



## product introduction

The L300 array utilizes 12 high intensity LEDs being the longest light in the Connect-a-light Series. It also features an integrated constant current driver built into the light. Built-in driver technology was pioneered by Smart Vision Lights during the company's creation. It eliminates the need for any external components in the lighting system. Connect-a-light Series Linear Lights utilize 24VDC and can operate in continuous or strobe mode. NPN or PNP strobe triggers can be used to control the pulse of the light. Intensity of the light can be controlled via 0-10V remote analog signal or manual potentiometer. Available in standard narrow, wide, and line optics with options for all standard and some custom wavelengths.



## product features



- 5 Pin M12 Quick Disconnect
- Option of connecting lights together
- Driver built in – No External wiring to a driver
- PNP and NPN Strobe input
- Continuous operation or Strobe mode
- Dimmable via built in potentiometer
- Analog intensity 0-10VDC signal
- Twelve, 1mm<sup>2</sup> Die High Current LEDs



## product specifications

<b>Electrical Input</b>	24 VDC +/- 5%
<b>Current</b>	Max. 700mA
<b>Wattage</b>	Max. 17W
<b>Strobe Input</b>	PNP ► +3VDC or greater to activate.   NPN ► GND (<1VDC) to activate
<b>PNP Line</b>	3.7mA @ 3VDC   6.2mA @ 5VDC   12.6mA @ 10VDC   30.4mA @ 24 VDC
<b>NPN Line</b>	22mA @ Common (0VDC)
<b>Yellow Indicator LED</b>	LED Strobe Indicator ON = Light Active
<b>Green Indicator LED</b>	ON = Power
<b>Continuous Mode</b>	Light will be in continuous mode by leaving signal on strobe input active
<b>Potentiometer</b>	3/4 turn pot – Intensity control of 10% to 100% Clockwise increases intensity
<b>Analog Intensity</b>	The output is adjustable from 10 -100% of brightness by a 0 -10 VDC signal
<b>Connection</b>	5 pin M12 connector
<b>Daisy Chain</b>	Up to six L300
<b>Lifespan</b>	100,000 hrs
<b>Ambient Temp.</b>	-20° - 50° C (-4° - 122° F)
<b>IP Rating</b>	IP50
<b>Weight</b>	~370g
<b>Compliances</b>	CE and RoHS
<b>IEC 62471 Rating</b>	See page 5



## product number key

# L300 – XXX – X\* —» Part Number Key

**Product Family:**  
Linear Light  
L300

**Color:**  
365, 395, 470, 505,  
530, 625, 850, 940  
& WHI (White)

**Lenses:**  
W - Wide  
L - Line

\* Lights come standard with Narrow lenses

CE and RoHS Compliant



## warnings

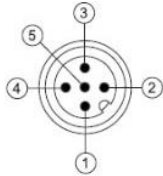


### Attention

Please note that the power requirements are 700mA at 24VDC. Failure to supply light with 700mA will result in non-repeatable lighting. Contact Smart Vision Lights for more information.



## wiring configuration



1 – 24V  
2 – NPN  
3 – GND  
4 – PNP  
5 – 0-10V

### Standard M12 mating cable color code:

BROWN  
WHITE  
BLUE  
BLACK  
\*GRAY (GREEN/YELLOW)

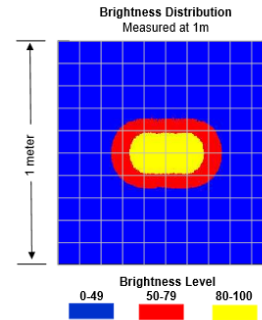
If Analog 0-10 VDC is not used to control light intensity;  
+VDC (24VDC) must be connected to Analog Input - Jumper pin 5 to pin 1

PIN	Wire Color	Function	Signal
1	BROWN	Power	+24 VDC
2	WHITE	NPN Strobe	GND for Active ON
3	BLUE	Ground	GND
4	BLACK	PNP Strobe	4VDC to 30VDC for Active ON
5	GREEN	Analog Intensity Control	0-10 VDC



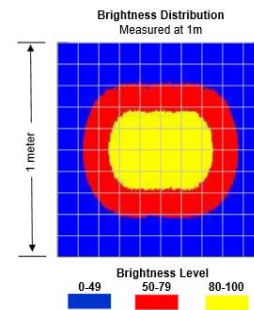
**L300-XXX**

Working Distance mm (inches)	Pattern (80%-100% measured intensity) mm (Inches)
.5m (19.7")	210mm(~8") H x 100mm(~4") V
1m (39.4")	250mm(~10") H x 200mm(~8") V
1.5m (59")	310mm(~12") H x 300mm(~12") V
Typical output performance	
Distance = .5 meter	Illumination (Lux) 14000
<i>Illumination measurement taken on White Lights – 6500K</i>	



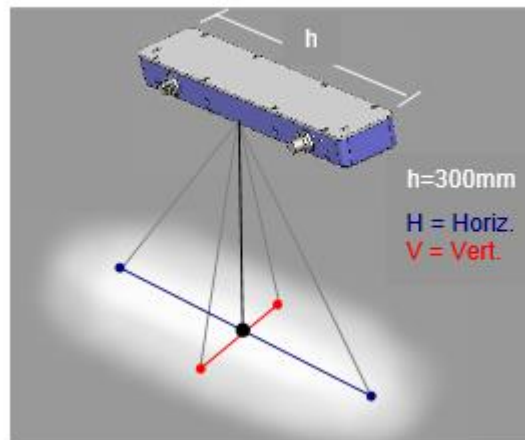
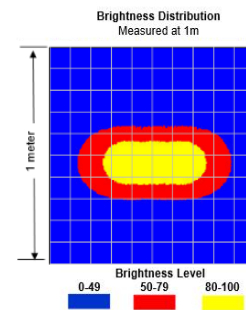
**L300-XXX-W**

Working Distance mm (inches)	Pattern (80%-100% measured intensity) mm (Inches)
.5m (19.7")	220mm(~9") H x 160mm(~6") V
1m (39.4")	460mm(~18") H x 420mm(~16.5") V
1.5m (59")	570mm(~22") H x 550mm(~22") V
Typical output performance	
Distance = .5 meter	Illumination (Lux) 6300
<i>Illumination measurement taken on White Lights – 6500K</i>	



**L300-XXX-L**

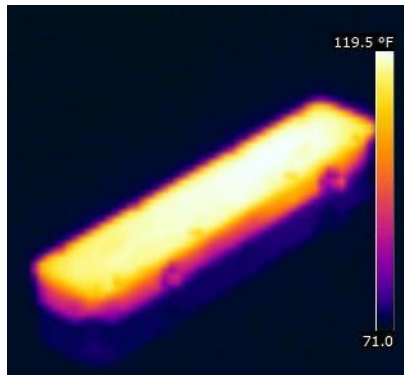
Working Distance mm (inches)	Pattern (80%-100% measured intensity) mm (Inches)
.5m (19.7")	260mm(~10") H x 100mm(~4") V
1m (39.4")	440mm(~17") H x 190mm(~7") V
1.5m (59")	660mm(~26") H x 300mm(12") V
Typical output performance	
Distance = .5 meter	Illumination (Lux) 10000
<i>Illumination measurement taken on White Lights – 6500K</i>	





## thermal analysis

In constant operation the housing on L300 series lights will run at 50 C° in an ambient temperature of 25 C°.



L300 series aluminum backplates designed to transfer heat away from high power LED's.

Additional heat sinking recommended in ambient air temperatures above 25° C.

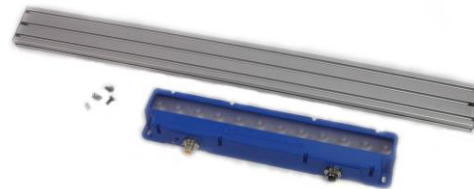
Thermal image taken after 2 hours of continuous ON operation at 25° C.



## mounting & accessories



3-Axis Pan and Tilt Mount



T-mount Rail Mount



## connecting lights/daisy chain

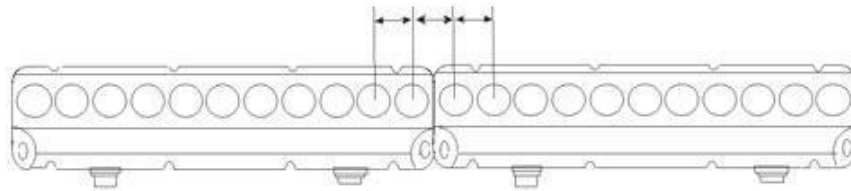


L300 Series light require the use of a standard 5-pin M12 jumper cable effectively paralleling up to six L300 lights.



## LED spacing & illumination

Constant spacing between LED's as lights are connected together





According to IEC 62471:2006. Full documentation upon request.

**Notice**

Exempt Group: No photobiological hazard to eyes or skin even for continuous, unrestricted use.  
Applicable for wavelengths: 625, 850, and 940.

**Caution**

Risk Group 1: Possibly hazardous optical radiation emitted from this product. Do not stare at operating lamp. May be harmful to eye. Safe for most applications except prolonged exposures.  
Applicable for wavelengths: 395, 470, 505, 530, and WHI.

**Notice**

Risk Group 1: UV emitted from this product. Minimize exposure to eyes and skin. Use appropriate shielding. Safe for most applications except prolonged exposures.  
Applicable for wavelengths: 395

**Caution**

Risk Group 2: UV emitted from this product. Eye or skin irritation may result from exposure. Use appropriate shielding. Does not pose optical hazard if aversion responses limit exposure.  
Applicable for wavelengths: 365