

OverDRIVE

Warranty
10
YEAR

Compliant
IEC
62471

Compliant
CE
RoHS

Rated
IP
50

Connector
5 PIN
M12

PRODUCT HIGHLIGHTS

- ✓ OverDrive™ — Up to 2.5 times brighter than a standard SX30 Prox Light
- ✓ SafeStrobe™ technology ensures protected operation of LEDs
- ✓ Telescoping lens allows the projected spot to be set to desired size
- ✓ 5-pin M12 quick connect
- ✓ Built-in driver
- ✓ Standard optics provides tight focused light

PRODUCT DESCRIPTION

The ODSXA30 Series of Adjustable Spot Lights feature a telescoping lens for full control of projected spot size. Light projected has a homogenous pattern that is 2.5 times brighter than the standard SXA30 and is great for applications where very diffuse and even lighting is required. The ODSXA30 also features a compact yet robust 30 mm diameter threaded housing that allows for simple mounting and ultimate versatility. Built in SafeStrobe™ technology ensures protection of the LED while providing maximum output. NPN and PNP trigger signal input and a 1–10 V DC analog intensity control make this series of spot lights a very dependable and versatile light.

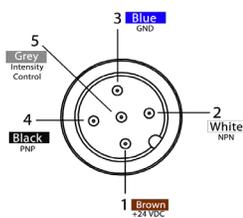
PRODUCT SPECIFICATIONS

Electrical Input	24 V DC +/- 5%
Input Current	Peak 200 mA during strobe
Input Power	Peak 5 W during strobe
PNP Trigger	2.8 mA @ 4 V DC 8.8 mA @ 12 V DC 17.6 mA @ 24 V DC
NPN Trigger	14.4 mA @ Ground (0VDC)
Trigger Input	PNP > +4 VDC (24 VDC max.) to activate <u>or</u> NPN ≥ GND <1VDC to activate (not both)
Strobe Duration	Min. 10 μs Max. 50 ms
Strobe Frequency	Max 4 kHz or 1 / Duty Cycle as calculated, whichever is less.
Power Indicator	Turns green when powered up
Status Indicator	Strobe indicator will turn red when on
Analog Intensity	The output is adjustable from 10–100% of brightness by a 1–10 V DC signal. (Jumpering pin 5 to pin 1 will provide maximum intensity)
Connection	5-pin M12 connector
Operating Temperature	-10° - 40° C (14°-104° F) RH max 80% non-condensing humidity
Storage Temperature	-20° - 70° C (-4°-158° F) RH max 80% non-condensing humidity
IP Rating	IP50
Weight	~320g
Compliances	CE, RoHS, IEC 62471
Warranty	10 years**

*See page 4 for more information

**See SmartVisionLights.com/warranty for details

WIRING CONFIGURATION



Pins	Function	Signal	Wire Color
1	Power In	+24VDC	BROWN
2	NPN	Sinking Signal	WHITE
3	GND	Ground	BLUE
4	PNP	Sourcing Signal	BLACK
5	OverDrive™ Signal	1– 10 V DC	GREY*

Some cables use green/yellow for pin 5

To enable OverDrive™ mode, tie pin 5 to pin 3

For proper light function, apply either a PNP or NPN signal, not both.

Failure to supply light with correct input current will result in inconsistent lighting behavior.

(see Product Specifications for requirements)

Pin layout for light (Male Connector)

RESOURCE CORNER

Additional resources available on our website including CAD files, videos and application examples.

Smart Vision Lights

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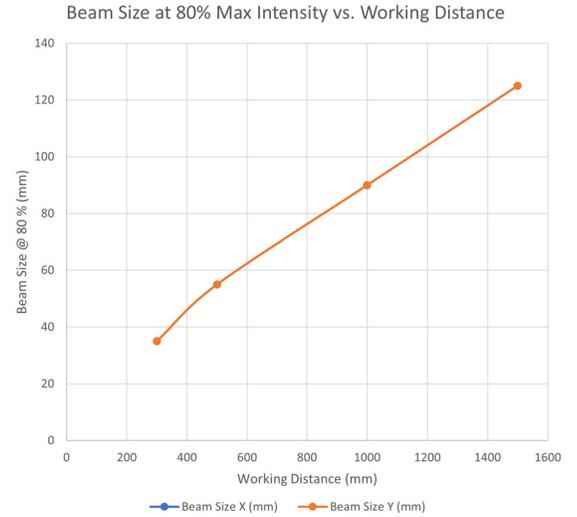
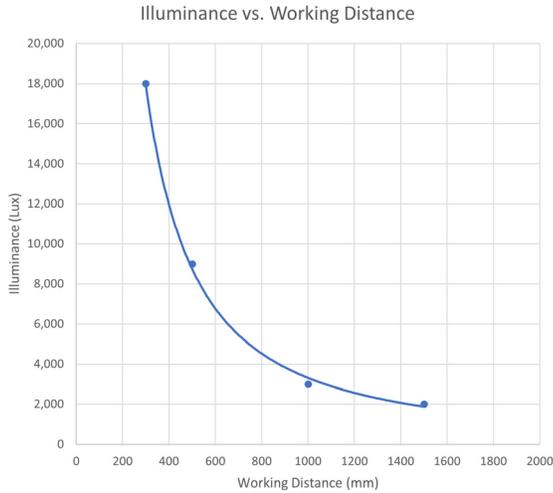




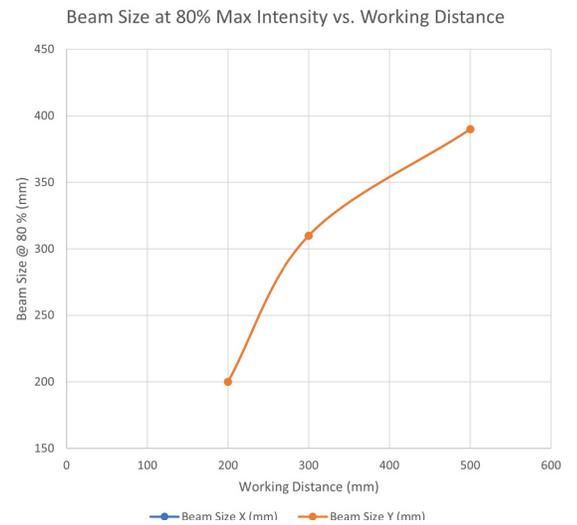
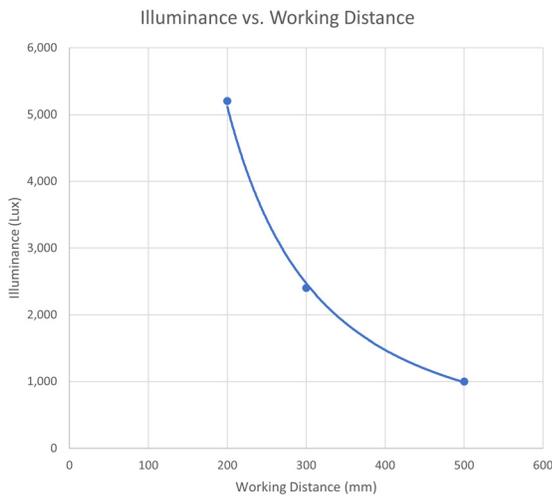
LIGHT PATTERNS

Smart Vision Lights recommends the ODSXA30 be used at a working distance between 500 mm and 4000 mm

LIGHTING PATTERN FOR THE ODSXA30 Fully Extended Lens

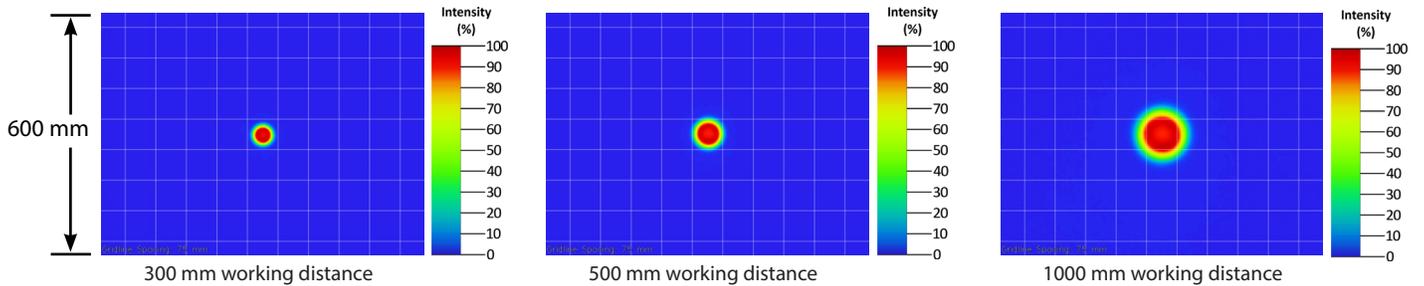


LIGHTING PATTERN FOR THE ODSXA30 Fully Retracted Lens



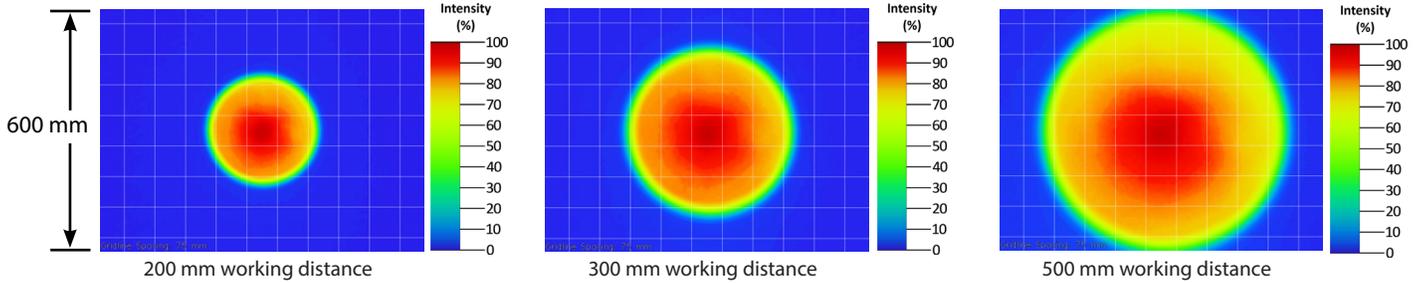
BEAM PATTERN FOR THE ODSXA30 Fully Extended Lens

Grid set to 75 mm



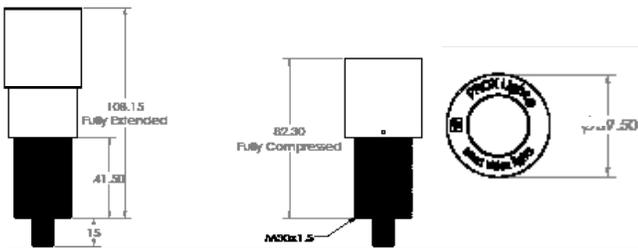
LIGHT PATTERNS (CONTINUED)

BEAM PATTERN FOR THE ODSXA30 Fully Retracted Lens
Grid set to 75 mm



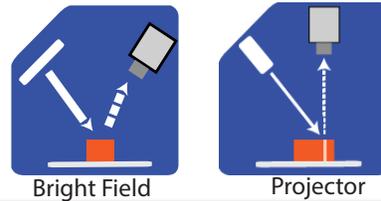
PRODUCT DRAWING

CAD files available on our website. Dimensions are in mm.



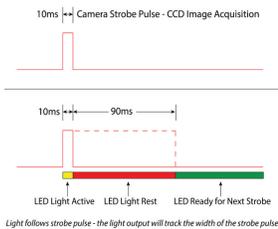
ILLUMINATION

ODSXA30 series of Linear Lights works best for:



DUTY CYCLE

The Duty Cycle (D) is related to the Strobe Time (ST) and Rest Time (RT).



Calculating Rest Time

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

RT = Rest Time
ST = Strobe Time
D = Duty Cycle

Example

$$90 \text{ ms} = \frac{10 \text{ ms}}{.1} - 10 \text{ ms}$$

Rest Time is 90 ms for 10 ms Strobe Time

Calculating Strobe Rate

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

SR = Strobe Rate (strokes per second)
ST = Strobe Time (seconds)
D = Duty Cycle

Example

$$1000 = \frac{0.1}{0.0001}$$

Strobe Rate is 1000 strokes per second

Calculating Duty Cycle

$$D = ST \times SR$$

SR = Strobe Rate (strokes per second)
ST = Strobe Time (seconds)
D = Duty Cycle

Example

$$0.1 = 0.0001 \times 1000$$

Duty Cycle is 10% (0.1)

Maximum Duty Cycle for OverDrive™ light is 10% (0.1)

Maximum Strobe Frequency is 1/3 calculated duty cycle or 4,000 strokes per second, whichever is less.



EYE SAFETY

According to IEC 62471:2006. Full documentation upon request with purchase of product.

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.

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 and 395



PART NUMBER

ODSXA30 –



Part Number Example:

ODSXA30-625 ODSXA30, 625 nm Red Wavelength

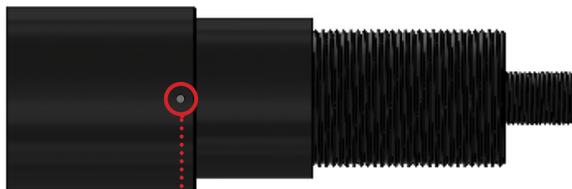
Additional wavelengths options available upon request



ADJUSTING LENS

The telescoping lens can be adjusted by first loosening the M2 locking screw, followed by either extending or retracting the lens housing to desired position. Once lens is set to desired position, tighten M2 locking screw.

Fully Extended



Locking Screw

Fully Retracted

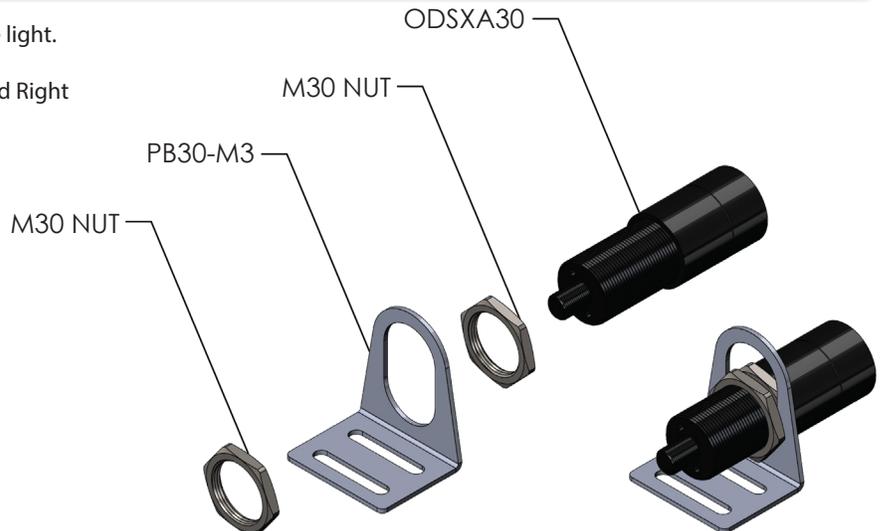


MOUNTING

Two M30 nuts for mounting are included with the light.

Example of the ODSXA30 shown using the Slotted Right Angle mount (**Part Number: PB30-M3**).

See accessories for additional mounting options.





ACCESSORIES

Mount	
	
Description	Part Number
Swivel Mount	PB30-M1

Mount	
	
Description	Part Number
Slotted Block Mount	PB30-M2

Mount	
	
Description	Part Number
Slotted Right Angle	PB30-M3

Mount	
	
Description	Part Number
Blot-on Block Mount	PB30-M6

Power Cables	
	
Lengths	Part Number
5 m	5PM12-5
10 m	5PM12-10
15 m	5PM12-15



GLOSSARY

This glossary covers all Smart Vision Lights product families; some content in this section may not apply to this specific light.

TERMINOLOGY

OverDrive™ Lights include an integrated high-pulse driver for complete LED light control.

Continuous Operation Lights stay on continuously.

Multi-Drive™ Combines continuous operation and OverDrive™ strobe (high-pulse operation) mode into one easy-to-use light.

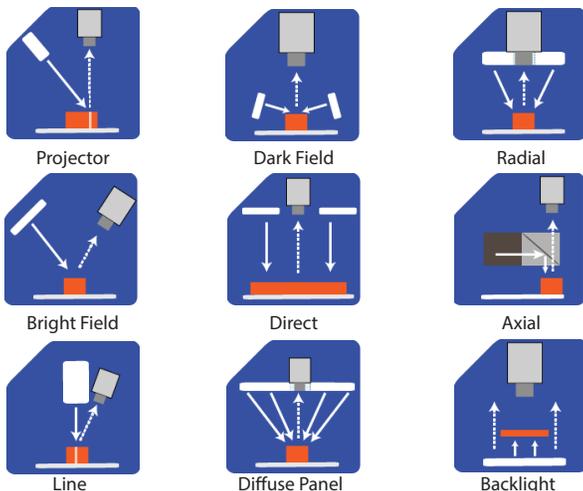
Built-In Driver The built-in driver allows full function without the need of an external controller.

Camera to Light Connecting the light directly to the camera, without the need for additional controllers or equipment.

Polarizers Filters that reduce reflections on specular surfaces.

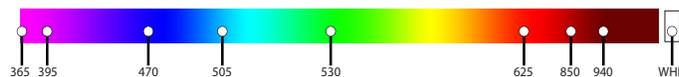
Diffuser Used to widen the angle of light emission, reduce reflections, and increase uniformity.

TYPES OF ILLUMINATIONS



COLOR/WAVELENGTHS LEGEND

Wavelengths options range from 365 nm to 1550 nm. Additional wavelengths available for many light families.



*See Part Number section for **this light's** available standard wavelengths.



Shortwave infrared LEDs are available in 1050 nm, 1200 nm, 1300 nm, 1450 nm, and 1550 nm.*

*Check Part Number section to see if **this light** is available in SWIR wavelengths.