Smart PXL100x25 DOT DATASHEET
Visit the ENTTEC website for the
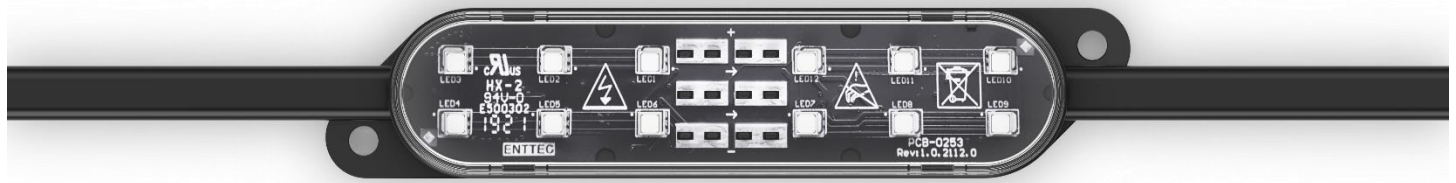latest version of this document

ENTTEC

SMART PXL100x25 DOT

High Resolution Smart 100x25mm RGB pixel dot (24V & 48V)

Robust and reliable, ENTTEC's high-resolution, individually addressable SMART PXL100x25 Dots are designed and made in Australia to withstand the harshest of environments.

Easy to install and configure into any conceivable shape, Smart PXL Dots create spectacular, crisp lighting effects while adding a stylish design element to your venue or installation; choose between custom options for pitch and a selection of voltages.

Engineered to take any architectural, commercial or entertainment project to the next level, the SMART PXL range has been created by lighting professionals for lighting professionals.

FEATURES

- **Available in 24V/48V for RGB/RGBW.**
- **Auto-addressing LED pixels for fast commissioning.**
- **Customizable cable length.**
- **Premium IP-rated connectors at each end.**
- **Flat lens made from Clear or Diffuse optical grade polycarbonate.**
- **16-bit control for ultra-smooth dimming.**
- **Option for simulated 8-bit control (ONLY with ENTTEC pixel controllers) – control more pixels per controller.**
- **Control protocol SPXL 16-bit. Refer to www.enttec.com/support/supported-led-pixel-protocols/ for list of compatible ENTTEC controllers.**
- **Reverse polarity protection.**
- **Voltage transient protection.**
- **IK10 & 3G vibration resistant (IEC68-2-6)**
- **UV resistant & IP67**
- **This product requires an external DC power supply and data source for operation. (not included).**

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SPECIFICATION

Light Output – RGB

RGB					
	Voltage	24V		48V	
	Lens Type	Flat Diffuse	Flat Clear	Flat Diffuse	Flat Clear
Lumen (lm)	Simulated White (R+G+B)	31.1	39.2	29.7	38.3
	Red	8.0	10.0	8.0	10.3
	Green	18.4	23.3	17.8	23.1
	Blue	4.6	5.8	3.8	4.9
Efficacy (lm/watt)	Simulated White (R+G+B)	13.9	17.6	11.8	15.2

Light Output – RGBW

RGBW					
	Voltage	24V		48V	
	Lens Type	Flat Diffuse	Flat Clear	Flat Diffuse	Flat Clear
Lumen (lm)	Max white (W+R+G+B)	69.1	87.1	62.4	82.5
	Simulated White (R+G+B)	30.7	39.5	29.3	37.9
	White	38.4	47.5	33.1	44.6
	Red	8.0	10.0	8.1	10.3
	Green	18.1	23.8	17.4	22.7
	Blue	4.6	5.8	3.8	4.9
Efficacy (lm/watt)	Max white (W+R+G+B)	31.0	39.1	31.7	41.9

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DATASHEET

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Electrical (24V & 48V)

Body material	Injection molded PVC - UV resistant		
Lens material	Optical Grade polycarbonate		
Dot pitch	*Customization options available*		
Weight	Approx. 68g/dot (excl lead in & out)		
IP & IK rating	IP67 & IK10		
Operating temperature	-20°C to +50°C		
Input voltage	24V		48V
Heat dissipation (maximum per Dot)	24V	RGB: 2.23W	48V	RGB: 1.92W
		RGBW: 2.52W		RGBW: 1.97W
Maximum power	24V	RGB: 2.23W	48V	RGB: 2.23W
		RGBW: 2.52W		RGBW: 1.97W
Maximum current draw	24V	RGB: 95mA	48V	RGB: 40mA
		RGBW: 105mA		RGBW: 41mA
Rated current throughput capacity	10A		
Cable resistance	0.0132 Ohm/m		
Cable thickness	16AWG		
Incoming cable length (connector to first dot)	*Customization options available*		
Outgoing cable length (last dot to connector)	*Customization options available*		
Connector type	*Customization options available*		
24V Connector pinout	Pin 1	Pin 2	Pin 3	Pin 4
	0V	Data	N/C	+24V
48V Connector pinout	Pin 1	Pin 2	Pin 3	Pin 4
	0V	Data	+48V	N/C
Warranty	3 Year return to base manufacturer warranty.		

Control (24V & 48V)

| LED source	RGB	12 pcs RGB SMD3535
	RGBW	12 pcs RGBW 3000K SMD5050
Control protocol	ENTTEC SPXL-8 / SPXL-16	
SPXL-8 channel footprint (8-bit - RGB)	3 DMX channels/dot	
	Red | Green | Blue	
SPXL-8 channel footprint (8-bit - RGBW)	4 DMX slots/dot	
	Red | Green | Blue | White	
SPXL-16 channel footprint (16-bit - RGB)	6 DMX slots/dot	
	Coarse | Fine | Coarse | Fine | Coarse | Fine	
SPXL-16 channel footprint (16-bit - RGBW)	8 DMX slots/dot	
	Coarse | Fine | Coarse | Fine | Coarse | Fine | Coarse | Fine	
Colour resolution (8-bit - RGB)	256^3 = 16.7 million	
Colour resolution (8-bit - RGBW)	256^4 = 4.294 trillion	
Colour resolution (16-bit RGB)	65536^3 = 281.4 Quadrillion	
Colour resolution (16-bit RGBW)	65536^4 = 18.4Quintillion	
Dots controllable per DMX universe:	SPXL-8 RGB:	170 dots
	SPXL-8 RGBW:	128 dots
	SPXL-16 RGB:	85 dots
	SPXL-16 RGBW:	64 dots
LED lifetime	50,000 hrs (L70)	
Compatible protocol	RGB	UCS8903 (Only 16-bit)
	RGBW	UCS8903 (Only 16-bit)

Installation

Before handling or specifying this product, always refer to its installation guide and familiarize yourself with the safety notes. If ever unsure consult ENTTEC.

Data Direction

The pixel data in the SMART PXL 100x25 Dot must travel in a specific direction for it to function. This direction can be identified through the direction of the arrow printed on the center of PCB.

In the event surface of PCB is inaccessible, data direction always flows as illustrated with respect to ENTTEC logo on the bottom of housing.
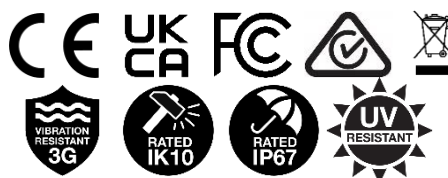
Data Direction
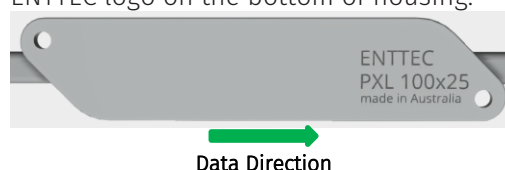
Connecting Smart PXL Dots

Use any ENTTEC pixel controller compatible with the voltage range of the Smart PXL100x25 dot. For the latest information visit: www.enttec.com/range/controls/addressable- led-pixel-control/.
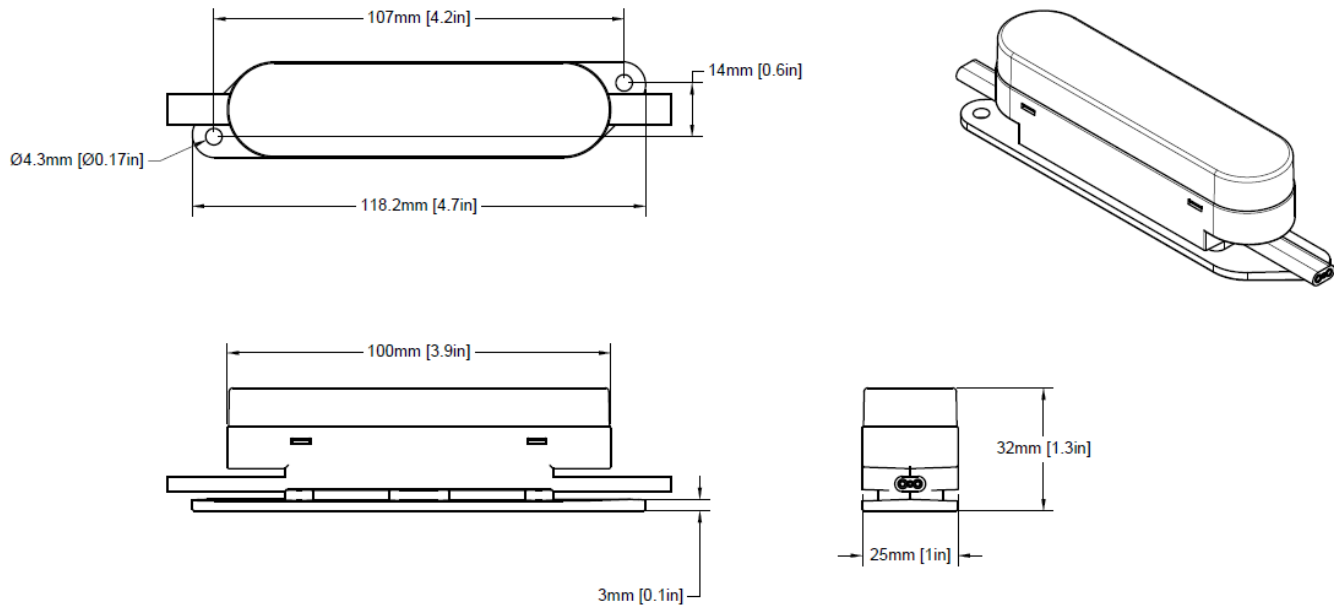
Certification

Salt corrosion test (eg ASTM B117) not applicable due to non-metallic, inherently salt resistant body and lens material.
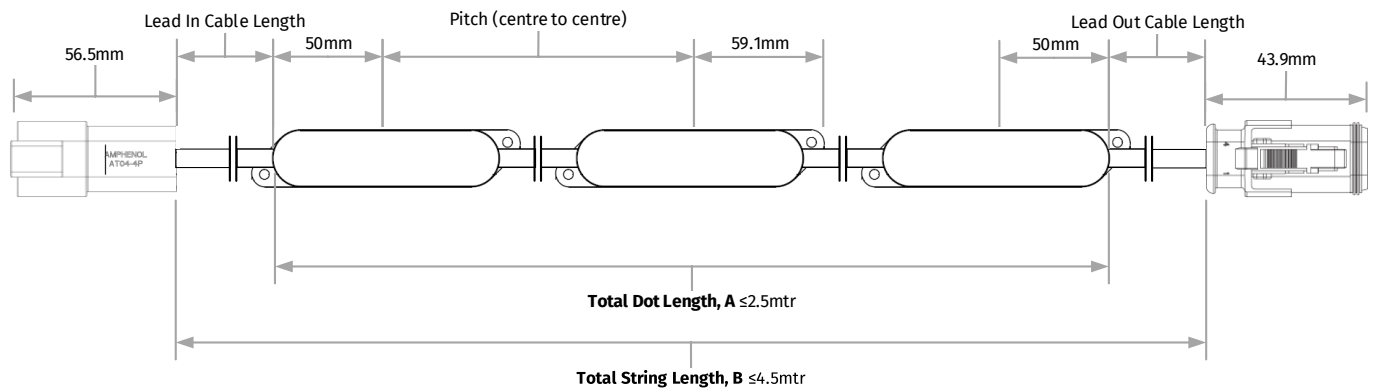
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PHYSICAL DIMENSIONS
Smart PXL100x25 Dot

107mm [4.2in]

14mm [0.6in]

Ø4.3mm [Ø0.17in]

118.2mm [4.7in]

100mm [3.9in]

32mm [1.3in]

25mm [1in]

3mm [0.1in]

Enttec support cable length customization. Please see below illustration for length limit.
Refer to order code section and reach out to ENTTEC or your ENTTEC dealer to discuss your project needs.

Cable length customisation limit

Lead In Cable Length   Pitch (centre to centre)   Lead Out Cable Length

56.5mm   50mm   59.1mm   50mm   43.9mm

AMPHENOL
AT04-4P

Total Dot Length, A ≤2.5mtr

Total String Length, B ≤4.5mtr

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PREMIUM CONNECTORS

For ultimate reliability, ENTTEC offers Amphenol AT series connectors (compatible with DEUTSCH DT systems).
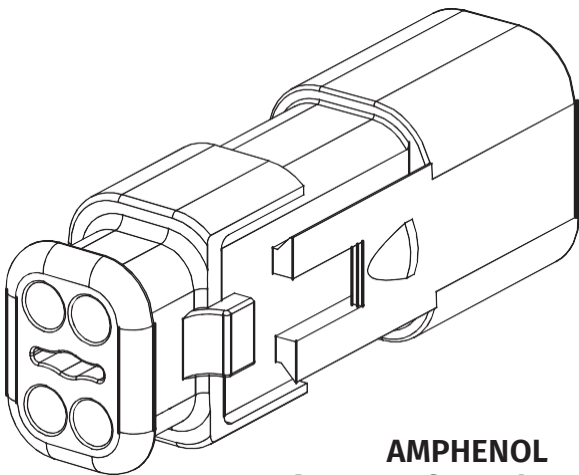
AMPHENOL AT04-4P-SR02BLK

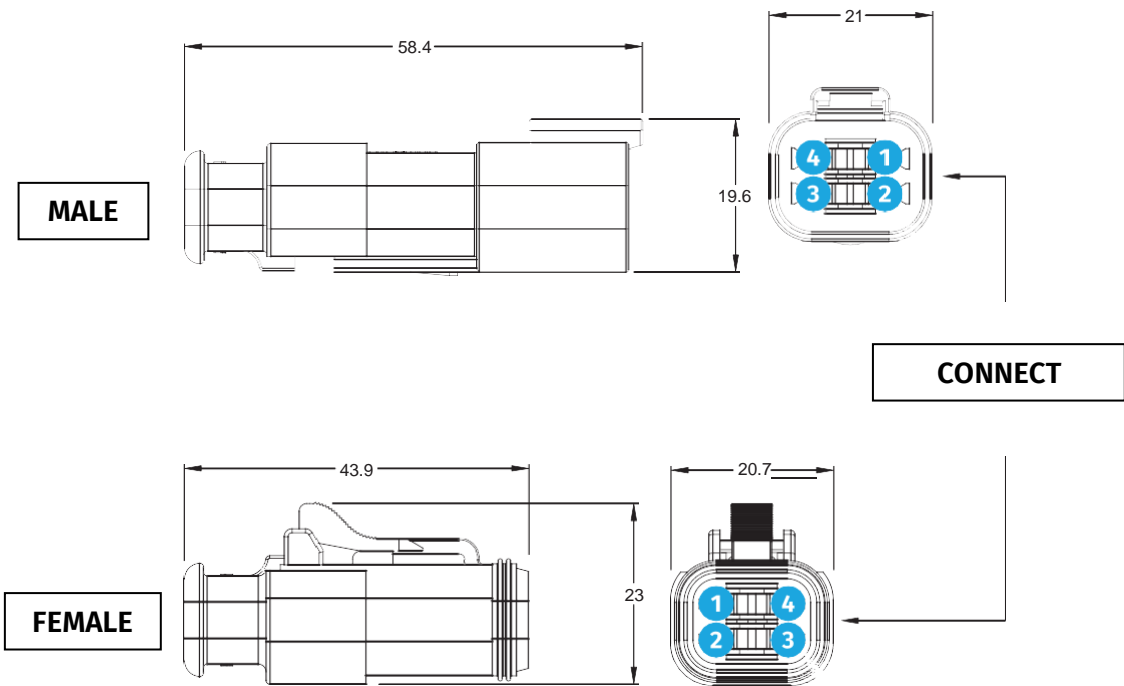4-way receptacle, **MALE** connector with strain relief, reduced diameter seal, black.
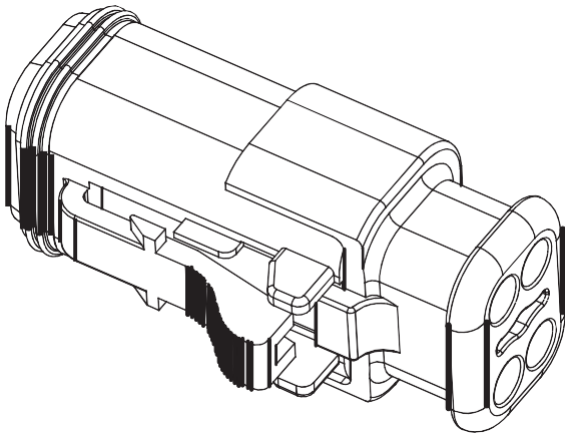
AMPHENOL AT06-4S-SR02BLK

4-way plug, **FEMALE** connector with reduced diameter seal (E-Seal), endcap, and strain relief, black.

Pin output configurations

	PIN 1	PIN 2	PIN 3	PIN 4
24V	0V	DATA	NC	+24V DC
48V	0V	DATA	+48V DC	NC

MALE

58.4

19.6

21

CONNECT

FEMALE

43.9

23

20.7

ORDERING INFORMATION
Smart PXL100x25 Dots

Visit ENTTEC's website to shop for SMART PXL 100x25 Dots.
To discuss customization options, pricing and lead times contact our sales team at sales@enttec.com.

Order codes

Order codes are created using the table below:

Product code	Diffuser type		Dots per string	Pixel pitch (mm)	Lead in length (mm)	Lead out length (mm)	LED type	Lead in connector type	Lead out connector Type[1]	Voltage
	Shape	Material								
73030 (Smart PXL100x25 Dot)	F (Flat)	C (Clear)	Min: 1 Max: 17	Min: 150 Max: 2000 Increment: 25	Min: 150 Max: 2000 Increment: 25	Min: 150 Max: 2000 Increment: 25	RGB	ATM (Amphenol AT Series **Male** - Connectors will be wired as per the diagrams above based on voltage)	ATF (Amphenol AT Series **Female** - Connectors will be wired as per the diagrams above based on voltage)	24V
		D (Diffuse)					RGBW	BET (Custom - Bare end tinned)	BET (Custom - Bare end tinned)	48V

Please refer to cable customizable section for length limit.
Refer to order code section and reach out to ENTTEC or your ENTTEC dealer to discuss your project needs.

Example order codes

The codes below reflect options shown within the table above.

Item	Order code
Smart PXL100x25 DOT / Flat Clear Lens / 10 dots per string/ 150mm pitch/ 500mm lead in cable/ 500mm lead out cable/ RGB/ Amphenol AT Series male input/ Amphenol AT Series female output/24 volts	73030-FC-10-150-500-500-RGB-ATM-ATF-24

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Due to constant innovation, information within this document is subject to change.

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[1] ENTTEC Termination End Cap [73015] only compatible with Female Amphenol AT series connector.