smart vision lights

ODSX30 Prox Light SPOTLIGHT OVERDRIVE™

PRODUCT DATA SHEET

OverDRIVE

Warranty	Compliant	Compliant	Rated	Connector
10 YEAR	IEC 62471	CE RoHS	IP 65	5 PIN M12

PRODUCT HIGHLIGHTS

- ✓ OverDrive™ — Up to 2.5 times brighter than a standard SX30 Prox Light
- ✓ 5-pin M12 quick connect
- ✓ Built-in driver, no external wiring to driver needed
- ✓ PNP and NPN strobe input
- ✓ 30 mm barrel style housing
- ✓ Standard optics provides tight focused light

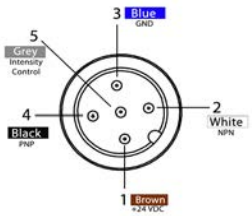
PRODUCT DESCRIPTION

The ODSX30 Series of Prox Lights is enclosed in a 30mm Barrel Style Housing. This LED pulses at 2.5 times the brightness of a standard ODSX30 light. The ODSX30 features an Overdrive driver with NPN or PNP signal options. Built in SafeStrobe™ Technology allows for continued use without damage to the LED. The ODSX30 Series has multiple mounting options allowing for ease of install and comes with two locking nuts.

PRODUCT SPECIFICATIONS

Electrical Input	24VDC +/- 5%
Input Current	Max. .5 A
Wattage	Max. 6 W
Strobe Input	PNP > +4VDC or greater to activate | NPN > GND (<1VDC) to activate
PNP Line	4 mA @ 4VDC | 10 mA @ 12VDC | 20 mA @ 24VDC
NPN Line	15 mA @ Ground (0VDC)
Duty Cycle	Max. 10%
Strobe/Pulse Time	Max. 5000 SPS (Strobes Per Second) | Max. Single Pulse = 125 ms
Red Indicator LED	LED Strobe Indicator ON = Light Active
Green Indicator LED	ON = Power
Analog Intensity	The output is adjustable from 10–100% of brightness by a 1–10VDC signal. (Jumpering pin 5 to pin 1 will provide maximum intensity)
Connection	5-pin M12 connector
Ambient Temperature	-18º–40º C (0º–104º F)
IP Rating	IP65
Weight	~320g
Compliances	CE, RoHS, IEC 62471

WIRING CONFIGURATION



Pin layout for light (Male Connector)

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	1–10VDC	GREY *

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

If Analog 1–10VDC is not used to control light intensity;

+VDC (24VDC) must be connected to Analog Input - Jumper pin 5 to pin 1

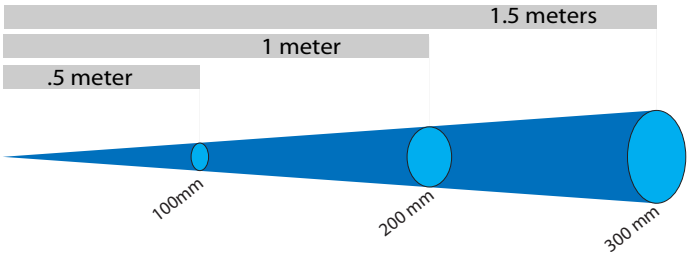
RESOURCE CORNER

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

LIGHT PATTERNS

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

Beam Diameter (White Light) – 6500 K

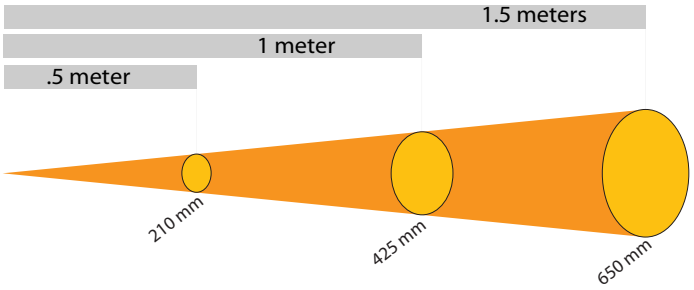


LIGHTING PATTERN FOR THE ODSX30 (NARROW)

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 Preformance	Illuminance (Lux)
Distance = .5 meter	9,600
Illumination measurement taken on White Lights - 6500K	

Beam Diameter (White Light) – 6500 K



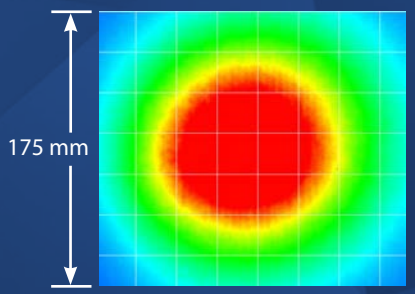
LIGHTING PATTERN FOR THE ODSX30 (WIDE)

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″)

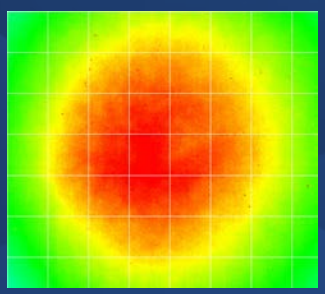
Typical Output Preformance	Illuminance (Lux)
Distance = .5 meter	6,300
Illumination measurement taken on White Lights - 6500K	

The ODSX30 Prox Light produces a uniform light pattern.

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



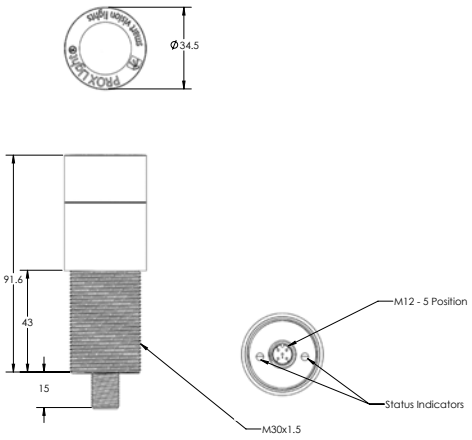
Narrow



Wide

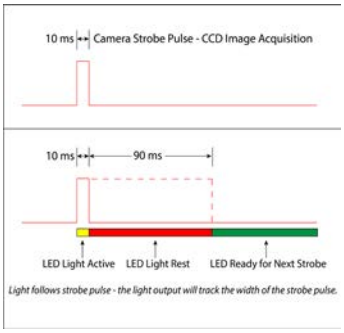
PRODUCT DRAWING

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



DUTY CICLE

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

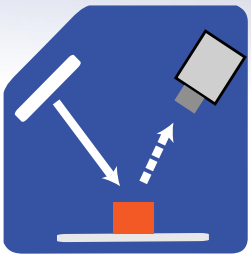
$$RT = \frac{10\ ms}{.1} - 10\ ms = 90\ ms$$

Rest Time is 90 ms for 10 ms Strobe Time

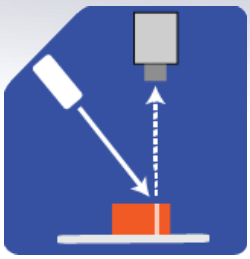
Maximum Duty Cycle for OverDrive™ light is 10% (0.1)

ILLUMINATION

ODSX30 series of Prox Lights works best for:



Bright Field



Projector

EYE SAFETY

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

PART NUMBER

ODSX30 – □□□ – □

COLOR:

WHI | 365 395 | 470 | 505 | 530 | 625 | 850 940

LENS:

Leave blank for standard (narrow)

W = Wide

Part Number Examples:

ODSX30-625 ODSX30, 625 nm Red Wavelength, Standard (Narrow) Lenses

ODSX30-WHI-W ODSX30, White, Wide Lenses

Additional wavelengths options available upon request.

SWIR SHORT WAVE INFRARED

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

STANDARD LENS OPTICS

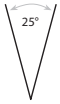
NARROW

Narrow lenses are standard.

Standard lenses create a narrow beam of illumination. They can be used when long working distances are needed. Narrow are 10° angle lenses.

WIDE

Wide lenses create a large area of illumination. Wide lenses can be used when short working distances are needed. Wide lenses create a flood light effect. Wide are 25° angle cone lenses.



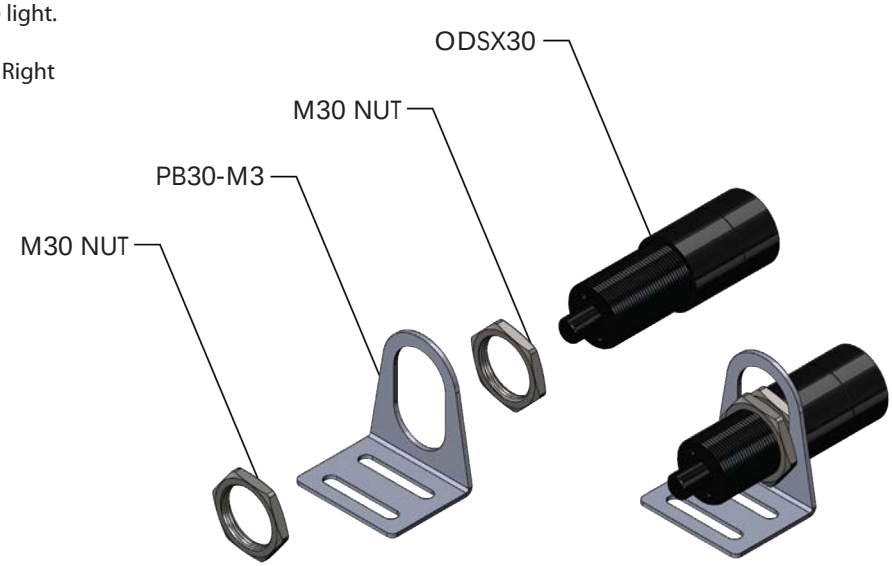
** Additional lens options available upon request.*

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

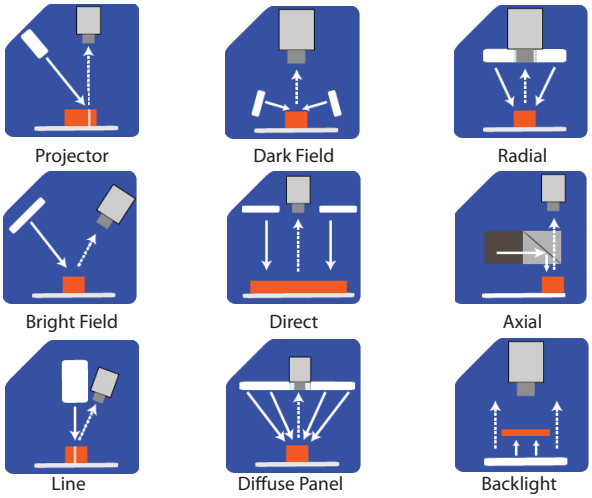
GLOSSARY

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

TERMINOLOGY

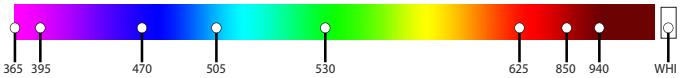
OverDrive™ Lights include an integrated high-pulse driver for complete LED light control.
Continuous Operation Lights stay on continuously.
Multi-Drive™ Combines continuous operation and OverDrive™ strobe (high-pulse operation) mode into one easy-to-use light.
Built-in Driver The built-in driver allows 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.*

SWIR SHORT WAVE **INFRARED**

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.*