



## product introduction

The ODLW300 array features a stainless steel IP68 rated enclosure with sealed bolts and waterproof connector for applications in wash down and corrosive environments. The ODLW300 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. 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



- Stainless Steel 316 Housing
- Meets FDA Compliancy
- 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
- Maximum Strobe Time 125ms
- Up to 5000 Strokes Per Second
- Twelve, 1mm<sup>2</sup> Die High Current LEDs



## product specifications

|                          |   |
|--------------------------|---|
| <b>Electrical Input</b>  | 24 VDC +/- 5%   |
| <b>Current</b>           | Max. 6A draw during strobe – Max Average 600mA                                |
| <b>Wattage</b>           | Max. 144W during strobe   Max. Avg. 14.4W                                     |
| <b>Strobe Input</b>      | PNP ► +4VDC 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>Duty Cycle</b>        | Max. 10%  |
| <b>Strobe/Pulse Time</b> | Max. 5000 SPS (Strokes Per Second)   Max. Single Pulse = 125ms                |
| <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   |
| <b>Ambient Temp.</b>     | -20° - 50° C (-4° - 122° F)   |
| <b>IP Rating</b>         | IP69K   |
| <b>Weight</b>            | ~1430g  |
| <b>Compliances</b>       | CE and RoHS   |
| <b>IEC 62471 Rating</b>  | See page 5  |



## product number key

# ODLW300 – XXX – X\* –» Part Number Key

**Product Family:**  
Linear Light  
ODLW300

**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 ODLW300. 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

The ODLW300 features two stainless steel tabs welded directly to the housing for simple yet versatile mounting options.

Mounting hardware not included.



## connecting lights/daisy chain

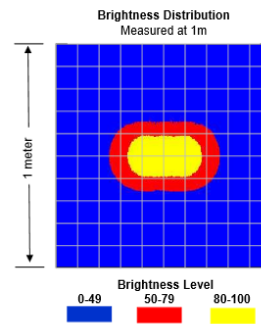


ODLW300 Series light require the use of a standard 5-pin M12 jumper cable effectively paralleling up to six ODLW300 lights.



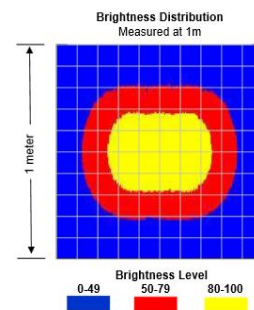
**ODLW300-XXX**

| Working Distance<br>mm (inches)                               | Pattern (80%-100% measured intensity)<br>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)<br>70000                          |
| <i>Illumination measurement taken on White Lights – 6500K</i> |  |



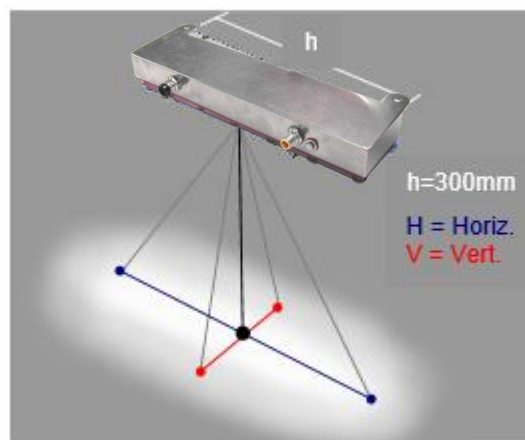
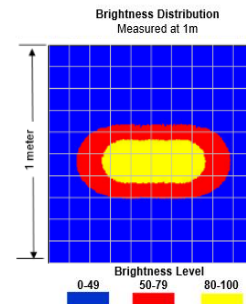
**ODLW300-XXX-W**

| Working Distance<br>mm (inches) | Pattern (80%-100% measured intensity)<br>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)<br>31500                          |
| Distance = .5 meter             |  |



**ODLW300-XXX-L**

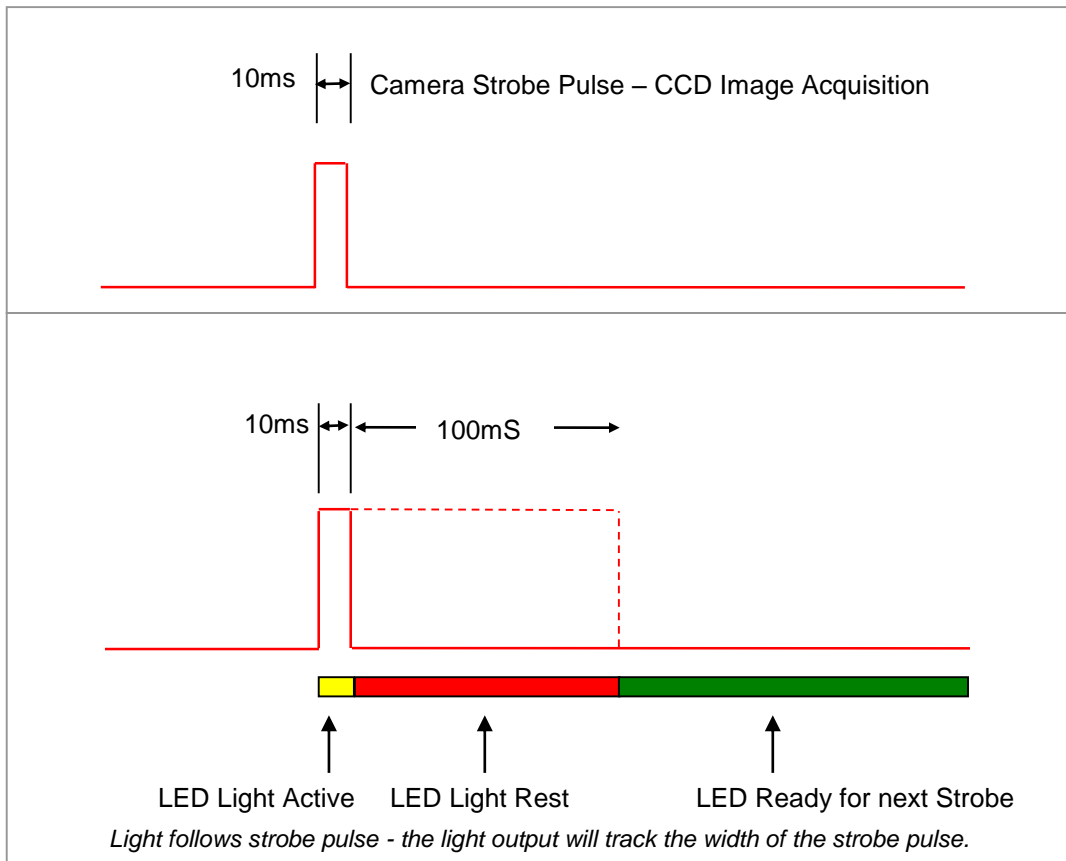
| Working Distance<br>mm (inches)                               | Pattern (80%-100% measured intensity)<br>mm (Inches) |
|---|--|
| .5m (19.7")   | 260mm(~10") H x 100mm(~4") V                         |
| 1m (39.4")  | 440mm(~17") H x 190mm(~7") V                         |
| 1.5m (59")  | 660mm(~26") H x 300mm(12") V                         |
| Typical output performance                                    |  |
| Distance = .5 meter   | Illumination (Lux)<br>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.**

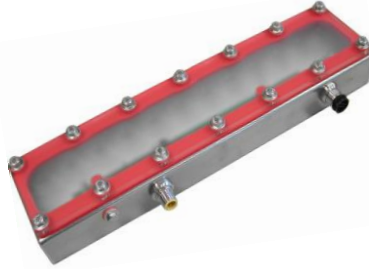
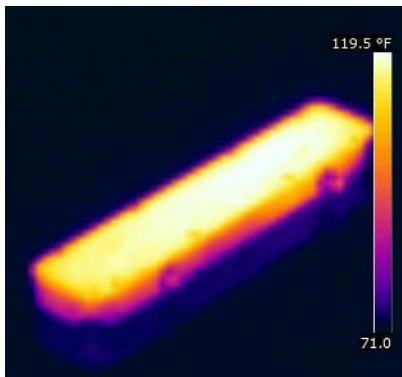
$$R_T = \frac{10ms}{.1} = 100mS$$

Rest Time is 100ms for 10ms Strobe Time



## thermal analysis

In constant operation the housing on ODLW300 series lights will run at 50 C° in an ambient temperature of 25 C°.



ODLW300 series aluminum backplates designed to transfer heat away from high power LED's.

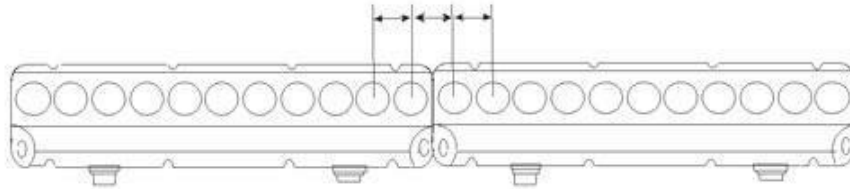
Additional heat sinking recommended in ambient air temperatures above 25° C.

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: 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