PART NUMBER: LU\_01\_00076 Description: User Manual for Araneo. REVISION: 20191219-REV 1.1.0



### ©araneo **USER MANUAL**



#### **ARANEO**<sup>TM</sup>

Visualize your data flow with confidence

THANKS FOR CHOOSING LUMINEX

MADE IN BELGIUM



#### **TABLE OF CONTENTS**

1.	INSTALLATION OF THE SOFTWARE4		4	3.3	Filter panel		15
	1.1	First installation	4		3.3.1	Groups	15
	1.2	Update the application	5		3.3.2	Links	16
	1.3	Launch the software	5		3.3.3	RlinkX	16
					3.3.4	MultilinkX	16
2.	QUIC	CK START	6		3.3.5	PoE	16
					3.3.6	Traffic	17
3.	ARAI	NEO, AN IN-DEPTH LOOK	9		3.3.7	AVB	17
					3.3.8	CPU load	17
	3.1	Graph view	9		3.3.9	Core stats	17
	3.2	Top Toolbar	10		3.3.10	) gPTP	17
					3.3.11	PTPv2	18
		3.2.1 luminex logo	10		3.3.12	RSTP	18
		3.2.2 Save layout	10		3.3.13	3 IGMP	18
		3.2.3 Load layout	10		3.3.14	Group filter	19
		3.2.4 Auto layout	10		3.3.15	5 Theme	19
		3.2.5 Add zone	11				
		3.2.6 Remove zone	11		3.4 Dash	board	19
		3.2.7 Remove from zone	11				
		3.2.8 Configuration	11		3.4.1	Traffic	19
		3.2.9 Clear connection	12		3.4.2	PoE	19
		3.2.10 Change password	12		3.4.3	AVB	20
		3.2.11 Unlock devices	13		3.4.4	AVB-EXT	20
		3.2.12 Firmware update	13		3.4.5	IGMP	20
		3.2.13 Zoom	13		3.4.6	System	20
		3.2.14 Log	13				
		3.2.15 Locate me	14				
		3.2.16 IP address selection	14				
		3.2.17 Settings	14				

PROVIDING A CLEAR, INTUITIVE & GRAPHICAL MAP OF COMPLEX NETWORK CONFIGURATIONS

#### **1.INSTALLATION OF THE SOFTWARE**

#### 1.1 First installation

To use Araneo, you'll need to download the installer from our web site. Please visit our support section to get access to the download link. Araneo is available for both Mac and Windows operating systems.

Once you've downloaded the installer, follow the wizard to complete the installation.



Step 1: Welcome screen



**Step 3:** Choose software packages



Step 2: Choose the installation folder



**Step 4:** Confirm disk usage

#### 1.2 Update the application

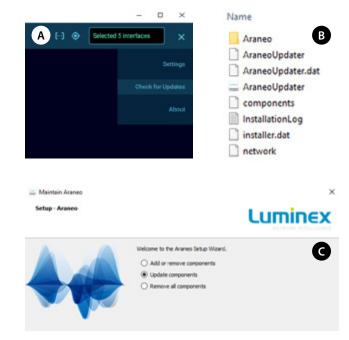
There are two ways to update the software:

- With the software open, browse to settings menu and choose "check for updates" (A) or,
- Once the software has been installed, browse your application folder to the Araneo application folder (B).

Here you'll find the AraneoUpdater application. Launch this application and follow the wizard to check if there are any update available **(C)**.

#### 1.3 Launch the software

Once the software has been installed or updated, simply click the icon to start the application.

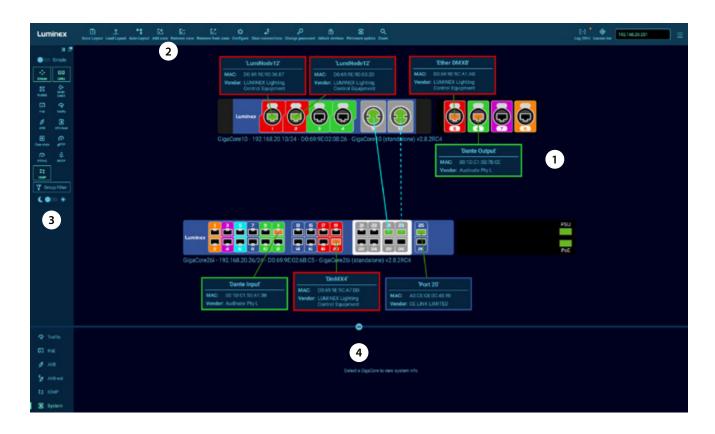


#### 2. QUICK START

Araneo is a versatile tool that allows you to discover and configure Luminex devices. In this first edition, Araneo is dedicated to GigaCore monitoring and control only. In the future, Araneo will be able to monitor and configure the remaining Luminex products.

Araneo's main advantage is that it provides you with all relevant info to check the status and health of your network infrastructure.

The Araneo software workspace is divided in four main areas:



- (1) **Graph:** This is where all discovered devices will be displayed. Devices can be moved to create the desired layout. Edge devices will stay connected to the switches thanks to the dynamic links. More detailed information can be found in section 3.1
- **(2) Toolbar:** This toolbar will give access to global features or parameters. More detailed information can be found in section 3.2
- (3) Filter panel: By enabling/disabling some of these features you can improve the clarity and the level of information you wish to see in the Graph view. More detailed information can be found in section 3.3
- **(4) Dashboard:** See here advanced info about the selected topic. The dashboard can be reduced via the handle to increase the workspace of the Graph view. More detailed information can be found in section 3.4

#### Discovery of the GigaCore(s)

First, you need to assign an IP address to your computer, compliant with the IP addresses set on the GigaCore switches.

Second, make sure RLinkX is enabled on the port of the GigaCore your Araneo software is connected to.

It is mandatory to have RlinkX enabled on the management port and the inter-switch link ports to discover the switches connected onwards.

Launch the software and select your computer's IP address through the right-hand side menu of the top toolbar.

Multiple Network Adaptors can be selected. All discovered devices will be shown in a single graph.

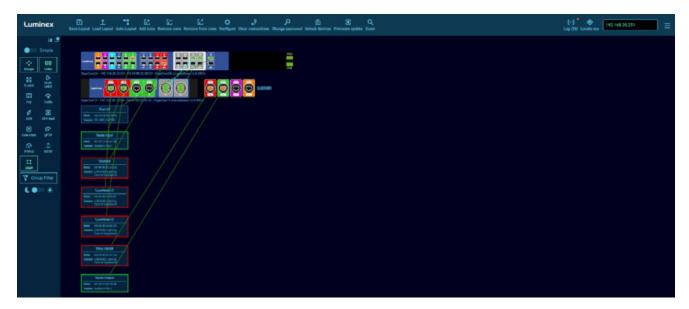


The IP address menu uses the following color scheme to indicate the status of the corresponding IP address:

- **Red:** The corresponding interface is not connected, or down
- Blue: The corresponding interface is connected, and available
- Lime: Represents the selected and active interface



The software will start the discovery and will place the discovered devices underneath each other in the graph view.



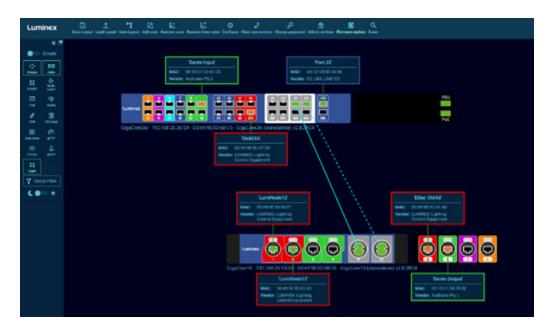
It is easy to understand this kind of product positioning might not fit your needs. To simplify your task, click on the Auto-layout icon (A) in the top toolbar:



Araneo will automatically create a layout for you.

You can freely re-arrange the proposed layout to match your needs. To move a GigaCore, select an area without a port, and drag the product.

To move an edge device, simply drag the text box, and move it to the desired location. If needed, you can rename the discovered edge devices.



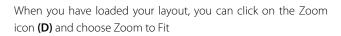
To proceed, simply double click on the cell, and enter your text. When you rename an edge device via Araneo the port legend of the switch will also be updated automatically.

Once you're satisfied with your layout, click on the Save Layout button **(B)** in the top toolbar. Select the folder where you wish to store your newly created layout.





The next time you launch Araneo you don't have to re-draw your layout, instead you choose the option Load Layout **(C)** and browse to the location where you saved your layout.





#### 3. ARANEO, AN IN-DEPTH LOOK

#### 3.1 Graph view

The graph view will show all the connected products, from GigaCore switches to edges devices (connected devices), and offers the following features:

■ Each product (GigaCore and edge device) can be freely moved in the workspace, at your convenience. Simply click on an area of the product without ports and drag the image. A selected product will appear with a blue rectangle (A) around it.

The product can be resized by dragging the blue handle **(B)** at the bottom right hand side of the selected product. Below each GigaCore the following information **(C)** can be found, from left to right:

- 1. Name of the device.
- 2. IP address and netmask (/8=255.0.0.0 /16=255.255.0.0 /24=255.255.255.0).
- 3. MAC address of the GigaCore.
- 4. Active firmware version.
- Each GigaCore's web interface can be reached directly from the software by double clicking on the blue area **(D)** around the Luminex logo on the product. The computer will launch your default web browser automatically.
- If you haven't set a password on the switch, Araneo will log in to the switch with default credentials.
- If you've set a password, Araneo will show you a ghost image of the switch with padlocks on the left and right and the warning "This device is locked! Double click to unlock".

Double-click on the warning message to enter your credentials.

If a password has been set via Araneo the GigaCore will show this by displaying a smaller padlock **(E)** on the left-hand corner of the switch.

- Each edge device's text box can be resized, and display the following information:
  - 1. Vendor ID of the Ethernet interface manufacturer. This name can be manually changed by double-clicking on the textbox to start editing.
  - 2. MAC Address.















The outline of the text box will display the color of the group the edge device is assigned to. If there are multiple mac addresses connected to the same port Araneo will display an edge device with a scroll bar enabling you to scroll through all the connected devices.

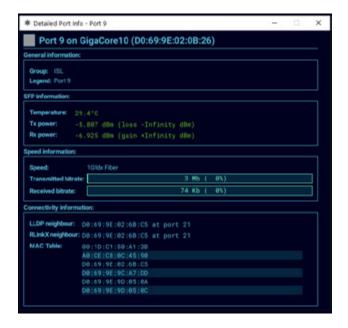
#### **Connection lines:**

- A green line represents an active link.
- A cyan line represents an ISL link.
- A cyan dashed line represents a backup link.
- A red line represents a disconnected link.
- You can zoom in/out by using your mouse wheel, two fingers on the touchpad of your laptop or with the Zoom option in the toolbar.

#### ■ Detailed port info:

Right click on any port on a GigaCore will give you detailed information of the selected port.





#### 3.2 Top Toolbar



The top toolbar includes several icons and menu items mainly related to the topology view. To understand the role of each icon,

simply hover the cursor over the icon, and read the content of the corresponding tooltip.



#### Icon definition s, from left to right:

#### 3.2.1 luminex logo:

Click on the logo to get access to the "About Dialog" which shows the software version, the used libraries and allow the user to give feedback about Araneo.

#### 3.2.2 Save Layout:



Save the names and positions of the GigaCore switches, edge devices, and groups currently visible in your graph. You'll be prompted to select a file to store the layout.

#### 3.2.3 Load Layout:



Recall the names and positions of the GigaCore switches, edge devices and groups from a file and apply them to your current graph. A popup window will open to select the file.

#### 3.2.4 Auto Layout:



Automatically arrange the devices in your graph.

#### 3.2.5 Add Zone:



Add a zone to the graph in which devices can be dragged and dropped. To add a device to a zone, click on the icon .

A new rectangle will appear; resize the rectangle by using the handle on the bottom right-hand side of the rectangle. The new zone gets added in a default position (A) so you might need to zoom out a little to see the added zone.

Now drag and drop the devices you wish to add to this zone. You can select multiple devices by clicking on the devices while holding the Ctrl key. The devices will automatically be added to this zone (B).

#### 3.2.6 Remove Zone:



Remove the selected zone(s) from the graph. Removing a zone does not delete the selected devices.

#### 3.2.7 Remove from zone:



Remove a selected device from its zone. To remove a device from a zone, simply select the device (hold the Ctrl key to select multiple device s) and click on the icon.

#### 3.2.8 Configuration:

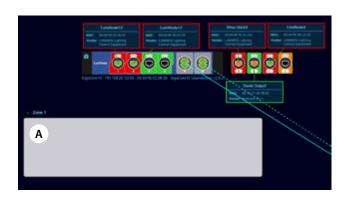


This tool assists you to change parameters on the GigaCore, network wide. The configuration panel offers three menus on the left-hand side: **Groups, RLinkX** and **IGMP** and 3 options at the top: **Select all ports, Select ports of group** and **Deselect ports**.

The Group menu allows you to change the name of the group, to assign ports to a group, or to modify advanced settings; These settings can be applied to the selected switch only, or to all switches. In the ISL group you have the option to retrieve from RLinkX. This option will automatically assign the ports that form an active and a redundant path in the RLinkX to the ISL group.

**To change the name** of a group, click on the Change name button (Group name can't be changed for Group 0 and 1): Type in the name of your group. By default, this new group name will be applied to all switches. This will harmonize the group naming with your network infrastructure.

However, if you wish to change the name of a group for one or several switch(es), you'll first need to select the ports assigned to this group, on the corresponding switch(es). Once you've selected the ports, the second menu will become available (Apply only to GigaCores of selected ports).



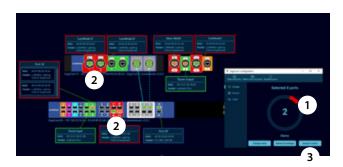


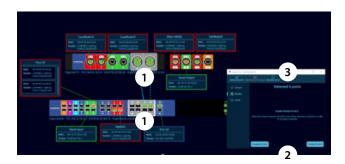


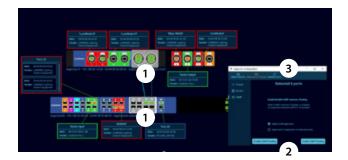


If the same group number on the network is discovered with different names assigned on different switches, Araneo will display the default name (Group X, where X is the group number).

- To assign ports in the selected group, proceed as on the GigaCore web interface:
  - 1. First select the group
  - 2. Select the ports on the graph. You can choose multiple ports amongst multiple devices.
  - 3. Press the Assign to ports button.
  - 4. Repeat for each group.
- To change the RLinkX status of some ports:
  - 1) Select the ports
  - Select whether you wish to enable/disable RlinkX on the select ports. WARNING!! Disabling RLinkX on the port you are connected to will prevent discovery.
  - 3) Best practice is to deselect the ports afterward
- To enable/disable IGMP unknow flooding on the selected switch:
  - 1) Select the port(s) or the switch(es)
  - 2) Select whether you wish to apply the settings on all GigaCores , or only to the selected switch
  - 3) Best practice is to deselect the ports afterward.







#### 3.2.9 Clear connection:



In the unlikely event of a lost connection, Araneo will display a red line to indicate a link went offline.

Once the connection is re-established, the line will return to its original color. If you want to remove the down connection indicators (e.g. when you yourself have permanently disconnected a device), you can clear the down connection by clicking on the **Clear connections icon**.

# | Variable | Variable

#### 3.2.10 Change password:



se this option if you want to set a password on a GigaCore switch. A popup will appear asking you to set the password. This can also be used to change the password after you have unlocked password protected devices.



#### 3.2.11 Unlock devices:



If your switches are locked with a password, you can use this tool to login into several switches at the same time.

To proceed, first select the locked switches, and then click on the icon.

For every password which differs from the default (an empty password), Araneo will propose a new login window for this device.



#### 3.2.12 Firmware update:

Araneo allows you to update the firmware of your switches on a network level. When you open this tool, it will show you all the available firmware versions.

If there is a newer firmware available, the Download button will allow you to download the firmware locally on your PC allowing you to perform a firmware upgrade even when you do not have an internet connection.

Once downloaded the "Delete files" option will become active, allowing you to delete the download firmware versions from your PC and the "Upgrade" option will become active.

If you choose to Upgrade, Araneo will start the upgrade with the switch furthest away from your computer working back towards the switch you are connected to.



#### 3.2.13 Zoom:



Zoom opens a panel which allows you to: zoom in, zoom out, restore the zoom level to 100% and zoom to fit the entire network into the graph view.



#### 3.2.14 Log:



Click on this icon to open the log of network activity. Logs are separated in three main categories:

- INFO: These are regular info messages, mainly related to the status of the product and their corresponding ports Info messages are displayed when the Info icon located at the top of the window is outlined with a green rectangle (default setting). Info messages are colored blue.
- WARNING: These are warning messages, mainly related to port status or connection loss. Warning messages are displayed when the Warning icon located at the top of the window is outlined with a green rectangle (default setting). Warning messages are colored orange.



 ERROR: These are error messages, mainly related to link loss status, or when a device is offline. Error messages are displayed when the Error icon located at the top of the window is outlined with a green rectangle (default setting). Error messages are colored red.

On the top right-hand side is a search field **(A)**, which allows you to search for a message based on some specific parameter, such as port number or equivalent.

You can filter the amount of information you wish to display by enabling/disabling the icons **(B)** located at the top of the Network Log window.

You can clear and save the log(s) by clicking on the icons located at the top of the Network Log window **(C)**.

#### 3.2.15 Locate me:



If you click on this icon, the graph will be centered on the computer running Araneo.

#### 3.2.16 IP address selection:

Use this menu to select the IP address(es) Araneo will use to communicate with the GigaCore switches. Multiple network adaptors can be selected to monitor more than one network simultaneously.

The IP address menu uses the following color scheme to indicate the status of the corresponding IP address:

- Red: The corresponding interface is not connected, or down.
- Lime edge and text: Represents the selected and active interface.
- Lime edge and red text: The selected interface is down.

#### 3.2.17 Settings:



Click on this icon to access to global parameters of the application. The settings menu has three sub menus.

#### Settings:

- Show or hide icon labels.
- Show or hide grid.
- Select the port by clicking on the connected edge device.
- Show warning on enabling AVB (you can choose to not show this again in the configuration window but then you can enable the warning again here).





- Show warning on enabling PTPv2 ((you can choose to not show this again in the configuration window but then you can enable the warning again here).
- Automatically check for updates, everytime you launch Araneo it will check for new updates.
- Graph drawing quality (depending on your needs you can choose the quality of the graph).

#### Check for updates:

■ Manually check if there is an update available.

#### About:

This brings you to the same window accessible by clicking on the Luminex logo. This menu offers you information about the software version and allows you to send feedback to Luminex.

#### 3.3 Filter panel

The filter panel is located on the left-hand side of the Araneo workspace.

This panel gives you direct access to some relevant information related to the selected topic. By default, the panel is collapsed. You can choose to un-dock the panel by clicking on the upper right-hand side icon , or to reduce the width of the panel by clicking on the arrow icon at the upper right-hand side corner of the panel.

On the top of the panel is a switch to choose between simple view and normal view. The simple view mode will hide all connectors, connection lines, RLinkX info, MultiLinkX info, PoE status and traffic information. This can come in handy when you're monitoring a complex network, to simplify the view, and reduce the necessary processing power.

An unselected view will be displayed in blue, while a selected view will be displayed in lime with a lime rectangle around it. A view that isn't available is displayed in Grey. Groups and Link Status views are enabled by default.

#### View definition

#### 3.3.1 Groups:

Colors the background color of the ports in their respective group color.





#### 3.3.2 Links:

Enable or Disable the connection lines between switches and edge devices.

Links enabled (A)

Links disabled (B)

The ports on the switches have the following fill for the connection speed which is always visible unless the simple view is chosen:

Black: No link
Red: 10Mbps link
Orange: 100Mbps link
Green: 1Gbps link

#### 3.3.3 RlinkX:

Shows whether RLinkX is enabled on a port using a blue border and whether RLinkX is active by overlaying the port with the RLinkX logo.

#### 3.3.4 MultilinkX

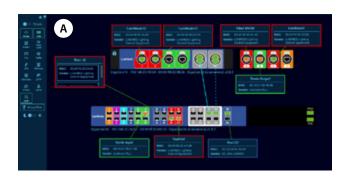
Shows whether MultiLinkX is enabled on a port using a pink bar above or below the port. A pink bar will represent an enabled MultiLinkX port.

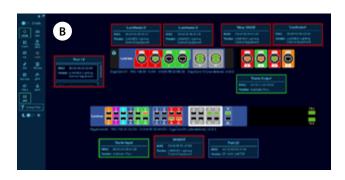
A white bar will represent an active MultiLinkX port. To be active, MultiLinkX needs to be enabled on both connected switches' ports.

#### 3.3.5 PoE:

Shows whether Power over Ethernet (PoE) is enabled/active on a port:

- Grey: PoE is disabled, or not available.
- Yellow: PoE is enabled.
- Orange: PoE is active, and the switch is sourcing an edge device.
- Red: PoE error.













#### 3.3.6 Traffic:

Shows the incoming and outgoing traffic on the connections.

Araneo will display the transmitted traffic (Tx) per device. As Araneo is aware about the transmitted traffic, there is no need to display the received traffic on the other side of the link. This avoids filling your graph with too much info.

If required to make the information easier to read, you can drag the traffic info along the connection line. Simply click on the Tx box and drag to the required location. You can only get to half-way of the connection line to avoid positioning on the wrong side of the connection.

## The Uniform There has no service and a serv

60000066

#### 3.3.7 AVB:

Shows whether Audio Video Bridging (AVB) is enabled on a port with an AVB icon.

#### 3.3.8 CPU load:

Shows the CPU utilization in the past 1s / 100ms /1ms on the bottom right corner (A) of the GigaCore.

#### 3.3.9 Core stats:

Shows temperature and fan speed of the GigaCore on the left-hand side **(B)** of the product's image.

#### 3.3.10 gPTP:

Shows Generalized Precision Time Protocol (gPtP) on the GigaCores and their ports.

**LOCAL CLOCK:** Displayed at the top left-hand side of the product. This is the clock identifier of the selected switch.

**GRAND MASTER CLOCK:** Displayed at the top right-hand side of the product. This is the grand master clock identifier.

#### **PORT STATUS:**

Ports can play different roles in a gPtP environment, here are the definitions:

- DIS: Disabled
- SLA: Slave port
- PAS: Passive port

You'll get more information per gPtP port by hovering the mouse over the ports **(C)**.









#### 3.3.11 PTPv2:

Show Precision Time Protocol v2 (PTPv2) info on the GigaCores ports.

#### **PORT STATUS:**

Ports can play different roles in a PtPv2 environment, here are the definitions:

DSB: DisabledE2E: End to EndP2P: Peer to Peer

You'll get more information per PtPv2 port by hovering the mouse over the ports **(D)**.

#### 3.3.12 RSTP:

Shows Rapid Spanning Tree procotocl (RSTP) info on the GigaCores and their ports.

On the top left corner, the bridge priority of the selected switch is displayed. If you click on the locate root bridge link, Araneo will display the root switch's image in the center of the graph.

#### **PORT STATUS:**

Ports can play different roles in a RSTP environment, here are the definitions:

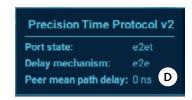
- DES: Designated port (forwards data)
- BAC: Backup port (blocks data)
- DIS: Disabled port
- ALT: Alternate port (Blocks data)
- ROO: Root port (forwards data)

You'll get more information per RSTP port by hovering the mouse over the ports **(E)**.

#### 3.3.13 IGMP:

Shows the active querier(s) for the group when hovering your mouse over a port. The querier associated to the group of the port you're hovering is part of will be displayed on the right-hand side **(F)** of the product image.











#### 3.3.14 Group filter:

Toggle the visibility of edge devices belonging to a group. Simply click on a group to toggle the visibility of the associated edge devices on the graph.



#### 3.3.15 Theme:

Click on the sun or the moon to switch between a light theme or a dark theme.



#### 3.4 Dashboard

The dashboard displays more detailed information about the selected GigaCore. The information is divided in different categories that can be selected on the left-hand side.

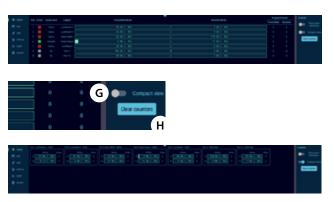
The dashboard can be resized by using the top middle handle of the panel.

The dashboard offers the following topics:

#### 3.4.1 Traffic:

This dashboard offers a different view for the traffic usage per port. On the left-hand side, port number, group assignation and legend can be seen.

On the right-hand side, info about dropped packets can be found. On the very right-hand side of the dashboard, two switches offer you to enable the compact view **(G)**, and to show the down interface. Click on the **Clear counters (H)** button if you wish to clear the traffic counters.



Compact View

#### 3.4.2 PoE:

This dashboard offers a view on the global PoE usage per switch. On the left-hand side, port number, group assignation, legend, class, power, current and priority field can be seen.

On the right-hand side, status of the port can be seen (I).

On the very right-hand side of the dashboard, one switch offers you to show the down interfaces (J).

Live power consumption and reserved power can be seen on the very right-hand side as well.



#### 3.4.3 AVB:

Shows the AVB streams on the selected GigaCore.

#### 3.4.4 AVB-EXT:

Shows additional AVB data on the selected GigaCore.

#### 3.4.5 IGMP:

Shows IGMP based protocols detected on the selected GigaCore. On the left-hand side of the dashboard, you can find the following information:

- VID (VLAN identifier): VID associated to the detected multicast stream.
- MULTICAST ADDRESS: Destination IP address registered on the port.
- **PROTOCOL:** Protocol that could potentially be associated with this multicast address
- Warning: the protocol info displayed here is for reference only.
   As a GigaCore cannot detect the protocol, Araneo offers you a proposal of the type of protocol this multicast address is referring to.
- PORTS: The port number who have received a registration for this multicast address.

#### 3.4.6 System:

This dashboard offers a sum of info related to the selected switch. The system info panel shows the following:

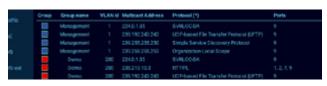
Type of switch, Name, Description, IP address, Subnet mask, MAC address, Serial number, Firmware: active and alternate and uptime.

The system stats panel shows the CPU usage, the fan speeds, the enclosure temperature, and the CPU temperature.

On the right-hand site are buttons to perform the following actions:

- **INDENTIFY:** Click on this button if you wish to identify the selected switch. The four LEDs on the left-hand side of the GigaCore's front panel will blink three times.
- OPEN MANAGEMENT INTERFACE: Click on this button to open the web page of the selected GigaCore, through your favorite web browser. Araneo will already enter the username "admin" for you and try to login directly to the status page.
- **REBOOT:** Click on this button to reboot the selected switch.
- **RESET:** Click on this button to reset the switch.









After pressing the reset button, Araneo will open a window **(K)**. Select the option you wish to apply to your device and press the Reset button.

- ACTIVATE ALTERNATE FIRMWARE: Click on this button to reboot the switch in the alternate firmware.
- UPDATE FIRMWARE: If you wish to update the firmware on a single GigaCore switch rather than the entire network you can use this update option as it only updates the selected GigaCore.



