

## product introduction

The plug n' play design of the Direct-Connect Linear Light Series gives users tremendous flexibility without the concern for additional wiring. The ODLX300 array utilizes 12 high intensity LEDs being the longest light in the Direct-Connect Series. It also features an integrated constant current driver built into the light. Direct-Connect 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. Designed to be 4x to 5x times the intensity of the standard LX300.

## product features



- 4-5 times Brighter Than Standard High Current LED Lights
- SafeStrobe Technology
- 5 Pin M12 Quick Disconnect
- Direct Connect Lights Together
- Driver Built In – No External Wiring To A Driver
- PNP and NPN Strobe Input
- Up to 5000 Strokes Per Second
- Maximum Strobe Time 125mS
- Twelve, 1mm<sup>2</sup> Die High Current LEDs

## product specifications

Electrical Input	24 VDC +/- 5%
Current	Max. 6A draw during strobe – Max Average 600mA
Wattage	Avg. 14.4W
Strobe Input	PNP ▶ +3VDC or greater to activate.   NPN ▶ GND (<1VDC) to activate
PNP Line	3.7mA @ 3VDC   6.2mA @ 5VDC   12.6mA @ 10VDC   30.4mA @ 24 VDC
NPN Line	22mA @ Common (0VDC)
Yellow Indicator LED	LED Strobe Indicator ON = Light Active
Green Indicator LED	ON = Power
Strobe/Pulse Time	Max. 5000 SPS (Strokes Per Second)   Max. Single Pulse = 125ms
Potentiometer	10 turn pot – Intensity control of 10% to 100% Clockwise increases intensity
Analog Intensity	The output is adjustable from 10 -100% of brightness by a 0 -10 VDC signal
Connection	5 pin M12 Integral QD connector
Daisy Chain	Up to six ODLX300
Ambient Temperature	-20° - 50° C (-4° - 122° F)
Lifespan	100,000 hrs
IP Rating	IP50
Weight	~540g
IEC 62471 Rating	See page 6



## product number key

# ODLX300 – XXX – X\* –» Part Number Key

**Product Family:**  
Linear Light  
ODLX300

**Color:**  
365, 395 –UV  
470 – Blue  
505 –Cyan  
530 – Green  
625 – Red  
850, 940 – IR  
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 6A at 24VDC. Failure to supply light with 6A will result in non-repeatable lighting. Contact Smart Vision Lights for more information.



## wiring configuration



If Analog 0-10 VDC is not used to control light intensity;  
+VDC (24VDC) must be connected to Analog Input - Jumper pin 3 to pin 1

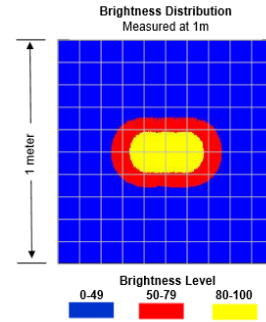
PIN	Wire Color	Function	Signal
5	BLUE	Ground	GND
4	BLACK	PNP Strobe	4VDC to 30VDC for active ON
3	GREY	Analog Intensity Control	0-10 VDC
2	WHITE	NPN Strobe	GND for active ON
1	BROWN	Power	+24 VDC

† Some cables use green with yellow stripe for 0-10V adjustment



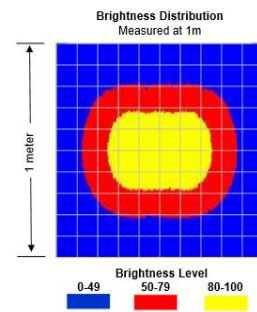
**ODLX300-XXX**

Working Distance mm (inches)	Pattern (80%-100% measured intensity) mm (Inches)
.5m (19.7")	240mm(~9") H x 100mm(~4") V
1m (39.4")	250mm(~10") H x 220mm(~9") V
1.5m (59")	360mm(~14") H x 360mm(~14") V
Typical output performance	
Distance = .5 meter	Illumination (Lux) 70000
<i>Illumination measurement taken on White Lights – 6500K</i>	



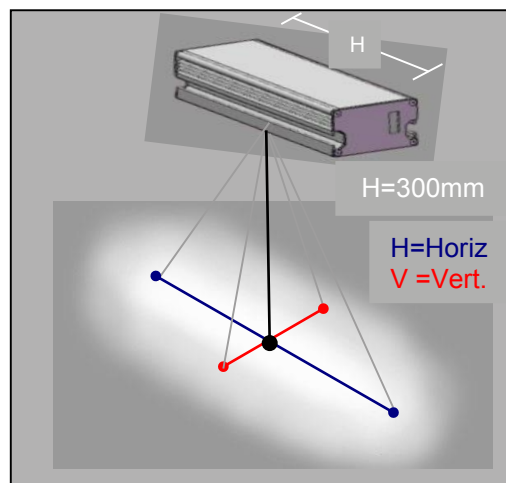
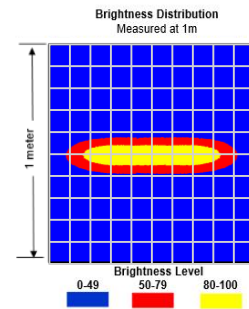
**ODLX300-XXX-W**

Working Distance mm (inches)	Pattern (80%-100% measured intensity) mm (Inches)
.5m (19.7")	240mm(~9") H x 180mm(~7") W
1m (39.4")	400mm(~16") H x 350mm(~14") W
1.5m (59")	530mm(~21") H x 540mm(~21") W
Typical output performance	
Distance = .5 meter	Illumination (Lux) 31500
<i>Illumination measurement taken on White Lights – 6500K</i>	



**ODLX300-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) 50000
<i>Illumination measurement taken on White Lights – 6500K</i>	



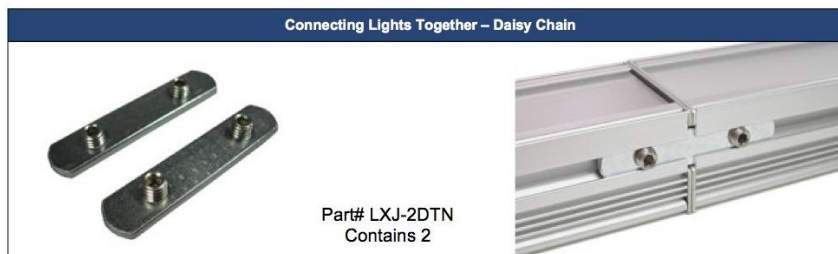
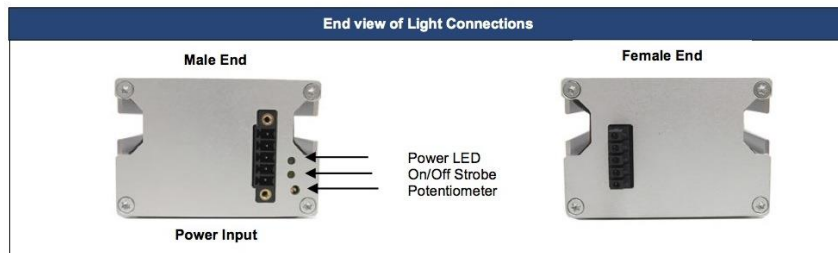


## thermal analysis

The ODLX series of linear lights is the brightest in the vision industry due to the heat dissipation of the housing. Lifespan and power output for LED lights are based on the junction temperature of the high current LED. The junction is the point where the light is generated inside the LED and the point of heat generation. To dissipate heat, Smart Vision Lights directly mounts high current LED's to an aluminum circuit board. The aluminum circuit board is in direct contact with ODLX series aluminum housing. This design efficiently transfers heat away from the high powered LEDs. Therefore, the ODLX series Linear Light can be run at higher current, producing an increased output due the even heat dissipation of the aluminum housing. In constant operation the housing on Smart Vision Lights ODLX series lights will run at 50 C° in an ambient temperature of 25 C°.



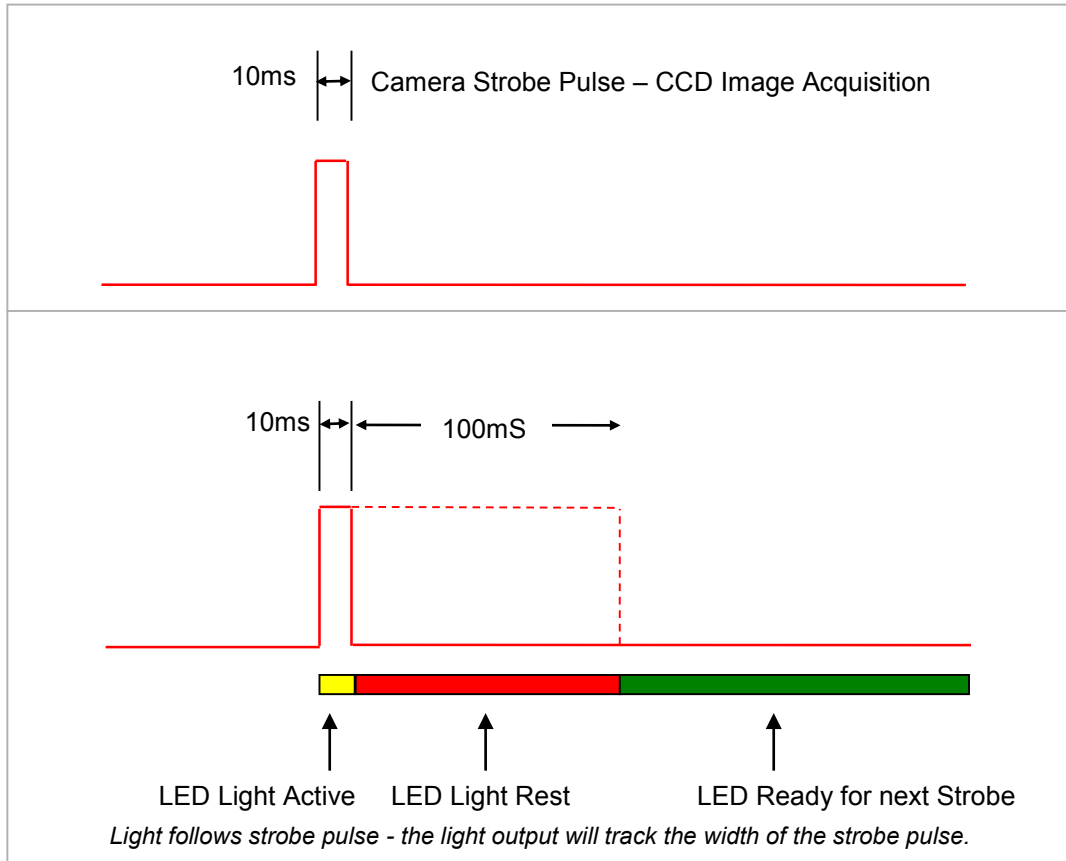
## connecting lights/daisy chain





### Duty Cycle on Performance of Light

All lights are pulse following



**Duty Cycle (D) is defined as the ratio between Strobe Time and Rest Time**

**Maximum Duty Cycle for OD Light is 10% = .1**

Calculating Rest Time -  $R_T$

$$R_T = \frac{S_T}{D}$$

$S_T$  is the Strobe Time  
 $R_T$  is the Rest Time  
 $D$  is Duty Cycle

**Example: Camera exposure of 10mS where Strobe Time is 10mS.**

$$R_T = \frac{10ms}{.1} = 100mS$$

Rest Time is 100ms for 10ms Strobe Time



## risk group

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 and 850.

### 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