

P R O D U C T D A T A S H E E T



Warranty
10
YEAR

Compliant
IEC
62471

Compliant
CE
RoHS

Rated
IP
65

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
- ✓ 5-pin M12 quick connect
- ✓ Built-in Driver
- ✓ 30 mm barrel style housing
- ✓ Standard optics provides tight focused light

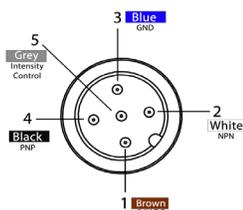
PRODUCT DESCRIPTION

The ODSX30 Series of Spot Lights features a 30 mm barrel style housing. The ODSX30 produces a homogeneous light pattern at any recommended working distance for a very define and even projected spot. The ODSX30 light output is 2.5 times that of the standard SX30. Built-in SafeStrobe™ technology ensures protection of the LED while providing maximum output. NPN or PNP strobe triggers can be used to control the pulse of the light. Intensity of the light can be controlled via 1–10 V DC remote analog signal. The ODSX30 has convenient mounting options that make mounting this spot light an easy task.

PRODUCT SPECIFICATIONS

Electrical Input	24 V DC +/- 5%
Input Current	Peak 1.25 A during strobe
Input Power	Peak 30 W during strobe
Strobe Input	PNP : +4 V DC or greater to activate NPN : GND (<1 V DC) to activate
PNP Line	2.2 mA @ 4VDC 8.8 mA @ 12VDC 17.6 mA @ 24VDC
NPN Line	14.4 mA @ Ground (0VDC)
Duty Cycle	Max. 10%
Strobe/Pulse Time	(see SafeStrobe™ Technology for more information)
Red Indicator LED	LED Strobe Indicator ON = Light Active
Green Indicator LED	ON = Power
Analog Intensity	The output is adjustable from 10–100% by a 1–10 V DC signal. (Jumpering pin 5 to pin 1 will provide maximum intensity)
Connection	5-pin M12 connector
Operating Temperature	-0°–45° C (32°–114° F)
IP Rating	IP65
Weight	~320g
Compliances	CE, RoHS, IEC-62471
Warranty	2 years; see smartvisionlights.com/warranty for more information.

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	Intensity Control	1–10 V DC	GREY *

* Some cables use green/yellow for 1-10V adjustment

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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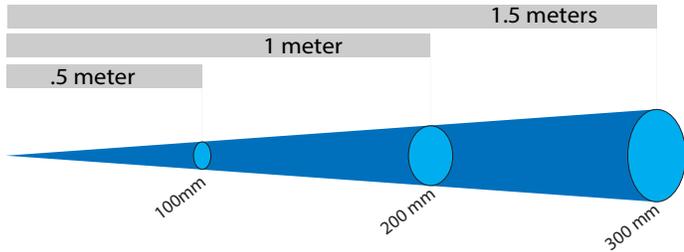




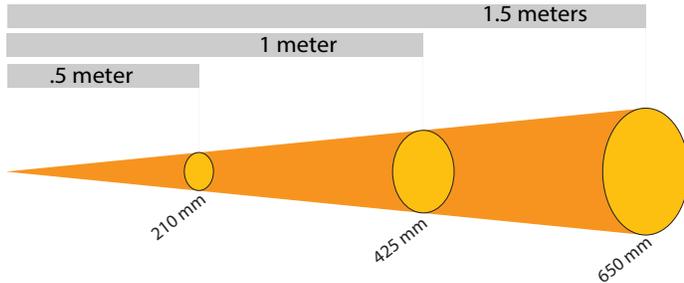
LIGHT PATTERNS

Smart Vision Lights recommends the ODSX30 be used at a working distance between 500 mm and 4000 mm.

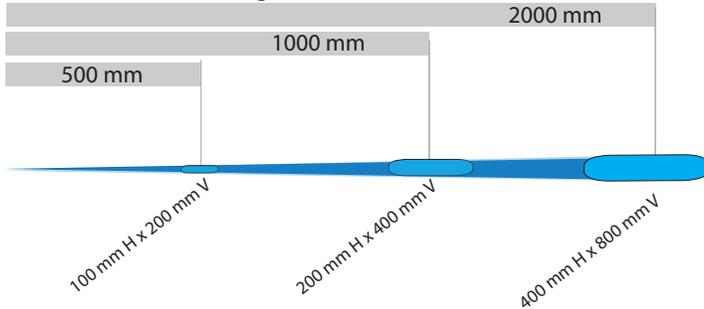
Beam Diameter (White Light) – 6500 K



Beam Diameter (White Light) – 6500 K



Beam Diameter (White Light) – 6500 K



LIGHTING PATTERN FOR THE ODSX30 (NARROW)

Working Distance mm (inches)	Pattern (80% - 100% measured intensity) mm (inches)
.5m (19.7")	100mm (~4") D
1m (39.4")	200mm (~8") D
1.5m (59")	300mm (~12") D

Typical Output Performance	Illuminance (Lux)
Distance = .5 meter	9,600
<i>Illumination measurement taken on White Lights - 6500K</i>	

LIGHTING PATTERN FOR THE ODSX30 (WIDE)

Working Distance mm (inches)	Pattern (80% - 100% measured intensity) mm (inches)
.5m (19.7")	210mm (~6")
1m (39.4")	425mm (~17")
1.5m (59")	650mm (~22")

Typical Output Performance	Illuminance (Lux)
Distance = .5 meter	6,300
<i>Illumination measurement taken on White Lights - 6500K</i>	

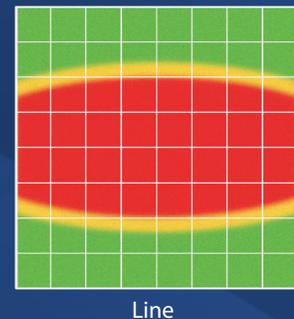
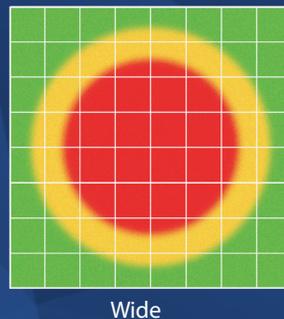
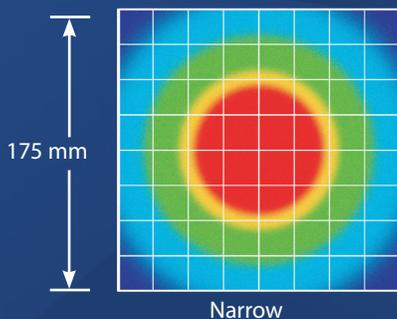
LIGHTING PATTERN FOR THE ODSX30 with Line (L) Lenses

Working Distance mm (inches)	Pattern (80% - 100% measured intensity) mm (inches)
500 mm (19.7")	100 mm (~3.9") H x 200 mm (~7.8") V
1000 mm (39.4")	200 mm (~7.8") H x 400 mm (~15.7") V
2000 mm (78.8")	400 mm (~15.7") H x 800 mm (~31.5") V

Typical Output Performance	Illuminance (Lux)
Distance = 500 mm	9,800
<i>Illumination measurement taken on White Lights - 6500K</i>	

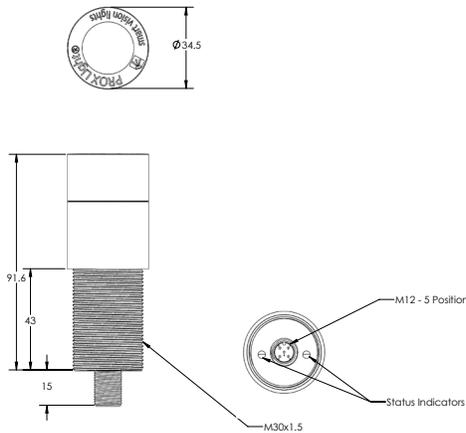
The ODSX30 Linear Light produces a uniform light pattern.

Working Distance = 500 mm Grid set to 25 mm x 25 mm



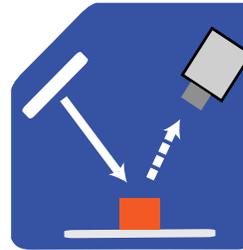
PRODUCT DRAWING

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



ILLUMINATION

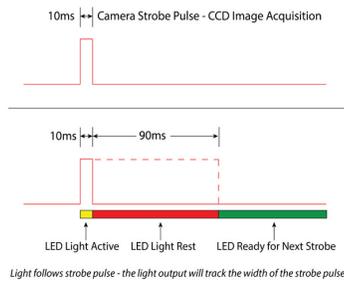
ODSX30 series of Linear Lights works best for:



Bright Field

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/ calculated duty cycle or 4,000 strokes per second, whichever is less.

EYE SAFETY

According to IEC-62471:2006. Full documentation upon request upon purchase of light.

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



Part Number Examples:

- ODSX30-625** ODSX30, 625 nm Red Wavelength, Standard (Narrow) Lenses
- ODSX30-WHI-W** ODSX30, White, Wide Lenses



This light is available in our SWIR LEDs (1050 nm, 1200 nm, 1300 nm, 1450 nm, 1550 nm)

Additional wavelengths options available upon request



STANDARD LENS OPTICS

NARROW

Narrow lens are standard.

Narrow, 10° angle-cone lenses are standard. Standard lenses create a narrow beam of illumination and are used for long working distances.



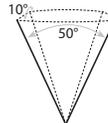
WIDE

Wide, 25° angle-cone lenses create a large area of illumination. They create a floodlight effect and can be used for short working distances.



LINE

Line, with a 10° width and a 50° fan angle, projects a thin, narrow beam of illumination



* Additional lens options available upon request.



SAFESTROBE™ TECHNOLOGY

SafeStrobe™ is a unique technology that applies safe working parameters to ensure high-current LED's are not damaged by driving them beyond their limits, such as maximum strobe time or duty cycle. SafeStrobe™ is built into the 4ZMD.

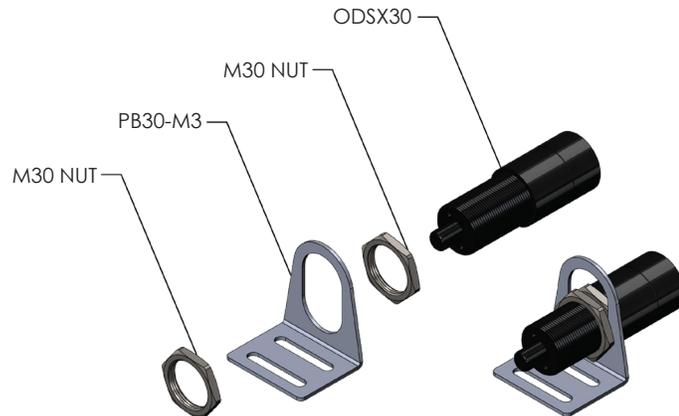


MOUNTING

Two M30 nuts for mounting are included with the light.

Example of the ODSX30 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.

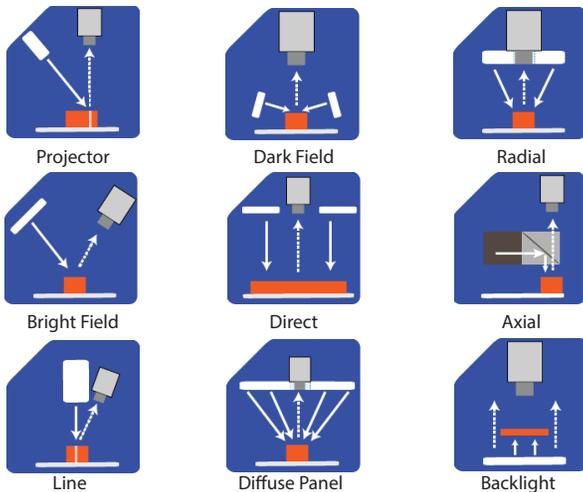
Built-In Driver The built-in driver allows full function without the need of an external controller.

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.

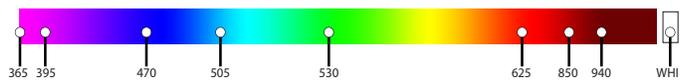
TYPES OF ILLUMINATIONS



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.