# MX96PRO

PRODUCT OVERVIEW

INTRODUCING THE MX96PRO: THE NEXT GENERATION OF PIXEL CONTROL

The MX96PRO long range pixel controller has been developed specifically to control large scale LED pixel projects in a wide range of installation configurations. Coupled with SX2 or SX4 Sub-Controllers to drive a massive 96 universes of pixel data, the LED CTRL long range system is perfect for professional installations where the LEDs are positioned over a wide area.

UNMATCHED POWER AND RANGE

The MX96PRO transmits light data ("X-Data") through standard network cables at distances up to 300 meters (1000 feet). The SX Sub-Controllers decode this signal into pixel-ready protocols, allowing the distribution of many pixels from a single, centralised pixel controller. This setup effectively bypasses common challenges such as data degradation, crosstalk, signal reflections, or voltage drop.
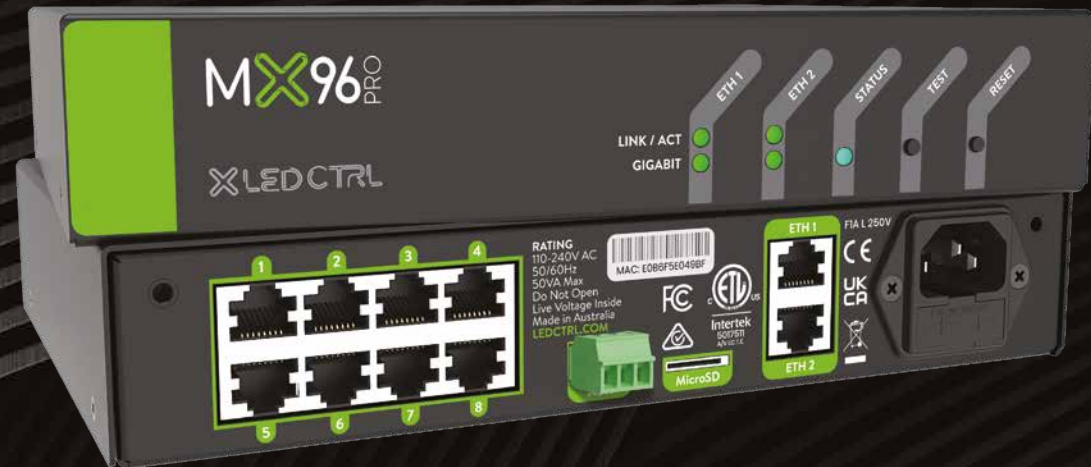
KEY FEATURES

- SEND DATA UP TO 300M TO RECEIVERS
- 96 UNIVERSES OF ART-NET OR SACN
- OVER 70+ PIXEL PROTOCOLS SUPPORTED
- MICRO-SD CARD SLOT FOR RECORD & PLAYBACK
- DUAL GIGABIT ETHERNET PORTS
- AUXILIARY PORT FOR DMX512 IN/OUT
- CONFIGURE USING ANY WEB BROWSER OR LED CTRL SOFTWARE
- ELECTRICAL FAULT PROTECTION ON ALL PORTS

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A CLOSER LOOK AT THE CONTROLLER

DUAL GIGABIT ETHERNET PORTS

Simplify your network infrastructure by daisy-chaining MX96PRO controllers together. Maintain high network reliability by optionally connecting a redundant Ethernet line to any loop with a suitable switch.

Ethernet ports are fully equipped with a Universe Data Hardware Firewall to ensure your MX96PRO can constantly perform at its peak.

RECORD AND PLAYBACK

When not using LED CTRL software (or similar) the built in Web Management Dashboard unleashes the potential of the MX96PRO device to independently drive light shows without a computer or any source of live data.

The Dashboard allows users to record, and playback pixel shows from the MX96PRO using the inbuilt microSD slot. Design your breathtaking pixel shows, record them directly onto the microSD card and play them back as many times as you wish.

AUXILIARY PORT

Versatile RS485 Auxiliary port can be used as either an input or an output.

As an output, connect DMX512 devices to the port and control them via sACN or Art-Net. As an input, connect a DMX512 source directly to the MX96PRO and use DMX512 as the data source for your pixels, or as a trigger source, or as a live intensity data source.

FAULT PROTECTION

Features electrical fault protection on all ports resulting in higher reliability and fewer equipment failures. See details on next page.

5 YEAR WARRANTY

For your absolute peace of mind, all MX96PRO come with a 5-year warranty. All products need to be used and installed in accordance with their designed purpose and operating environment.

CERTIFICATIONS

CONNECTIVITY

1 Ethernet 1 Status LEDs

2 Ethernet 2 Status LEDs

3 Status LED

4 Test Button

5 Reset Button

6 8x RJ45 Outputs (to SX Receivers)

7 Auxiliary Port

8 MicroSD Card Slot

9 Ethernet Port 1

10 Ethernet Port 2

11 AC Power Socket
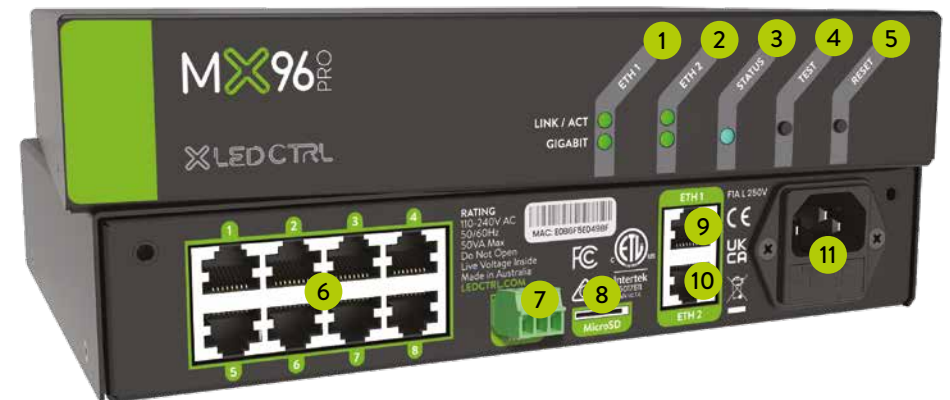
SPECIFICATIONS

PHYSICAL

RJ45 Data Outputs	8
Ethernet Ports	2x 10/100/1000 MBit/s
MicroSD Card Slot	1
Auxiliary Port	1x RS485 Input/Output
Dimensions *(inc. connectors)*	221 x 169 x 42 mm (L x W x H)
Weight	1.1kg
Enclosure	Aluminium
Ambient Operating Temperature	-10°C to +60°C
Mounting	Direct Panel, Wall & Rack Mountable

FAULT PROTECTION

|	
Electrostatic Discharge (ESD)	All Ports Protected
Auxiliary Port	+/- 48V DC fault protection
Pixel Data Output	+/- 36V DC fault protection

PIXEL DATA

	Normal Mode	Expanded Mode
Pixel Outputs	16	32
RGB Pixels per Output	1020	510
RGBW Pixels per Output	768	384
Universes per Pixel Output	6	3
Total Pixel Universes	96	96

POWER

Input Power	100V - 240V DC
AC Fuse	1A M205

OVERALL DIMENSIONS

169mm
42mm
221mm

MOUNTING DIMENSIONS

10.5mm   200mm   10.5mm
20mm
Ø4.50 mm x 4
120mm
20mm
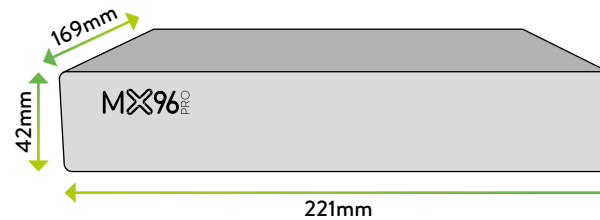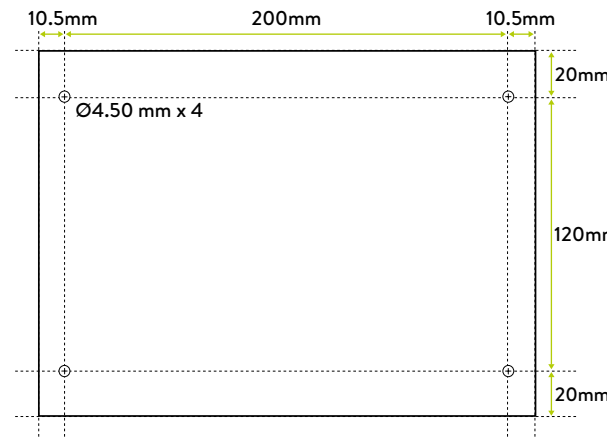
THERMAL

Storage Temperature	-10°C to +60°C
Ambient Operating Temperature	-10°C to +60°C

TESTING STANDARDS

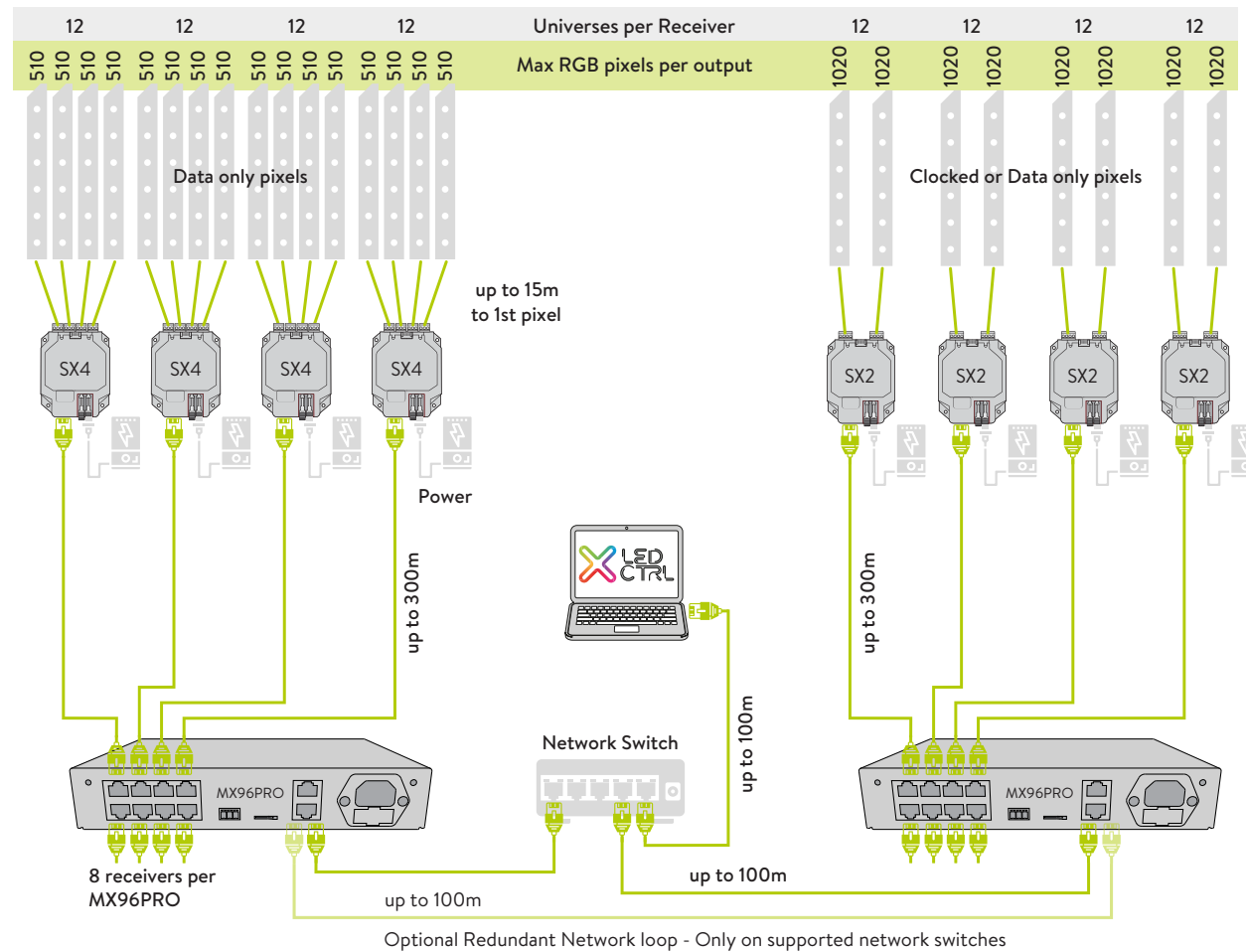|	
Audio/Video & ICTE - Safety Requirements	UL 62368-1
Radiate & Conducted Emissions	EN 55032 & FCC Part 15
Multimedia Immunity	EN 55035
Harmonic Current Emissions	EN 61000-3-2
Voltage Fluctuations & Flicker Emissions	EN 61000-3-2
RoHS	RoHS 2 + DD (EU) 2015/883

CERTIFICATIONS & MARKS

North America	ETL Listing *(Equivalent to UL Listing)*
Europe	CE
North America	FCC
Canada	ICES3
Australia & New Zealand	RCM
United Kingdom	UKCA

COMPATIBLE RECEIVERS

SX2 & SX4

WIRING DIAGRAM & SYSTEM OVERVIEW
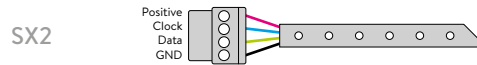
TYPICAL SYSTEM WIRING DIAGRAM

12	12	12	12	Universes per Receiver	12	12	12	12

Max RGB pixels per output

510 510 510 510 | 510 510 510 510 | 510 510 510 510 | 510 510 510 510 | 1020 1020 | 1020 1020 | 1020 1020 | 1020 1020

Data only pixels

Clocked or Data only pixels

up to 15m to 1st pixel

SX4 SX4 SX4 SX4

Power

SX2 SX2 SX2 SX2

up to 300m

up to 300m

Network Switch

up to 100m

MX96PRO

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8 receivers per MX96PRO

up to 100m

up to 100m

Optional Redundant Network loop - Only on supported network switches

OUTPUT PORT POWER BYPASS WIRING

	V+
	Data
	V- / GND

LED Strip

5-24v DC   5-24v DC

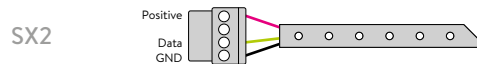5-24v DC   5-24v DC

SX4

5-24v DC

Network Switch

up to 100m
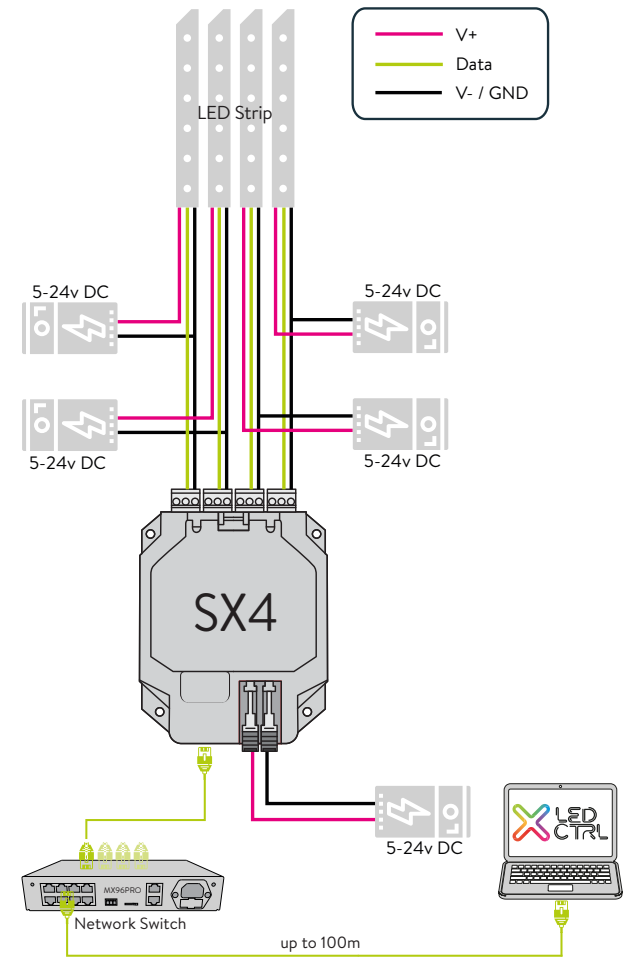
OUTPUT PORT POWERED WIRING

CONNECTIONS TO PIXELS

Pixels	Clocked
Expanded Mode	Disabled

SX2
- Positive
- Clock
- Data
- GND

Pixels	Data Only
Expanded Mode	Disabled

SX2
- Positive
- Data
- GND

Pixels	Data Only
Expanded Mode	Enabled

SX2
- Positive
- Data 1
- Data 2
- GND

SX4
- Positive
- Data 1
- GND
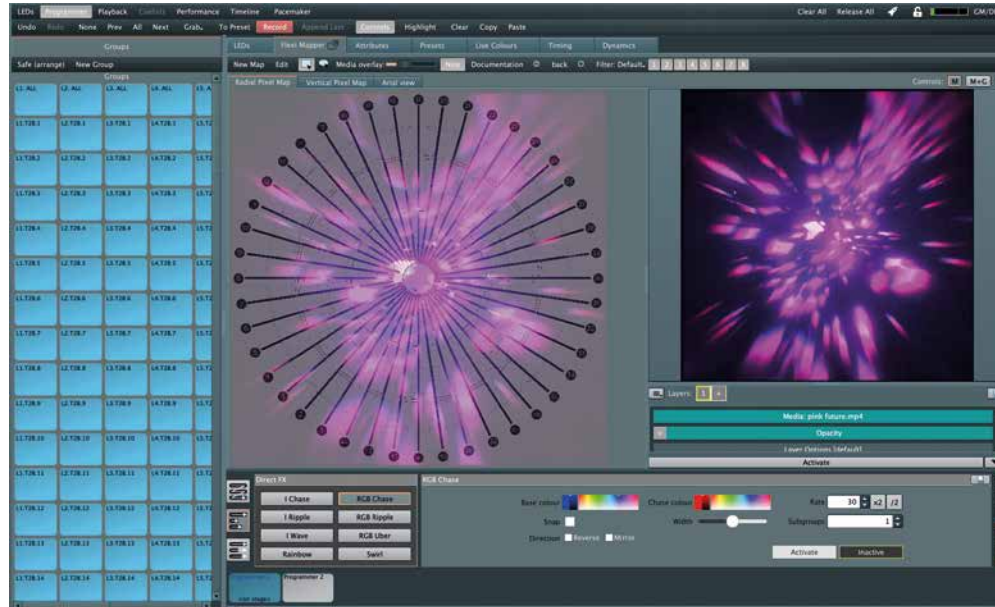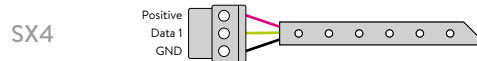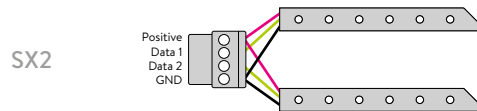
LED CTRL SOFTWARE

Using the MX96PRO with LED CTRL software provides the easiest configuration method and maximum functional benefits.

LED CTRL software is a powerful LED lighting solution that revolutionises your lighting control experience by simplifying the design and commissioning processes.

It empowers you to communicate, plan, commission and program small to large scale projects visually and using drag and drop tools, supporting efficient and effective project delivery.