



product introduction

The ODL300 array utilizes 12 high intensity LEDs being the longest light in the Connect-a-light Series. It also features an integrated Overdrive driver built into the light with a maximum strobe rate of 5000 strobes per second. It eliminates the need for any external components in the lighting system. 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



- 4-5 Times Brighter Than Standard High Current LED Lights
- SafeStrobe Technology
- 5 Pin M12 Quick Disconnect
- Option of Connecting 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, 1mm² Die High Current LEDs



product specifications

Electrical Input	24 VDC +/- 5%
Current	Max. 6A draw during strobe – Max Average 600mA
Wattage	Max. 144W during strobe Max. Avg. 14.4W
Strobe Input	PNP ► +4VDC 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)
Duty Cycle	Max. 10%
Strobe/Pulse Time	Max. 5000 SPS (Strokes Per Second) Max. Single Pulse = 125ms
Red Indicator LED	ON = Light Rest (LED inactive) OFF = LED/Light Ready
Green Indicator LED	ON = Power
Potentiometer	3/4 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 connector
Daisy Chain	Up to six
Ambient Temp.	-20° - 50° C (-4° - 122° F)
Lifespan	100,000 hrs
IP Rating	IP50
Weight	~370g
Compliances	CE and RoHS
IEC 62471 Rating	See page 5



product number key

ODL300 – XXX – X* –» Part Number Key

Product Family:
Linear Light
ODL300

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. 18 gauge cables are recommended for use with the ODL300. Lengths longer than 5 meter are not recommended due to excessive volt drop. For more information contact Smart Vision Lights.



wiring configuration

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	Function	Signal	Wire Color
	1	Power In	+24VDC	BROWN
	2	NPN	Sinking Signal	WHITE
	3	GND	Ground	BLUE
	4	PNP	Sourcing Signal	BLACK
	5	Intensity Control	0-10VDC	GREY †

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



mounting & accessories



3-Axis Pan and Tilt Mount
Available



T-mount Rail Mount
Available



connecting lights/daisy chain

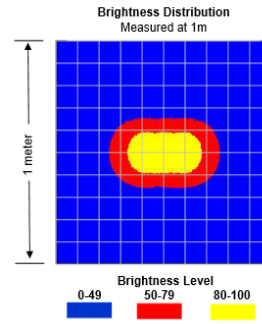


ODL300 Series light require the use of a standard 5-pin M12 jumper cable effectively paralleling up to six ODL300 lights.



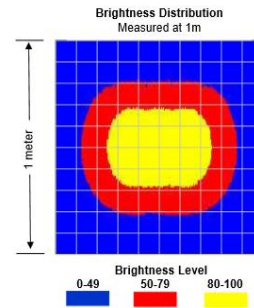
ODL300-XXX

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	
Illumination (Lux)	
Distance = .5 meter	70000
<i>Illumination measurement taken on White Lights – 6500K</i>	



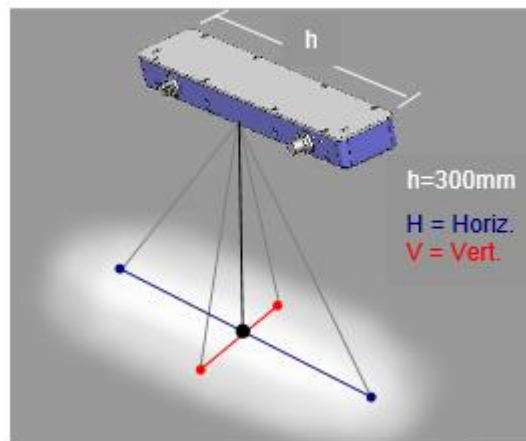
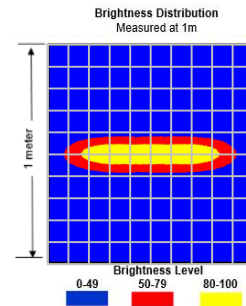
ODL300-XXX-W

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	
Illumination (Lux)	
Distance = .5 meter	31500
<i>Illumination measurement taken on White Lights – 6500K</i>	



ODL300-XXX-L

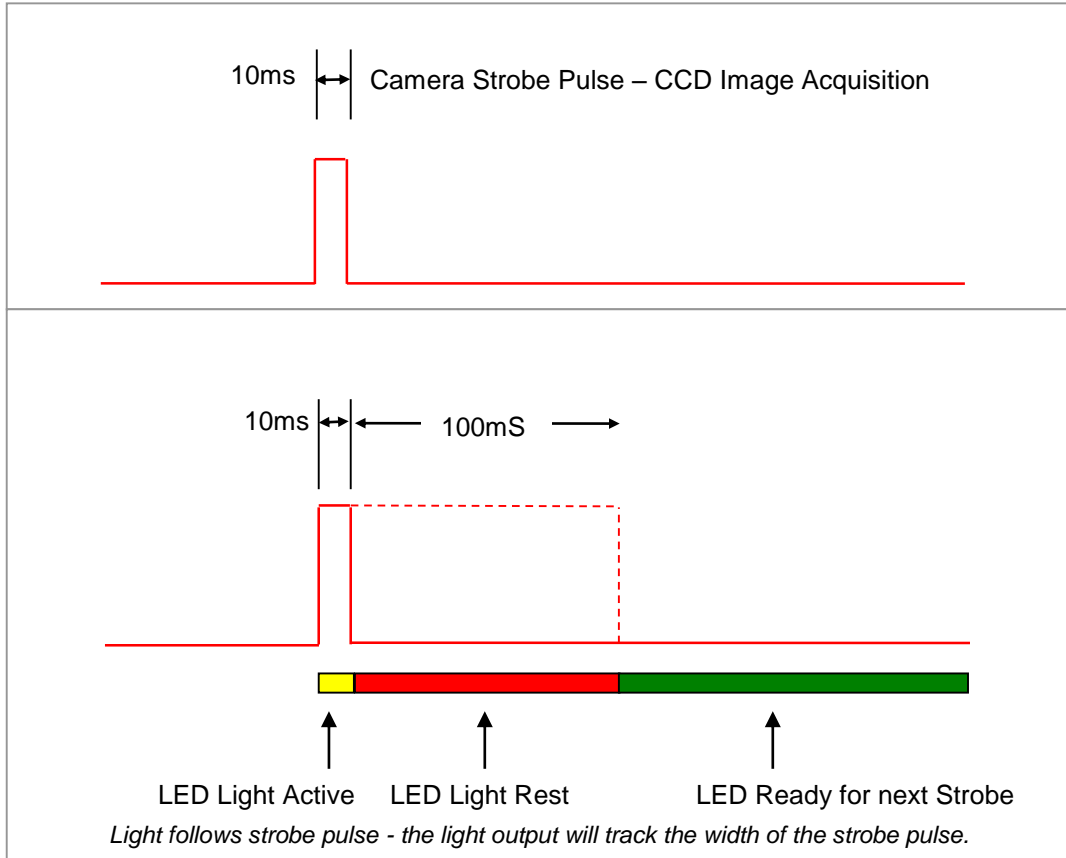
Working Distance mm (inches)	Pattern (80%-100% measured intensity) mm (Inches)
.5m (19.7")	330mm(~13") H x 50mm(~2") V
1m (39.4")	660mm(~26") H x 100mm(~4") V
1.5m (59")	990mm(~39") H x 150mm(6") V
Typical output performance	
Illumination (Lux)	
Distance = .5 meter	50000
<i>Illumination measurement taken on White Lights – 6500K</i>	





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.

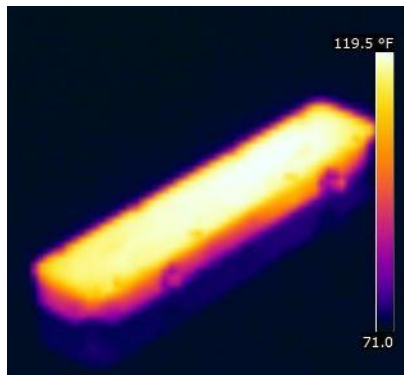
$$R_T = \frac{10ms}{.1} = 100ms$$

Rest Time is 100ms for 10ms Strobe Time



thermal analysis

In constant operation the housing on ODL300 series lights will run at 50 C° in an ambient temperature of 25 C°.



ODL300 series aluminum backplates designed to transfer heat away from high power LED's.

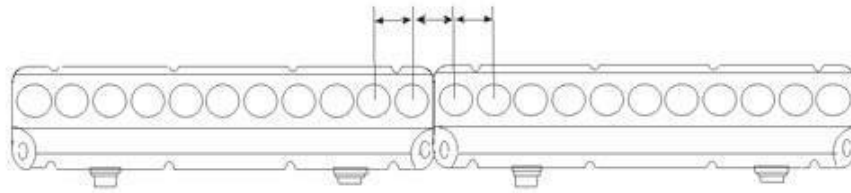
Additional heat sinking recommended in ambient air temperatures above 25° C.

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



LED spacing & illumination

Constant spacing between LED's as lights are connected together



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, 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