Smart PXL-60 DOT DATASHEET
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SMART PXL-60 DOT

60mm diameter 24V/48V & RGB/RGBW LED pixel dot with high resolution dimming.

SMART PXL 16-BIT

AUSTRALIAN DESIGNED + MADE
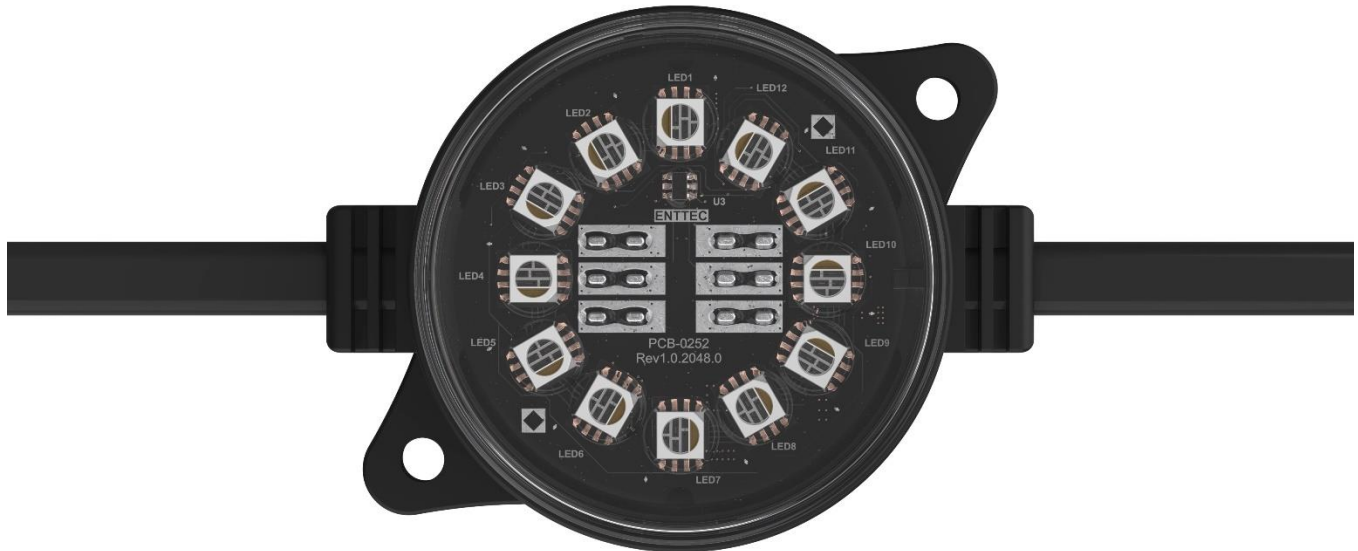
Robust and reliable, ENTTEC's high-resolution, individually addressable SMART PXL 60 Dots are designed and made in Australia to withstand the harshest of environments.

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 chose between custom options for pitch and a selection of voltages diffuser.

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 24/48V & RGB/RGBW.**
- **Serviceable snap fit diffuser**
- **Auto-addressing LED pixels for fast commissioning.**
- **Customizable cable length.**
- **Premium IP-rated connectors at each end.**
- **Flat or Dome shape diffuser options made from Clear or Diffuse optical grade polycarbonate.**
- **16-bit control for ultra-smooth dimming or option for simulated 8-bit control (ONLY with ENTTEC pixel controllers) for reduced channel quantity.**
- **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**
- **This product requires an external DC power supply and data source for operation. (not included).**

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SPECIFICATION

Light Output – 24V

lumens (lm)	RGB	No diffuser	Simulated White (R+G+B)	53.5
			Red	13.5
			Green	32
			Blue	8
		Dome Diffuse diffuser	Simulated White (R+G+B)	40.5
			Red	10.5
			Green	24
			Blue	6
		Flat Clear diffuser	Simulated White (R+G+B)	48
			Red	12.3
			Green	28.6
			Blue	7.1
	RGBW	No diffuser	Max White (W+R+G+B)	103.3
			Simulated White (R+G+B)	58.5
			White	44.8
			Red	15
			Green	35
			Blue	8.5
		Dome diffuse diffuser	Max White (W+R+G+B)	78.3
			Simulated White (R+G+B)	44.2
			White	34.1
			Red	11.2
			Green	26.5
			Blue	6.5
		Flat clear diffuser	Max White (W+R+G+B)	92.7
			Simulated White (R+G+B)	52.4
			White	40.3
			Red	13.4
			Green	31.4
			Blue	7.6
Efficacy (lm/Watt)	RGB	No diffuser (Simulated White, R+G+B)		21.4
		Dome Diffuse diffuser (Simulated White, R+G+B)		16.2
		Flat clear diffuser (Simulated White, R+G+B)		19.2
	RGBW	No diffuser (Max. White, W+R+G+B)		39.7
		Dome Diffuse diffuser (Max. White, W+R+G+B)		30.1
		Flat clear diffuser (Max. White, W+R+G+B)		35.7

Light Output – 48V

lumens (lm)	RGB	No diffuser	Simulated White (R+G+B)	53.3
			Red	14.3
			Green	32.1
			Blue	6.9
		Dome Diffuse diffuser	Simulated White (R+G+B)	40
			Red	10.8
			Green	24
			Blue	5.2
		Flat Clear diffuser	Simulated White (R+G+B)	47.5
			Red	12.8
			Green	28.6
			Blue	6.1
	RGBW	No diffuser	Max White (W+R+G+B)	90.7
			Simulated White (R+G+B)	53.3
			White	37.4
			Red	14
			Green	31.6
			Blue	7.7
		Dome diffuse diffuser	Max White (W+R+G+B)	71.6
			Simulated White (R+G+B)	40.4
			White	31.2
			Red	10.8
			Green	23.8
			Blue	5.8
		Flat clear diffuser	Max White (W+R+G+B)	85.7
			Simulated White (R+G+B)	47.9
			White	37.8
			Red	12.7
			Green	28.3
			Blue	6.9
Efficacy (lm/Watt)	RGB	No diffuser (Simulated White, R+G+B)		21.3
		Dome Diffuse diffuser (Simulated White, R+G+B)		16.0
		Flat clear diffuser (Simulated White, R+G+B)		19.0
	RGBW	No diffuser (Max. White, W+R+G+B)		34.9
		Dome Diffuse diffuser (Max. White, W+R+G+B)		27.5
		Flat clear diffuser (Max. White, W+R+G+B)		33.0

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Electrical (24V & 48V)

Body material	Injection molded PVC - UV resistant			
Diffuser material	Optical Grade polycarbonate			
Dot pitch	*Customization options available*			
Weight	Approx. 70g/dot (excl lead in & out)			
IP rating	IP67			
Operating temperature	-20°C to +50°C			
Input voltage	24V		48V	
Heat dissipation (maximum per Dot)	24V	RGB: 2.5W	48V	RGB: 2.5W
		RGBW: 2.6W		RGBW: 2.6W
Maximum power	24V	RGB: 2.5W	48V	RGB: 2.5W
		RGBW: 2.6W		RGBW: 2.6W
Maximum current draw	24V	RGB: 104mA	48V	RGB: 52mA
		RGBW: 107mA		RGBW: 54mA
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	Default: AMPHENOL AT Series *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 = 18.4 Quintillion	
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 60 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.

Connecting Smart PXL Dots

Use any ENTTEC pixel controller compatible with the voltage range of the Smart PXL Dot 60. For the latest information visit:
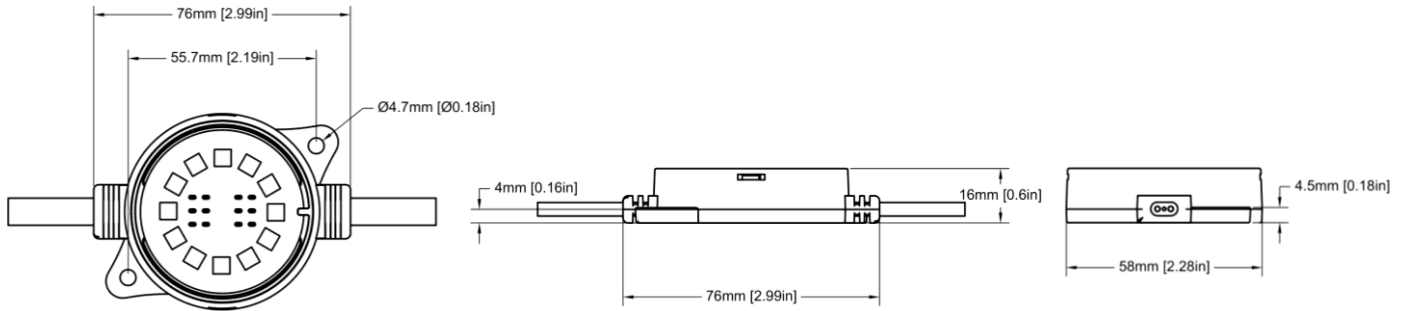www.enttec.com/range/controls/addressable- led-pixel-control/.

Certification

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Visit the ENTTEC website for the
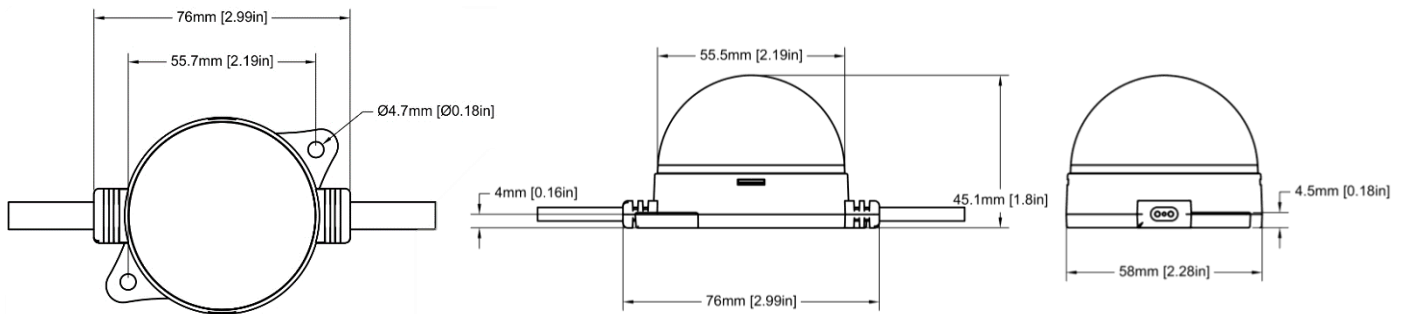latest version of this document
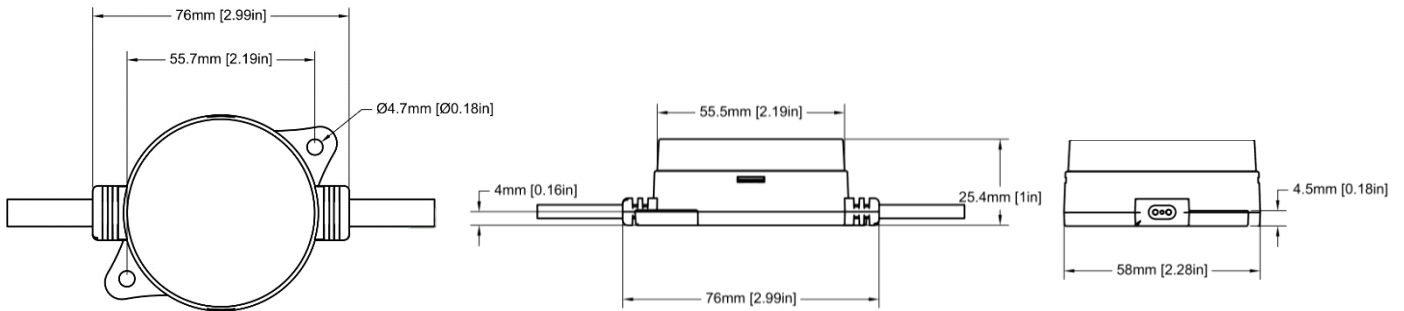
PHYSICAL DIMENSIONS

Smart PXL-60 Dot - No Diffuser

Smart PXL-60 Dot - Dome Diffuser

## Smart PXL-60 Dot - Flat Diffuser

Cable customization

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

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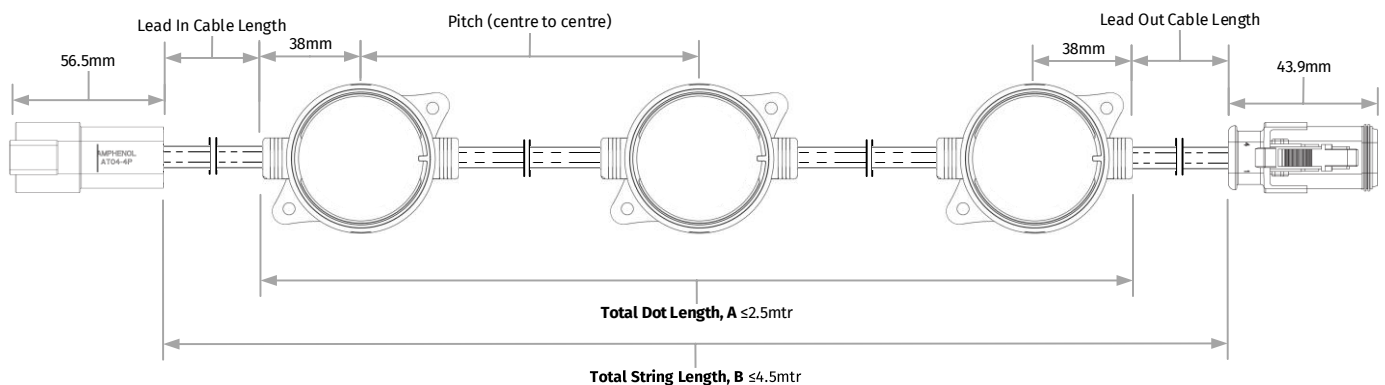
PREMIUM CONNECTORS

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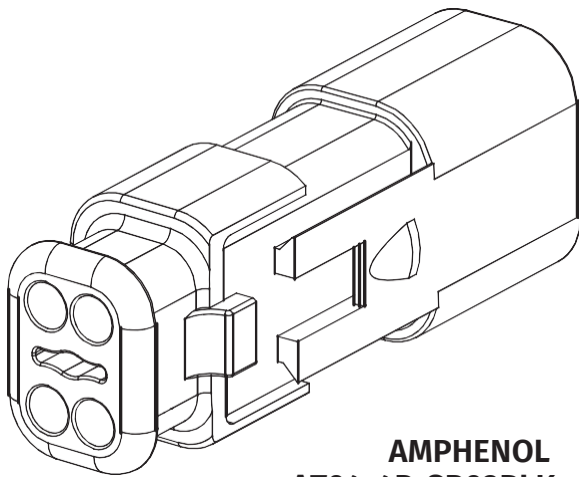
**AMPHENOL
AT04-4P-SR02BLK**

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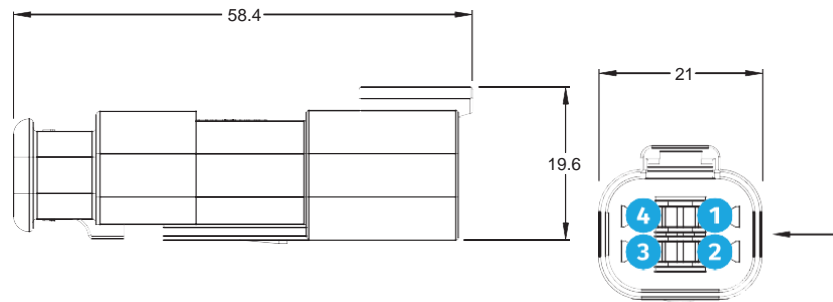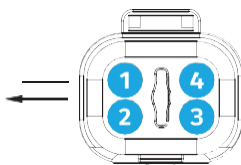diameter seal, black.
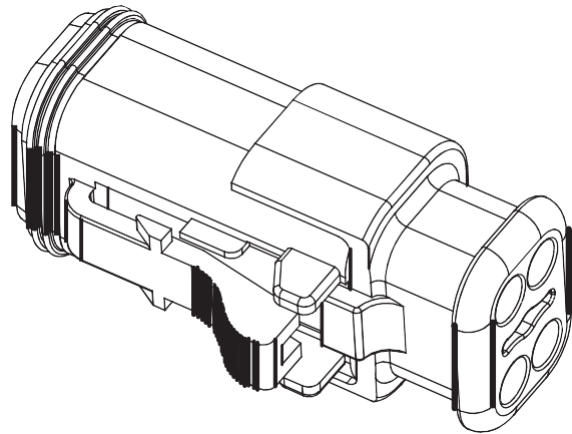
**AMPHENOL
AT06-4S-SR02BLK**

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

■ RECEPTACLE

TO SMART
PXL DOTS OR
DATA/POWER

58.4

19.6

21

**CONNECT
RECEPTACLE
AND PLUG**

■ PLUG

TO SMART
PXL DOTS OR
DATA/POWER

43.9

23

20.7
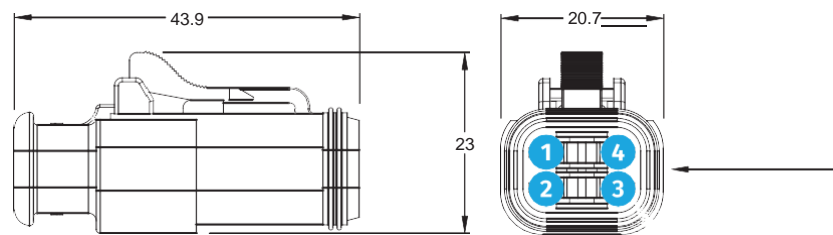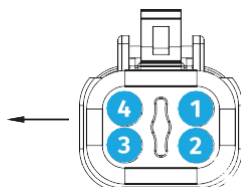
ORDERING INFORMATION
Smart PXL-60 Dots
Visit ENTTEC's website to shop for SMART PXL 60 Dots.
To discuss customization options, pricing and lead times contact our sales team at sales@enttec.com.

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								
73050 (Smart PXL-60 Dot)	0 (N/A)	0 (N/A)	Min: 1 Max:17	Min: 150 Max: 2000	Min: 150 Max: 2000	Min: 150 Max: 2000	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 (Dome)	C (Clear)						ATF (Amphenol AT Series Female - Connectors will be wired as per the diagrams above based on voltage)	ATM (Amphenol AT Series Male - Connectors will be wired as per the diagrams above based on voltage)	
	F (Flat)	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 PXL-60 DOT / Dome Clear diffuser/ 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	73050-DC-10-150-500-500-RGB-ATM-ATF-24

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

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