LINEAR BAR SERIES | DIRECT VIEW LINEAR PIXEL BAR

The LXB is a high-performance architectural lighting system designed to solve the challenges of lighting building façades for both retrofit and new builds.

Utilising LED CTRL's X-Stream technology, it supports runs of up to 96 meters on a single power and data feed, simplifying installation and reducing building penetrations.

Installation is fast and easy using push-lock cable connectors and quick-lock mounting channel. The LXB's robust design ensures reliability and long-term consistent performance.



At a glance

Emitters



Connector/Cable Specs



Controls

X-Stream

Voltage

100 to 277V AC
50/60Hz
Integral PSU

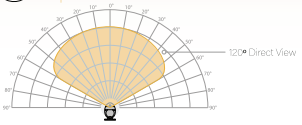
Protection

Ingress – IP66
Impact – IK07

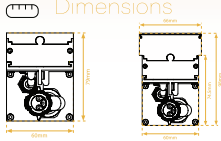
Temperature

-20°C to 50°C
-4°F to 122°F

Optics



Dimensions



FIXTURE PRODUCT CONFIGURATOR

Prefix	Model	Pixels / m	Length	LED Colour	White CCT	Control	Voltage	Housing Colour	Diffuser	Mounting
LXB	F – Façade R – Roofline	1 – 1pixel/m 2 – 2pixels/m 3 – 3pixels/m 4 – 4pixels/m 5 – 5pixels/m 6 – 6pixels/m 7 – 7pixels/m 8 – 8pixels/m	1500 – 1500mm 500 – 500mm C – Custom *eg: C – C#1250 Custom length dictated by pixel density *if pixels = 8 and length = 1500mm, total pixels = 12	RGBW RGBA RGB DW – Dynamic White (20K - 50K) W – White	24K – 2400K 27K – 2700K 30K – 3000K 35K – 3500K 40K – 4000K 50K – 5000K 60K – 6000K	P – PWM XB – X-Stream Booster X – X-Stream XB Booster lives in the inside of the product. Refer to PXT/R page for differences between X and XB.	AC – 100-277V AC	A – Anodised Aluminium S – Silver B – Black W – White C – Custom RAL	GF – Glass Frosted PC – PMMA Charcole PF – PMMA Frosted	S – Straight C – Corner

EXAMPLE: LXB - F - 8 - 1500 - RGBW - 30K - X - AC - PC - S

Note: Displayed options reflect standard stocked configurations. Customised fixtures (e.g. curved runs, corners, and bespoke geometries) can be manufactured subject to drawings and approval — Refer to page 14 for more information.

CHANNEL AND ACCESSORIES PRODUCT CONFIGURATOR

Prefix	Model	Length	Housing Colour	Mounting	Accessories
LXB	C – Channel	1500 – 1500mm 3000 – 3000mm C – Custom *eg: C – C#1250	A – Aluminium S – Silver B – Black W – White C – Custom RAL *eg: C – C#HEXnumber	S – Straight C – Corner	BL – Blanking Channel CS – Channel Slot EC – End Cap *if no accessories needed, do not select

EXAMPLE: LXB - C – 1500 – A – S – BL

Prefix	Cables	Cable Length	Caps	Accessories
LXB	LC – Leader Cable JC – Joiner Cable RC – Raw Cable	50 – ≤100 metres *custom length cabling, minimum 0 metres, maximum 100 metres	EC – End Cap	JB – Jbox *if no accessories needed, do not select

EXAMPLE: LXB - LC - 50 – EC – JB

CHANNEL OPTIONS

LXB Channel, 1500mm, Aluminium, Straight, Blanking Channel LXB-C-1500-A-S-BC
LXB Channel, 1500mm, Aluminium, Straight, Channel Slot LXB-C-1500-A-S-CS
LXB Channel, 1500mm, Aluminium, Straight, End Cap LXB-C-1500-A-D-EC
LXB Channel, 1500mm, Aluminium, Corner, Blanking Channel LXB-C-1500-A-C-BC
LXB Channel, 1500mm, Aluminium, Corner, Channel Slot LXB-C-1500-A-C-CS
LXB Channel, 1500mm, Aluminium, Corner, End Cap LXB-C-1500-A-C-EC
LXB Channel, 3000mm, Aluminium, Straight, Blanking Channel LXB-C-3000-A-S-BC
LXB Channel, 3000mm, Aluminium, Straight, Channel Slot LXB-C-3000-A-S-CS
LXB Channel 3000mm, Aluminium, Straight, End Cap LXB-C-3000-A-S-EC
LXB Channel, 3000mm, Aluminium, Corner, Blanking Channel LXB-C-3000-A-C-BC
LXB Channel, 3000mm, Aluminium, Corner, Channel Slot LXB-C-3000-A-C-CS
LXB Channel 3000mm, Aluminium, Corner, End Cap LXB-C-3000-A-C-EC
LXB Channel, Custom, Aluminium, Straight, Blanking Channel ..... LXB-C-C#750-A-S-BC
LXB Channel, Custom, Aluminium, Straight, Channel Slot ..... LXB-C-C#750-A-S-CS
LXB Channel, Custom, Aluminium, Straight, End Cap ..... LXB-C-C#750-A-S-EC
LXB Channel, Custom, Aluminium, Corner, Blanking Channel ..... LXB-C-C#500-A-C-BC
LXB Channel, Custom, Aluminium, Corner, Channel Slot ..... LXB-C-C#500-A-C-CS
LXB Channel Custom, Aluminium, Corner, End Cap ..... LXB-C-C#500-A-C-EC

FIXTURE ACCESSORIES

LXB Fixture, Leader Cable, e.g. 50 metre, End cap, Jbox LXB-LC-50M-EC-JB
LXB Fixture, Joiner Cable, e.g. 50 metre, End cap, Jbox LXB-JC-50M-EC-JB
LXB Fixture, Raw Cable, e.g. 50 metre, End cap, Jbox LXB-RC-50-EC-JB
LXB Fixture, Leader Cable, e.g. 50 metre, End cap LXB-LC-50M-EC
LXB Fixture, Joiner Cable, e.g. 50 metre, End cap LXB-JC-50M-EC
LXB Fixture, Raw Cable, e.g. 50 metre, End cap LXB-RC-60M-EC
LXB Fixture, Leader Cable, e.g. 50 metre, Jbox LXB-LC-50M-JB
LXB Fixture, Joiner Cable, e.g. 50 metre, Jbox LXB-JC-50M-JB
LXB Fixture, Raw Cable, e.g. 50 metre, Jbox LXB-RC-50M-JB
LXB Fixture, Leader Cable, e.g. 50 metre LXB-LC-50M
LXB Fixture, Joiner Cable, e.g. 50 metre LXB-JC-50M
LXB Fixture, Raw Cable, e.g. 50 metre LXB-RC-50M

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LINEAR BAR SERIES | DIRECT VIEW LINEAR PIXEL BAR

LXB SPECIFICATIONS STANDARD & ROOFLINE

ELECTRICAL	POWER CONSUMPTION	14W PER METRE /FIXED, STANDARD CONFIGURATION
	POWER AND DATA THROUGH WIRING	IP66 PUSH LOCK CONNECTORS
	RATED CURRENT	0.583A
	INRUSH CURRENT	0.2MA/M
	LEAKAGE CURRENT	0.75MA @ 277V AC / 60HZ
	OPERATING VOLTAGE	100-277V AC, 50/60HZ INTEGRAL PSU
	OPERATING TEMPERATURE	-20°C TO 50°C (-4°F TO 122°F)
PHYSICAL (STANDARD FIXTURE)	STANDARD FIXTURE DIMENSIONS	L: 1500MM – W: 60MM – H: 79MM
	STANDARD FIXTURE DIMENSIONS WITH CHANNEL	L: 1500MM – W: 66MM – H: 91MM
	FIXTURE WEIGHT	4.45KG (1500MM FIXTURE) – 8.90KG (2 X 1500MM FIXTURE)
	FIXTURE + CHANNEL WEIGHT	15.55KG (2 X 1500MM FIXTURE + 3000MM CHANNEL)
	CONNECTORS	MULTIPIN IP68 CONNECTORS
	IP RATING	IP66
	SOURCE LIFE	50,000 HOURS/L70 AT 25°C
	MAXIMUM RUN LENGTHS	96M @8PIXELS/M – 6 UNIVERSES (STANDARD MODE) 48M @8PIXELS/M – 3 UNIVERSES (EXPANDED MODE)
	CABLE LENGTH	UP TO 100M LEADER, JOINER, AND RAW CABLE
	LED ARRANGEMENT	DOUBLE IN-LINE ARRANGEMENT (STANDARD WHITE PMMA DIFFUSER) TRIPLE IN-LINE ARRANGEMENT (BLACK PMMA DIFFUSER)
	MOUNTING OPTIONS	STRAIGHT OR CORNER
	CABLE TYPES	LEADER CABLE, JOINER CABLE, RAW CABLE
	ACCESSORIES	END CAP, JBOX
PHYSICAL (ROOFLINE FIXTURE)	ROOFLINE FIXTURE DIMENSIONS	L: 1500MM – W: 66MM – H: 98MM
	ROOFLINE FIXTURE DIMENSIONS WITH CHANNEL	L: 1500MM – W: 66MM – H: 110MM
	FIXTURE WEIGHT	TBC
	FIXTURE + CHANNEL WEIGHT	TBC
	CONNECTORS	MULTIPIN IP68 CONNECTORS
	IP RATING	IP66
	SOURCE LIFE	50,000 HOURS/L70 AT 25°C
	MAXIMUM RUN LENGTHS	96M @8PIXELS/M – 6 UNIVERSES (STANDARD MODE) 48M @8PIXELS/M – 3 UNIVERSES (EXPANDED MODE)
	CABLE LENGTH	UP TO 100M LEADER, JOINER, AND RAW CABLE
	LED ARRANGEMENT	DOUBLE IN-LINE ARRANGEMENT (STANDARD WHITE PMMA DIFFUSER) TRIPLE IN-LINE ARRANGEMENT (BLACK PMMA DIFFUSER)
	MOUNTING OPTIONS	STRAIGHT OR CORNER
	CABLE TYPES	LEADER CABLE, JOINER CABLE, RAW CABLE
	ACCESSORIES	END CAP, JBOX
PHYSICAL (CHANNEL)	CHANNEL DIMENSIONS	L: 3000MM – W: 66MM – H: 91MM
	CONSTRUCTION HOUSING	ALUMINIUM BODY + PMMA OR GLASS DIFFUSER
	CHANNEL WEIGHT	3.325KG (1500MM CHANNEL) – 6.65KG (3000MM CHANNEL)
	IK RATING	IK07
	CHANNEL COLOUR FINISH	ANODISED BRUSHED ALUMINIUM, SILVER, BLACK, WHITE, CUSTOM RAL
	MOUNTING OPTIONS	STRAIGHT OR CORNER
	ACCESSORIES	BLANKING CHANNEL, CHANNEL SLOT, END CAP
OPTICAL	BEAM ANGLE	120° – DIRECT VIEW
	COLOUR RANGE	WHITE (2400K, 2700K, 3000K, 3500K, 4000K, 5000K, 6000K), RGB, RGBA, DYNAMIC WHITE (2000K – 5000K)
	ACCURATE COLOUR CONTROL	RGBW CONFIGURATIONS WITH SELECTABLE CCT
	LED TYPE	SMD LED – TRI OR QUAD CHIP
	CRI	80
	PIXEL RESOLUTION	STANDARD 8 PIXELS/M
DIMMING & CONTROL	CONTROL PROTOCOLS	X-STREAM PROTOCOL WITH DATA REDUNDANCY AND SPI, DMX
	DIMMING RESOLUTION	8 BIT RESOLUTION DOING 65536 STEP WITH BUILT-IN GAMMA 2.2, 12-BIT, 14-BIT, 16-BIT.
FIXTURE RATING & CERTIFICATIONS	CAS Fire / EMC / LVD / IP66	CE EMC
LIMITED WARRANTY	5 YEARS *Extendable warranty available	5

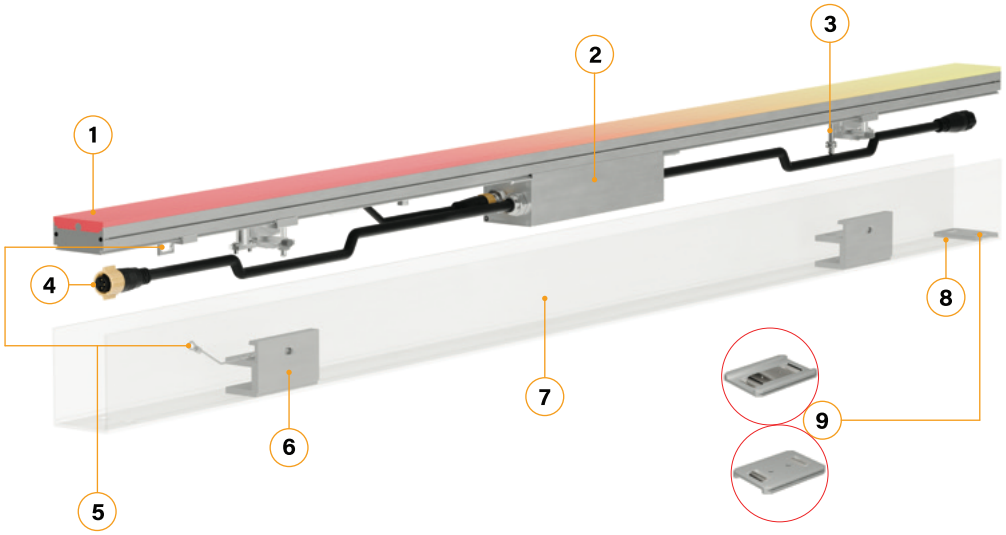
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LXB GLASS SPECIFICATIONS STANDARD & ROOFLINE

ELECTRICAL	POWER CONSUMPTION	14W PER METRE /FIXED, STANDARD CONFIGURATION
	POWER AND DATA THROUGH WIRING	IP66 PUSH LOCK CONNECTORS
	RATED CURRENT	0.583A
	INRUSH CURRENT	0.2MA/M
	LEAKAGE CURRENT	0.75MA @277V AC/60HZ
	OPERATING VOLTAGE	100-277V AC, 50/60HZ INTEGRAL PSU
	OPERATING TEMPERATURE	-20°C TO 50°C (-4°F TO 122°F)
PHYSICAL (STANDARD FIXTURE)	STANDARD FIXTURE DIMENSIONS	L: 1500MM – W: 60MM – H: 79MM
	STANDARD FIXTURE DIMENSIONS WITH CHANNEL	L: 1500MM – W: 66MM – H: 91MM
	FIXTURE WEIGHT	4.45KG (1500MM FIXTURE) – 8.90KG (2 X 1500MM FIXTURE)
	FIXTURE + CHANNEL WEIGHT	15.55KG (2 X 1500MM FIXTURE + 3000MM CHANNEL)
	CONNECTORS	MULTIPIN IP68 CONNECTORS
	IP RATING	IP66
	SOURCE LIFE	50,000 HOURS/L70 AT 25°C
	MAXIMUM RUN LENGTHS	96M @8PIXELS/M – 6 UNIVERSES (STANDARD MODE) 48M @8PIXELS/M – 3 UNIVERSES (EXPANDED MODE)
	CABLE LENGTH	UP TO 100M LEADER, JOINER, AND RAW CABLE
	LED ARRANGEMENT	DOUBLE IN-LINE ARRANGEMENT (STANDARD WHITE PMMA DIFFUSER) TRIPLE IN-LINE ARRANGEMENT (BLACK PMMA DIFFUSER)
	MOUNTING OPTIONS	STRAIGHT OR CORNER
	CABLE TYPES	LEADER CABLE, JOINER CABLE, RAW CABLE
	ACCESSORIES	END CAP, JBOX
PHYSICAL (ROOFLINE FIXTURE)	ROOFLINE FIXTURE DIMENSIONS	L: 1500MM – W: 66MM – H: 98MM
	ROOFLINE FIXTURE DIMENSIONS WITH CHANNEL	L: 1500MM – W: 66MM – H: 110MM
	FIXTURE WEIGHT	TBC
	FIXTURE + CHANNEL WEIGHT	TBC
	CONNECTORS	MULTIPIN IP68 CONNECTORS
	IP RATING	IP66
	SOURCE LIFE	50,000 HOURS/L70 AT 25°C
	MAXIMUM RUN LENGTHS	96M @8PIXELS/M – 6 UNIVERSES (STANDARD MODE) 48M @8PIXELS/M – 3 UNIVERSES (EXPANDED MODE)
	CABLE LENGTH	UP TO 100M LEADER, JOINER, AND RAW CABLE
	LED ARRANGEMENT	DOUBLE IN-LINE ARRANGEMENT (STANDARD WHITE PMMA DIFFUSER) TRIPLE IN-LINE ARRANGEMENT (BLACK PMMA DIFFUSER)
	MOUNTING OPTIONS	STRAIGHT OR CORNER
	CABLE TYPES	LEADER CABLE, JOINER CABLE, RAW CABLE
	ACCESSORIES	END CAP, JBOX
PHYSICAL (CHANNEL)	CHANNEL DIMENSIONS	L: 3000MM – W: 66MM – H: 91MM
	CONSTRUCTION HOUSING	ALUMINIUM BODY + PMMA OR GLASS DIFFUSER
	CHANNEL WEIGHT	3.325KG (1500MM CHANNEL) – 6.65KG (3000MM CHANNEL)
	IK RATING	IK07
	CHANNEL COLOUR FINISH	ANODISED BRUSHED ALUMINIUM, SILVER, BLACK, WHITE, CUSTOM RAL
	MOUNTING OPTIONS	STRAIGHT OR CORNER
	ACCESSORIES	BLANKING CHANNEL, CHANNEL SLOT, END CAP
OPTICAL	BEAM ANGLE	120° – DIRECT VIEW
	COLOUR RANGE	WHITE (2400K, 2700K, 3000K, 3500K, 4000K, 5000K, 6000K), RGB, RGBA, DYNAMIC WHITE (2000K – 5000K)
	ACCURATE COLOUR CONTROL	RGBW CONFIGURATIONS WITH SELECTABLE CCT
	LED TYPE	SMD LED – TRI OR QUAD CHIP
	CRI	80
	PIXEL RESOLUTION	STANDARD 8 PIXELS/M
DIMMING & CONTROL	CONTROL PROTOCOLS	X-STREAM PROTOCOL WITH DATA REDUNDANCY AND SPI, DMX
	DIMMING RESOLUTION	8 BIT RESOLUTION DOING 65536 STEP WITH BUILT-IN GAMMA 2.2, 12-BIT, 14-BIT, 16-BIT.
FIXTURE RATING & CERTIFICATIONS	CASFire / EMC / LVD / IP66	CE IP EMC
LIMITED WARRANTY	5 YEARS *Extendable warranty available	5

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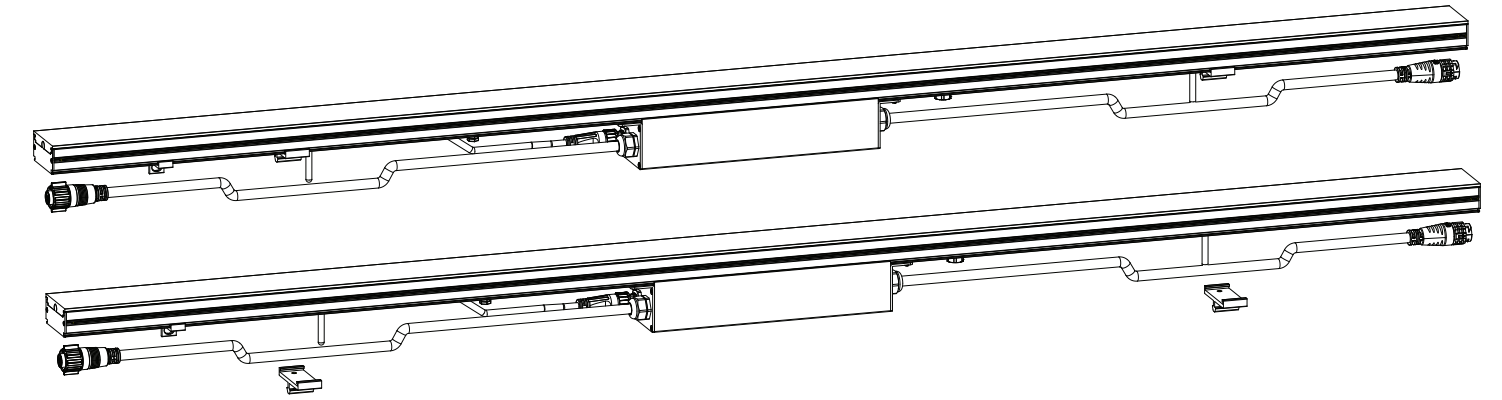
A CLOSER LOOK AT THE PRODUCT

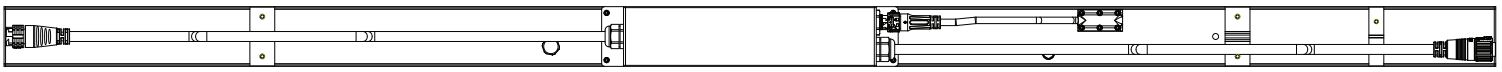


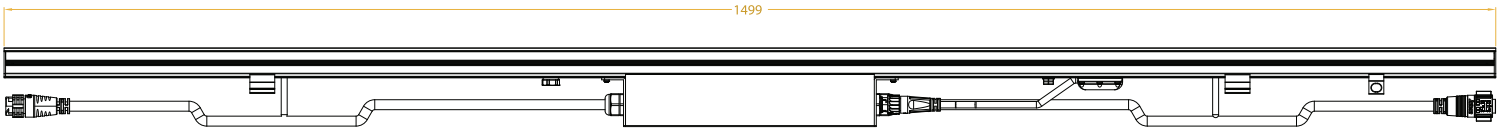
1. PMMA DIFFUSER
2. REMOVABLE PSU/CONTROL UNIT
3. LOCATING PIN
4. IP68 PUSH LOCK CONNECTORS
5. FALL ARREST BACKUP (2 PARTS)
6. QUICK INSTALL LOCK MECHANISM
7. LXB MOUNTING CHANNEL
8. CHANNEL ALIGNMENT SLOT
9. CHANNEL ALIGNMENT ACCESSORY

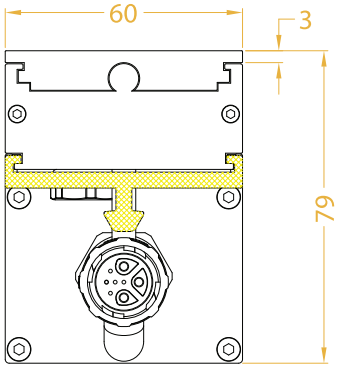
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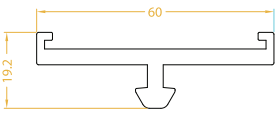
LXB STANDARD DIMENSIONS







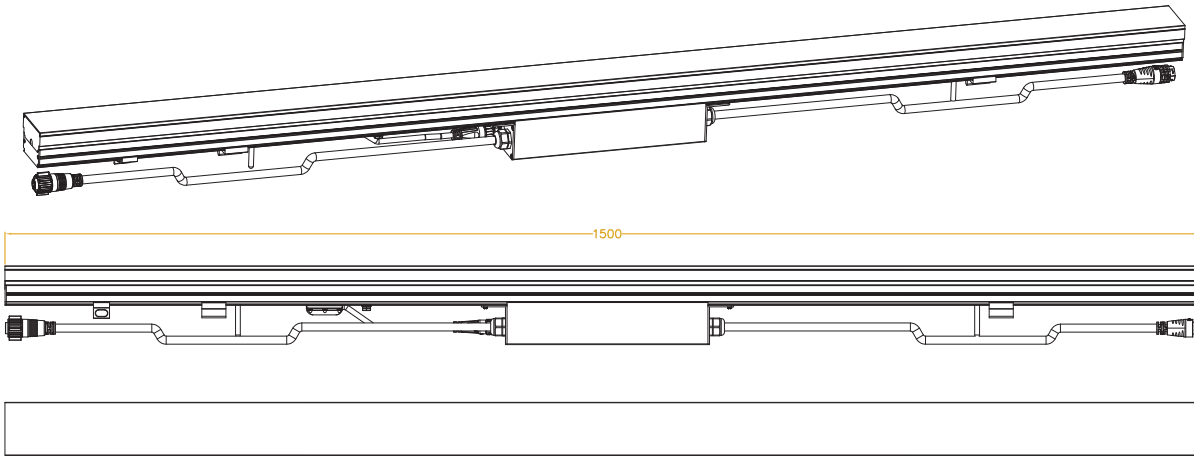


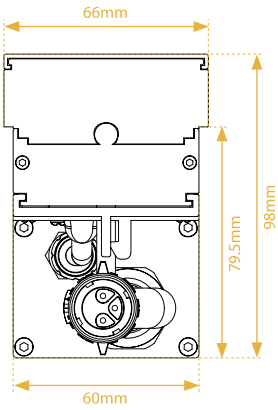


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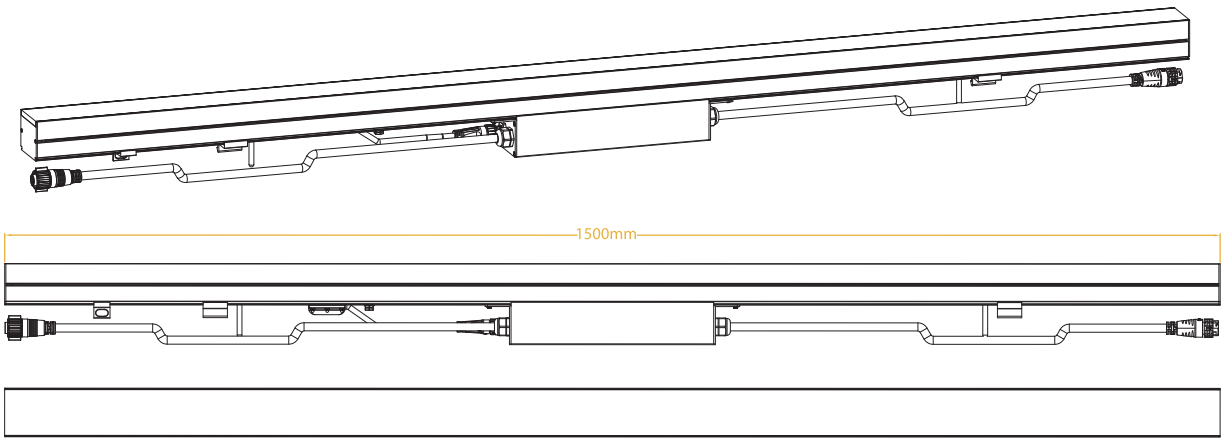
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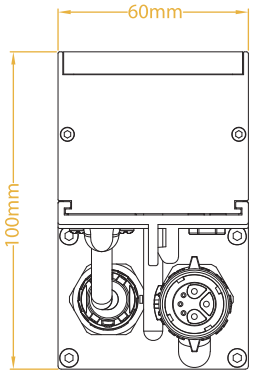
LXB ROOFLINE DIMENSIONS





LXB GLASS STANDARD DIMENSIONS



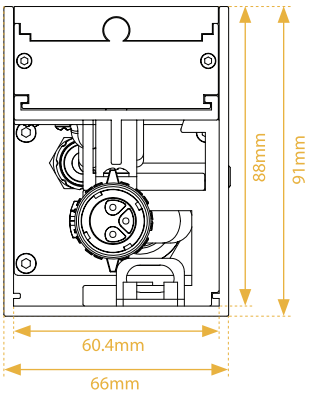


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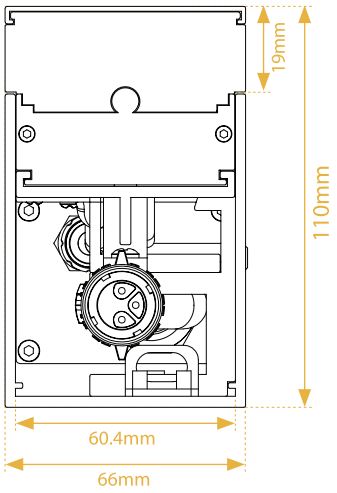
FIXTURES WITH CHANNEL DIMENSIONS

LXB FIXTURE DIMENSIONS WITH CHANNEL

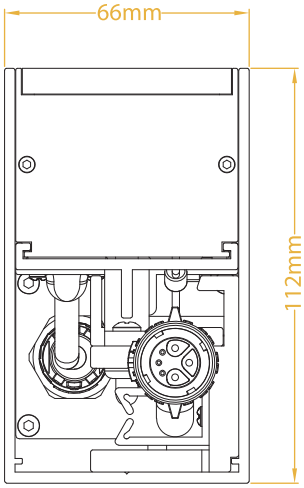
LXB STANDARD



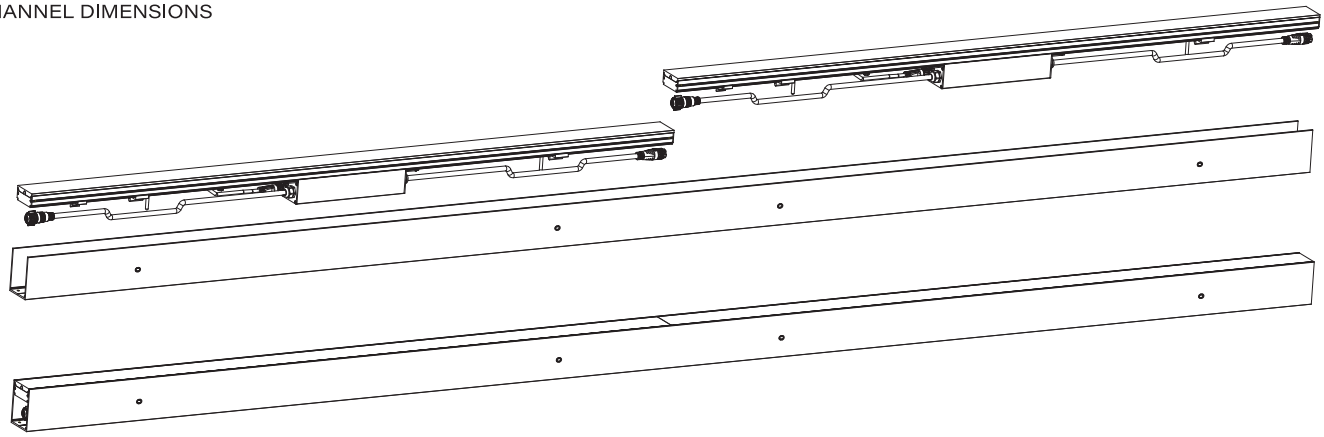
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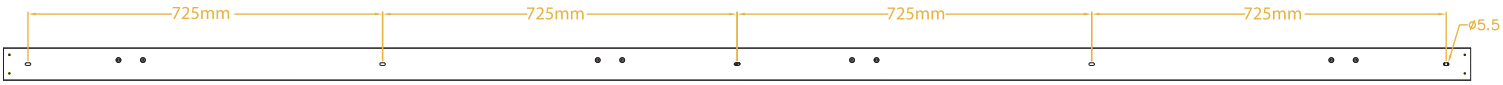


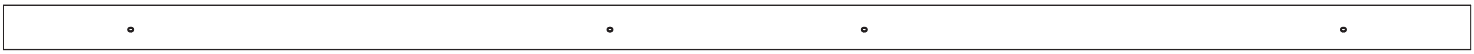
LXB GLASS STANDARD

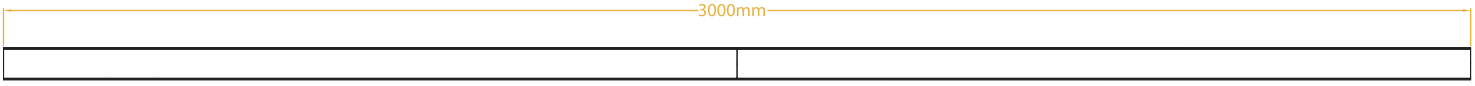


LXB CHANNEL DIMENSIONS



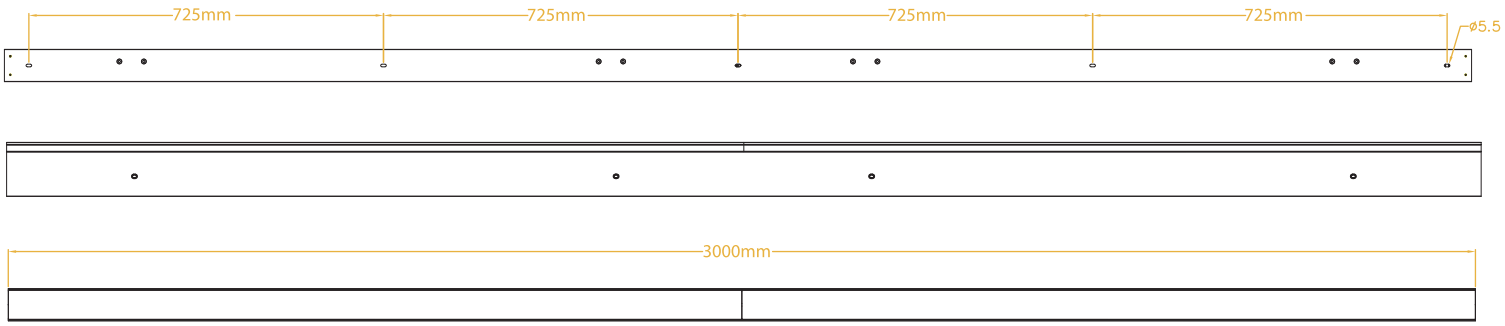


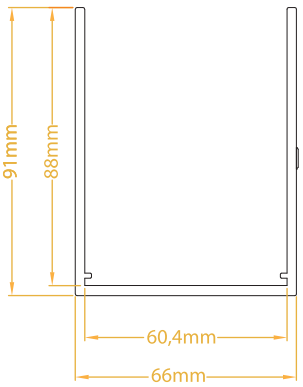




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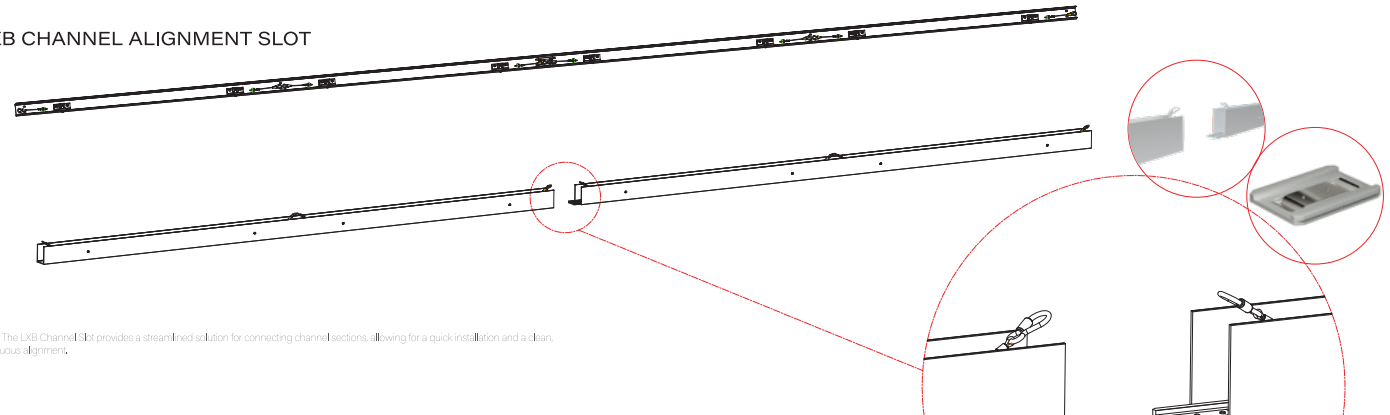
CHANNEL DIMENSIONS



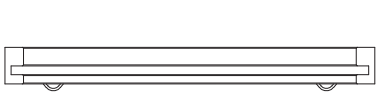


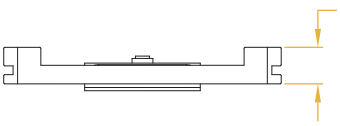
CHANNEL ACCESSORIES

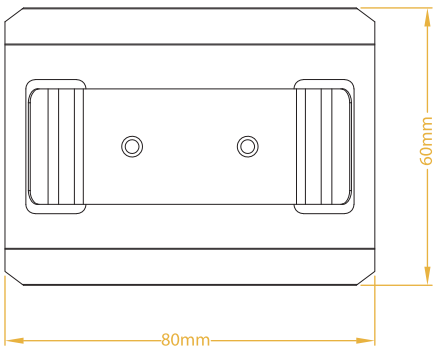
LXB CHANNEL ALIGNMENT SLOT

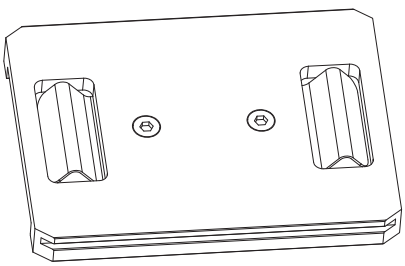


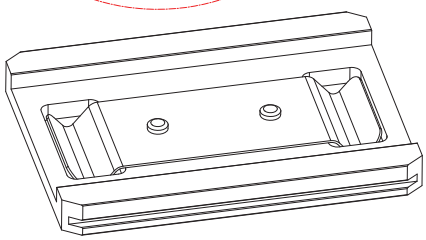
*Note: The LXB Channel Slot provides a streamlined solution for connecting channel sections, allowing for a quick installation and a clean, continuous alignment.







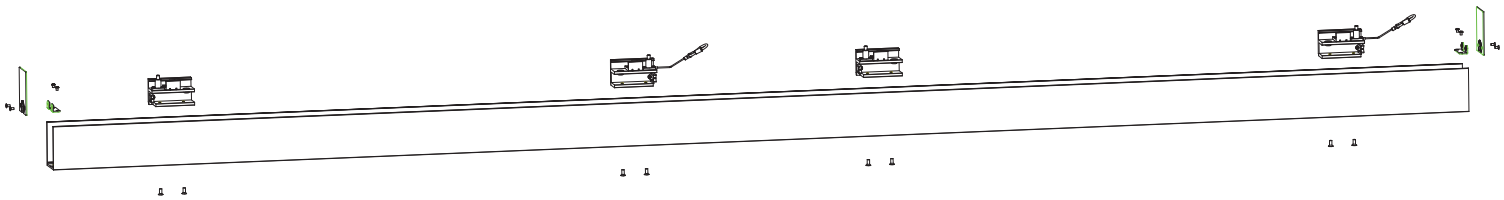




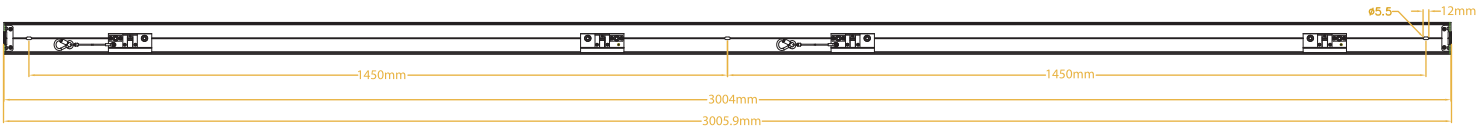
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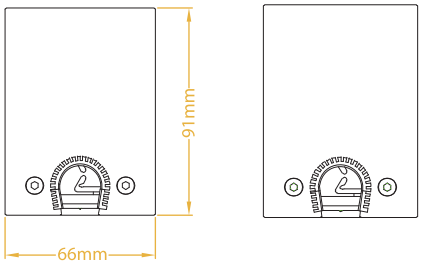
LINEAR BAR SERIES | DIRECT VIEW LINEAR PIXEL BAR

LXB END CAP



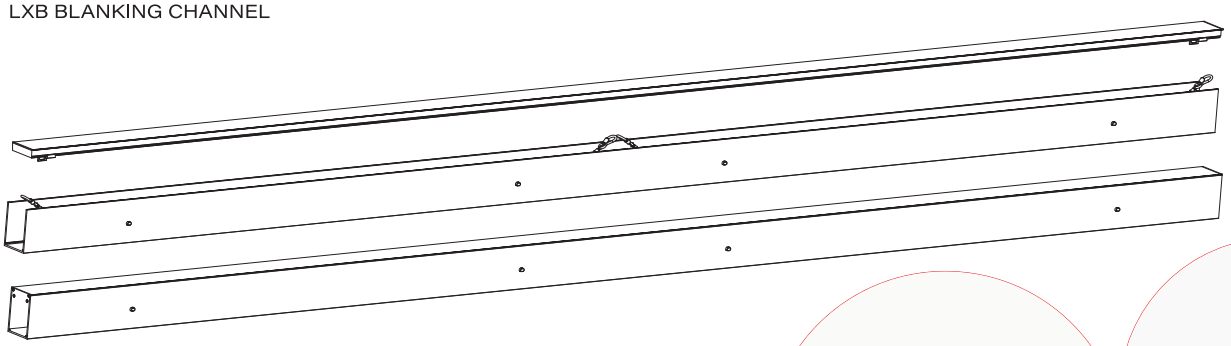


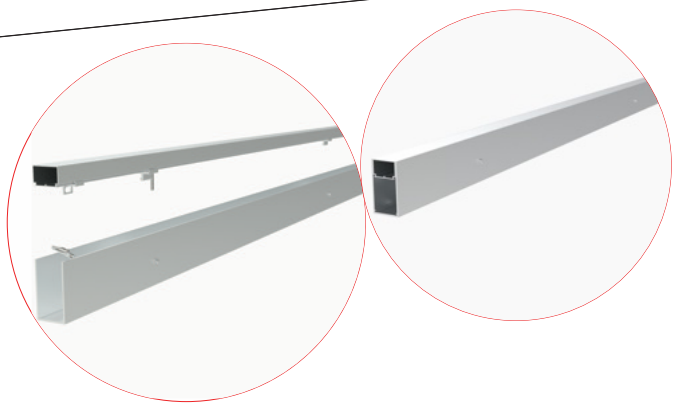




*Note: The LXB End Cap is used to complete the fixture run, providing a clean termination detail. It includes an integrated opening that allows for controlled water ingress and drainage, ensuring any moisture is efficiently released from a single designated point.

LXB BLANKING CHANNEL



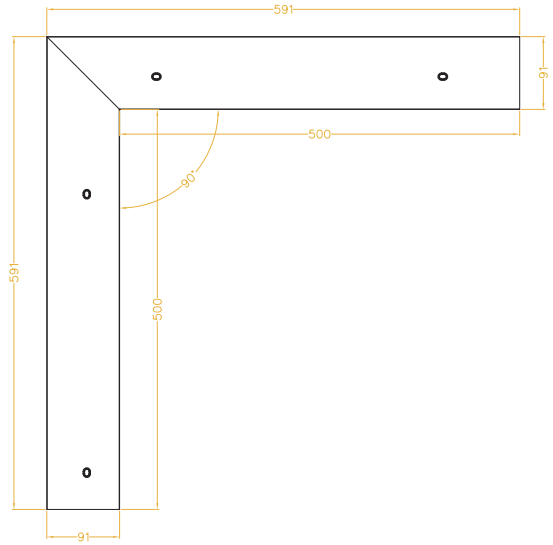


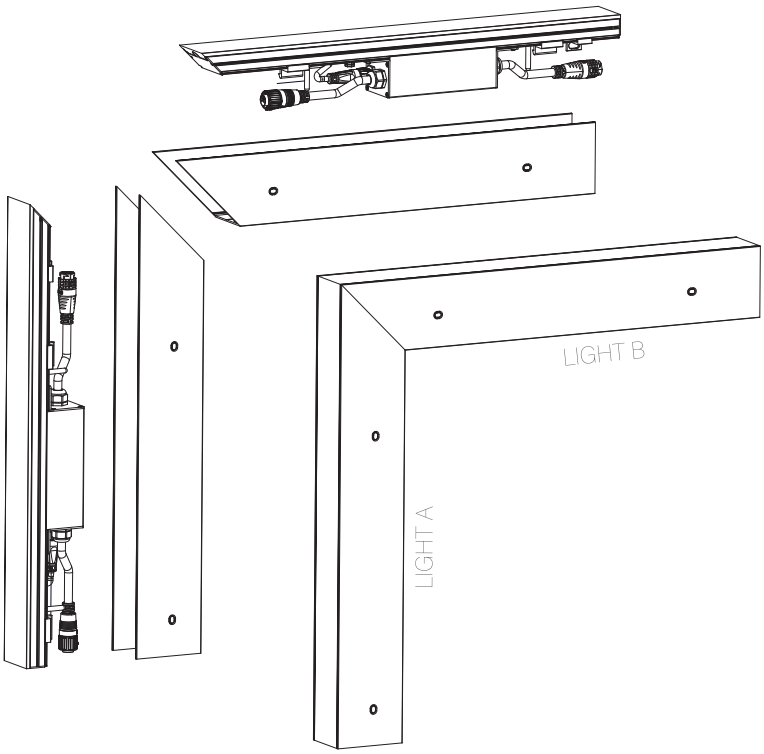
*Note: The blanking channel enables the connection of fixtures without exposing interconnecting cables, resulting in a cleaner, more symmetrical appearance and an overall improved visual finish for the installation.

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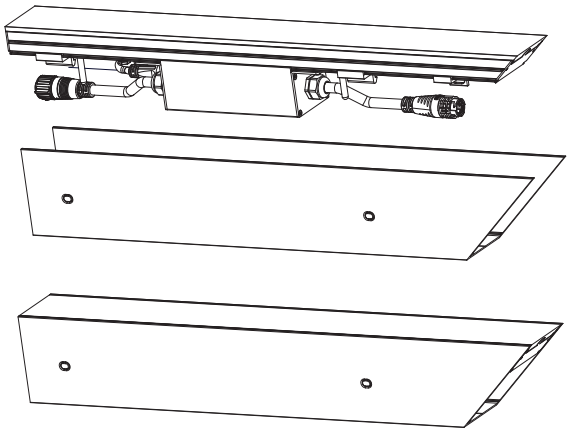
CHANNEL MOUNTING OPTIONS

CORNER PIECES

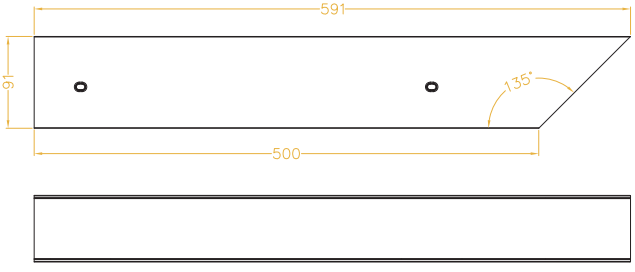


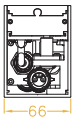


LIGHT A

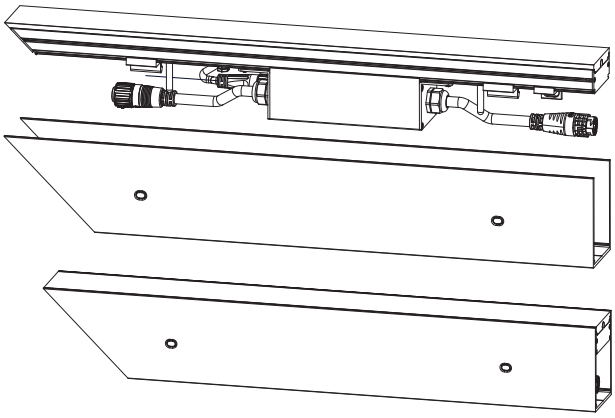


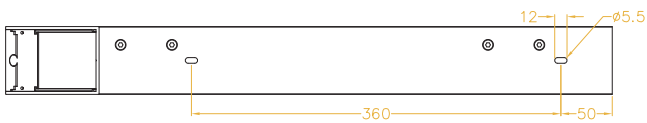


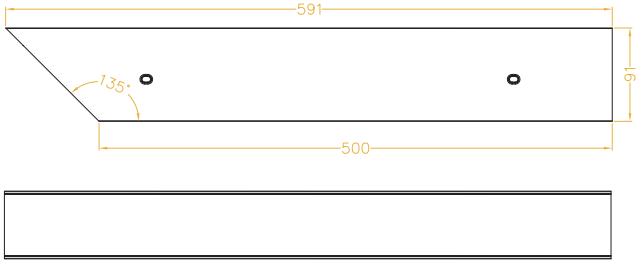




LIGHT B





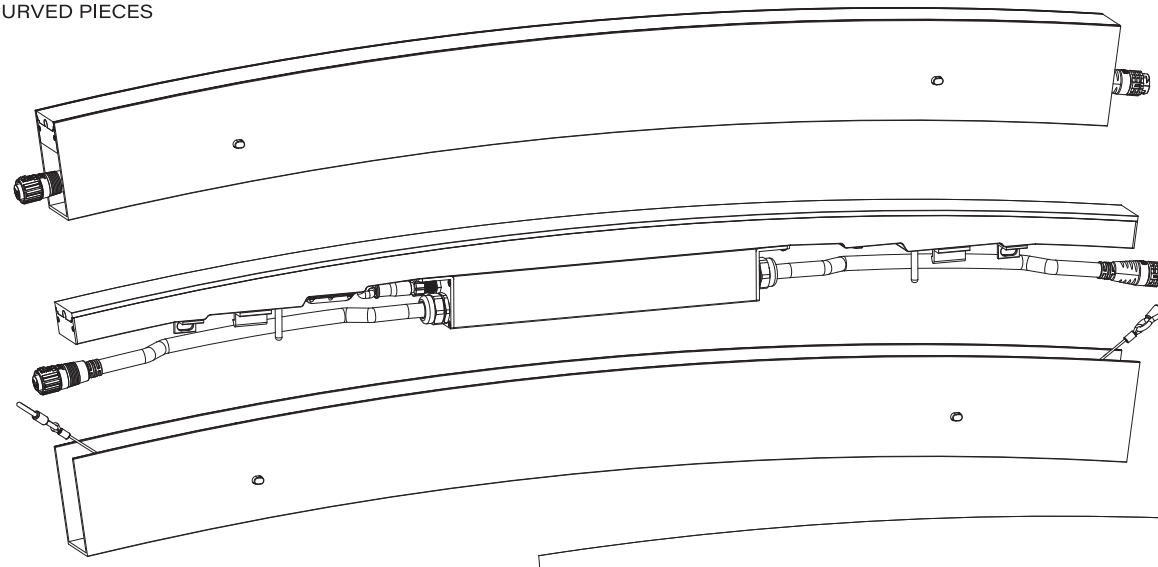


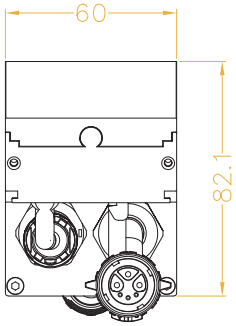
*Note: Corner pieces can be tailored to meet specific project requirements, with customisation available in length, angle, and configuration to ensure seamless integration within the overall installation.

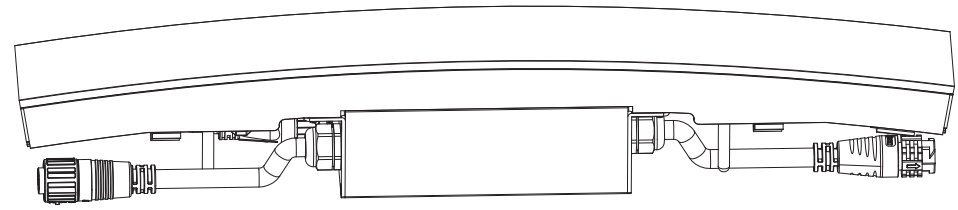
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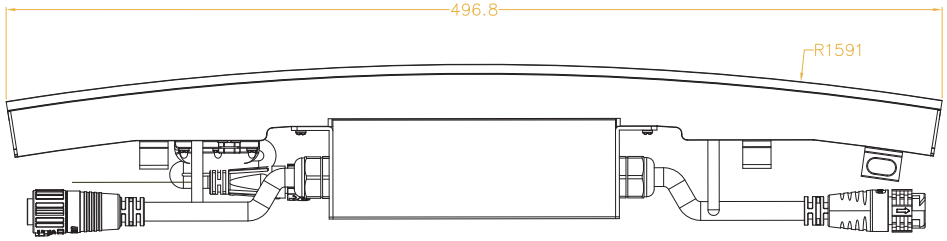
LINEAR BAR SERIES | DIRECT VIEW LINEAR PIXEL BAR

CURVED PIECES

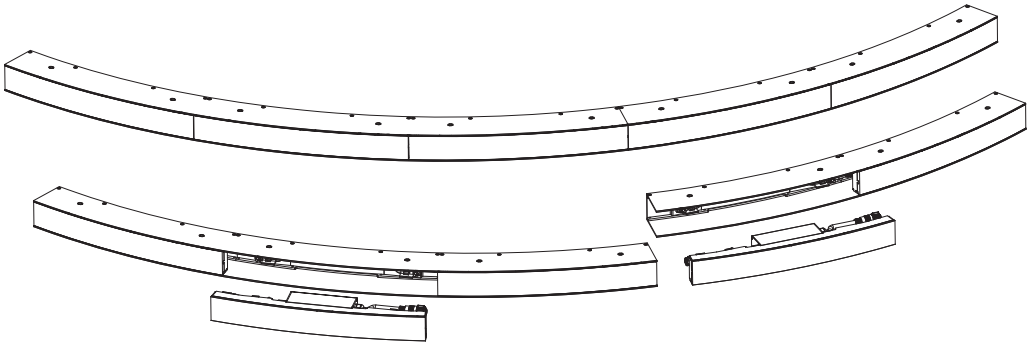


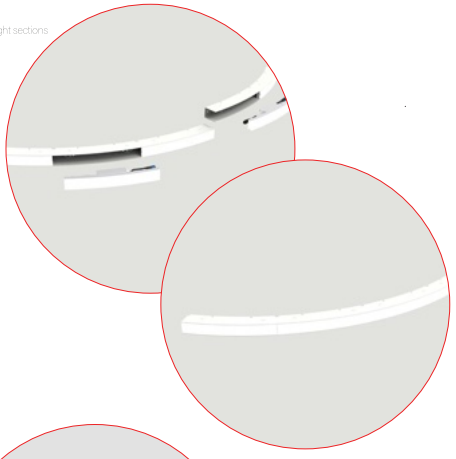




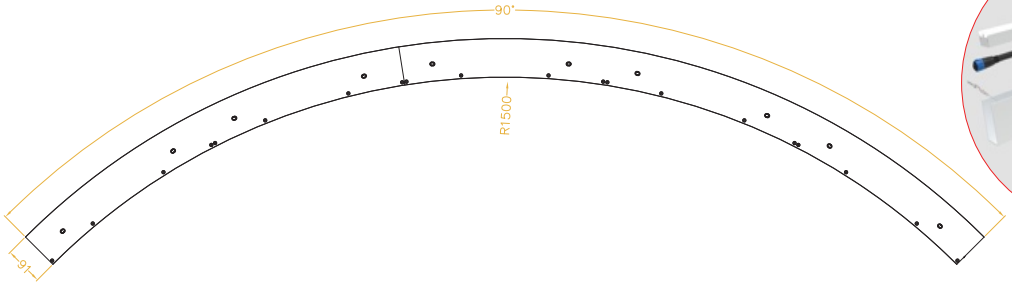


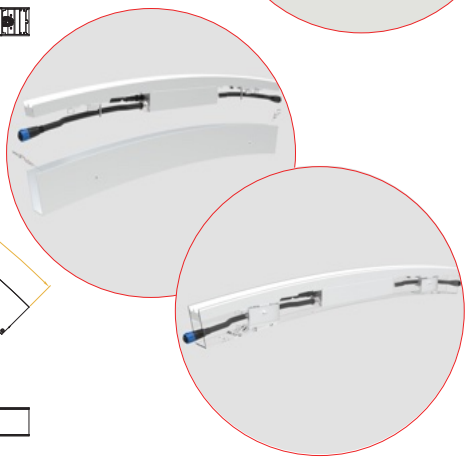
*Note: Curved sections are available upon request and can be custom manufactured to meet specific project requirements. While not part of the standard LXB range, they can be produced where needed. The standard LXB offering includes straight sections and corner pieces, with corner configurations also being customisable on a per-project basis.

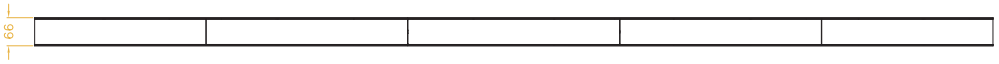












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CUSTOMISATION OPTIONS

The LXB system is designed with flexibility in mind, allowing it to adapt to a wide range of architectural and installation requirements. While the standard product offering is based on predefined configurations, a number of customisation options are available upon request to ensure accurate integration within each project.

These customisation capabilities are focused on three key areas: **fixture length and pixel configuration, corner geometry, and curved sections**.

1. Light / Channel Customisation

The standard LXB configuration is supplied at 1500 mm in length with 12 pixels. To accommodate different project requirements, the system can be manufactured in alternative lengths, with the pixel quantity adjusted proportionally to maintain consistent spacing, visual uniformity, and system performance.

As the fixture length is modified, the number of pixels scales accordingly to preserve the intended pixel pitch. This ensures that light output, resolution, and visual continuity remain consistent across installations.

Example:
- 1500 mm = 12 pixels
- 1000 mm = 8 pixels
- 500 mm = 4 pixels

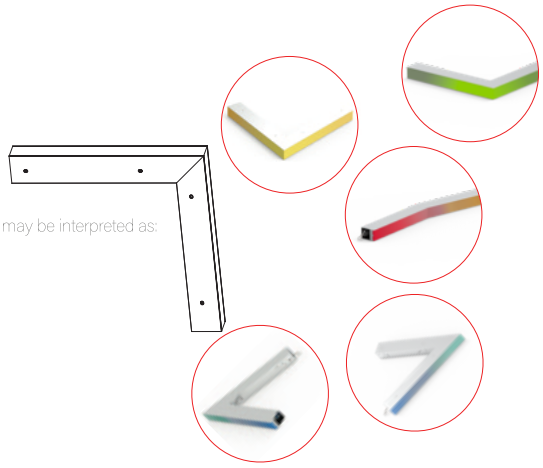
Custom lengths are particularly beneficial when aligning the system with façade modules, structural elements, or design-driven layouts. All configurations are subject to technical validation to ensure compatibility with control systems, power distribution, and installation requirements.

2. Corner Piece Customisation

Corner pieces allow the LXB system to follow directional changes within a layout and are available as a fully customisable option. Both the angle and the physical dimensions of the corner piece can be tailored to suit specific project geometries.

The angle is not limited to standard increments and can be defined according to the required design intent. In addition, the length of each leg of the corner piece can be adjusted to suit installation conditions and visual alignment requirements.

Key variables:
- Custom angle
- Direction of the turn
- Variable lengths (e.g. 200 mm, 500 mm, 2000 mm, etc.)



Important – Angle Direction

It is essential that the angle is defined not only by its numerical value, but also by its direction and geometric orientation.

The same angle can produce different physical outcomes depending on how it is applied within the layout. For example, a corner may be interpreted as:
- An internal or external angle
- A clockwise or counterclockwise turn
- An inward or outward transition within the fixture line

As a result, specifying only the angle value is not sufficient.

To ensure accurate manufacturing, the following must be clearly defined:
- Direction of the turn
- Internal or external angle interpretation
- Reference orientation within the layout

A dimensioned drawing or marked diagram is strongly recommended for all custom corner requests. Incorrect or unclear angle definition may result in the component being manufactured incorrectly and requiring replacement.

3. Curved Piece Customisation

Curved sections are available as a fully custom solution and are not part of the standard LXB product range, which consists of straight and corner sections only. As such, all curved configurations are developed specifically for each project.

The curvature can be tailored to suit the design intent, enabling smooth and continuous paths for applications requiring non-linear or flowing geometries. However, unlike straight or corner sections, curved solutions require careful consideration of both visual and technical requirements.

Curve Definition

Curved sections are defined based on:
- Radius of curvature
- Direction of the curve
- Overall geometry within the layout

Clear drawings or design documentation must be provided to ensure accurate fabrication.

System Integration

While the curve itself is customisable, the system must still accommodate key technical elements, including power injection, control distribution, cabling, and mounting requirements. For this reason, curved sections are typically developed as part of a complete system rather than a single continuous element.

Length and Configuration

The total length of a curved installation is determined by the project layout and is usually achieved through a combination of system components.

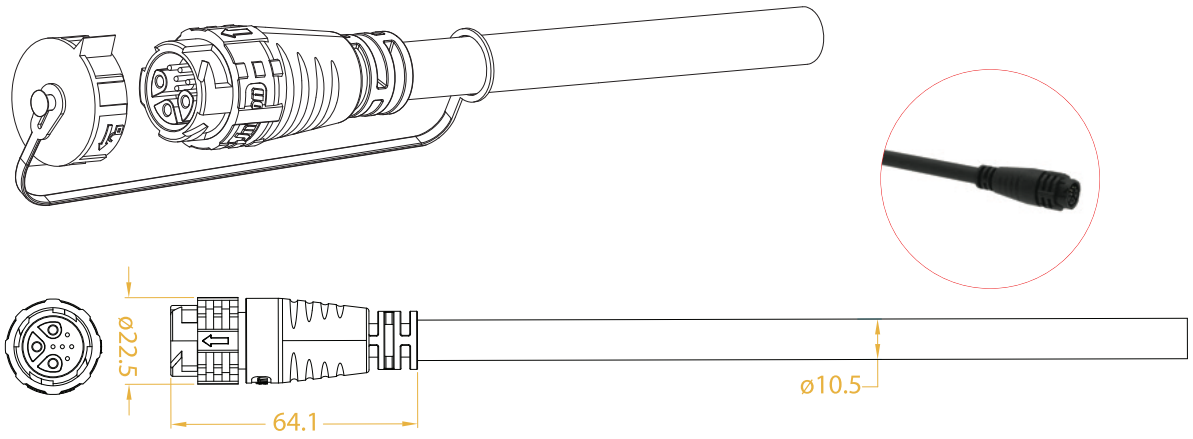
In practice:
- The curve geometry is defined first
- The required length is then resolved using the appropriate quantity of product
- System components are integrated to ensure performance and reliability

This approach ensures both visual continuity and proper system functionality.

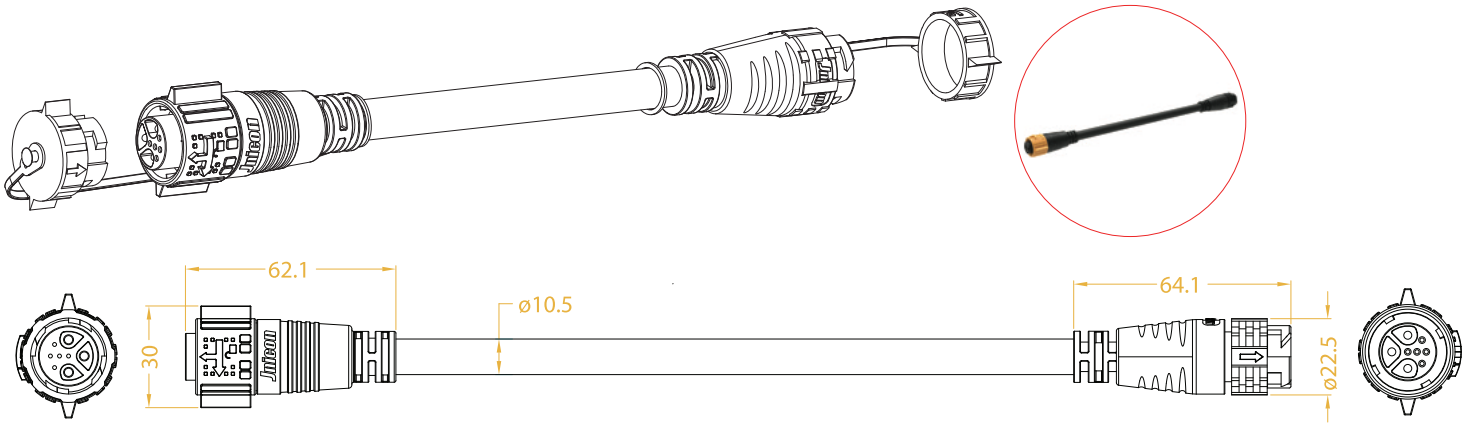
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CABLES AND CONNECTORS

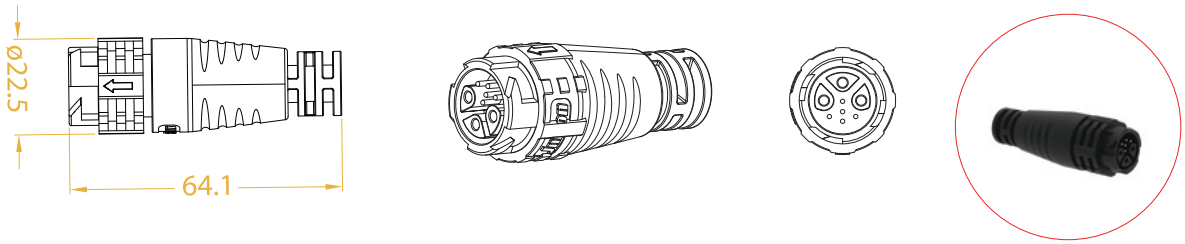
8-PIN AC/SPI + BOOSTER + SENSOR FEED CABLE



8-PIN AC/SPI + BOOSTER + SENSOR LINK CABLE

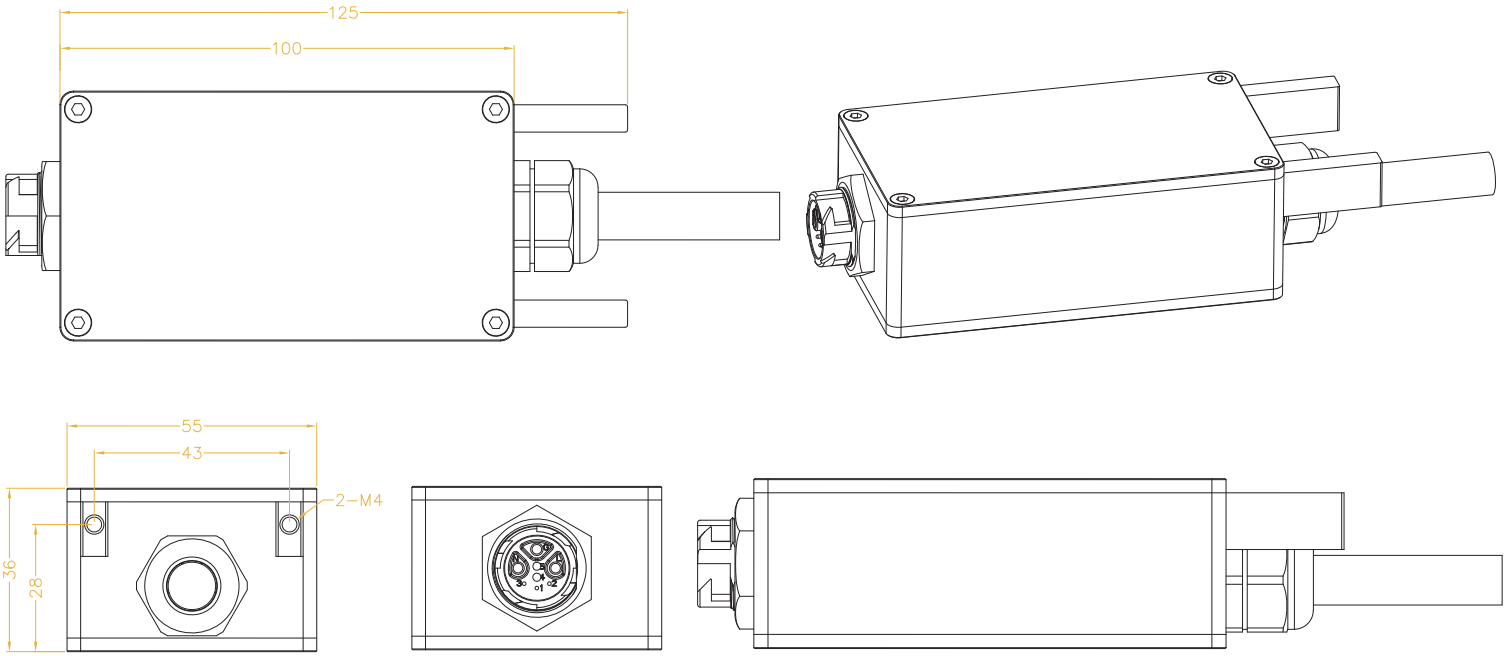


8-PIN AC/SPI + BOOSTER + SENSOR END CAP/IP BLOCK

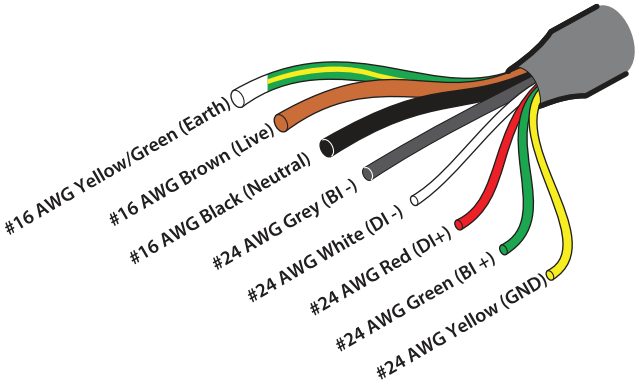


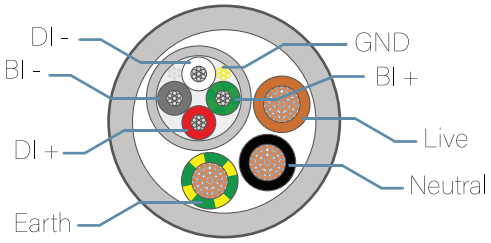
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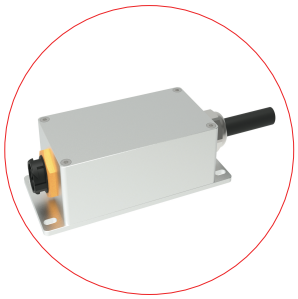
JUNCTION BOX



CABLING INFORMATION AND RENDER FOR J-BOX







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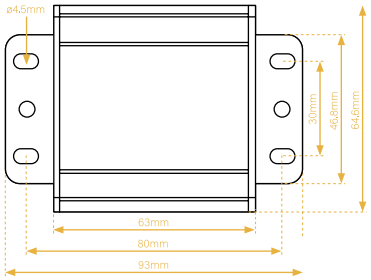
PXT/R BOOSTERS

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 SPI 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	12V – 48V DC
	AMP	6A MAX
	INPUT	SPI OR X-STREAM FROM CONTROLLER OR LEDS
	OUTPUT	X-STREAM DIFFERENTIAL SIGNAL
	IP RATING	IP20
PXT RECEIVER	INPUT VOLTAGE	12V – 48V DC
	AMP	6A MAX
	INPUT	X-STREAM DIFFERENTIAL SIGNAL
	OUTPUT	SPI OR X-STREAM TO LEDS
	IP RATING	IP20

X-STREAM® COMMUNICATION OPTIONS

X-Stream® technology is LED CTRL's premium communication platform, delivering high-speed data transmission, intelligent redundancy, and exceptional signal integrity across large-scale lighting installations. It is available in two configurations to suit different installation requirements.

X – X-Stream (EXTERNAL)
In the standard X-Stream configuration, all communication hardware sits outside the fixture. A PXT (Transmitter) and PXR (Receiver) pair is mounted externally, converting the standard SPI signal to a differential pair for long-distance, interference-resistant data transmission.
- Communication distance up to 100 metres between fixtures.
- D1 and B1 inputs support standard and backup data for full signal redundancy.
- Wide input voltage range for compatibility across the LED CTRL product ecosystem.
- For longer runs, additional PXT/PXR pairs can be added at intervals to maintain signal integrity.
- Best suited for installations where external access to communication hardware is preferred, or where fixtures do not support internal integration.

XB – X-Stream Boosted (INTEGRATED)
X-Stream Boosted moves the signal repeating capability inside the fixture run, eliminating external hardware and simplifying installation. An external PXT transmits the signal to a PXR housed inside the product, which receives, processes, and re-transmits via a built-in PXT to the next fixture – effectively turning each boosted point into a signal relay
- Eliminates external junction boxes and separately mounted communication hardware.
- Each boosted point fully regenerates the signal, preventing degradation over distance.
- Supports extended runs without compromising data quality
- Cleaner installation with fewer visible components.

Integration depends on the product:
- Factory-integrated (e.g. LXB): The PXT/PXR hardware is built directly into the fixture, no additional components required.
- Dedicated boost housing (e.g. PUX): A purpose-built fixture shell, identical in form but without LEDs, houses the PXT/PXR pair. Placed at the beginning of each run and at intervals along longer runs, it integrates seamlessly without disrupting the visual continuity of the installation.

Both configurations share the same underlying X-Stream platform, ensuring identical signal quality, redundancy, and compatibility with LED CTRL controllers and fixtures.

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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 pixel 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.

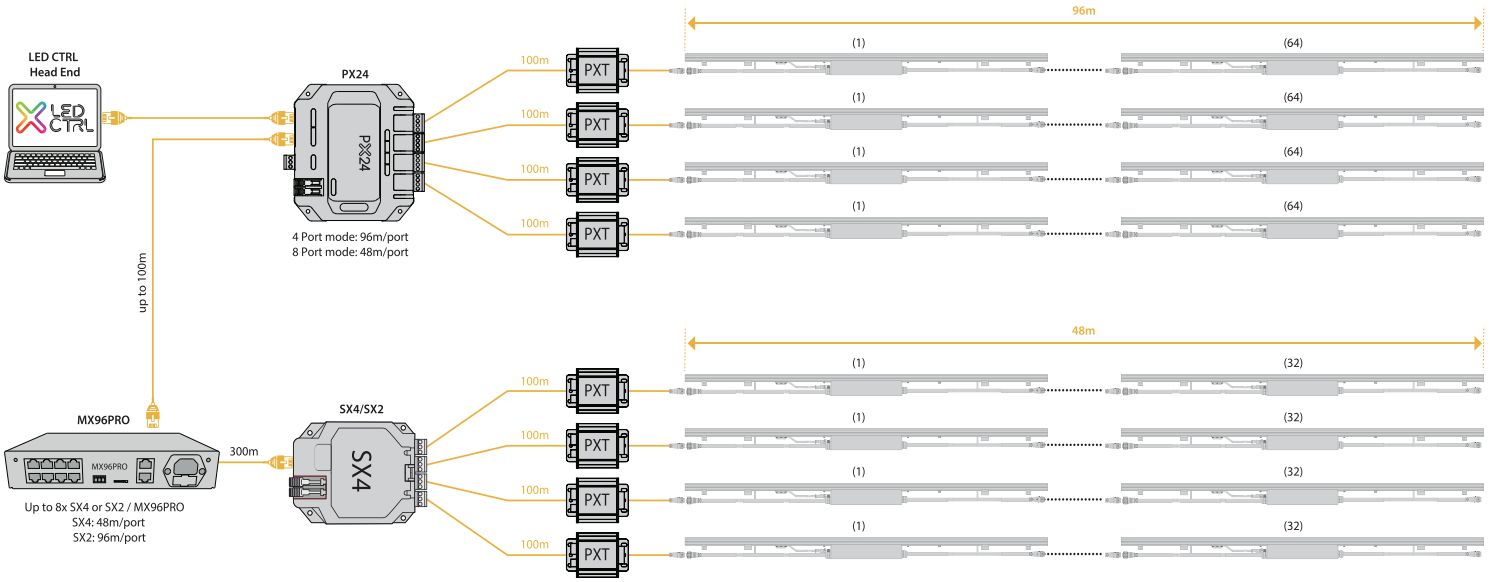
System Overview

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.

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TYPICALL WIRING DIAGRAM



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