# paseo_PIXEL RGB

MAESTRO 2.0

Paseo linear lights use RGB pixel technology to create dynamically animated scenes. Used alone or combined with Pixie, Paseo RGB pixel bars are the ideal solution for large or small installations.
The power and DMX signal cables exit from the bottom of the bar, so it can be combined into continuous lines.

Materials
Polycarbonate body

Paseo_PIXEL RGB DMX 24V | 24V | topLED | Wet location | Driver remote

RGB
Pixel

22.7

1.5 | 0.9 | 2.1

45.4

1.5 | 0.9 | 2.1
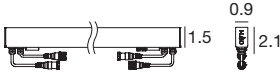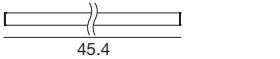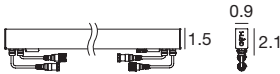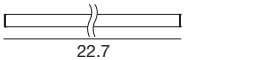
22.7 in - 10W

| Opaline | **E81337** | RGB | **Z** | General | **00** |

45.4 in - 20W

| Opaline | **E81338** | RGB | **Z** | General | **00** |

Power supply options (remote only)

OT96-JBX

Osram, Non-Dim, 96W, 24VDC, 120-277VAC, Wet Location

Cables

| E99216	E89190	E98437	E98149	E89188	E89189
59.1 in power cable F 4 pin M12	196.9 in power cable F 4 pin M12	39.4 in Extension for power cable M+F 4 pin M12	196.9 in Extension for power cable M+F 4 pin M12	393.7 in Extension for power cable M+F 4 pin M12	196.9 in DMX cable M 5 pin M12
E89186	**E98494**	**E98493**	**E98994**	**E98993**	**E89187**
196.9 in DMX cable M 5 pin M12 + M 3 pin XLR	196.9 in DMX cable M 5 pin M12 + F 3 pin XLR	196.9 in DMX cable M 5 pin M12 + M 5 pin XLR	39.4 in DMX extension M+F	196.9 in DMX extension M+F	393.7 in DMX extension M+F

Installation accessories (ordered separately)

▶ 491
Outer casings and fixing systems

pixel technology lighting engineering
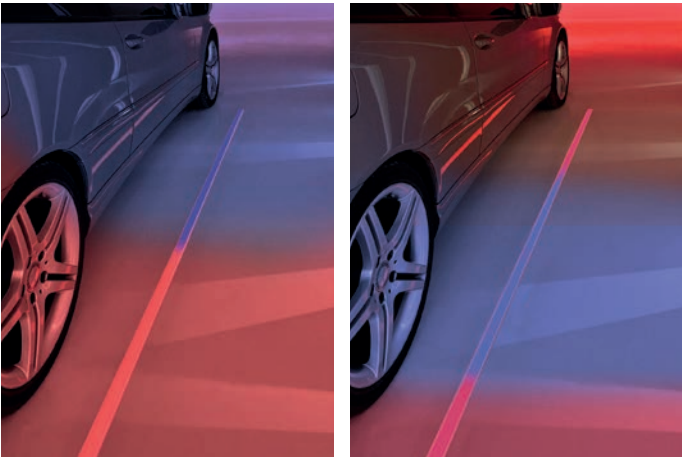
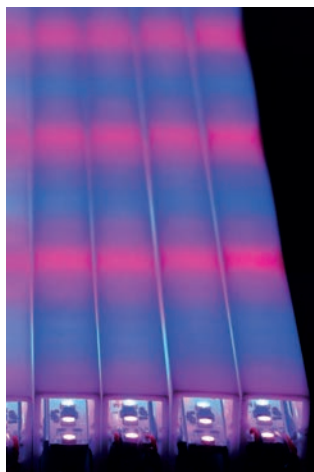**Paseo_PIXEL RGB**
Lighting performance & engineering

The i-LèD Paseo PIXEL RGB bar redefines the surrounding landscape through the creation of dynamic lighting effects. Every single RGB LED can be controlled individually, the available versions are Paseo PIXEL RGB 22.7 inch with 32 RGB full-color LEDs, or Paseo PIXEL RGB 454 inch with 64 RGB full-color LEDs.

Every single LED is divided into 3 channels (Red, Green, Blue)

RGB
Pixel

Power
24V

Signal
DMX / RDM
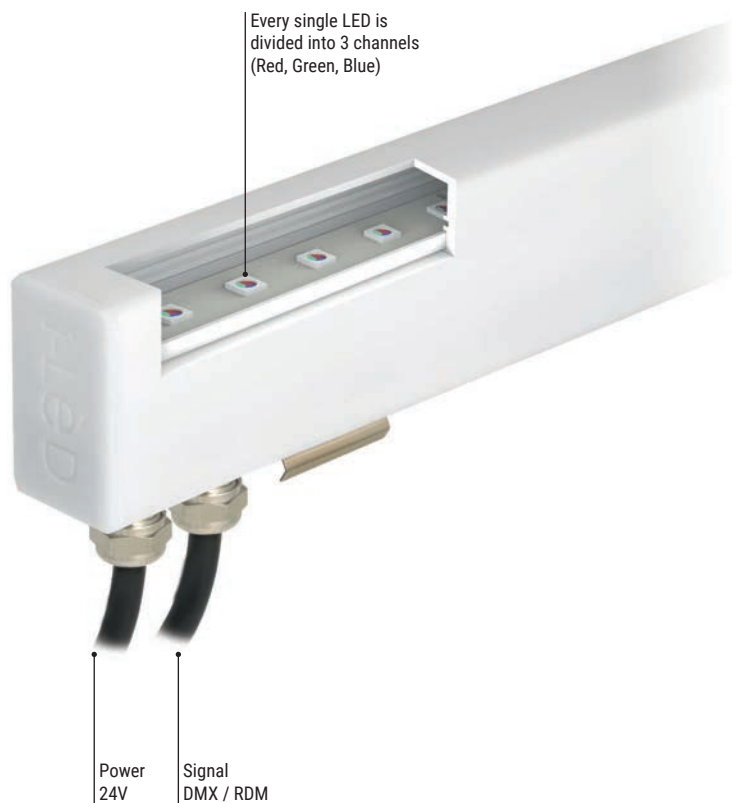
To guarantee a top-level flexibility and an outstanding efficacy in terms of control, a single product allows for multiple resolutions; it is possible to vary the LED and Pixel ratio based on the size of the installation.

Pixel is the RGB element that can be individually controlled. At its maximum resolution, the 45.4 inch Paseo_PIXEL RGB will have 64 independent pixels, whilst the 22.7 inch one will have 32 independent pixels. At its minimum resolution, 45.4 inch Paseo_PIXEL RGB will be made up of 4 independent pixels, whilst the 22.7 inch one will be made up of 2 independent pixels.

The resolution setting can be made through the RDM* (Remote Device Management), a system permitting the bidirectional communication of lights. The device recommended for this kind of operation is Enttec Pro Mk2.
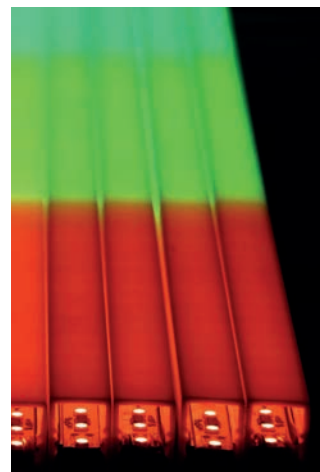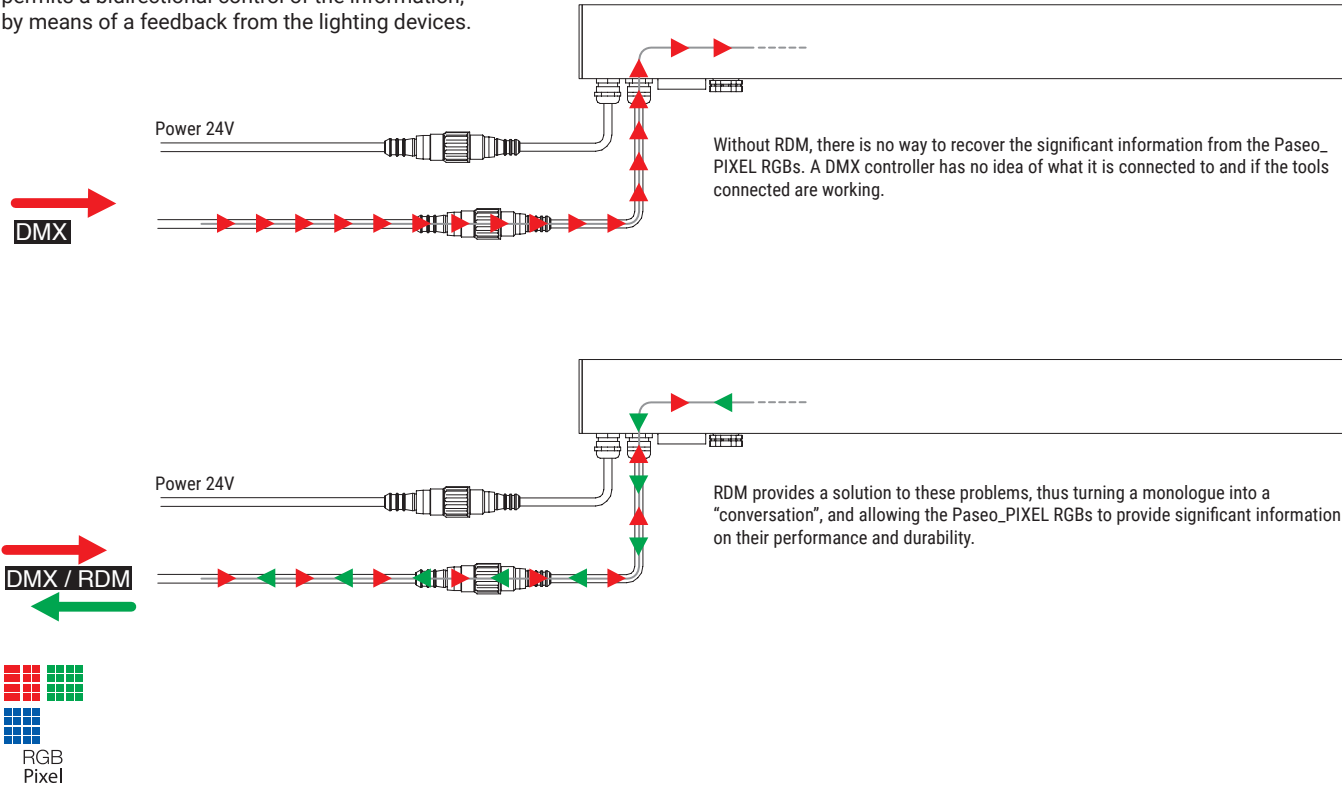
The table in the following page sums up all the possible resolutions.

2 LEDs x Pixel

16 LEDs x Pixel

What is RDM*?
Remote-Device-Management

It is an extension of a DMX512 protocol that permits a bidirectional control of the information, by means of a feedback from the lighting devices.

Power 24V

DMX

Without RDM, there is no way to recover the significant information from the Paseo_PIXEL RGBs. A DMX controller has no idea of what it is connected to and if the tools connected are working.

Power 24V

DMX / RDM

RDM provides a solution to these problems, thus turning a monologue into a "conversation", and allowing the Paseo_PIXEL RGBs to provide significant information on their performance and durability.

RGB Pixel

It should be highlighted that a single DMX signal controls maximum 512 channels, such a grouping is normally called universe.

When looking at the table, and considering the extensive use of the DMX channels with resolutions of 1, 2 and 4 LEDs per pixel, you can notice that i-LèD has developed a system that allows to manage 4 DMX universes with the same signal line. The solution, named DMX2048, requires a specific i-LèD.

Example	22.7 in (32 LEDs RGB)	45.4 in (64 LEDs RGB)	Pixel-Pitch
1 LED x Pixel	32 PIXEL RGB / 96 DMX CHANNELS	64 PIXEL RGB / 192 DMX CHANNELS	0.7 in
2 LEDs x Pixel	16 PIXEL RGB / 48 DMX CHANNELS	32 PIXEL RGB / 96 DMX CHANNELS	1.4 in
4 LEDs x Pixel	8 PIXEL RGB / 24 DMX CHANNELS	16 PIXEL RGB / 48 DMX CHANNELS	2.8 in
8 LEDs x Pixel	4 PIXEL RGB / 12 DMX CHANNELS	8 PIXEL RGB / 24 DMX CHANNELS	5.7 in
16 LEDs x Pixel	2 PIXEL RGB / 6 DMX CHANNELS	4 PIXEL RGB / 12 DMX CHANNELS	11.3 in

pixel technology lighting engineering

Resolution and Pixel-Pitch

Changing the Resolution of a Paseo_PIXEL means substantially altering the size of Pixel and Pixel-Pitch. Large Pixel-Pitches are used in installations where accent lighting is required or in general entertainment applications, to create Wall Washing effects or highly scenic compositions that enhance the edges, depth, and characteristics of the building. With regard to applications capable of playing videos or images, Pixel size is determined by the maximum and minimum viewing distance and the resolution of the video itself.

Graphics

Graphics reproduced on Paseo_PIXEL RGB lines

RGB
Pixel

Resolution

Pixel-Pitch

Lines distance

*
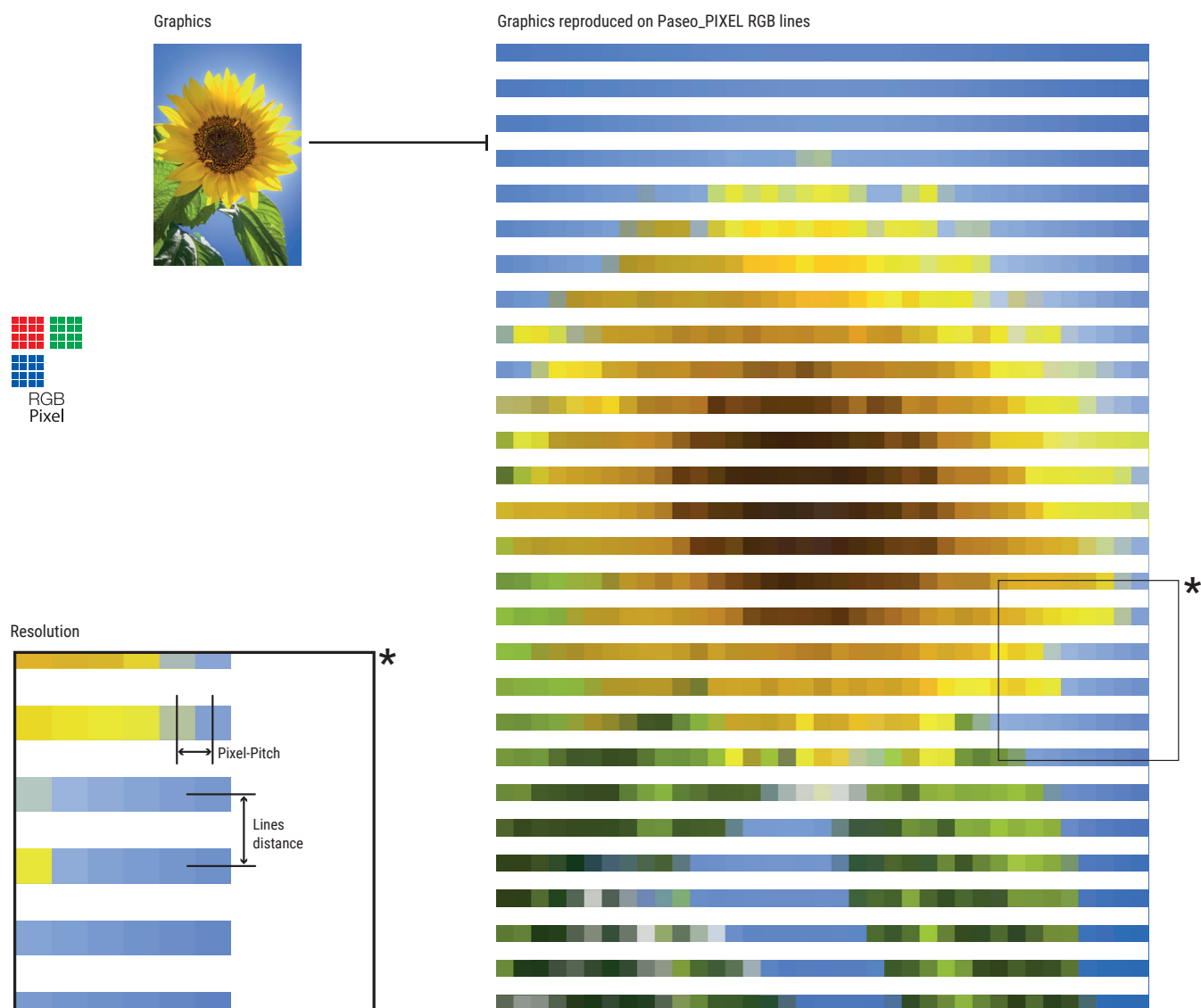
It is possible to keep the Pixel-Pitch size just like the Lines distance between the Paseo_PIXEL, however, as you can see in the picture, a great result can be obtained by extending the lines much more. The human eye can correctly distinguish the images thanks to the high density of horizontal Pixels. In the example, a double Lines distance has been used as compared to the Pixel-Pitch. The same goes when the Paseo_PIXEL are directed in a vertical position. It is important to keep, however, a high density of Pixels along one direction and "dilute" it along the other.

Some guidelines for the Pixel-Pitch sizing are reported hereunder:

The following calculations and examples are general guidelines to determine the minimum and maximum viewing distances when you wish to play a low-resolution video with the Paseo_Pixel RGBs.
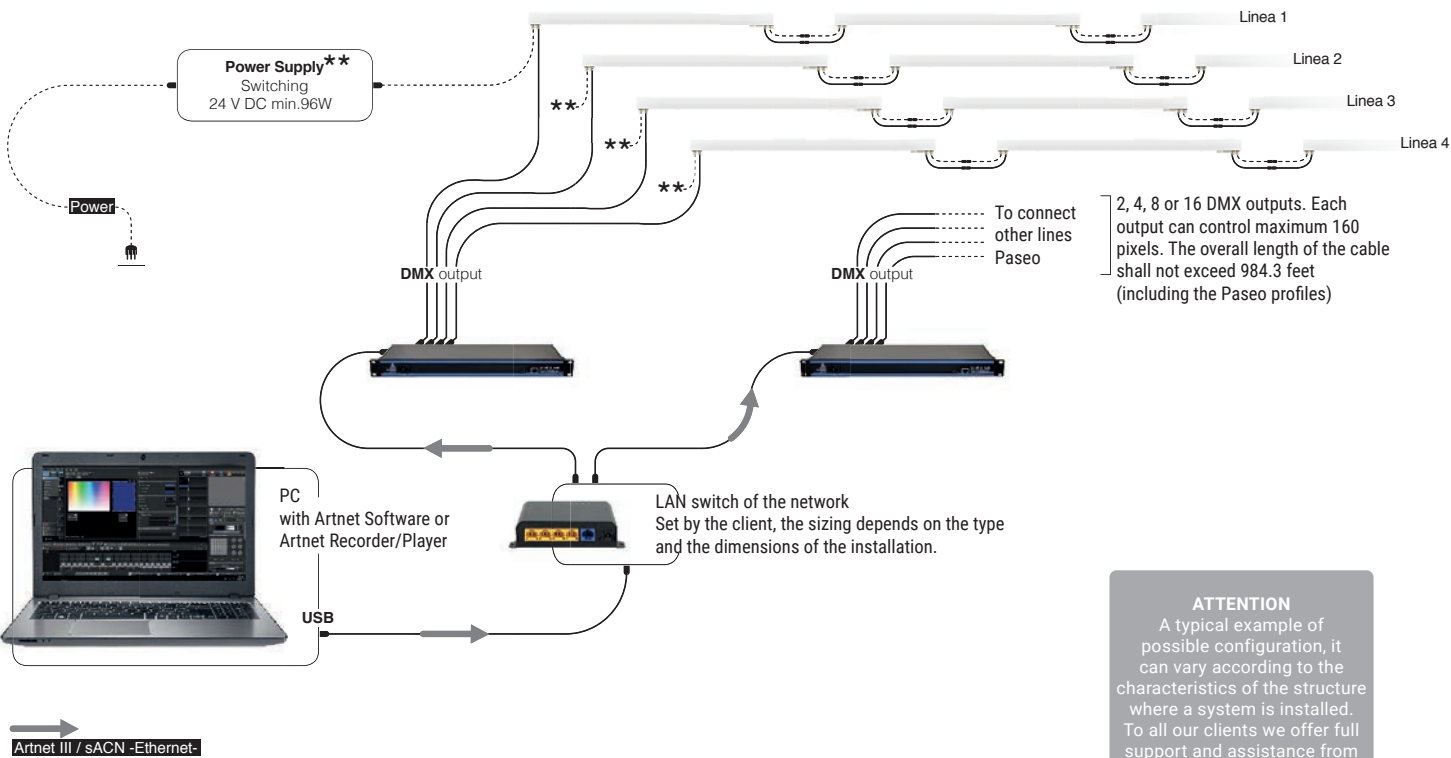
• To determine the minimum viewing distance, multiply the size of the Pixel-Pitch times 100 units. For example, if the Pixel-Pitch is 1.4 inch, the minimum viewing distance is equal to 141.7 inch.

• To determine the maximum viewing distance for discernible videos, it is necessary to multiply the height of the screen by 20 units of distance. For example, if the screen is 98.4 feet high, the maximum recognizable viewing distance for the video will be 1968.5 feet.

• LED display videos can be viewed despite the maximum viewing distance for the discernible videos. To determine the maximum viewing distance for a suitable visual impact, multiply the height of the screen by 50 units of distance. For example, if the screen is 656.2 feet high, it will continue to create a visual impact up to 3280.8 feet.

However, it is possible to obtain a good visual impact up to 50 times the height of the screen also by overcoming the maximum viewing distance mentioned in the previous point.

pixel technology connection examples

Example of standard DMX512 connection:

For relatively simple projects with low densities of Pixels, we recommend using the Artnet/DMX controller. These controllers feature 2, 4, 8 or 16 DMX ports. Each port/output can control up to maximum 160 pixels and the overall length of the cable shall not exceed 984.3 feet (including the Paseo profiles). The frame rate of the animation supported is equal to 40 frames per second.

Linea 1
Linea 2
Linea 3
Linea 4

Power Supply **
Switching
24 V DC min.96W

Power

DMX output

DMX output

To connect other lines Paseo

2, 4, 8 or 16 DMX outputs. Each output can control maximum 160 pixels. The overall length of the cable shall not exceed 984.3 feet (including the Paseo profiles)

PC
with Artnet Software or
Artnet Recorder/Player

LAN switch of the network
Set by the client, the sizing depends on the type and the dimensions of the installation.

USB

Artnet III / sACN -Ethernet-

Artnet III and sACN are two protocols used to transmit the DMX signal to the Ethernet network, they are very widespread in the entertainment lighting sector.

ATTENTION
A typical example of possible configuration, it can vary according to the characteristics of the structure where a system is installed. To all our clients we offer full support and assistance from design to after sales to ensure the best possible service.

For each line it is possible to connect a number of **Paseo_PIXEL RGBs** in the following configuration:
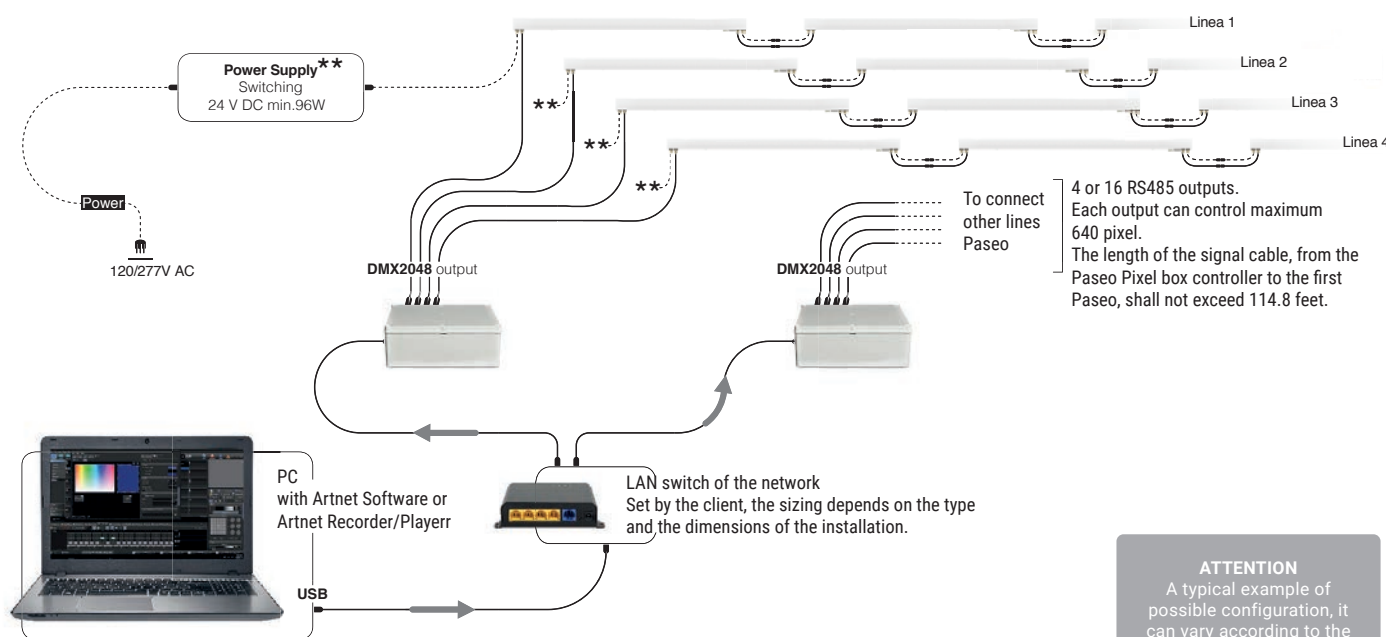
Version	1 LED per pixel max connectable Paseo	2 LEDs per pixel max connectable Paseo	4 LEDs per pixel max connectable Paseo	8 LEDs per pixel max connectable Paseo	16 LEDs per pixel max connectable Paseo
22.7 in (32 LEDs)	5x	10x	21x	42x	85x
45.4 in (64 LEDs)	2x	5x	10x	21x	42x

For each DRIVER (switching driver 96W) the maximum number of Paseo_PIXEL that can be connected to the same power supply/signal line varies according to the power of the Paseo_PIXEL used. It is also possible to have mixed connection solutions among Paseo_PIXEL with different powers, as long as the 96W limit per power supply channel is not exceeded.

Example of connection with an own DMX2048 system:

For complex projects with high densities of pixels, we recommend using a "PIXEL controller". This controller is equipped with 4 or 16 RS-485 ports (DMX 2048). Each port/output can control up to maximum 640 pixels and the overall length of the cable shall not exceed 262.5 feet (including the paseo profiles).

The frame rate of the animation supported is equal to 40 frames per second. The use of the DMX2048 system for structured systems makes the installation of the Paseo PIXELs much easier and cheaper. Compared to the DMX512 solution, the resolution of the Paseo PIXELs being the same, it is possible to control four times the amount of the devices with the same cable. Therefore, it is possible to cover four times the linear distance.

Power Supply ✱✱
Switching
24 V DC min.96W

Power

120/277V AC

✱✱

DMX2048 output

Linea 1
Linea 2
Linea 3
Linea 4

To connect
other lines
Paseo

4 or 16 RS485 outputs.
Each output can control maximum 640 pixel.
The length of the signal cable, from the Paseo Pixel box controller to the first Paseo, shall not exceed 114.8 feet.

DMX2048 output

PC
with Artnet Software or
Artnet Recorder/Playerr

LAN switch of the network
Set by the client, the sizing depends on the type and the dimensions of the installation.

USB

Artnet III / sACN -Ethernet-

Artnet III and sACN are two protocols used to transmit the DMX signal to the Ethernet network, they are very widespread in the entertainment lighting sector.

ATTENTION
A typical example of possible configuration, it can vary according to the characteristics of the structure where a system is installed. To all our clients we offer full support and assistance from design to after sales to ensure the best possible service.

For each signal line, it is possible to manage maximum **640 PIXEL RGBs.**
The length of the cable from the controller to the first **Paseo_PIXEL** shall not exceed **1377,95 inch.**

Version	1 LED per pixel max connectable Paseo	2 LEDs per pixel max connectable Paseo	4 LEDs per pixel max connectable Paseo	8 LEDs per pixel max connectable Paseo	16 LEDs per pixel max connectable Paseo
22.7 in (32 LEDs)	20x	To be used with the 45,35 in version. The total 22,68 in Paseo_Pixel RGBs is 10x	To be used with the 45,35 in version. Connect maximum 10x 22,68 in Paseo_Pixel RGBs every 45,35 in 15x. The total 22,68 in Paseo_Pixel RGBs is 20x	To be used with the 45,35 in version. Connect maximum 10x 22,68 in Paseo_Pixel RGBs every 45,35 in 15x. The total 22,68 in Paseo_Pixel RGBs is 40x	To be used with the 45,35 in version. Connect maximum 10x 22,68 in Paseo_Pixel RGBs every 45,35 in 15x. The total 22,68 in Paseo_Pixel RGBs is 80x
45.4 in (64 LEDs)	10x	20x	40x	80x	160x

For each DRIVER (switching driver 96W) the maximum number of Paseo_PIXEL that can be connected to the same power supply/signal line varies according to the power of the Paseo_PIXEL used. It is also possible to have mixed connection solutions of Paseo_PIXEL with different powers, as long as the 640-pixel limit per signal line and the 96W limit per +24V power supply line are not exceeded.