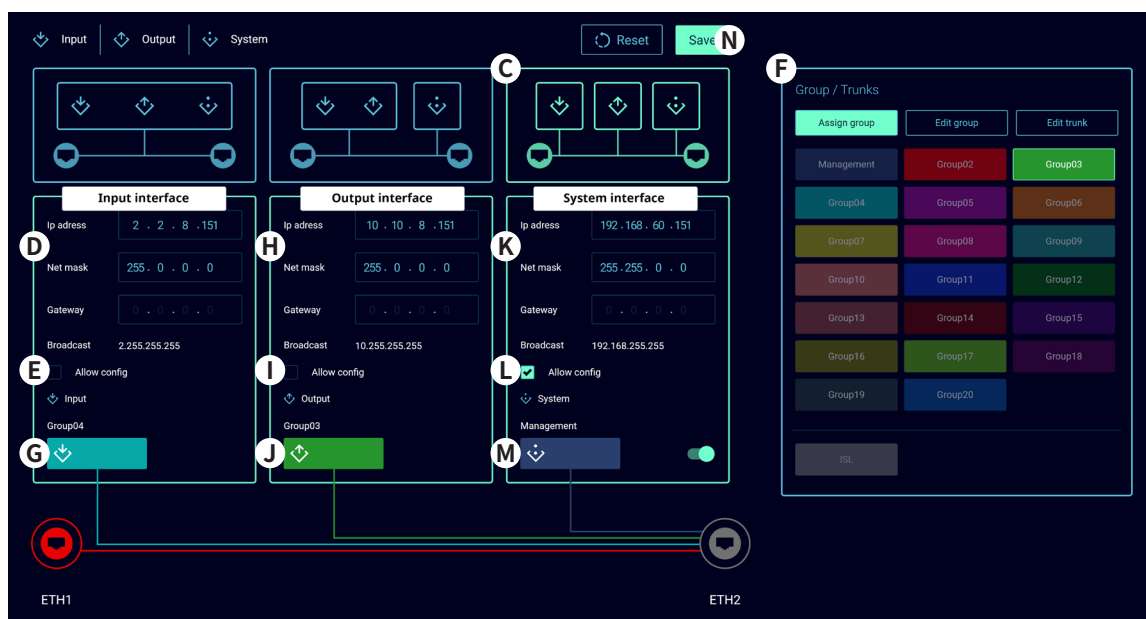
Enter the new IP address in your web browser to refresh the page.

### SCENARIO 3(C): SEPARATE VLANS FOR ALL INTERFACES

Groups/VLANs including an ISL group (Trunk) can be assigned to ports and interfaces.

This can be useful when data from different applications, in coexistence with the lighting data, needs to be transported over the same network.

The lighting data input, the lighting data output, and the management of the LumiCore can be separated in different network groups and can each have a unique IP address.



In the Input interface:

- Enter the IP address you wish to use (D).
- Enter the subnet you wish to use.
- Enter a gateway IP address if required.
- Enable/Disable Allow config (E). When disabled, users will not be able to reach the web-UI on this IP address.
- In the Group/Trunks window (F) select the group for the lighting data you wish to use.
- With the group selected, click the group assignment on the input interface (G).

In the Output interface:

- Enter the IP address you wish to use (H).
- Enter the subnet you wish to use.
- Enter a gateway IP address if required.
- Enable/Disable Allow config (I). When disabled, users will not be able to reach the web-UI on this IP address.
- In the Group/Trunks window (F) select the group for the lighting data you wish to use.
- With the group selected, click the group assignment on the output interface (J).

In the System interface:

- At the bottom-right of the System interface, use the slider to enable the interface.
- Enter the IP address you wish to use (K).
- Enter the subnet you wish to use.
- Enter a gateway IP address if required.

- Enable/Disable Allow config **(L)**. When disabled, users will not be able to reach the web-UI on this IP address.
- In the Group/Trunks window **(F)** select the group for the system interface you wish to use.
- With the group selected, click the group assignment on the system interface **(M)**.

Network ports:

Depending on the configuration chosen for the interfaces we now need to assign the correct groups/trunks to the Ethernet ports of the LumiCore.

- Select the group or trunk you wish to assign in the Group/Trunks window **(F)**.
- With the group selected, click the Ethernet port you wish to assign to this group.
- Repeat these steps for the second Ethernet port if required.

In the image on the previous page, the example shows that we have assigned an ISL to ETH2, we used the management group for the system interface, we used group 4 for the input interface and we used group 3 for the output interface. Finally, we assigned group 2 to ETH1 to give the user access to this group on the front of the LumiCore.

When all the settings are done, click Save **(N)** to apply the configuration.

Enter the new IP address in your web browser to refresh the page.

## GROUP/VLAN ADVANCED SETTINGS

To change the settings for a group, click on the Edit group option in the Group/Trunks section.

With a group selected you can:

- Change the VLAN ID.
- Change the name for ease of identification.



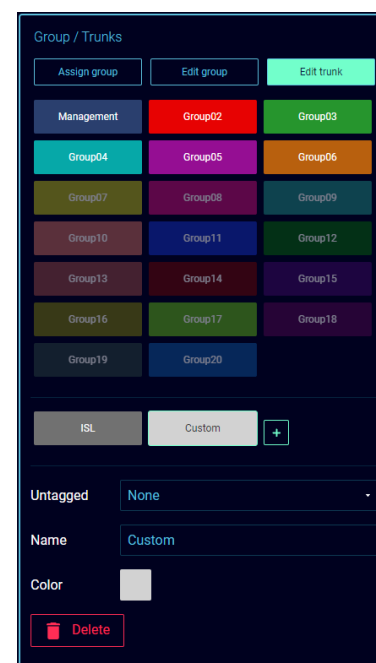
## ADD OR EDIT A TRUNK

To Add or Edit a Trunk, click the Edit Trunk option in the top right of the Group/Trunks section.

To Add a custom Trunk:

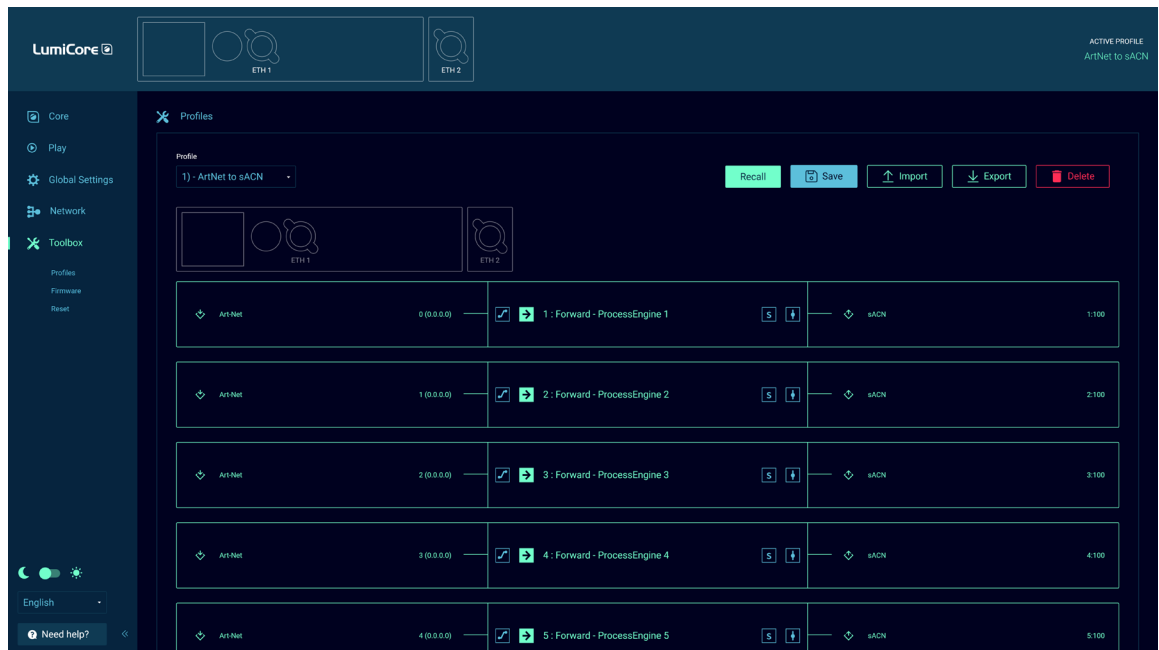
- Click the + to add a trunk.
- Give the new trunk a name in the name field.
- Assign a colour to the trunk by clicking on the coloured square. After selecting the colour, click anywhere outside the colour picker window to close it.
- Click on all the groups/VLANs you wish to include in this trunk.
- If needed, use the dropdown menu for Untagged to select which group should be untagged on the trunk. An untagged port connects to hosts. The host is unaware of any VLAN configuration.

Your custom trunk is now available in the Assign group tab to be assigned to ETH1 or ETH2.



### 3.5 Toolbox page

The toolbox page is divided in three sub menus:



#### PROFILE MANAGER

Here, you can recall, save, import, export or delete a profile. Select the profile with the drop-down menu located on the left hand-side. The LumiCore comes with default profiles that can be used or modified, for a fast setup time. Up to 40 profiles can be stored in a unit.

Once a profile is selected, a preview of the configuration is shown below the dropdown in graphic form and the configuration of each process engine.

When a profile has been selected the user can scroll down to the bottom of the profile preview to see the IP settings in this profile. By default, the LumiCore will NOT load the IP settings that are stored in the profile. If you want to load the IP settings saved in the profile, slide the Preserve IP settings to OFF.

#### FIRMWARE

In the firmware section, you can see two versions of firmware:

- Active firmware is the one currently running on the unit.
- Alternate firmware is the previously installed firmware.

If you would like to downgrade the unit to the previously installed firmware, click on the Activate button. The unit will reboot in this firmware.

There is only ONE firmware version for the entire range. This can be installed on all different models in the range.

You can upgrade the LumiCore with our latest firmware. To upgrade the unit, please apply the following procedure:

- Download the latest firmware from the support section of our web site, <https://www.luminex.be/support-2/product-downloads/>
- Extract the downloaded archive and have a look at the release notes included.
- Click on the firmware upgrade button in the web-UI of your device.

- Select the file you have extracted.
- The LumiNode will start the firmware upgrade. The unit will reboot after the upgrade is completed.

## RESET

In this panel, you can reset the LumiNode, with two separate options:

- Preserve IP address, all settings get restored to factory default apart from the IP address set to reach the device. Custom profiles are all deleted and modified default profiles are restored to default.
- Preserve profiles, during the reset the custom stored profiles and modified default profiles are being kept.

Click on the Reset button to perform the selected reset.

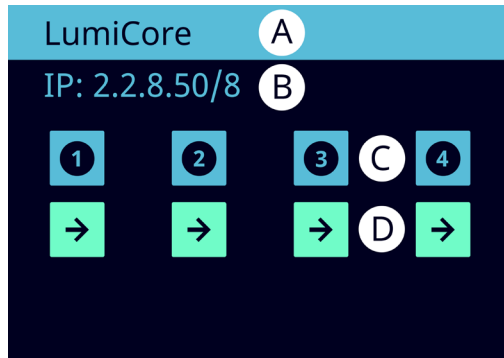
Performing a reset with these two options disabled will bring the LumiNode to its factory settings.

## 4. LCD Display

From firmware version 2.0 onwards the LCD display has been activated and the following information can be found on the display.

In normal operation the LumiCore will step through the process engine overview pages. The display will change every 5 seconds.

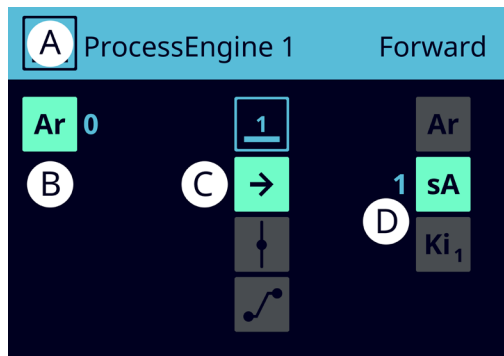
The following image is showing the layout of the display:



- (A) Short name of the device (default is the model of the device).
- (B) IP address/Netmask ( /8 = 255.0.0.0, /16=255.255.0.0, /24=255.255.255.0). If advanced networking is configured, the LCD display will not be showing the IP configuration.
- (C) Process engine number.
- (D) Shows the mode of the process engine.

For a more detailed view per process engine, you can use the jog wheel to enter the menu and select the option Process Engines.

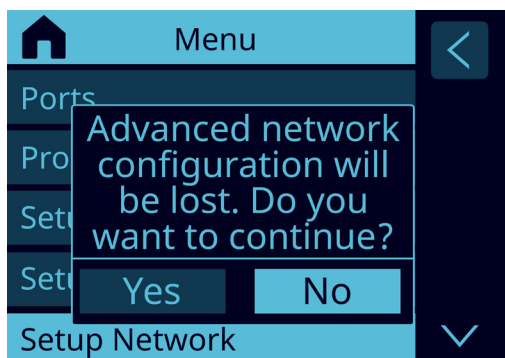
Example of detailed port info:



- (A) Process engine you are viewing.
- (B) Shows the input of the process engine, what protocol and which universe.
- (C) Displays which process engine is linked, what mode the process engine is in, if there is a patch or if the master/limit has been set.
- (D) Shows the output of the process engine, universe number and protocol.



If the advanced network has been configured and the user is accessing the network setting via the display, the following popup will appear to warn the user:



The front-end display offers access to most of the settings in the unit.

#### Menu tree view:

Home

- Process Engines
  - Status overview of the process engines
- Setup Process Engine
  - Configuration of process engines
- Setup Network
  - IP
  - Subnet
  - Gateway
  - Mac address
- Profile Manager
  - Save
  - Recall
- Device Info
- Toolbox
  - Display Off
  - Reboot
  - Reset
- Display Setting
  - Dark / Light
  - Display Off
  - Language
  - Enable / disable screensaver
  - Enable / disable auto rotate status page

## 5. Web API

The LumiCore range supports the use of Web API.

For a detailed list of available actions via Web API, please type the following in your favourite web browser:

**`http://IP_OF_YOUR_DEVICE/api/doc`**

## 6. LumiCore in detail

The LumiCore series is a new range of network converter, inheriting more than a decade of experience from the Luminex Ethernet-DMX converter design and manufacturing.

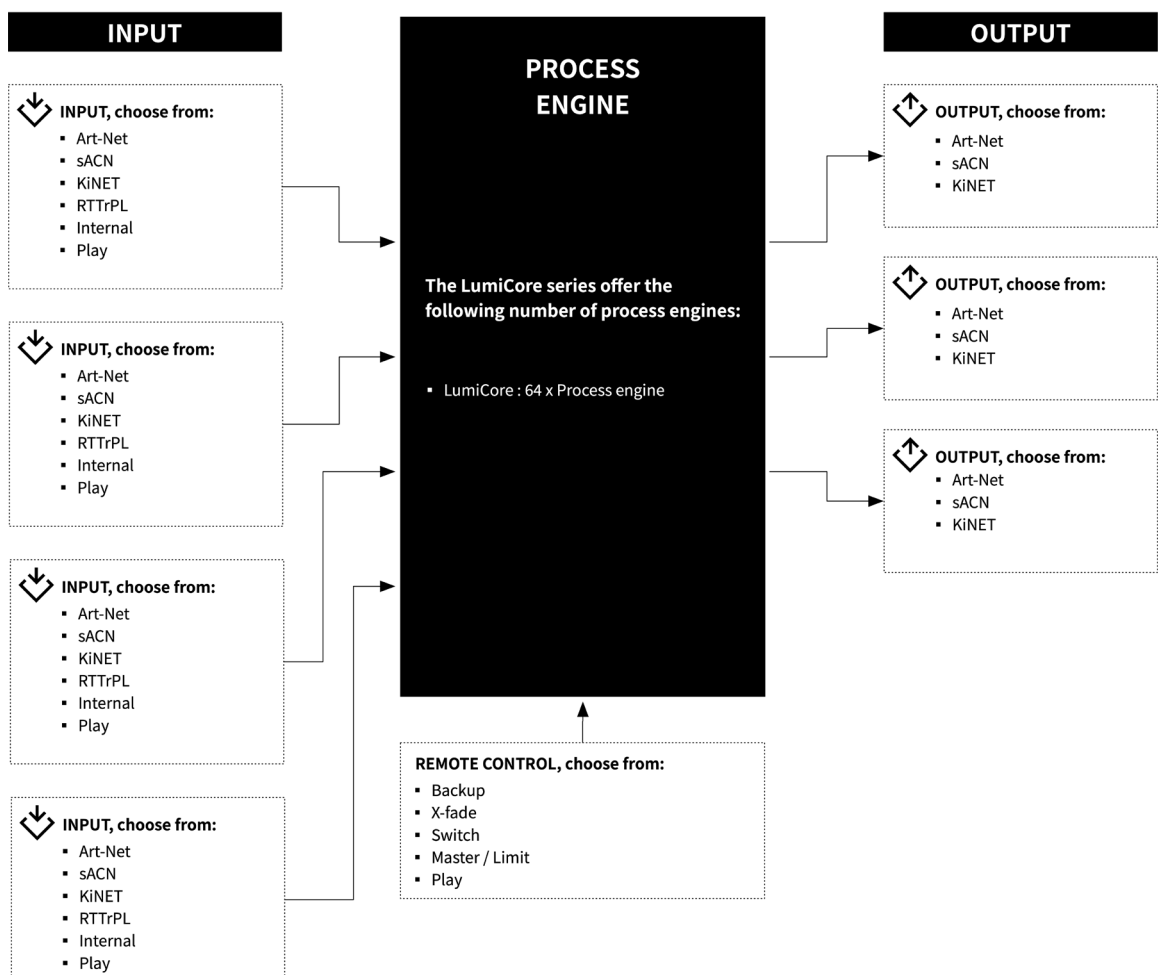
In the past, most of the people were designing their system according to the number of universes and DMX ports they would need on their lighting control system.

But today, with the ever-increasing number of lighting-controlled devices fitted with an Ethernet port, there is a need for more processing power and data handling flexibility. This is where the LumiCore series steps in.

Instead of assigning universes to a port, the user can now select any incoming data, handle it the way they need, and send it back to the network, or to a DMX port. All the data handling will be powered by process engines.

### 6.1 What is a process engine?

A process engine is an entity within the LumiCore firmware, accepting up to four inputs, and which can send it to up to four different outputs. Additionally, remote interaction and control can be applied to the process engine, via specific control channels.



## INPUT

A process engine supports the following inputs:

### Art-Net:

Any Art-Net controller can be used as an input for the process engine. The LumiCore supports all Art-Net revisions, including Art-Net IV.

Tick the box to select Art-Net as an input protocol.

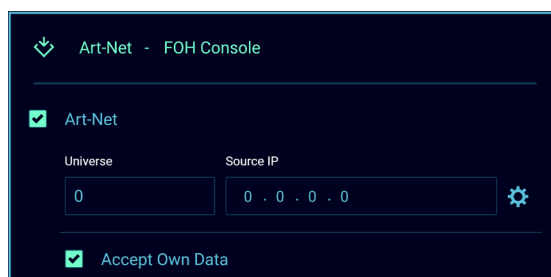
Here you can add the universe number you wish to use, and you can specify the IP address of the source. If you leave the source IP field 0.0.0.0 any source in the network outputting this universe will be used. The LumiCore process engine will bind this input to the first source using this universe number.

For a better identification of the source, you can add a text to your Art-Net input.

Advanced settings:

Next to the Source IP field you find a cog wheel for advanced settings:

- **Accept Own Data.** In some cases, it is required to ignore the Art-Net data generated by the LumiCore itself. When disabled the LumiCore will only listen to other sources in the network. By default, the Accept Own Data is enabled.



### sACN:

Any sACN controller can be used as an input for the process engine.

Tick the box to select sACN as an input protocol.

Here you can add the universe number you wish to use, and you can specify the IP address of the source. If you leave the source IP field 0.0.0.0 any source in the network outputting this universe will be used. The LumiCore process engine will bind this input to the first source using this universe number.

For a better identification of the source, you can add a text to your sACN input.

### Advanced settings:

Next to the Source IP field you find a cog wheel for advanced settings:

- **Per-channel Priority Mode.** To better handle multiple source control scenarios, the 0xDD sACN start code has been introduced to allow setting a source priority for each channel of a universe.

The following rules apply:

- If all sources have the same priority HTP will be applied.
- If for a source the 0xDD packet is not available, the standard universe priority is being used.
- The number of sources is unlimited.

- **Accept Own Data.** In some cases, it is required to ignore the sACN data generated by the LumiCore itself. When disabled the LumiCore will only listen to other sources in the network. By default, the Accept Own Data is enabled.

sACN - Media Server

☒ sACN

Universe: 1 Source IP: 0.0.0.0

☐ Per-channel Priority Mode

☒ Accept Own Data

### KiNET v2:

The LumiCore process engine supports KiNET v2.

Tick the box to select KiNET v2 as an input protocol. The port number is automatically matched to the number of the process engine.

Here you can specify the IP address of the source.

If you leave the source IP field 0.0.0.0 any source in the network outputting this universe will be used. The LumiCore process engine will bind this input to the first source using this universe number.

For a better identification of the source, you can add a text to your KiNET input.

Advanced settings:

Next to the Source IP field you find a cog wheel for advanced settings:

- **Accept Own Data.** In some cases, it is required to ignore the KiNET data generated by the LumiCore itself. When disabled the LumiCore will only listen to other sources in the network. By default, the Accept Own Data is enabled.

KiNET - Main Server

☒ KiNET v2 Port: 1

Source IP: 0.0.0.0

### RTTrPL:

The LumiCore process engine supports Real Time Tracking Protocol for Light, by Cast Software. As an example, the LumiCore can be used to transition between a lighting console and a BlackTraX tracking system, seamlessly.

Tick the box to select RTTrPL as an input protocol.

Here you can add the universe number you wish to use, and you can specify the IP address of the source.

If you leave the source IP field 0.0.0.0 any source in the network outputting this universe will be used. The LumiCore process engine will bind this input to the first source using this universe number.

For a better identification of the source, you can add a text to your RTTrPL input.

RTTrPL - BlackTraX Server1

☒ RTTrPL

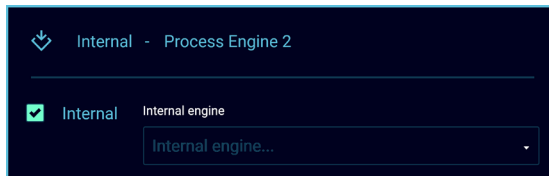
Universe: 0 Source IP: 0.0.0.0

**Internal:**

This input option allows you to use the output of another process engine, this allows you to make an even more complex setup.

Use the dropdown menu to select which process engine you want to use as input.

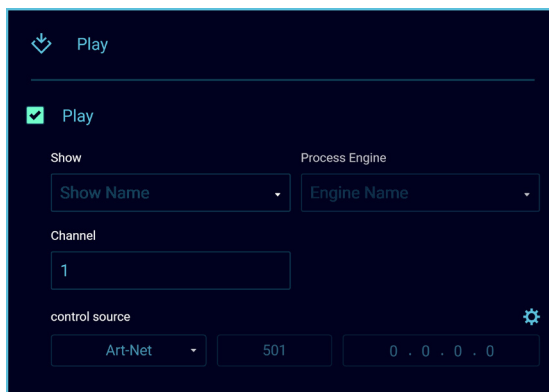
For a better identification of the source, you can add a text to your Internal source.

**Play:**

This input option allows you to use the recorded cues from internal shows as an input to the process engine.

First select which show you want to use, then select the process engine that you want to use. All the process engines of the LumiCore are always available to choose from.

For a better identification of the source, you can add a text to your Play source.



Select the control channel you want to use to control the cue list. Use the cog wheel to set the source protocol and universe and if required a specific controller IP.

Control channel options:

8 - 15: **Go**, play the next cue in the cue list.

16 - 23: **Forward**, pre-set the next cue. This allows you to trigger forward for example twice to skip a cue.

24 - 31: **Back**, pre-set the current cue again. To go to the previous cue, you need to trigger this option twice.

32 - 39: **Reset**, reset the cue list to the first cue in the list.

**OUTPUT**

A process engine offers the following outputs or a combination of all available options:

**Art-Net:**

All data handled by the process engine can be sent back to the network as a new or the same Art-Net universe.

Here you can set the universe number you wish to use. You can specify the IP address of the destination,

by ticking the Unicast box. By default, the LumiCore will transmit this Art-Net universe to the broadcast address of the IP range the unit is part of.

For a better identification, you can add a text to your Art-Net destination.

### sACN:

All data handled by the process engine can be sent back to the network as a new or the same sACN universe.

Here you can set the universe number you wish to use, and you can specify the priority for this sACN universe.

For a better identification, you can add a text to your sACN destination.

### KiNET:

All data handled by the process engine can be sent back to the network as a new or the same KiNET universe.

Here you can set the version you wish to use, the universe number you wish to use (default is Don't care), the priority (default 0) and the port number you wish to send this universe to.

You can specify the IP address of the destination, by ticking the Unicast box. By default, the LumiCore will transmit this KiNET universe to the broadcast address of the IP range the unit is part of.

For a better identification, you can add a text to your KiNET destination.

## MODE DEFINITION

The LumiCore series offer 7 different modes for each process engine:

### FORWARD

In forward mode one input source is send to up to 3 outputs. You can output to a physical port on the converter, forward to another Art-Net, sACN or KiNET universe, or any combination of the three.

Patch, Master/Limit and startup buffer options are available for this mode.

### LTP MERGE

Latest Takes Precedence merging policy is commonly used to merge fixture channels. Up to 4 inputs (Art-Net, sACN, KiNET, RTTrPL, Internal, Play or combination of) can be merged. The output can be Art-Net, sACN, KiNET or any combination of the three.

Patch, Master/Limit and startup buffer options are available for this mode.

### HTP MERGE

Highest Takes Precedence merging policy is commonly used to merge dimmer channels. Up to 4 inputs (Art-Net, sACN, KiNET, RTTrPL, Internal, Play or combination of) can be merged. The output can be Art-Net, sACN, KiNET or any combination of the three.

Patch, Master/Limit and startup buffer options are available for this mode.

### BACKUP

In Backup mode, two inputs will be used which can be Art-Net, sACN, KiNET, RTTrPL, Internal or Play where the first input has precedence over the second input. The output can be Art-Net, sACN, KiNET or any combination of the three.

When input 1 fails the node will switch to input 2, automatically. Auto-recover is enabled by default.

#### Auto Recover:

- When auto recovery is enabled the LumiCore will switch back to input one as soon as this is back available in the network. In this case the warning for the missing backup control source can be ignored.
- When auto recovery is disabled, you can configure which protocol is used to trigger the recovery, which universe and which channel. This can be narrowed down to a specific IP address which will be the only device able to control the backup recovery.



The red warning triangle is a warning that the process engine cannot be configured without a backup control source. This is to indicate that the control source has not been configured yet for remote recovery. As soon as the control source has been configured this triangle will disappear. When the backup control option is used, the LumiCore will not restore to input one when this becomes available in the network. To recover, a value between 8-15 (0-255) needs to be send on the control channel to trigger the recovery.

Patch, Master/Limit and startup buffer options are available for this mode.



## X-FADE

This mode offers to you to cross fade between two sources. Ideal in a situation where you need to cross fade between a lighting desk and a media server, the control channel allows you to keep full control on the speed and smoothness of the transition.

From the X-Fade panel, you can define the control channel, the protocol and universe number, and the IP address of the control source. Click on the gearwheel icon to change these parameters.

When the control channel is at zero, source one is in full control, when the control channel is at full, source two is in full control.

Patch, Master/Limit and startup buffer options are available for this mode.



The red warning triangle is a warning that the process engine cannot be configured without a X-Fade control source. This is to indicate that the control source has not been configured yet for the X-Fade. As soon as the control source has been configured this triangle will disappear.

Patch, Master/Limit and startup buffer options are available for this mode.

## SWITCH

The switch functionality provides you with an easy to use tool to remotely select within up to four inputs, which input can control your rig. By sending different values for the switch channel, you'll be able to select the relevant input. The switching between inputs does not include any crossfade.

From the switch panel, you can define the switching channel, the protocol and universe number, and the IP address of the control source. Click on the gearwheel icon to change these parameters.



The red warning triangle is a warning that the process engine cannot be configured without a Switch control source. This is to indicate that the control source has not been configured yet for the Switch. As soon as the control source has been configured this triangle will disappear.

Patch, Master/Limit and startup buffer options are available for this mode.

### Control channel mapping:

000 - 007	Do Nothing/Idle (current active source stays active)
008 - 015	Input 1
016 - 023	Input 2
024 - 031	Input 3
032 - 039	Input 4
040 - 247	Future use
248 - 255	Do Nothing/Idle (current active source stays active)

CUSTOM

This mode is ideal for a complex setup, or when per channel control is needed. Custom offers you to choose what policy to apply for each channel, and to create a complete custom soft patch. Depending on the mode chosen, up to four Art-Net, sACN, KiNET, RTTrPL, Internal or Play inputs can be merged in this policy. The custom mode offers you to combine any mode or combination of modes including: Input 1 only, Input 2 only, Input 3 only, Input 4 only, LTP, HTP, X-Fade, Backup, and switch.

To get access to the custom patch panel, click on the patch icon.

From this panel, you can define the complete patch per input, with any merging policy, or control source. Use the From To tool to quickly apply a merging policy or mode to a range of channels. Once the merging policies have been applied to the DMX channels, you will be able to assign a remote-control channel. Use the From To tool to quickly apply a control channel to a range of DMX channels. Press the **Apply** button to save your settings.

Patch

Import

Export

Reset

Apply

Backup time(ms)

400

Auto recover

Backup control source

-

0 . 0 . 0 . 0

X-Fade control source

▲

-

0 . 0 . 0 . 0

Switch control source

▲

-

0 . 0 . 0 . 0

From

To

Mode

Control channel

Apply

1 - 512

1 - 512

LTP

/

Channel	Input 1	Input 2	Input 3	Input 4	Mode	Control channel
1	1	1	1	1	LTP	/
2	2	2	2	2	LTP	/
3	3	3	3	3	LTP	/
4	4	4	4	4	LTP	/
5	5	5	5	5	LTP	/
6	6	6	6	6	LTP	/
7	7	7	7	7	LTP	/
8	8	8	8	8	LTP	/
9	9	9	9	9	LTP	/

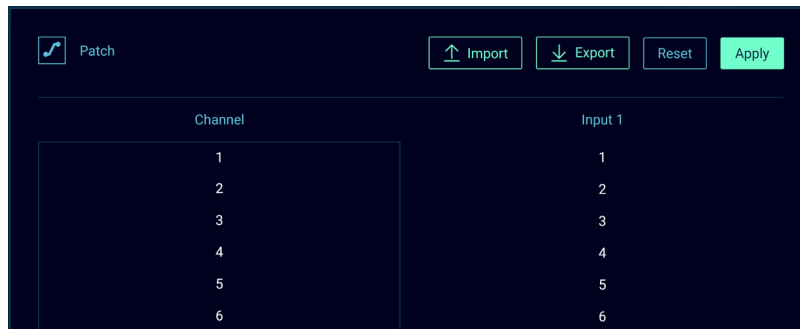
## PATCH OPTION

Depending on the selected mode you applied to your process engine, you will be able to modify the patch for your sources.

Once in the process engine panel, click on the patch icon to open the patch panel.

From there, you can apply the patch you wish per channel.

Press **Apply** to save your settings.



## PATCH IMPORT/EXPORT

From firmware 2.2.0 LumiCore offers the option to import or export your patch. You can import a CSV or TSV file with your custom patch. The process engine will automatically configure the mode required based on your patch info.

To export a patch, open the patch option in the process engine configuration window and select **Export**. Choose a location to save the patch and choose Save. This can be an easy way to start a custom patch to have the correct format for the patch file that you want to import at a later stage with your custom data. Once you have the exported file, you can change it and then import it again.

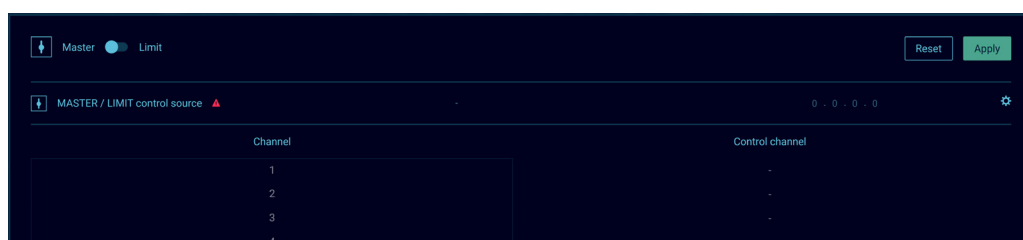
To import a patch, open the patch option in the process engine configuration window and select **Import**. Browse to the file you wish to use on your computer and choose Open. The web-UI will refresh and show the Node configuration page. Now configure your input(s) and output(s) as normal.

## MASTER/LIMIT OPTION

Depending on the selected mode you applied to your process engine, you will be able to assign a master or limit channel to your output.

Once in the process engine panel, click on the Master/Limit icon to open the configuration panel.

First select the mode you wish to use, by clicking on the Master/Limit switch, on the top left corner of the panel.



You can define the control channel, the protocol and universe number, as the IP address of the control source. Click on the gear wheel icon to change these parameters.  
From there, you can apply any master /limit control channel to your output channels. This can be the same for all channels or different per channel or group of channels.  
Press **Apply** to save your settings.

#### **MASTER/LIMIT EXPLAINED:**

##### **Master:**

When choosing the Master option, we configure a control channel to act like a grand master. The output is scaled to each individual channel. (Master value x Channel value / 255)

For example:

Channel 1 = 200  
Channel 2 = 229  
Channel 3 = 128

If we now reduce the master channel to 204, the channels will output as follows:

Channel 1 = 160  
Channel 2 = 183  
Channel 3 = 102

Example calculation: Channel 1 =  $204 \times 200 / 255 = 160$

##### **Limit:**

When choosing the Limit option, we configure a control channel to set a limit to the output. There is no scaling applied to the channels.

For example:

Channel 1 = 191  
Channel 2 = 153  
Channel 3 = 128

If we now set the limit channel to be 178, the result will be as follows:

Channel 1 = 178  
Channel 2 = 153  
Channel 3 = 128

Example calculation: Channel 1  $\Rightarrow 191 > 178 \Rightarrow 178$

As the result shows, channel 1 has been reduced but channels 2 and 3 have not been affected.

**STARTUP BUFFER:**

From firmware 2.4.0, LumiCore offers the option to set a startup buffer. This allows the user to configure values for each channel to be outputted from the LumiCore on bootup until the input source has been detected. As soon as the first frame from the input source is present on the input, the LumiCore will switch to the input source.

## 7. Technical Support

Sometimes it is required to get more help with your device or application. There is a knowledge base available online that gets updated on a regular basis at: <https://support.luminex.be>

If you need to ask our team for more help or you need to return a device to Luminex for diagnostics or repair, you can also find the option on this page to request an RMA or start a support ticket.

## 8. Credits

The following credits are available for this manual:

- Art-Net™ Designed by and Copyright Artistic Licence Holdings Ltd.



- ANSI E1.20 - 2010 Entertainment Technology RDM, Remote Device Management over DMX512 Networks.
- ANSI E1.31 - 2018 Entertainment Technology - Lightweight streaming protocol for transport of DMX512 using ACN.
- BlackTrax by Cast Software

## 9. Technical Specifications

CONNECTIVITY	
Network	2x gigabit shielded Neutrik etherCON connector
Contact Closure	1x 2-pin plugable terminal block
Power	1x Neutrik powerCON TRUE1 PoE-802.3af (Class 0)
ETHERNET FEATURES	
Supported protocols	Art-Net™ (1-4) sACN ANSI E1.31-2018 RTTrPL (BlackTraX) KiNET v1, v2
Port speed	10/100/1000Mbps
Port sensing	Auto-negotiation MDI/MDIX
Split management interface	Yes
Groups (VLAN) support	Yes
ADDITIONAL FEATURES	
Process Engine	64
Merging	Yes (HTP, LTP, Xfade, Backup, Switch, Custom)
Softpatch	Yes
Master/Limit	Yes
Trigger system	Yes
Reroute function	Yes
Profile manager	Yes
Snapshot	Yes
Monitoring Software	LumiNet Monitor, Araneo
STATUS REPORTING	
Display & Jog	Yes
Ethernet port connection	Link/activity LED Group RGB LED
POWER/PoE	
Power input	100-240VAC 50-60Hz PoE-802.3af (Class 0)
Power consumption	Max 13W
Power redundancy	Yes



MANAGEMENT	
Configuration	Built in Web server
	Documented Web API
	Colour display & Jog
ENVIRONMENTAL	
Operating temperature	0 to +50°C
Storage temperature	-10 to +70°C
Humidity (non condensing)	5 to 95% RH
MECHANICAL	
Enclosure	Robust all metal housing
Dimensions (W x D x H)	220 x 175.3 x 44mm
Weight	1.42kg
Mounting type	Rack mount, Truss mount
Packaging	420 x 272 x 80mm
APPROVALS	
Electromagnetic emissions and immunity	EN55032 class A
	EN55035
	EN61000-3-2
	EN61000-3-3
	EN61000-4-2
	EN61000-4-4
	EN61000-4-5
	EN61000-4-6
	EN61000-4-8
	EN61000-4-11
	FCC Part 15 CFR 47 class A
	ICES-003 Issue 6
Safety approvals	IEC 62368-1
	EN 62368-1
	UL 62368-1
	CAN/CSA-C22.2 No. 62368-1
	CE
Certificates	cSGSus Mark
	CE
	CB certificate
GREEN	
	RoHS
	REACH

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Slamstraat 13 | 3600 Genk | Belgium | T +32 11 812 189 | [info@luminex.be](mailto:info@luminex.be) | [www.luminex.be](http://www.luminex.be)