

PIXEL PUCK SERIES | ARCHITECTURAL PIXEL PUCK

The PUX9 is a powerful pixel puck designed for high-output architectural lighting across indoor and outdoor environments. Compact, yet robust, it delivers dynamic and reliable illumination in a discreet, low-profile form.

With 9 SMD LEDs, the PUX9 offers bright, vibrant output ideal for media façades, features lighting, and creative visual displays.

Rated IP67 for protection against water and dust, the PUX 9 is built to perform in demanding conditions.



At a glance

Emitters

RGBW
(W = 2700K, 3000K, 3500K, 4000K)

OR

RGBA

OR

RGB

OR

Dynamic White (DW)
(200K to 5000K)

OR

White
(2700K, 3000K, 3500K, 4000K)

Dome Dimensions

Controls

Voltage

24V DC

Protection

Ingress - IP67

Temperature

-20°C to 50°C
-4°F to 122°F

Optics

Dimensions

FIXTURE PRODUCT CONFIGURATOR

Prefix	Model	LED String Qty	LED Colour	White CCT	Control	Pitch	Voltage	Lens Options	Housing Colour	Deck Colour	Mount
PUX	9	1	RGBW	27K - 2700K	P - PWM	70	24 - 24V	03 - 3mm Flat	W - White	B - Black	B - 3M Back
		2	RGBA	30K - 3000K	S - SPI	80	DC	05 - 5mm Flat	B - Black	G - Grey	F - 3M Face
		3	RGB	35K - 3500K	XB - X-Stream	90		10 - 10mm Flat	G - Grey	W - White	C - Clip
		4	DW - Dynamic	40K - 4000K	Booster	100		CR - Crystal	C - Custom RAL	C - Custom	SU - Surface
		5	White (20K - 50K)		X - X-Stream	110		DM - Dome		RAL	P - Panel
		6	W - White			120		TD - Tall Dome			SC - Screws
		7			XB Booster lives in the inside of the product.	130		N - None			U - U-channel
		8				140					N - None
		9			Refer to PXT/R page for differences between X and XB.	150					
		10				160					
		-								
		50				350					

EXAMPLE: PUX - 9 - 2 - RGBW - 30K - X - 110 - 24 - 10 - W - B - U

Note: 3mm, 5mm, and 10mm have a Vinyl option. Consists on covering the lens with with a thin material of the chosen colour. It's not in the part number configurator since this is part of a custom product.

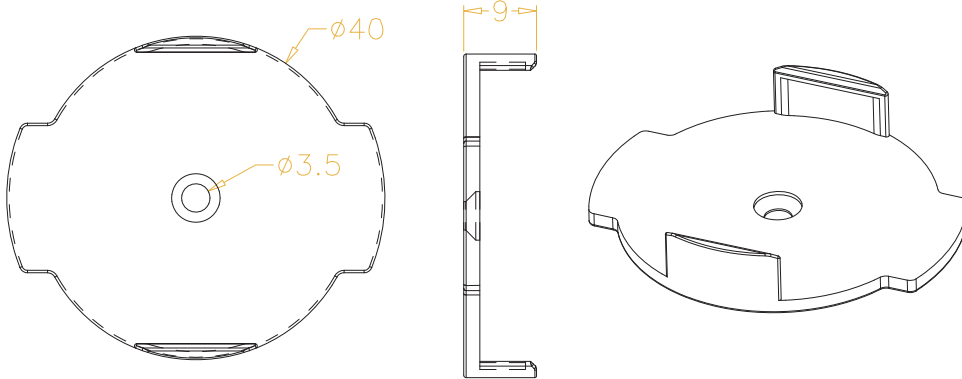
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FIXTURE SPECIFICATIONS

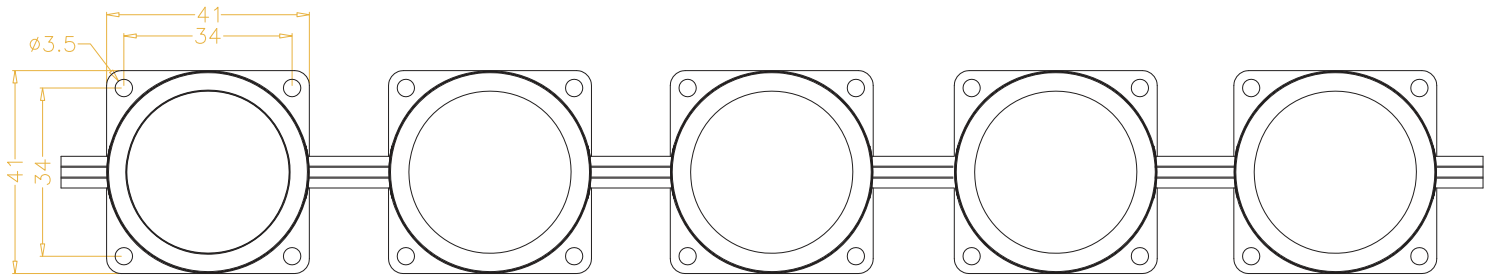
ELECTRICAL	<p>POWER CONSUMPTION OPERATING VOLTAGE OPERATING TEMPERATURE STORAGE TEMPERATURE</p>	<p>2.25W (RGB OR WHITE), 2.5W (RGBW) 24V DC -20°C TO 50°C (-4°F TO 122°F) -20°C TO 70°C (-4°F TO 158°F)</p>
PHYSICAL	<p>DIMENSIONS HOUSING MATERIAL HOUSING COLOUR WEIGHT CONNECTORS IP RATING MOUNTING OPTIONS</p> <p>LENS OPTIONS</p> <p>SOURCE LIFE CONNECTION DATA MAXIMUM RUN LENGTH</p>	<p>Ø: 40MM - (H): 13MM DIE-CAST ALUMINIUM HOUSING - PC CLEAR OR DIFFUSED COVER BLACK HOUSING, GREY HOUSING, WHITE HOUSING, CUSTOM RAL 0.05KGS/UNIT T-POWER JOIN, T-POWER BREAK IP 67 3M BACK, 3M FACE, CLIP MOUNT, SURFACE MOUNT, PANEL MOUNT, SCREW MOUNT, U-CHANNEL MOUNT 3MM CLEAR, 3MM DIFFUSED, 5MM CLEAR, 5MM DIFFUSED, 10MM CLEAR, 10MM DIFFUSED, CRYSTAL, DOME CLEAR, DOME MILKY, TALL DOME CLEAR, TALL DOME DIFFUSED LENS 50,000 HOURS / L70 AT 25°C IP67 PLUG & PLAY 4-PIN PUSHLOCK CONNECTOR 30 PUX 9 PER RUN, BEFORE POWER AND DATA INJECTION</p>
OPTICAL	<p>BEAM ANGLE COLOUR RANGE</p> <p>ACCURATE COLOUR CONTROL LED TYPE PITCH PIXEL</p>	<p>120° - 180° DEPENDING ON DIFFUSER SHAPE WHITE (2700K, 3000K, 3500K, 4000K), RGB, RGBA, DYNAMIC WHITE (2000K - 5000K) RGBW CONFIGURATIONS WITH SELECTABLE CCT 5050 SMD LEDs 70mm - 350mm (STANDARD) / CUSTOMISED OPTIONS AVAILABLE</p>
DIMING & CONTROL	<p>CONTROL PROTOCOLS DIMMING RESOLUTION</p>	<p>X-STREAM PROTOCOL WITH DATA REDUNDANCY AND SPI, DMX, PWM 8 BIT RESOLUTION DOING 65536 STEP WITH BUILT-IN GAMMA 2.2, 12-BIT, 14-BIT, 16-BIT.</p>
FIXTURE RATING & CERTIFICATIONS	<p>CE / IP67</p>	 
LIMITED WARRANTY	<p>5 YEARS <small>*Extendable warranty available</small></p>	

FIXTURE DIMENSIONS

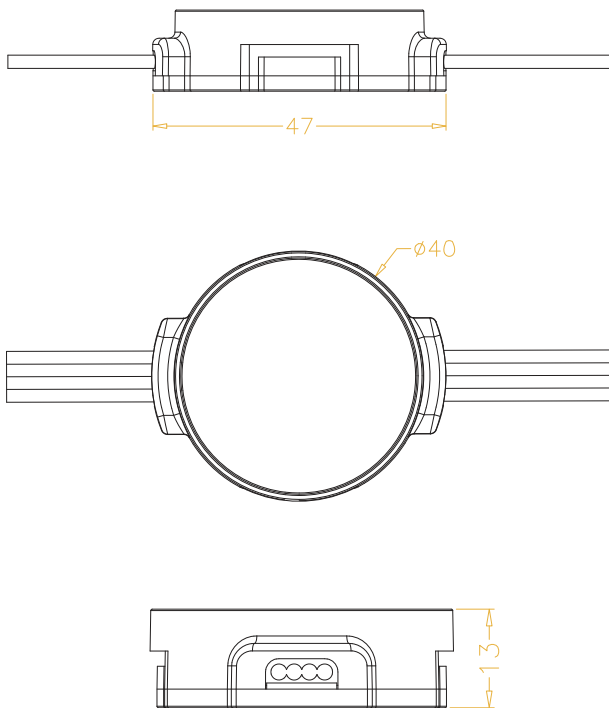
CLIP MOUNT DIMENSIONS



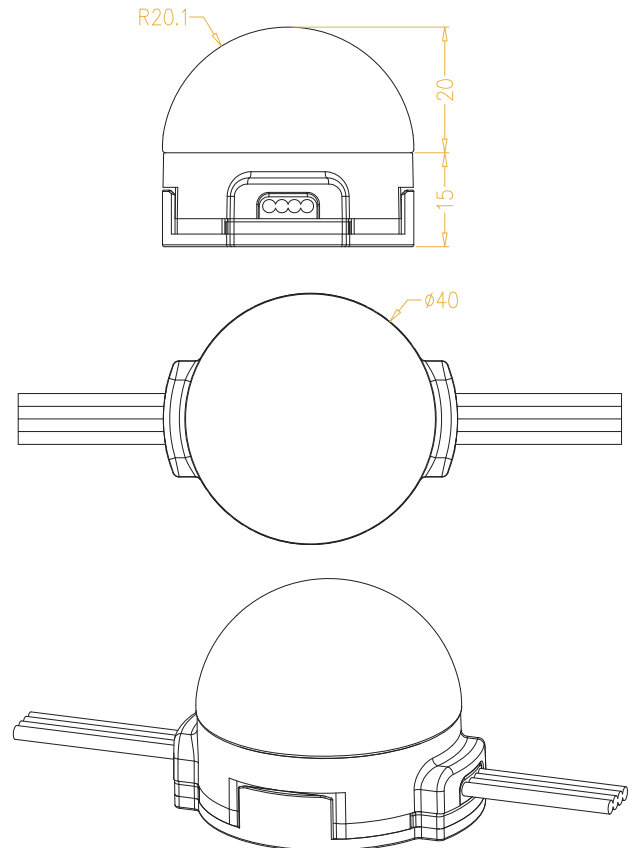
SURFACE MOUNT DIMENSIONS



CLEAR FLAT DIMENSIONS



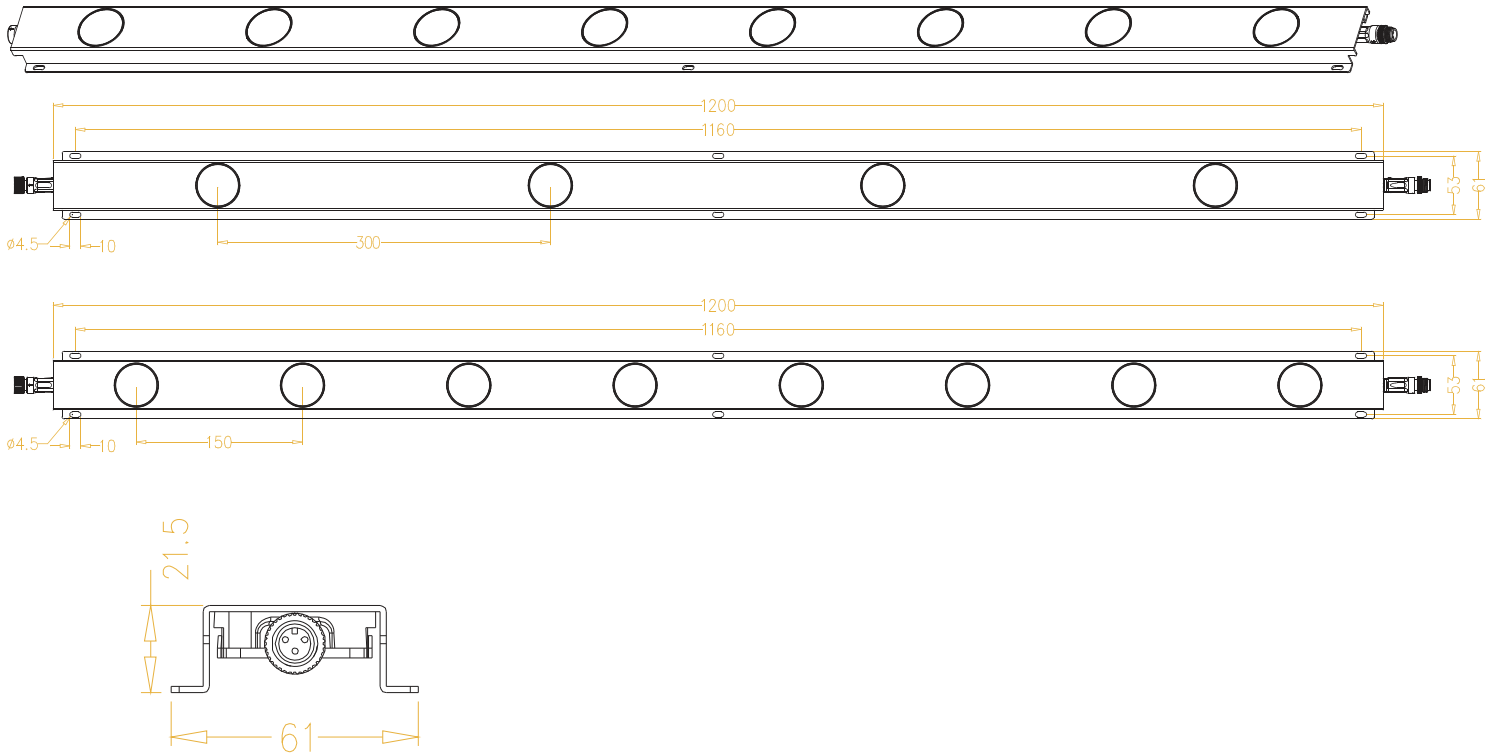
CLEAR DOME DIMENSIONS



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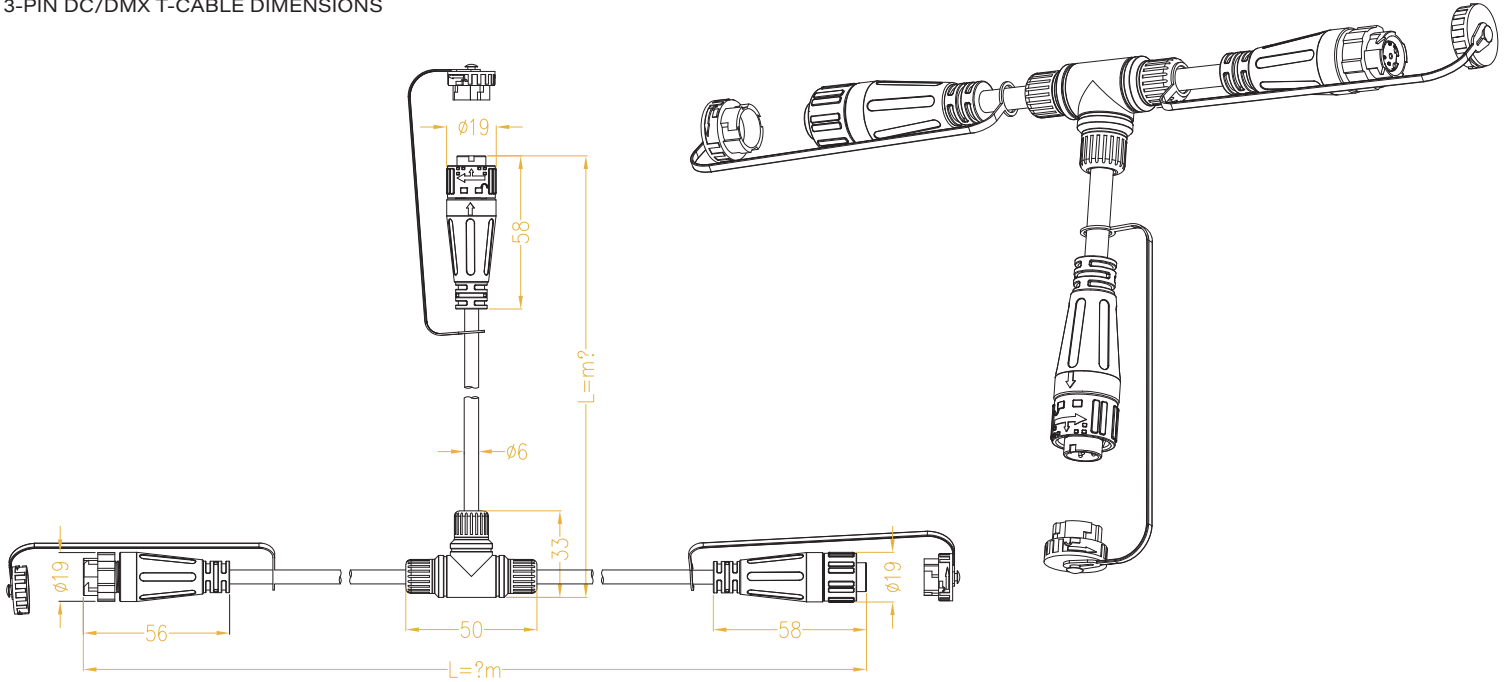
FIXTURE DIMENSIONS

U-CHANNEL MOUNT DIMENSIONS

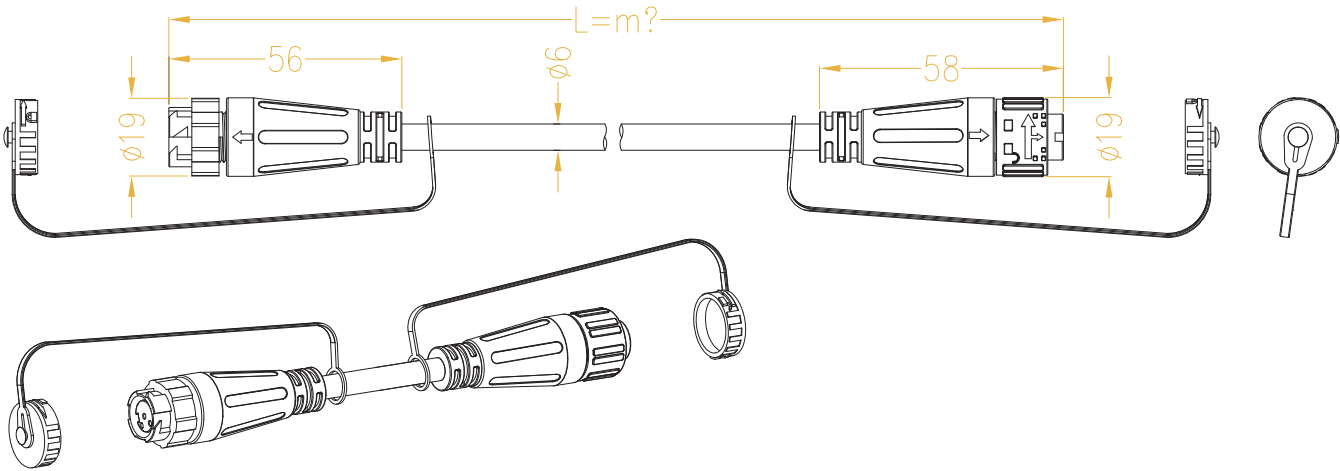


CABLES AND CONNECTORS

3-PIN DC/DMX T-CABLE DIMENSIONS



3-PIN DC/DMX LINKING CABLE DIMENSIONS



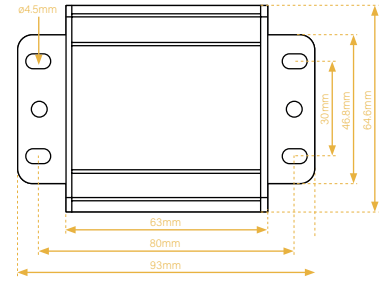
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PXT/R BOOSTER

The PXT and PXR work together as a transmitter/receiver pair to allow you to extend SPI signals up to 100 metres. The units convert the standard API signal to/from a differential pair to allow the signal to travel this distance while minimising interference.

Wide input voltage range allows support for many LED products, and the compact size makes it easy to accommodate in installations.

D1 and B1 inputs support standard data (D1) and backup data (B1) for pixel protocols supporting data redundancy.



PXT TRANSMITTER

INPUT VOLTAGE
AMP
INPUT
OUTPUT
IP RATING

12V – 48V DC
6A MAX
SPI OR X-STREAM FROM CONTROLLER OR LEDS
X-STREAM DIFFERENTIAL SIGNAL
IP20

PXT RECEIVER

INPUT VOLTAGE
AMP
INPUT
OUTPUT
IP RATING

12V – 48V DC
6A MAX
X-STREAM DIFFERENTIAL SIGNAL
SPI OR X-STREAM TO LEDS
IP20

PIXEL PUCK SERIES | ARCHITECTURAL PIXEL PUCK

X-STREAM® TECHNOLOGY

X-Stream® Technology is LEDCTRL's premium communication and power delivery platform, built on the advanced UCS7604 driver IC. It is designed to deliver high speed data transmission, exceptional reliability, and superior visual performance across large-scale and demanding lighting installations.

At its core, the system integrates intelligent signal processing, high-precision constant current control, and advanced error-detection mechanisms to ensure stable operation and consistent output, even in complex or long-distance configurations.

KEY FEATURES

Built-in Redundancy

X-Stream® incorporates dual-channel signal transmission with intelligent fault detection. In the event of a pixels or signal failure, the system automatically bypasses the faulty node and continues data transmission without interruption.

- Dual signal channels with real-time monitoring
- Automatic switching between channels in case of failure
- Fault identification accuracy greater than 99%
- No visible disruption during signal switching

This ensures continuous operation and eliminates single-point failures across the installation.

Auto-Addressing

Fixtures require no manual addressing or pre-configuration. Each unit automatically interprets incoming data, allowing for flexible installation and simplified maintenance.

- Plug-and-play installation
- No addressing sequence required
- Fixtures can be installed in any order

This significantly reduces installation time and minimises the risk of configuration errors.

High-Speed Communication

X-Stream® supports high-speed PWM data transmission, enabling smooth and dynamic lighting effects across long runs.

- Transmission speeds: 800 Kbps and 1.6 Mbps
- Supports high frame rates and fast data refresh
- Capable of filming environments up to 533 FPS without flicker
- Stable performance regardless of frame frequency

This ensures high-quality visual output suitable for media façades, dynamic content, and camera-facing applications.

Advanced Dimming Performance

The system supports multiple dimming resolutions, delivering precise brightness control and smooth transitions across the full output range.

- 8 / 12 / 14 / 16-bit dimming options
- Up to 65,536 levels of greyscale
- Built-in gamma correction (8-bit to 16-bit equivalent)
- Seamless dimming from 0% to 100%

High refresh rates (up to 16 kHz) further ensure stable, flicker-free performance and accurate colour rendering.

Signal Integrity & Reliability

X-Stream® integrates advanced anti-interference and signal enhancement technologies to maintain reliable communication in challenging environments

- S-AI anti-interference technology reduces radiation and conduction interference
- Enhanced signal receiving and transmission stability
- Consistent performance across varying environmental conditions
- Extended standard spacing between fixtures (>15 m)

These features ensure robust operation in large-scale and electrically complex installations.

Data Booster Technology

To support extended installation distances, X-Stream® incorporates data boosting capabilities both within fixtures and via external booster units.

- Extends communication distance up to 100 m between fixtures
- Maintains signal integrity over long data runs
- Supports large-scale linear and distributed installations

This allows for greater design flexibility without compromising system performance.

Long-Distance Power Distribution

X-Stream® systems are designed to support extended power runs through intelligent power management and integrated hardware.

- AC fixtures with built-in, replaceable power supplies
- High power factor for efficient energy distribution
- Managed startup and inrush current control
- Smart load regulation for stable operation
- Supports continuous runs of up to 96 m of linear product

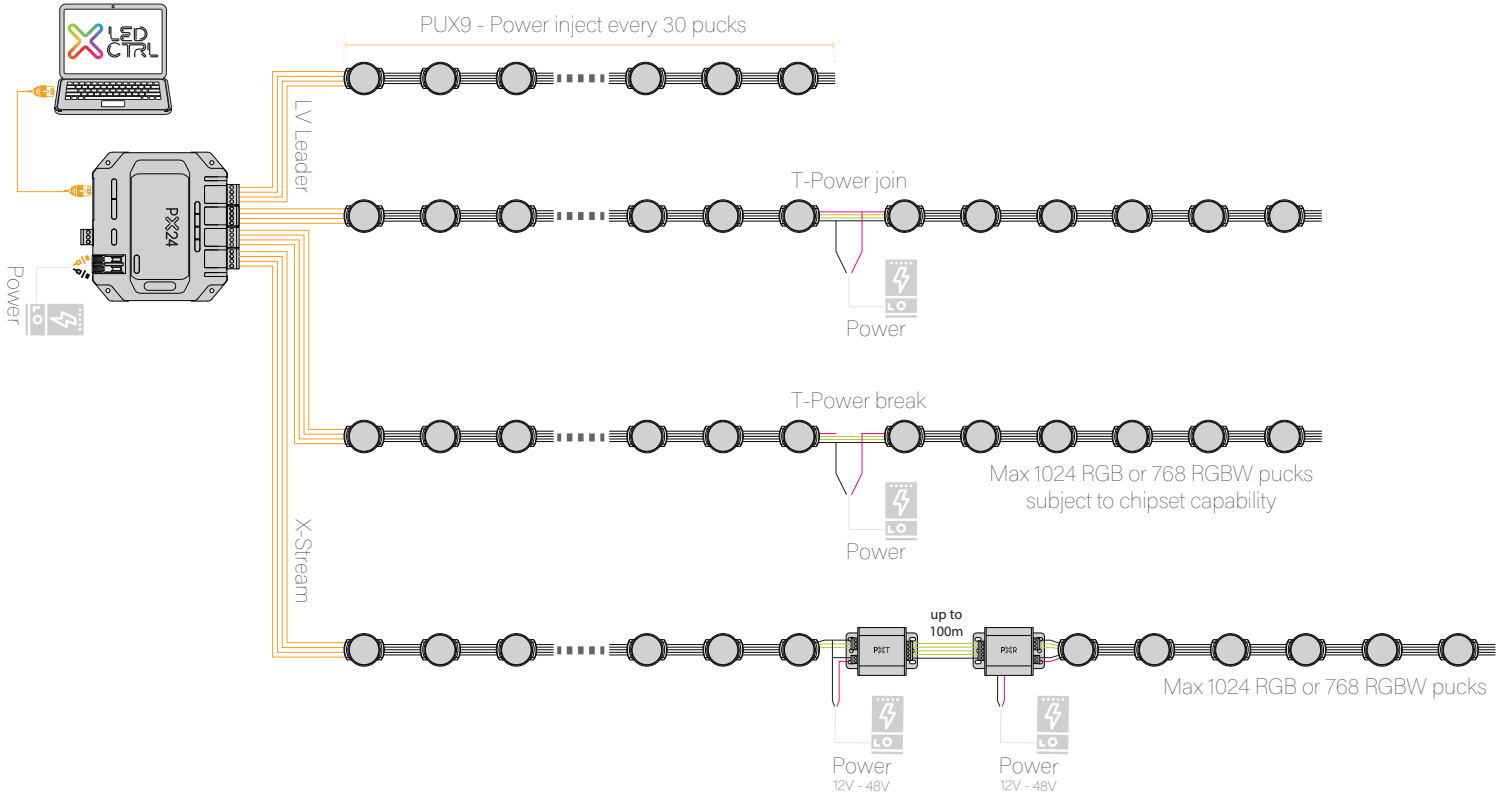
This ensures reliable power delivery across extended fixture runs while maintaining system safety and efficiency.

System Overview

By combining high-speed communication, intelligent redundancy, and advanced signal processing, X-Stream® Technology enables the creation of large-scale, high-performance lighting systems with minimal installation complexity and maximum operational reliability.

Its integration of the UCS7604 chipset ensures that each fixture operates with precision, consistency, and resilience, making it suitable for demanding architectural, façade, and media lighting applications.

WIRING DIAGRAM



PIXEL PUCK SERIES | ARCHITECTURAL PIXEL PUCK

FIXTURE RENDERERS

PUX6 FIXTURE RENDERERS – LENS TYPES

3mm Flat Lens



5mm Flat Lens



10mm Flat Lens



Small Dome Lens



High Tall Lens



Crystal Lens



PUX4 FIXTURE RENDERERS – MOUNTING TYPES

3M Mount



Clip Mount



Face Mount



Screw Mount



Surface Mount



U-Channel Mount

