



product introduction

The ODSP30 Series Projector Light offers the most intense projected spot size offered from a single source LED. This light features an Overdrive driver with NPN or PNP signal options. The 9mm² die size emits 5x the intensity as a constant current SP30. The housing is constructed of 6061-T6 aluminum designed to dissipate as much heat as possible therefore allowing the LED to be run at a much higher current than the standard 1mm² die LED's. Multiple interchangeable pattern styles are available along with optional custom patterns. The ODSP30 Series is able to project a much thinner and define pattern of light compared to laser projectors making the ODSP30 a more accurate and better light.



product features



- Multiple interchangeable patterns
- SafeStrobe Technology
- Driver built in – No External wiring to a driver
- PNP and NPN Strobe input
- Dimmable via built in potentiometer
- Analog intensity 0-10VDC signal
- Up to 2000 strobes per second
- 5x the intensity as the SP30
- Maximum Strobe Time 50mS
- One. 9mm² Die High Current LEDs



product specifications

Electrical Input	24 VDC +/- 5%
Current	Max. 10A draw during strobe – Max. Average 1A
Wattage	Max. 7.2W
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	Maximum Single Pulse = 50ms
Red Indicator LED	ON = LED Rest (LED inactive) OFF = LED/Light Ready
Green Indicator LED	ON = Power
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 connector
Ambient Temp.	-20° - 50° C (-4° - 122° F)
IP Rating	IP50
Weight	~290g
Compliances	CE and RoHS
IEC 62471 Rating	See page 5



product number key

ODSP30 – XXX - XX —» Part Number Key

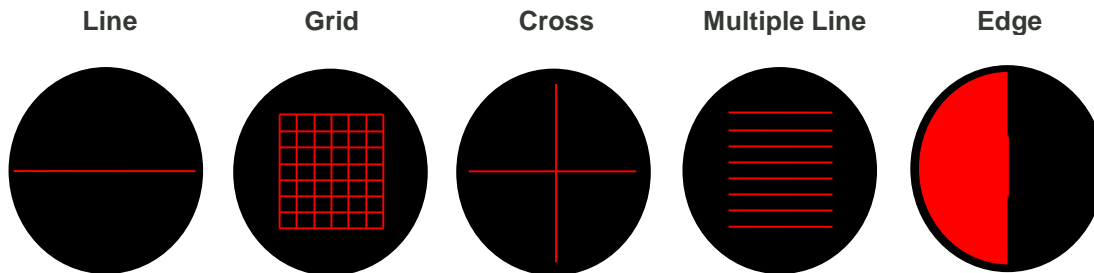
Product Family:
Projector Light
ODSP30

Color:
470, 530, 625, 850
& WHI (White)

Pattern:
L-Line
G-Grid
CH-Cross Hair

CE and RoHS Compliant

Standard patterns are available and custom patterns can be etched. Patterns can be changed.



warnings

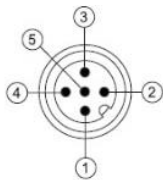


Attention

Please note that the power requirements are 10A at 24VDC. Failure to supply light with 10A 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



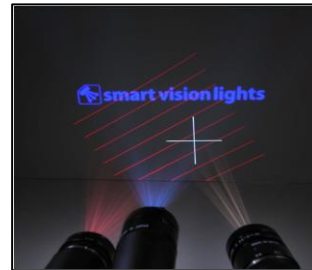
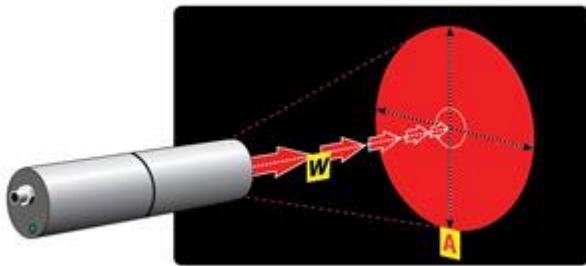
optical performance

W = Working Distance

A = Diameter of Area

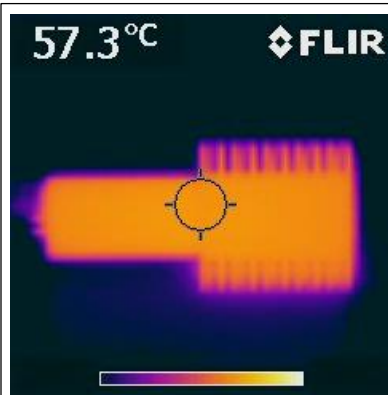
	100mm	150mm	200mm	300mm	400mm	500mm	600mm	750mm	1000mm	1500mm	2000mm
60mm			25			50					
100mm	8	12	16	25	35	35	50	50			
150mm	6	8	12	16	25	25	35	35	50	75	
200mm		6	8	12	16	16	25	25	35	50	100
300mm			6	8	12	12	16	16	25	35	50
400mm				6	8	8	12	12	16	25	35
500mm					6		8	12	16	25	25

Number in box represents the focal length of lens (example - 6 is a 6mm focal length lens)



thermal analysis

In constant operation the housing on ODSP30 series lights will run at 50 C° in an ambient temperature of 25 C°.



ODSP30 series aluminum enclosures designed to transfer heat away from the high power LED.

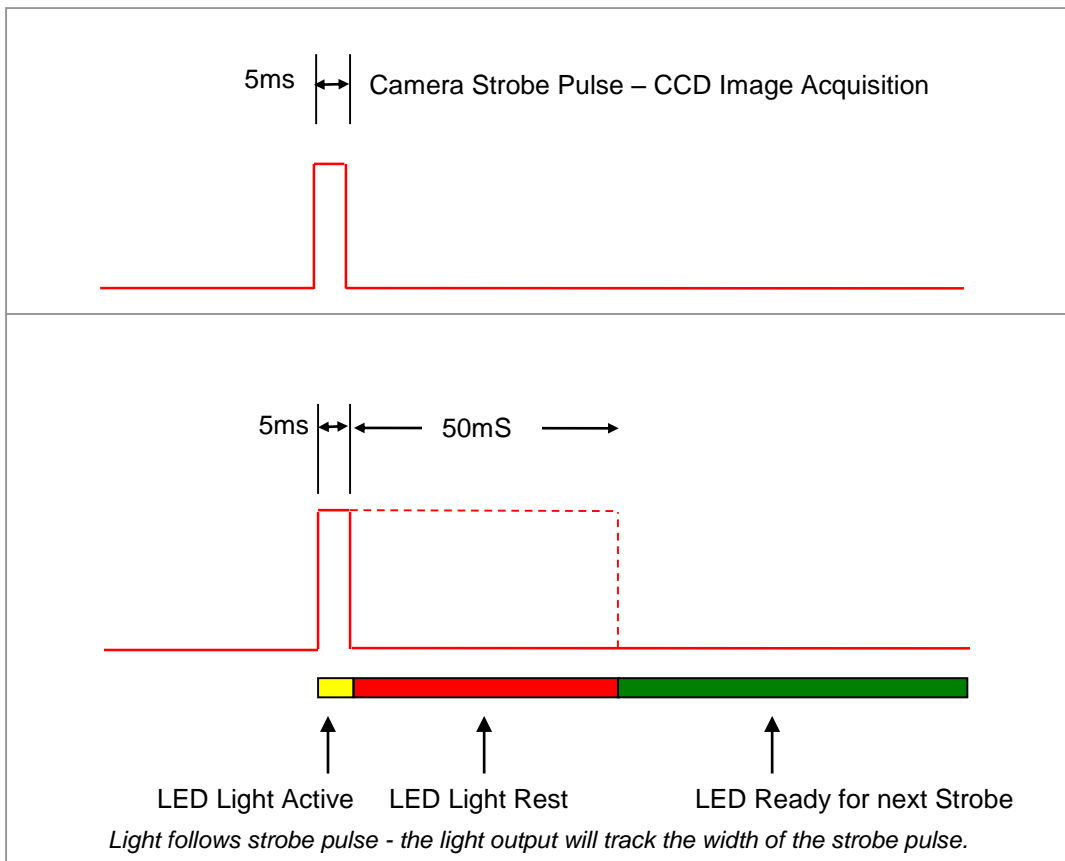
Additional heat sinking recommended in ambient air temperatures above 25°C.

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



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 - RT

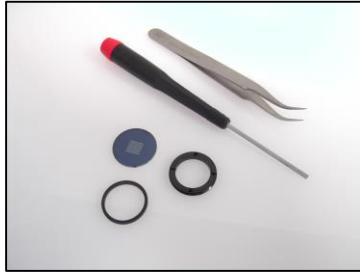
$$RT = \frac{ST}{D}$$

ST is the Strobe Time
RT is the Rest Time
D is Duty Cycle

Example: Camera exposure of 5mS where Strobe Time is 5mS.

$$RT = \frac{5ms}{.1} = 50mS$$

Rest Time is 50ms for 5ms Strobe Time



Tools: small screwdriver or tweezers



Pattern

Retaining Ring



Retainer Ring

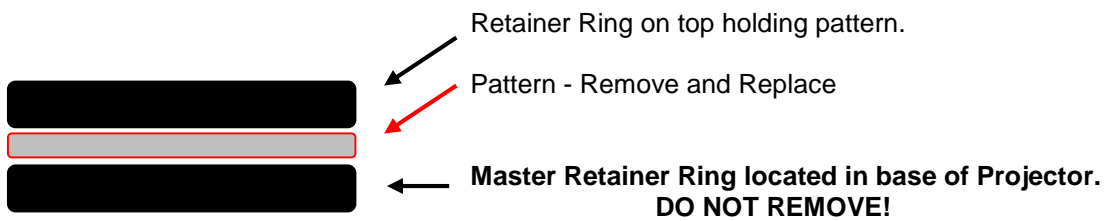


Pattern

Removal of Retaining Ring

Screwdriver or Tweezers to remove retaining ring. Retaining Ring will turn Clockwise to install and Counter-Clockwise to remove. There are 2 small holes and 2 slots in ring to install/remove.

Arrangement of Retainer Ring and Pattern.





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

Notice

Exempt Group: No photo biological 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