smart vision lights ODS75 *Brick Light* SPOT LIGHT

OVERDRIVE™

PRODUCT DATA SHEET

OverDRIVE

Warranty	Compliant	Compliant	Rated	Connector
10 YEAR	IEC 62471	CE RoHS	IP 50	5-PIN M12

PRODUCT HIGHLIGHTS

- ✓ OverDrive™ — Up to five times brighter than a standard S75 Brick Light
- ✓ 5-pin M12 quick connect
- ✓ Built-in smart driver
- ✓ PNP and NPN trigger signal input
- ✓ Maximum 5000 strobes per second
- ✓ Intensity adjustable from 10%–100% using built-in potentiometer

Rev. 2019/12/03

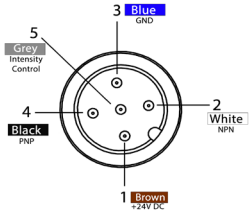
PRODUCT INTRODUCTION

The ODS75 Brick Light Series features a smart driver with OverDrive™ strobe mode. The high-intensity LEDs provide an intense but diffuse light pattern at a working distance of up to 4000 mm. This series of lights also offers a manual potentiometer intensity control, allowing the intensity to be adjusted from 10%–100%. A user can also adjust the intensity using the 1–10VDC analog signal line. Heat is dissipated through the aluminum backplate, which allows the ODS75 Series to be run at a higher current and hence greater intensity.

PRODUCT SPECIFICATIONS

Electrical Input	24VDC +/–5%
Input Current	Max. 2.5 A draw during strobe | Max Average 250 mA
Wattage	Max. 60 W during strobe | Max. Avg. 6.0 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 @ Common (0VDC)
Duty Cycle	Max. strobe duration 10%
Strobe/Pulse Time	Max 5000 strobes per second (SPS) | Max. Single Pulse = 125 ms Protected safe strobe (see SafeStrobe™ Technology for more information)
Red Indicator LED	ON = Light Rest (LED inactive) | OFF = LED/Light Ready
Green Indicator LED	ON = Power
Potentiometer	270º turn pot — intensity control of 10%–100%. Turn clockwise to increases intensity.
Analog Intensity	The output is adjustable from 10%–100% of brightness by a 1–10 V DC signal.
Connection	5-pin M12 connector
Ambient Temperature	-18º–40ºC (0º–104ºF)
IP Rating	IP50
Weight	~155 g
Compliances	CE, RoHS, IEC 62471
Warranty	UV LEDs have a 2 year warranty, all other LEDs have a 10 year warranty. For complete warranty information, visit smartvisionlights.com/warranty.

WIRING CONFIGURATION



Pin layout for light (Male Connector)

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	1 - 10VDC	GREY*

OPTIONAL

For maximum intensity, connect pin 5 to pin 1 at 24VDC.

** Some cables use green/yellow for pin 5*
For maximum intensity, tie pin 5 to pin 1 at +24VDC.
*For continuous mode: Tie PNP (pin 4) can be tied to +24VDC (pin 1) **or** tie NPN (pin 2) can be tied to Ground (pin 3).*

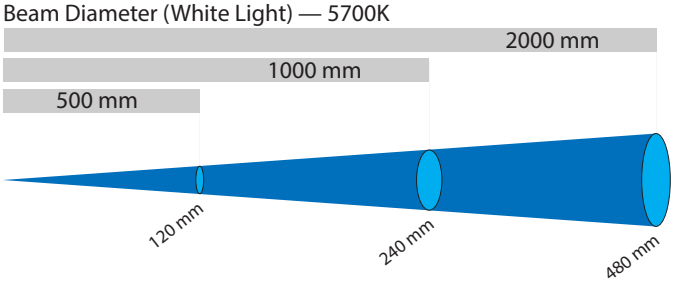
RESOURCE CORNER

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

LIGHT PATTERNS

Smart Vision Lights recommends that the ODS75 be used at a working distance between 300 mm and 4000 mm.

Beam Diameter (White Light) — 5700K

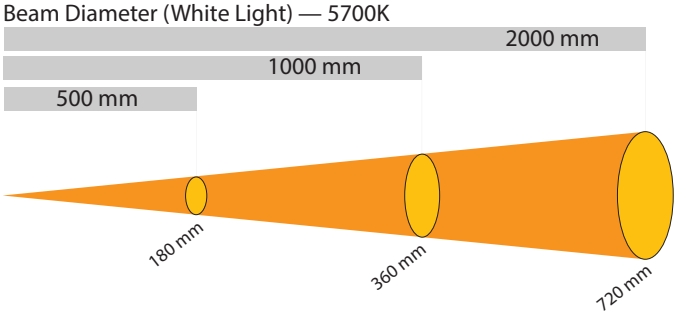


LIGHTING PATTERN FOR THE ODS75 **with Narrow (Standard) Lenses**

Working Distance mm (inches)	Pattern (80%–100% measured intensity) mm (inches)
500 mm (19.7")	120 mm (~4.7") D
1000 mm (39.4")	240 mm (~9.4") D
2000 mm (78.8")	480 mm (~18.9") D

Typical Output Performance	Illuminance (Lux)
Distance = 500 mm	36,250
Illuminance measurement taken on White Lights — 5700K	

Beam Diameter (White Light) — 5700K

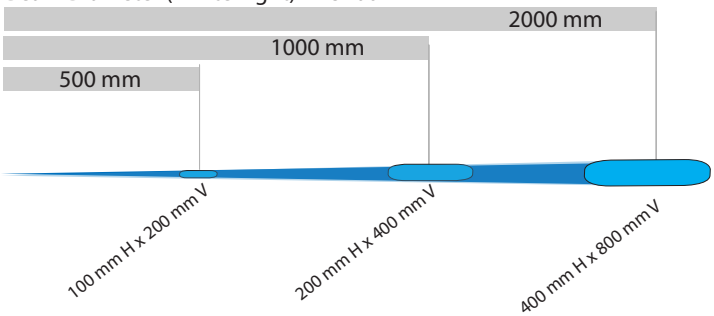


LIGHTING PATTERN FOR THE ODS75 **with Wide (W) Lenses**

Working Distance mm (inches)	Pattern (80%–100% measured intensity) mm (inches)
500 mm (19.7")	180 mm (~7") D
1000 mm (39.4")	360 mm (~14.2") D
2000 mm (78.8")	720 mm (~28.3") D

Typical Output Performance	Illuminance (Lux)
Distance = 500 mm	32,500
Illuminance measurement taken on White Lights — 5700K	

Beam Diameter (White Light) — 5700K



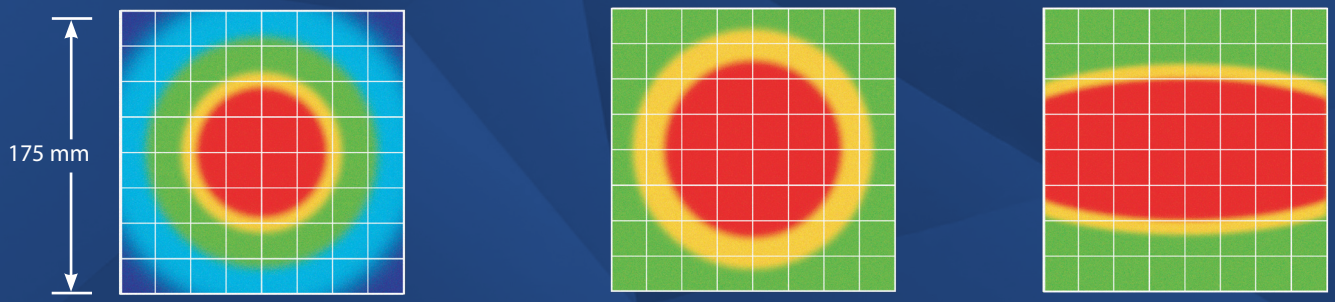
LIGHTING PATTERN FOR THE ODS75 **with Line (L) Lenses**

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	49,000
Illuminance measurement taken on White Lights — 5700K	

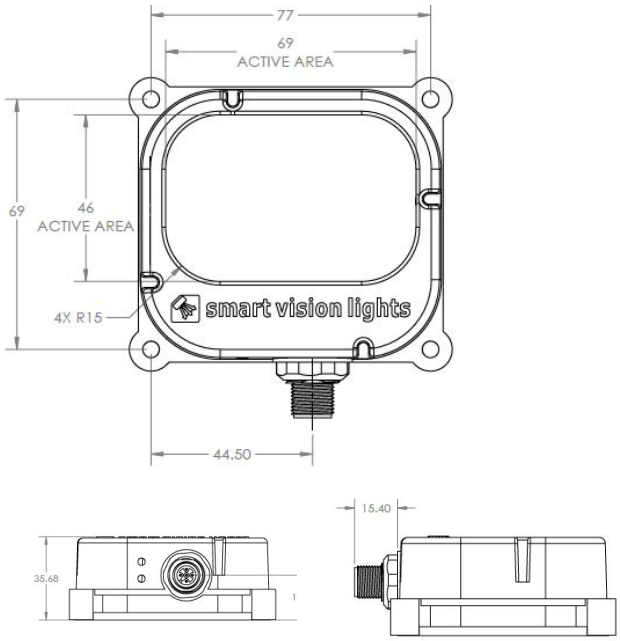
The ODS75 Brick Light produces a uniform light pattern.

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



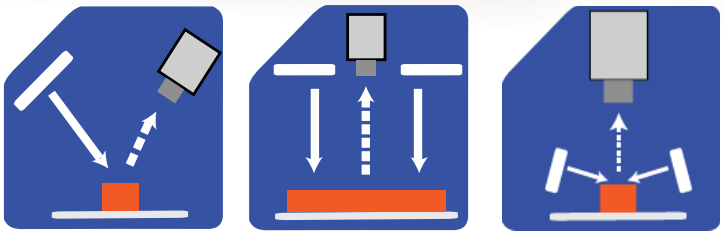
PRODUCT DRAWING

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



ILLUMINATION

ODS75 Series of Brick Lights works best for:



Bright Field | Direct Lighting | Dark Field

SAFESTROBE™ TECHNOLOGY

SafeStrobe™ technology applies safe working parameters to ensure high-current LEDs are not damaged when driving them beyond their limits, such as maximum strobe time or duty cycle. This unique technology is especially beneficial for overdriving our high-current LEDs.

EYE SAFETY

SMART VISION LIGHTS IEC 62471 COMPLIANT

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

Notice

Exempt Group: No photobiological hazard to eyes or skin even for continuous, unrestricted use. Applicable for wavelengths 625, 850, 940, 1050, 1200, 1300, 1450, and 1550.

Caution

Risk Group 1: Possibly hazardous optical radiation emitted from this product. Do not stare at operating lamp. May be harmful to eyes. Safe for most applications except prolonged exposure. 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 wavelength 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 wavelength 365.

PART NUMBER

ODS75 – □□□□ – □ – □□□

COLOR:

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

LENS:

Leave blank for Standard (Narrow)

W = Wide

L = Line

LINEAR POLARIZER:

Leave blank for none

LPI = Factory Installed

SWIR SHORTWAVE **INFRARED**

This light is available in our SWIR LEDs.

1050 nm | 1200 nm | 1300 nm | 1450 nm | 1550 nm

Part Number Examples:

ODS75-625 ODS75, 625 nm Red Wavelength, Standard (Narrow) Lens

ODS75-WHI-L ODS75, White, Line Lens

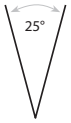
ODS75-470-W-LPI ODS75, 470 nm Blue Wavelength, Wide Lens, with Linear Polarizer installed

Additional wavelengths and lens options available upon request.

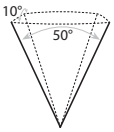
LENS OPTICS

NARROW (STANDARD)
Narrow, 10° angle-cone lenses are standard. Standard lenses project a narrow beam of illumination and are used for long working distances.

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



LINE
Line, with a 10° width and a 50° fan-angle project a thin, narrow beam of illumination.



** Additional lens options available upon request.*

When To Use a Linear Polarizer?

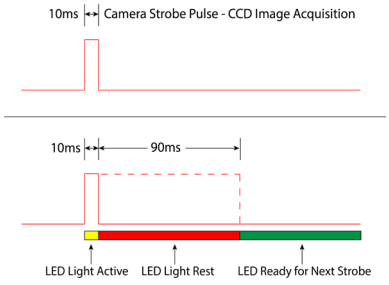
Polarizing filters can reduce reflections on specular surfaces.

A Linear Polarizer has a typical transmission of 38 percent while blocking 62 percent of the light not in the polarization plane.

WARNING: Running a light in continuous operation while using a standard polarizer with certain wavelengths (e.g. white, blue) may burn the polarizer.

DUTY CYCLE

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



Light follows strobe pulse - the light output will track the width of the strobe pulse.

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 (strobes per second)
ST = Strobe Time (seconds)
D = Duty Cycle

Example

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

Strobe Rate is 1000 strobes per second

Calculating Duty Cycle

$$D = ST \times SR$$

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

Example

$$0.1 = 0.0001 \times 1000$$

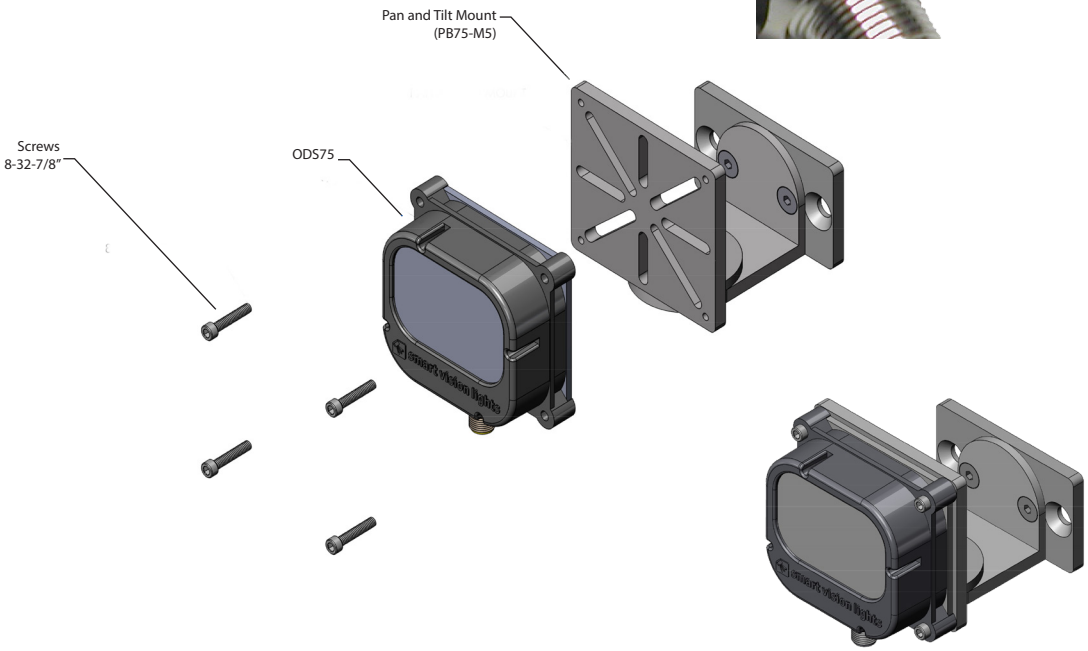
Duty Cycle is 10% (0.1)

Maximum Duty Cycle for OverDrive™ light is 10% (0.1)
Note: Strobe time is limited by the strobe rate.

MOUNTING

Mounting options on the ODS75 Series Brick Light include four holes. See Accessories for additional mounting options.

Example of the ODS75 shown using the Pan and Tilt Mount (**Part Number: PB75-M5).**

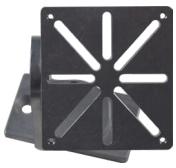


ACCESSORIES

Power Cables

Length	Part Number
5 m	5PM12-5
10 m	5PM12-10
15 m	5PM12-15

Mount



Description	Part Number
Pan and Tilt Mount	PB75-M5

Mounting Rails

Length	Part Number
300 mm	LEXT300
600 mm	LEXT600
900 mm	LEXT900
1200 mm	LEXT1200
Custom sizes available	

Diffuser

Description	Part Number
Diffuser Kit for OD75	ODS75-DKIT

Linear Polarizer

Description	Part Number
Linear Polarizer for ODS75	ODS75-LP

Pulse Modules

Description	Part Number
Pulse Generator Module	PGM
Pulse Timing Module	PTM

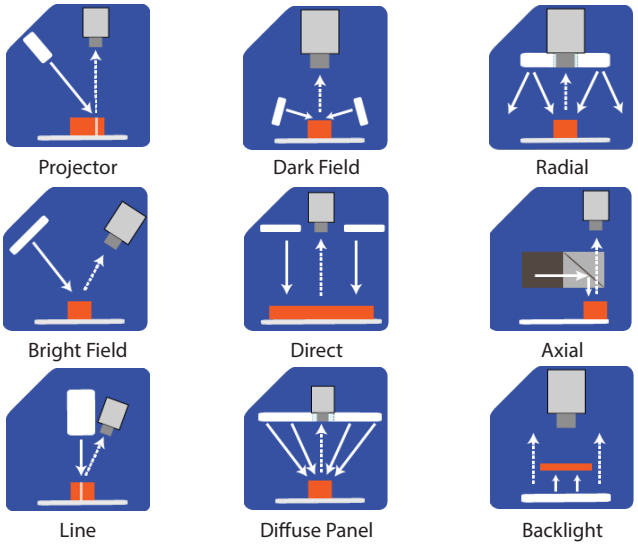
GLOSSARY

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

TERMINOLOGY

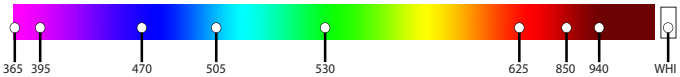
OverDrive™ Light includes an integrated high-current strobe driver for complete LED light control.
Continuous Operation Light stays on continuously.
Multi-Drive™ Combines continuous operation and OverDrive™ strobe (high-current strobe operation) modes into one easy-to-use light.
Built-In Driver The built-in driver allows full function without the need for an external driver.
Camera to Light Connect 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 ILLUMINATION



COLOR/WAVELENGTHS LEGEND

Wavelength 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 SHORTWAVE 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.*

smart vision lights

ODSB75 *Brick Light* SPOT LIGHT

OVERDRIVE™ | BACKLIGHT

PRODUCT DATA SHEET

OverDRIVE

Warranty	Compliant	Compliant	Rated	Connector
10 YEAR	IEC 62471	CE RoHS	IP 50	5-PIN M12

PRODUCT HIGHLIGHTS

- ✓ OverDrive™ — Up to five times brighter than a standard SB75 Brick Light
- ✓ 5-pin M12 quick connect
- ✓ Built-in smart driver
- ✓ PNP and NPN trigger signal input
- ✓ Backlight lens (diffuser) is factory installed
- ✓ Intensity adjustable from 10%–100% using built-in potentiometer

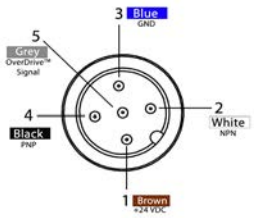
PRODUCT INTRODUCTION

The ODSB75 Brick Light features a smart driver with OverDriveTM strobe mode. The light's diffused lens makes it a viable option for silhouetting objects. The manual potentiometer control allows the intensity to be adjusted from 10%–100%. A user can also adjust the intensity using the 1–10VDC remote analog signal. The ODSB75 has the ability to produce up to 5000 strobes per second at a maximum strobe length of 125 mS when at a 10% maximum duty cycle. Heat is dissipated through the aluminum backplate, allowing the ODSB75 to be run at a high current and great intensity.

PRODUCT SPECIFICATIONS

Electrical Input	24VDC +/–5%
Input Current	Max. 2.5 A draw during strobe | Max Average 250 mA
Wattage	Max. 60 W during strobe | Max. Avg. 6.0 W
Strobe Input	PNP : +4VDC or greater to activate | NPN : GND (< 1VDC) to activate
PNP Line	4 mA @ 4 VDC | 10 mA @ 12VDC | 20 mA @ 24VDC
NPN Line	15 mA @ Common (0 V DC)
Duty Cycle	Max Strobe Duration 10%
Strobe/Pulse Time	Max 5000 SPS (strobes per second) | Max. Single Pulse = 125 ms (see SafeStrobe™ Technology for more information)
Red Indicator LED	ON = light rest (LED inactive) | OFF = LED/light ready
Green Indicator LED	ON = power
Potentiometer	270º turn pot — intensity control of 10%–100%. Turn clockwise to increases intensity.
Analog Intensity	The output is adjustable from 10%–100% of brightness by a 1–10 VDC signal.
Connection	5-pin M12 connector
Ambient Temperature	-18º–40ºC (0º–104ºF)
IP Rating	IP50
Weight	~155 g
Compliances	CE, RoHS, IEC 62471
Warranty	10 years. For complete warranty information, visit smartvisionlights.com/warranty

WIRING CONFIGURATION



Pin layout for light (Male Connector)

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	1–10VDC	GREY*

OPTIONAL

For maximum intensity, connect pin 5 to pin 1 at 24VDC.

** Some cables use green/yellow for pin 5*
For maximum intensity, tie pin 5 to pin 1 at +24VDC.
*For continuous mode: Tie PNP (pin 4) can be tied to +24VDC (pin 1) **or** tie NPN (pin 2) can be tied to Ground (pin 3).*

SAFESTROBE™ TECHNOLOGY

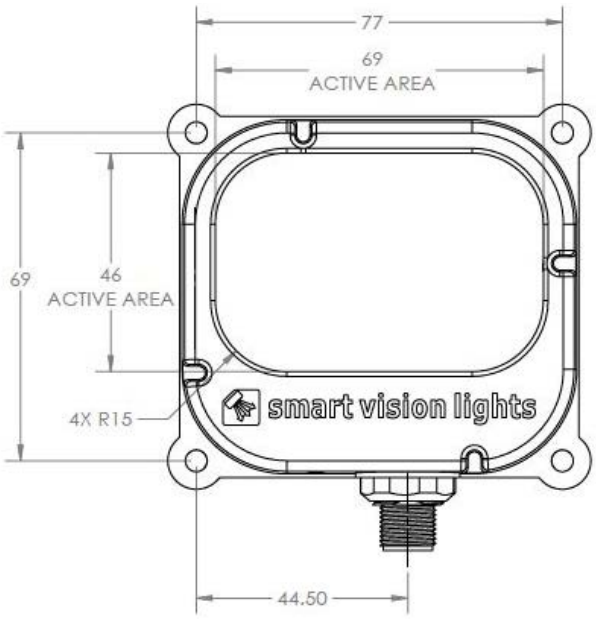
SafeStrobe™ technology applies safe working parameters to ensure high-current LEDs are not damaged when driving them beyond their limits, such as when using maximum strobe time or duty cycle. SafeStrobe™ is especially beneficial when overdriving our high-current LEDs.

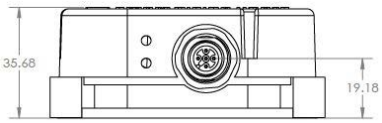
RESOURCE CORNER

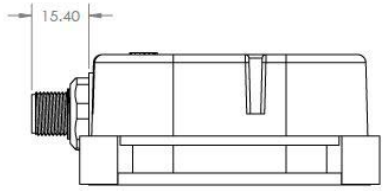
Additional resources, including CAD files, videos, and application examples, are available on our website.

PRODUCT DRAWING

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

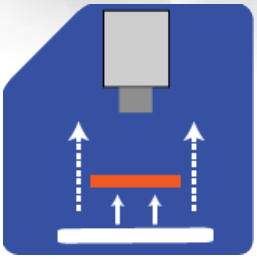






ILLUMINATION

ODBS75 series of Brick Lights works best for:



Direct Lighting

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, 940, 1050, 1200, 1300, 1450, and 1550.

Caution

Risk Group 1: Possibly hazardous optical radiation emitted from this product. Do not stare at operating lamp. May be harmful to eyes. Safe for most applications except prolonged exposure. Applicable for wavelengths 470, 505, 530, and WHI.

PART NUMBER

ODSB75 – □□□□

COLOR:

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

Additional wavelengths available upon request.

Part Number Example:
ODSB75-625 (ODSB75, 625 Red Wavelength)

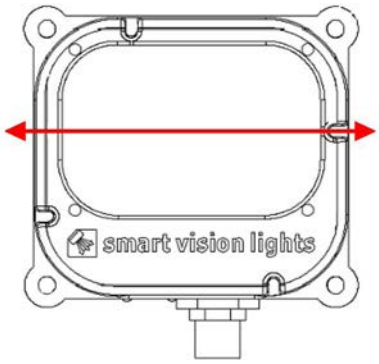
SWIR SHORTWAVE **INFRARED**

This light is available in our SWIR LEDs.

1050 nm | 1200 nm | 1300 nm | 1450 nm | 1550 nm

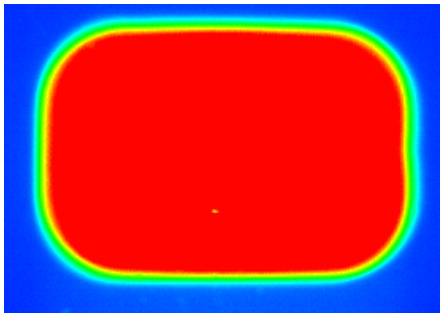
OPTICAL PERFORMANCE

Smart Vision Lights recommends the ODSB75 be used at a working distance between 50 mm and 300 mm.



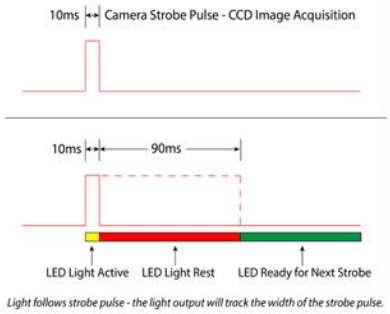
OPTICAL PERFORMANCE FOR THE ODSB75

Rating	Illuminance (Lux)
Average Intensity Rating	32,500
Illuminance measurement taken at surface of ODSB75	



DUTY CYCLE

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



Light follows strobe pulse - the light output will track the width of the strobe pulse.

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 (strobes per second)
ST = Strobe Time (seconds)
D = Duty Cycle

Example

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

Strobe Rate is 1000 strobes per second

Calculating Duty Cycle

$$D = ST \times SR$$

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

Example

$$0.1 = 0.0001 \times 1000$$

Duty Cycle is 10% (0.1)

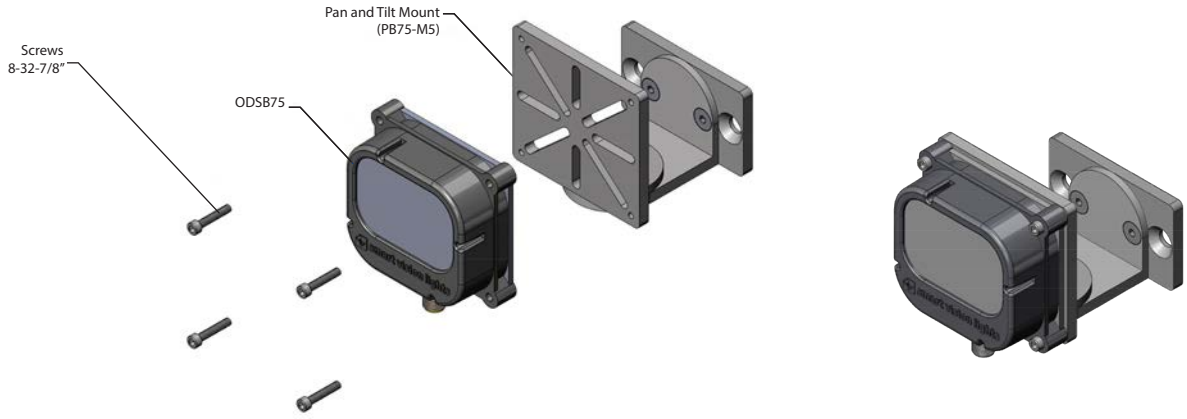
Maximum Duty Cycle for OverDrive™ light is 10% (0.1)

Note: Strobe time is limited by the strobe rate.

MOUNTING

Mounting options on the ODBS75 Series Brick Light include four holes. See Accessories for additional mounting options.

Example of the ODSB75 shown using the Pan and Tilt Mount (**Part Number: PB75-M5).**



ACCESSORIES

Mount

Description	Part Number
Pan and Tilt Mount	PB75-M5

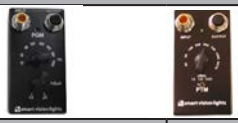
Power Cables

Length	Part Number
5 m	5PM12-5
10 m	5PM12-10
15 m	5PM12-15

Mounting Rails

Length	Part Number
300 mm	LEXT300
600 mm	LEXT600
900 mm	LEXT900
1200 mm	LEXT1200
Custom sizes available	

Pulse Modules



Description	Part Number
Pulse Generator Module	PGM
Pulse Timing Module	PTM

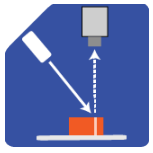
GLOSSARY

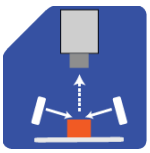
This glossary covers all Smart Vision Lights product families; some content in this section may not apply to this specific light.

TERMINOLOGY

OverDrive™ Light includes an integrated high-current strobe driver for complete LED light control.
Continuous Operation Light stays on continuously.
Multi-Drive™ Combines continuous operation and OverDrive™ strobe (high-current strobe operation) modes into one easy-to-use light.
Built-In Driver The built-in driver allows full function without the need for an external driver.
Camera to Light Connect 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


Projector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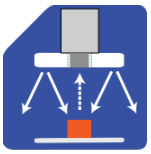
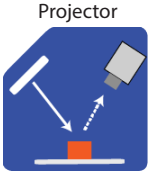

Radial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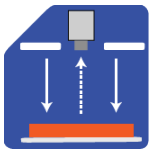
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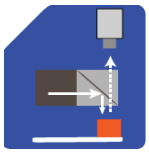
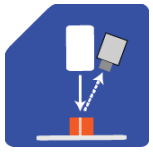
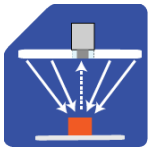
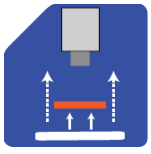

Axial

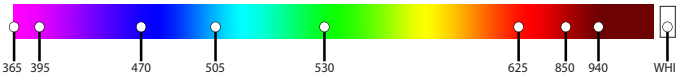

Line


Diffuse Panel


Backlight

COLOR/WAVELENGTHS LEGEND

Wavelength 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 SHORTWAVE **INFRARED**

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

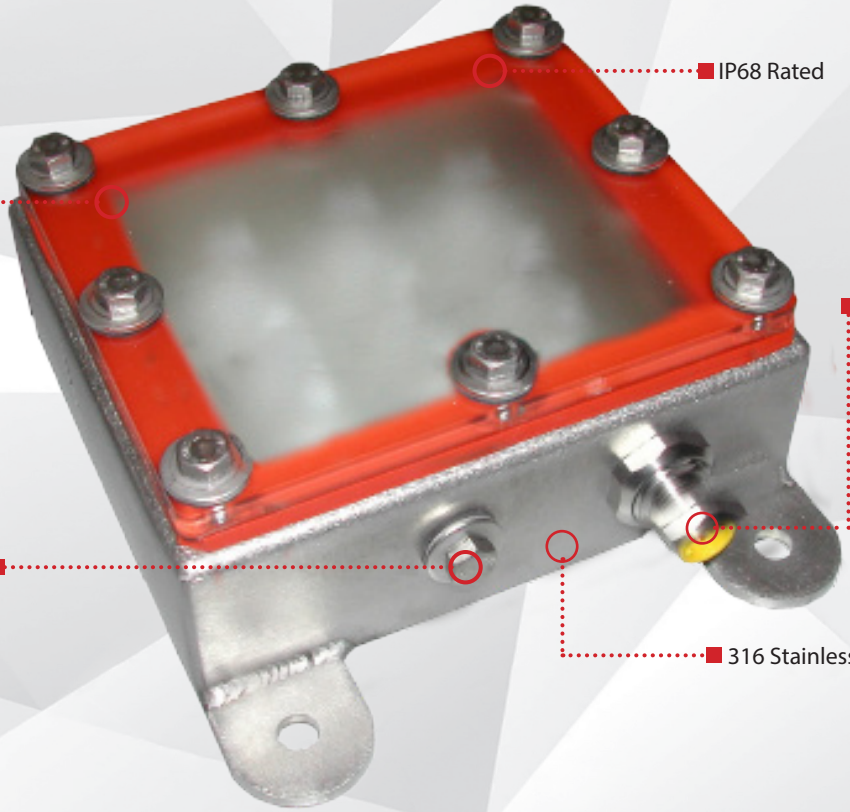
smart vision lights

ODSW75 *Brick Light*

SPOT LIGHT

OVERDRIVE™ | WASHDOWN

PRODUCT DATA SHEET



OverDRIVE™

Warranty	Compliant	Compliant	Rated	Connector
10 YEAR	IEC 62471	CE RoHS	IP 68	5-PIN M12

PRODUCT HIGHLIGHTS

- ✓ OverDrive™ — Up to five times brighter than a standard Brick Light
- ✓ Stainless-steel 316 housing
- ✓ Built-in driver
- ✓ PNP and NPN trigger signal input
- ✓ Maximum 5000 strobes per second

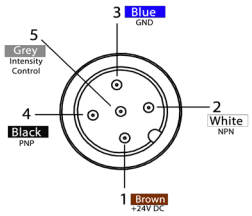
PRODUCT INTRODUCTION

The ODSW75 Brick Light Series features a 316 stainless-steel IP68 rated enclosure specially designed for food industry and washdown environments where water and harsh detergents are present. NPN or PNP trigger signals can be used to control the pulse of the light. Intensity of the light can be controlled via 1–10VDC analog signal line or by adjusting the built-in manual potentiometer.

PRODUCT SPECIFICATIONS

Electrical Input	24VDC +/–5%
Input Current	Max. 2.5 A draw during strobe | Max Average 250 mA
Wattage	Max. 96 W during strobe | Max. Avg. 9.6 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 @ Common (0VDC)
Duty Cycle	Max. 10%
Strobe/Pulse Time	Max 5000 SPS (strobes per second) | Max. Single Pulse = 125 ms (see SafeStrobe™ Technology for more information)
Potentiometer	270º turn pot — intensity control of 10%–100%. Turn clockwise to increases intensity.
Analog Intensity	The output is adjustable from 10%–100% of brightness by a 1–10VDC analog signal.
Connection	5-pin M12 connector
Ambient Temperature	-18º–40ºC (0º–104ºF)
IP Rating	IP68
Weight	~760 g
Compliances	CE, RoHS, IEC 62471
Warranty	10 years. For complete warranty information, visit smartvisionlights.com/warranty.

WIRING CONFIGURATION



Pin layout for light (Male Connector)

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	1–10VDC	GREY*

OPTIONAL

For maximum intensity, connect pin 5 to pin 1 at 24VDC. Potentiometer intensity needs to be set to 100%.

** Some cables use green/yellow for pin 5*
For maximum intensity, tie pin 5 to pin 1 at +24VDC.
*For continuous mode: Tie PNP (pin 4) can be tied to +24VDC (pin 1) **or** tie NPN (pin 2) can be tied to Ground (pin 3).*

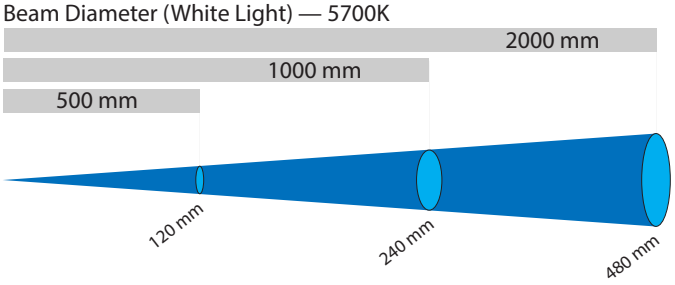
RESOURCE CORNER

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

LIGHT PATTERNS

Smart Vision Lights recommends that the ODSW75 be used at a working distance between 300 mm and 4000 mm.

Beam Diameter (White Light) — 5700K

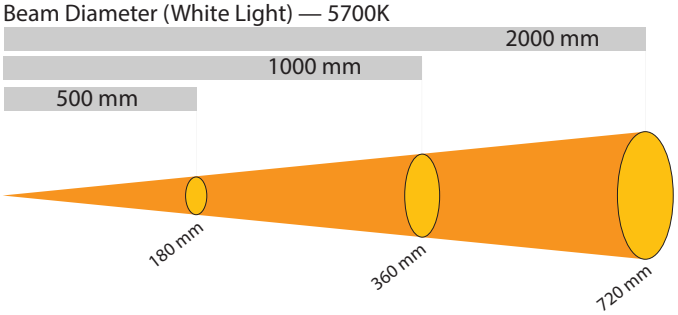


LIGHTING PATTERN FOR THE ODSW75 **with Narrow (Standard) Lenses**

Working Distance mm (inches)	Pattern (80%–100% measured intensity) mm (inches)
500 mm (19.7")	120 mm (~4.7") D
1000 mm (39.4")	240 mm (~9.4") D
2000 mm (78.8")	480 mm (~18.9") D

Typical Output Performance	Illuminance (Lux)
Distance = 500 mm	38,000
Illuminance measurement taken on White Lights — 5700K	

Beam Diameter (White Light) — 5700K

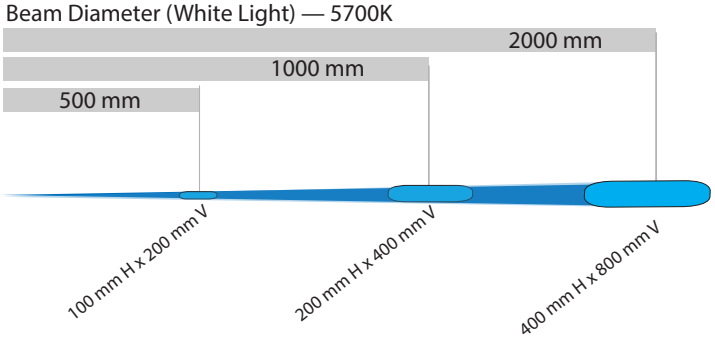


LIGHTING PATTERN FOR THE ODSW75 **with Wide (W) Lenses**

Working Distance mm (inches)	Pattern (80%–100% measured intensity) mm (inches)
500 mm (19.7")	180 mm (~7") D
1000 mm (39.4")	360 mm (~14.2") D
2000 mm (78.8")	720 mm (~28.3") D

Typical Output Performance	Illuminance (Lux)
Distance = 500 mm	32,500
Illuminance measurement taken on White Lights — 5700K	

Beam Diameter (White Light) — 5700K



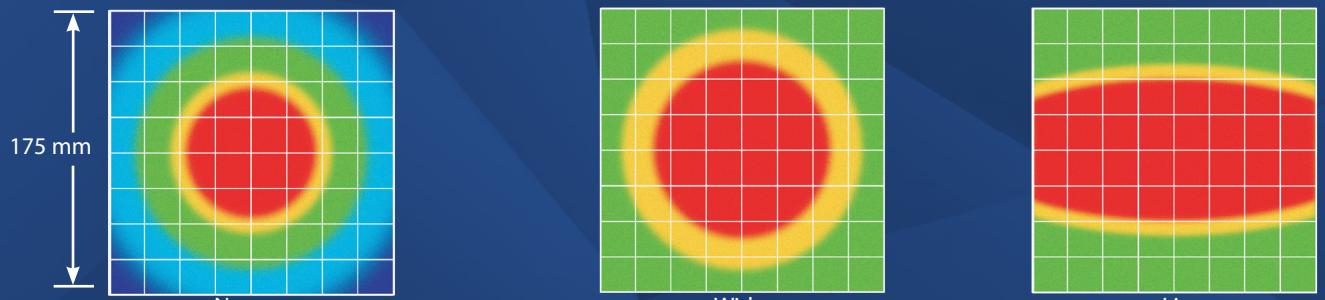
LIGHTING PATTERN FOR THE ODSW75 **with Line (L) Lenses**

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	49,000
Illuminance measurement taken on White Lights — 5700K	

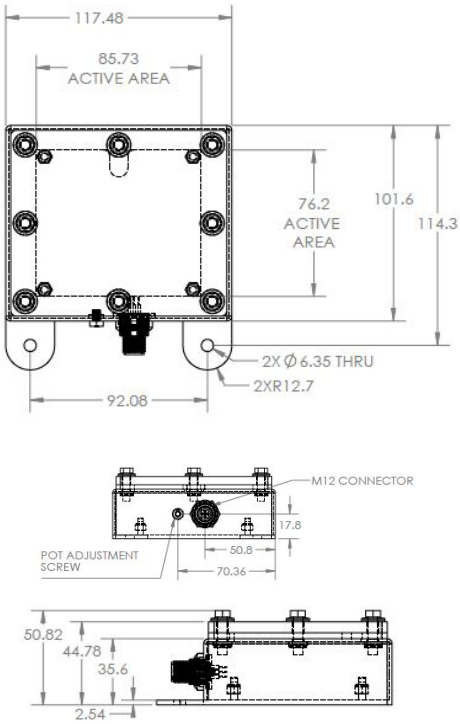
The ODSW75 Brick Light produces a uniform light pattern.

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



PRODUCT DRAWING

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

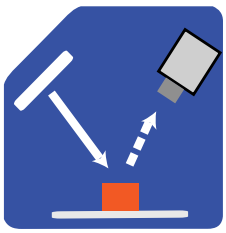


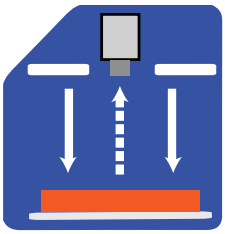
SAFESTROBE™ TECHNOLOGY

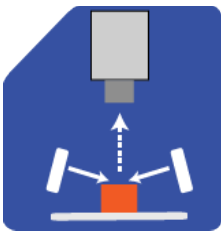
SafeStrobe™ technology applies safe working parameters to ensure high-current LEDs are not damaged when driving them beyond their limits, such as maximum strobe time or duty cycle. This unique technology is especially beneficial for overdriving our high-current LEDs.

ILLUMINATION

ODSW75 Series of Brick Lights works best for:


Bright Field


Direct Lighting


Dark Field

EYE SAFETY

SMART VISION LIGHTS IEC 62471 COMPLIANT

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

Notice

Exempt Group: No photobiological hazard to eyes or skin even for continuous, unrestricted use. Applicable for wavelengths 625, 850, 940, 1050, 1200, 1300, 1450, and 1550.

Caution

Risk Group 1: Possibly hazardous optical radiation emitted from this product. Do not stare at operating lamp. May be harmful to eyes. Safe for most applications except prolonged exposure. Applicable for wavelengths 470, 505, 530, and WHI.

PART NUMBER

ODSW75 – □□□□ – □

COLOR:

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

LENS:

Leave blank for Standard (Narrow)

W = Wide

L = Line

Part Number Examples:

ODSW75-625 ODSW75, 625 Red Wavelength, Standard (Narrow) Lens

ODSW75-WHI-L ODSW75, White, Line Lens

ODSW75-470-W-LPI ODSW75, 470 Blue Wavelength, Wide Lens, with Linear Polarizer installed

Additional wavelengths and lens options available upon request.

SWIR SHORTWAVE INFRARED

This light is available in our SWIR LEDs.

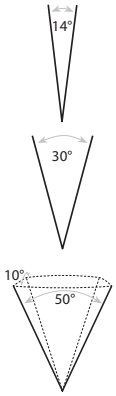
1050 nm | 1200 nm | 1300 nm | 1450 nm | 1550 nm

LENS OPTICS

NARROW (STANDARD)
Narrow 14° angle-cone lenses are standard. Standard lenses create a narrow beam of illumination and are used for long working distances.

WIDE
Wide 30° angle-cone lenses create a large area of illumination. They create a floodlight effect, can be used for short working distances.

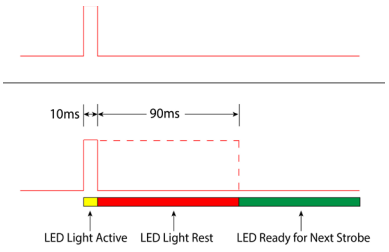
LINE
Line, with a 10° width and a 50° fan angle, projects a thin, narrow beam of illumination.



** Additional lens options available upon request.*

DUTY CYCLE

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



Light follows strobe pulse - the light output will track the width of the strobe pulse.

Calculating Rest Time

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

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

Example

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

Rest Time is 90 ms for 10 ms Strobe Time

Calculating Strobe Rate

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

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

Example

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

Strobe Rate is 1000 strobes per second

Calculating Duty Cycle

$$D = ST \times SR$$

SR = Strobe Rate (strobes 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)

Note: Strobe time is limited by the strobe rate.

ACCESSORIES

Power Cables

Length	Part Number
5 m	W5PM12-5
10 m	W5PM12-10
15 m	W5PM12-15

Power Cables (Washdown)

Length	Part Number
15 m	W5PM12-15

Washdown cable has a 316 stainless-steel connector.

GLOSSARY

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TERMINOLOGY

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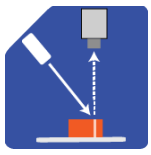
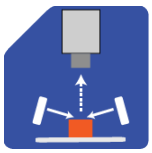
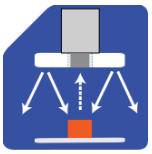
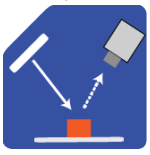
Polarizers Filters that reduce reflections on specular surfaces.
Diffuser Used to widen the angle of light emission, reduce reflections, and increase uniformity.

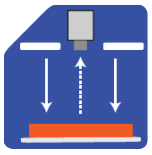
TYPES OF ILLUMINATIONS

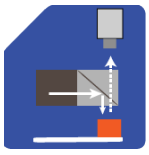

Projector

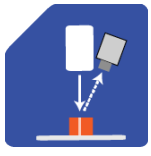

Dark Field

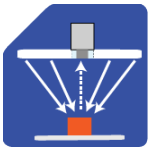

Radial

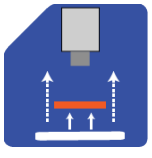

Bright Field


Direct


Axial

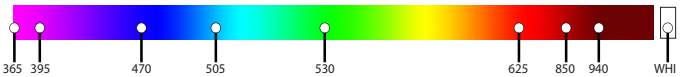

Line


Diffuse Panel


Backlight

COLOR/WAVELENGTHS LEGEND

Wavelength 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 SHORTWAVE **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.*

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

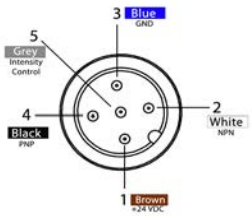
PRODUCT DESCRIPTION

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

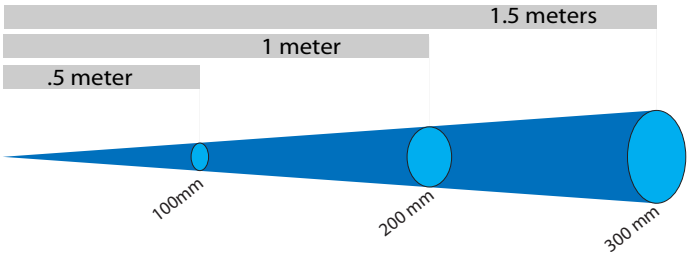
RESOURCE CORNER

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

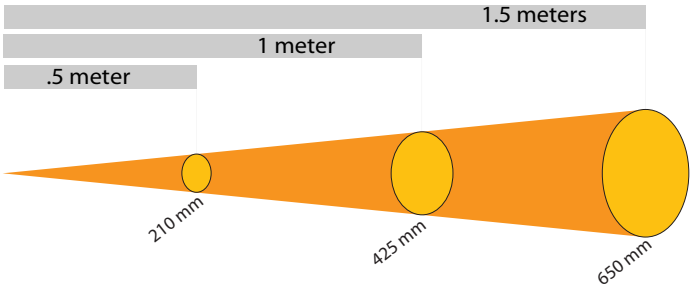


LIGHTING PATTERN FOR THE ODSX30 (NARROW)

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



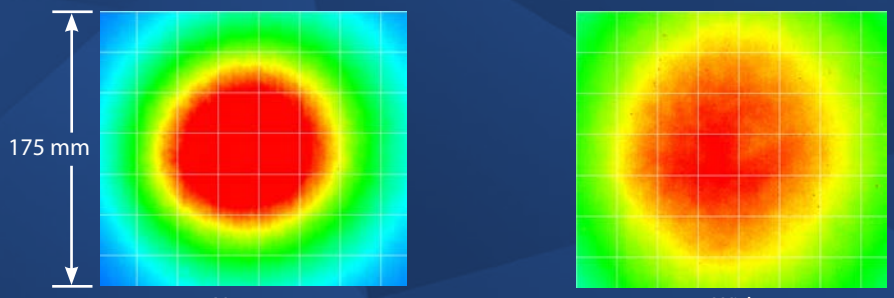
LIGHTING PATTERN FOR THE ODSX30 (WIDE)

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.

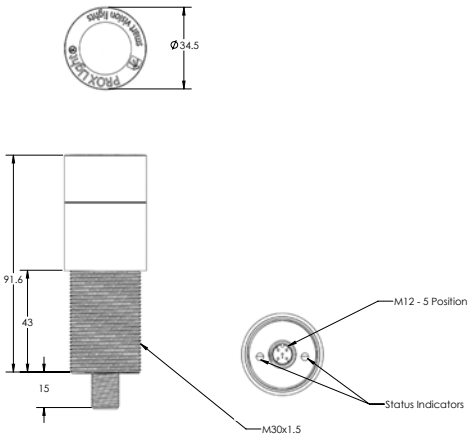
Working Distance = 500 mm Grid set to 25 mm x 25 mm



Narrow Wide

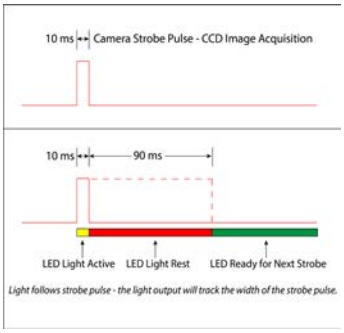
PRODUCT DRAWING

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

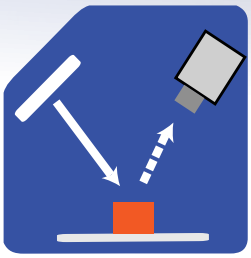
$$RT = \frac{10\ ms}{.1} - 10\ ms = 90\ ms$$

Rest Time is 90 ms for 10 ms Strobe Time

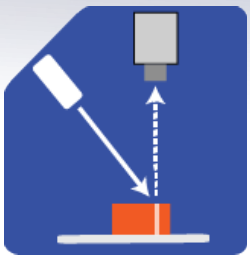
Maximum Duty Cycle for OverDrive™ light is 10% (0.1)

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

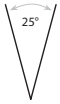
NARROW

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.



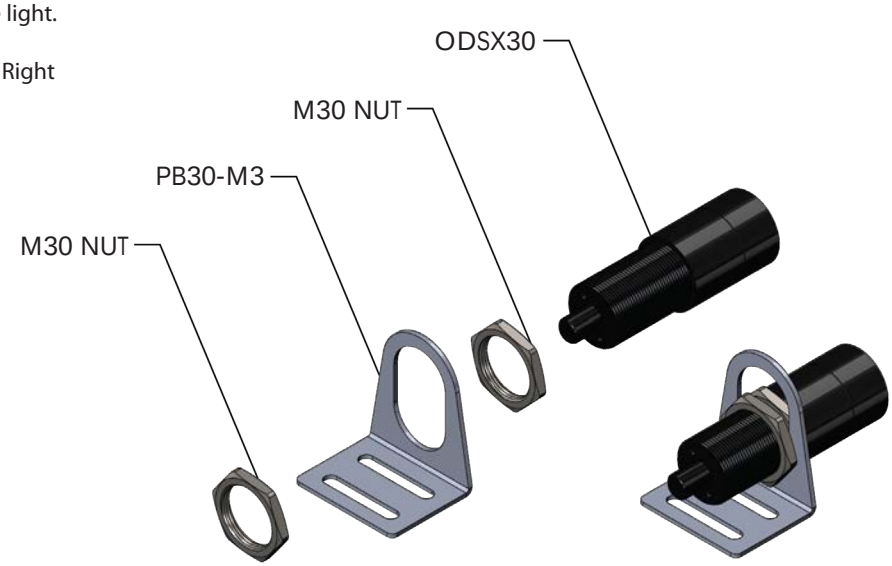
** Additional lens options available upon request.*

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

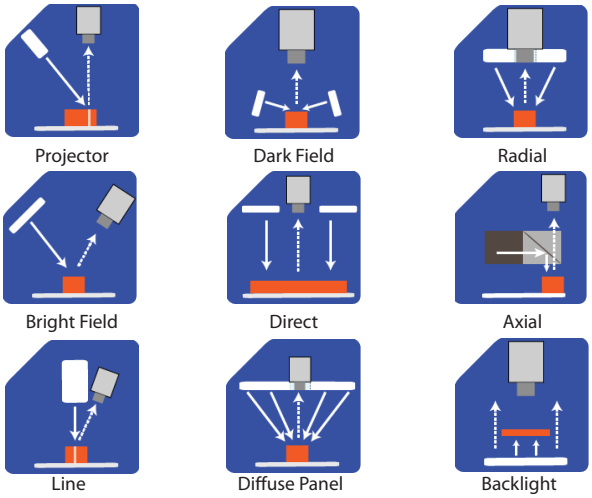
GLOSSARY

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

TERMINOLOGY

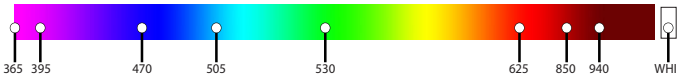
OverDrive™ Lights include an integrated high-pulse driver for complete LED light control.
Continuous Operation Lights stay on continuously.
Multi-Drive™ Combines continuous operation and OverDrive™ strobe (high-pulse operation) mode into one easy-to-use light.
Built-in Driver The built-in driver allows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

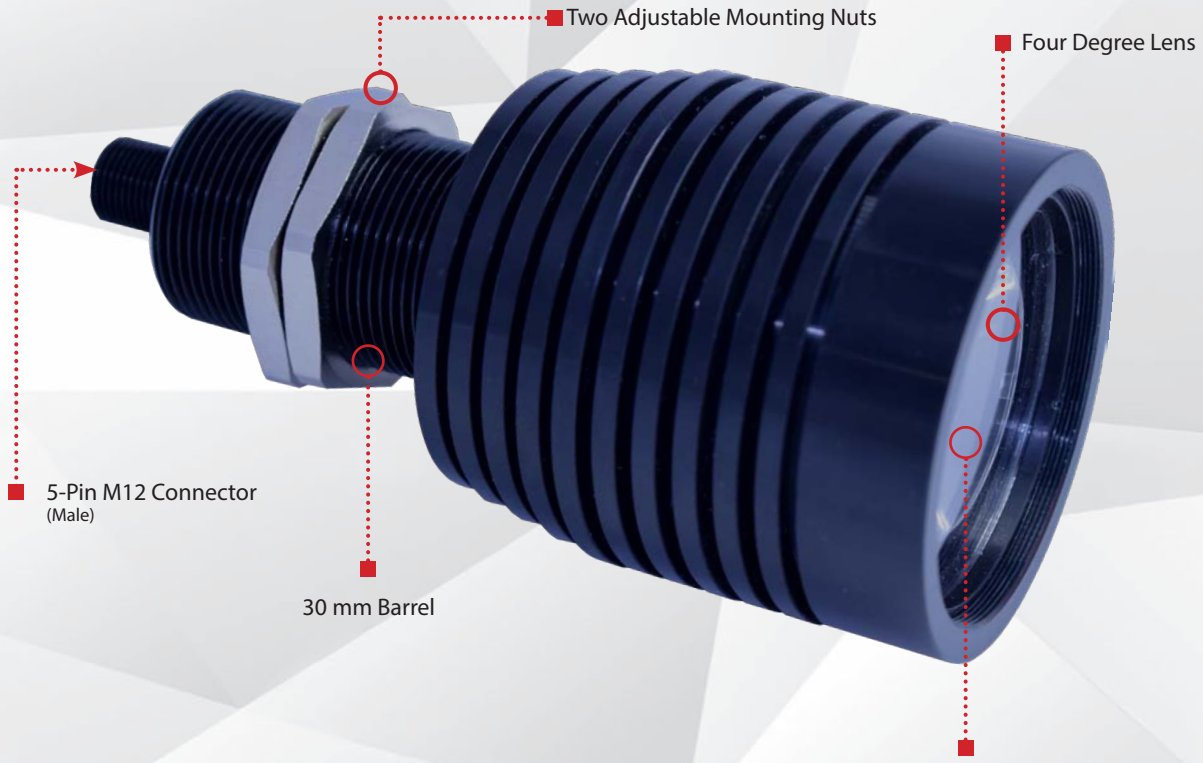
Shortwave infrared LEDs are available in 1050 nm, 1200 nm, 1300 nm, 1450 nm, and 1550 nm.*
Check Part Number section to see if **this light is available in SWIR wavelengths.*

smart vision lights

ODSX30 (N4) PROX SERIES SPOT LIGHT

LONG DISTANCE | OVERDRIVE™

PRODUCT DATA SHEET



OverDRIVE™

Warranty	Compliant	Compliant	Rated	Connector
10 YEAR	IEC 62471	CE RoHS	IP 50	5 PIN M12

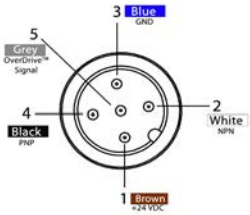
PRODUCT HIGHLIGHTS

- ✔ OverDrive™ — Up to 2.5 times brighter than a standard SX30 (N4) Prox Light
- ✔ Narrow, 4 degree lens allows for a long, tightly focused beam of light
- ✔ Built-in driver, no external wiring needed
- ✔ PNP and NPN strobe input
- ✔ 5-pin M12 quick connect

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	-18°–40° C (0°–104° F)
IP Rating	IP50
Weight	~320g

WIRING CONFIGURATION



Pin layout for light (Male Connector)

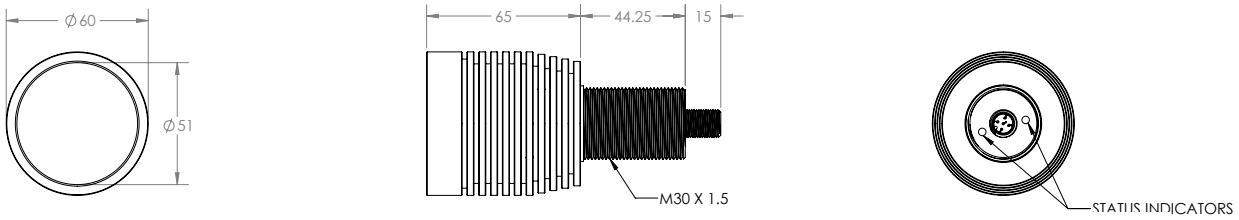
Pins	Function	Signal	Wire Color
1	Power In	+24VDC	BROWN
2	NPN	Sinking Signal	WHITE
3	GND	Ground	BLUE
4	PNP	Sourcing Signal	BLACK
5	OverDrive™ Signal	1–10VDC	GREY*

** Some cables use green/yellow for pin 5*

If Analog 1-10VDC is not used to control light intensity, analog input must be connected to +VDC (24VDC) – Jumper pin 5 to pin 1

PRODUCT DRAWING

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

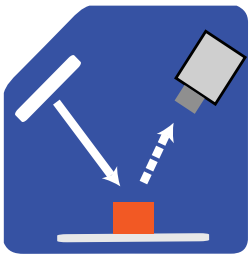


RESOURCE CORNER

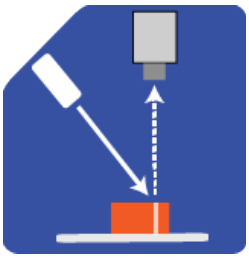
Additional resources are available on our website, including CAD files, videos, and application examples.

ILLUMINATION

ODSX30 (N4) series of Prox Lights works best for:



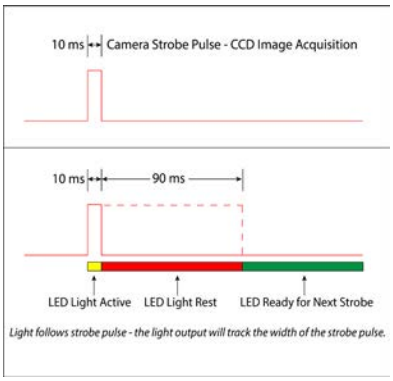
Bright Field



Projector

DUTY CYCLE (OVERDRIVE™ MODE ONLY)

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

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

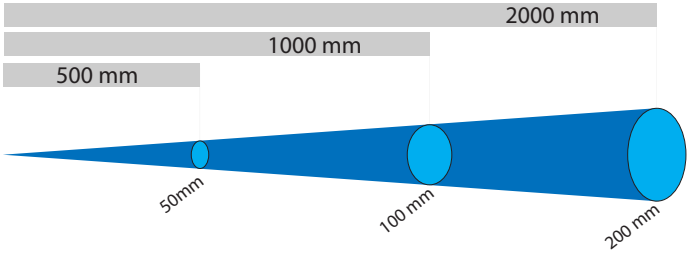
Rest Time is 90 ms for 10 ms Strobe Time

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

LIGHT PATTERNS

Smart Vision Lights recommends the ODSX30 (N4) be used at a working distance between 500 mm to 4000 mm.

Illumination measurement taken on White Light – 6500 K



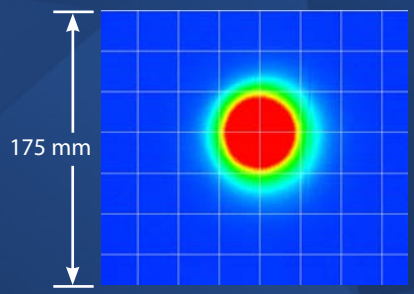
LIGHTING PATTERN FOR THE ODSX30 (N4) **with 4° (narrow) Lenses**

Working Distance mm (inches)	Pattern (80% - 100% measured intensity) mm (inches)
500 mm (19.7″)	50 mm (~2″)
1000 mm (39.4″)	100 mm (~3.9″)
2000 mm (78.8″)	200 mm (~7.8″)

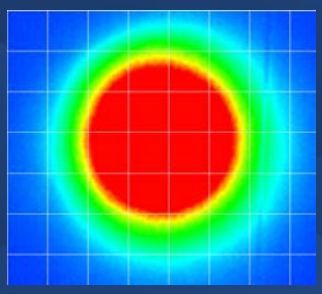
Typical Output Preformance	Illumination (Lux)
Distance = 500 mm	125,000
Illumination measurement taken on White Lights – 6500K	

The ODSX30 (N4) produces a uniform light pattern.

(Grid set to 25 mm x 25 mm)



Working Distance: 500 mm



Working Distance: 1000 mm

PART NUMBER

ODSX30 – □□□ – N4

COLOR:

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

Part Number Examples:

ODSX30-625-N4 ODSX30, 625 Red Wavelength, Narrow 4 Degree Lens

Additional wavelengths options available upon request.
UV wavelenghts not available.

SWIR SHORT WAVE INFRARED

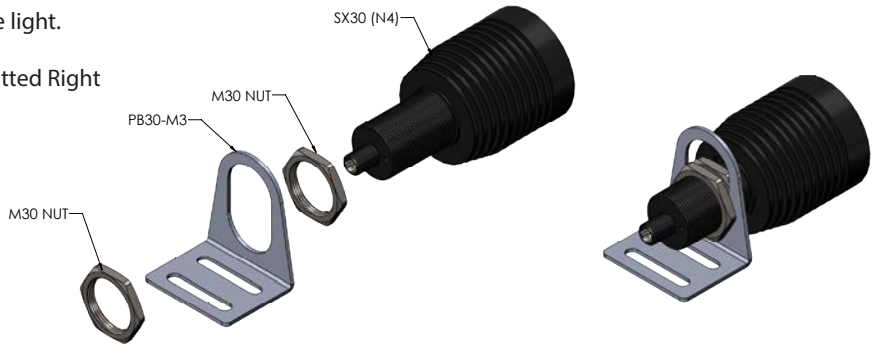
This light is available in our SWIR LEDs
(1050 nm, 1200 nm, 1300 nm, 1450 nm, 1550 nm)

MOUNTING

Two M30 nuts for mounting are included with the light.

Example of the ODSX30 (N4) shown using the Slotted Right Angle mount (**Part Number: PB30-M3**).

See accessories for additional mounting options.



EYE SAFETY

SMART VISION LIGHTS IEC 62471 COMPLIANT

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.

ACCESSORIES

Power Cables

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

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 Adapters *

Description	Part Number
AC, 24 Volt, 1.7 Amp	T1 Power Supply

* **European Versions Available** (Add -EURO to end of T1 or T2. Example T1-EURO Power Supply)

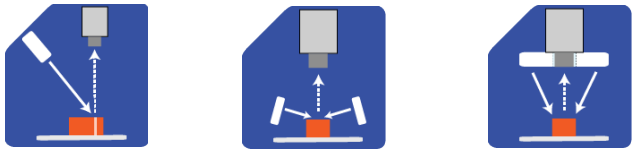
GLOSSARY

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

TERMINOLOGY

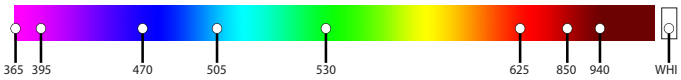
OverDrive™ Lights include an integrated high-pulse driver for complete LED light control. OverDrive™ light part numbers start with OD.
Continuous Operation Lights stays on continuously.
Multi-Drive™ Combines continuous operation and OverDrive™ strobe (high-pulse operation) mode into one easy-to-use light.
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.
Diffusers Used to widen the angle of light emission, reduce reflections and increase uniformity.

TYPES OF ILLUMINATION



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.

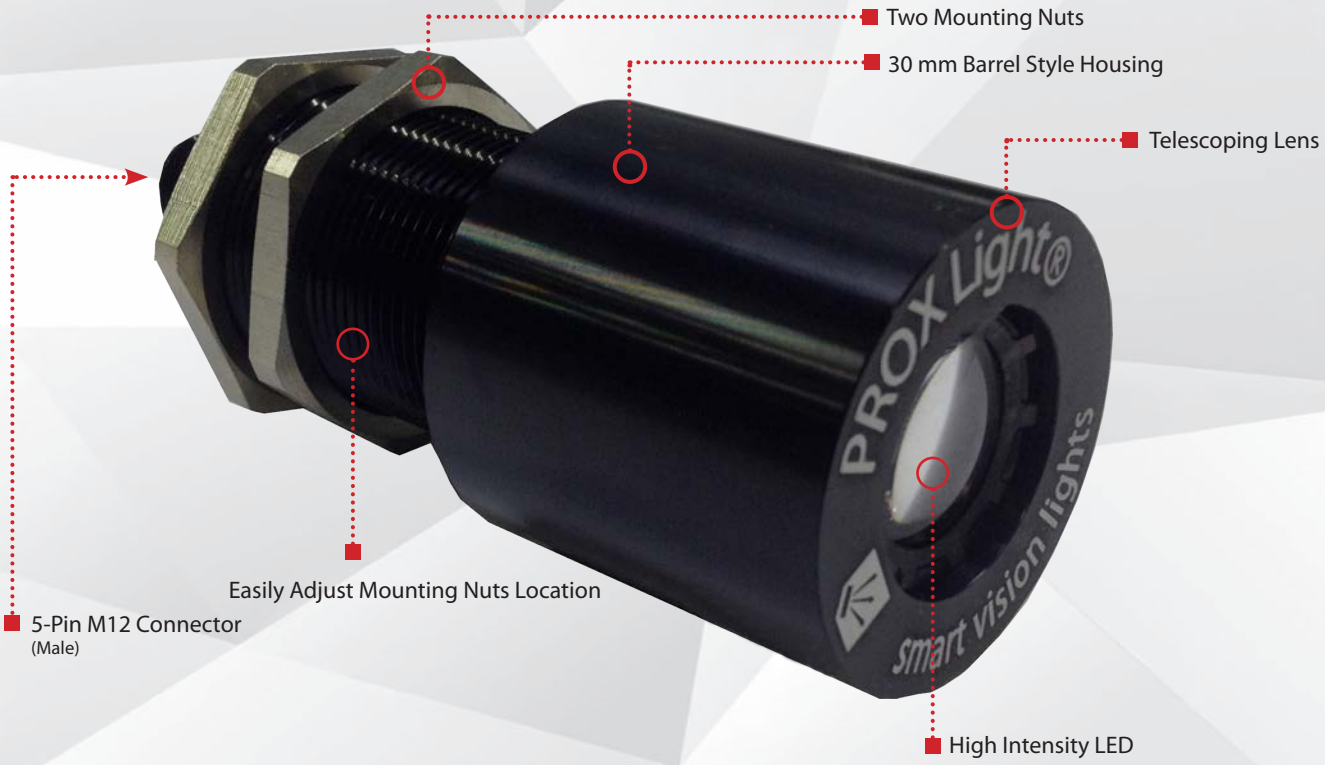
smart vision lights

ODSXA30 *Prox Light*

SPOTLIGHT

ADJUSTABLE LENS
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
- ✓ Length of lens is fully adjustable for your application needs
- ✓ 5-pin M12 quick connect
- ✓ Built-in driver, no external wiring to driver needed
- ✓ Standard optics provides tight focused light

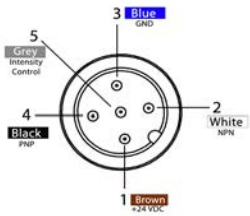
PRODUCT DESCRIPTION

The ODSXA30 Series of Adjustable Prox Lights feature a telescoping lens for full control of projected spot size. Light projected has a homogeneous 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 strobe inputs and a 1–10VDC analog intensity control make this series of spot lights a very dependable and versatile light.

PRODUCT SPECIFICATIONS

Electrical Input	24VDC +/- 5%
Input Current	Max. 175 mA
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)
Continuous Mode	NPN can be tied to ground **OR** PNP can be tied to 24VDC (not both)
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

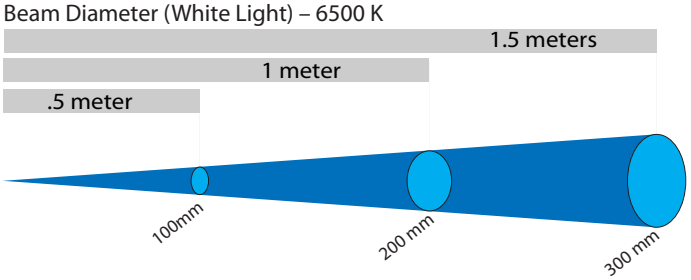
RESOURCE CORNER

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

LIGHT PATTERNS

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

Beam Diameter (White Light) – 6500 K

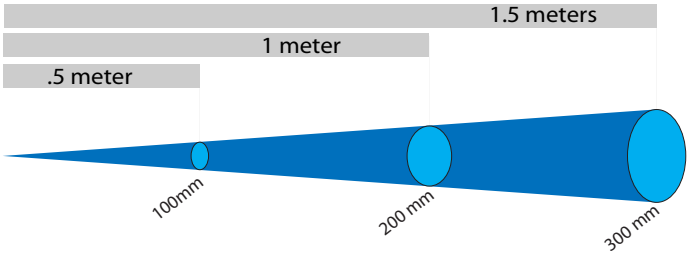


LIGHTING PATTERN FOR THE ODSXA30 **Fully Retracted Lens**

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



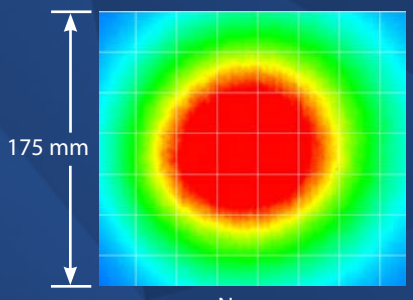
LIGHTING PATTERN FOR THE ODSXA30 **Fully Extended Lens**

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	

The ODSXA30 Prox Light produces a uniform light pattern.

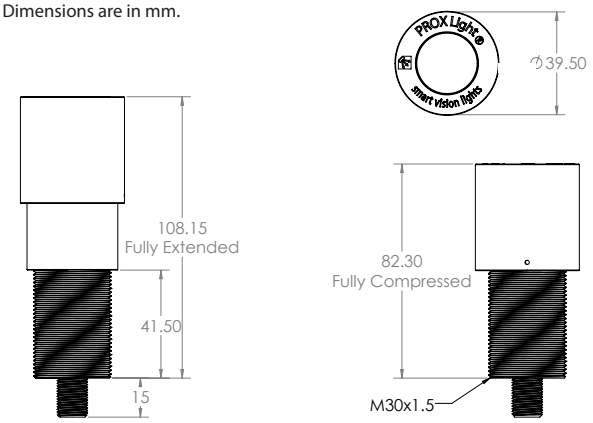
Working Distance = 500 mm Grid set to 25 mm x 25 mm



Narrow

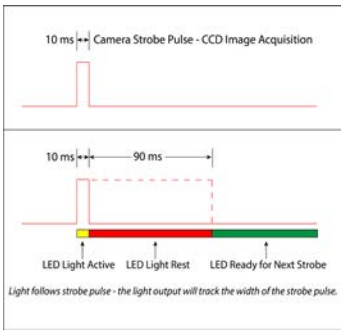
PRODUCT DRAWING

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

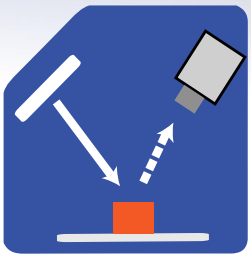
$$RT = \frac{10\ ms}{.1} - 10\ ms = 90\ ms$$

Rest Time is 90 ms for 10 ms Strobe Time

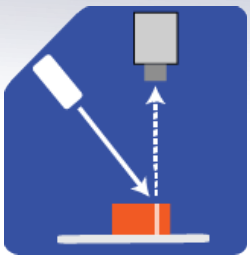
Maximum Duty Cycle for OverDrive™ light is 10% (0.1)

ILLUMINATION

ODSXA30 series of Prox Lights works best for:



Bright Field



Projector

EYE SAFETY

SMART VISION LIGHTS IEC 62471 COMPLIANT

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

ODSXA30 – □□□ – □

COLOR:

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

LENS:

Leave blank for standard (narrow)

Part Number Example:

ODSXA30-625 ODSXA30, 625 nm Red Wavelength, Standard (Narrow) Lenses

Additional wavelengths options available upon request

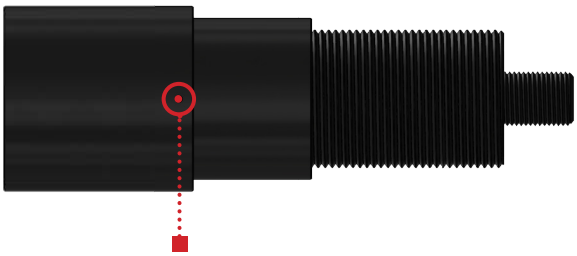
SWIR SHORT WAVE INFRARED

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

ADJUSTING LENS

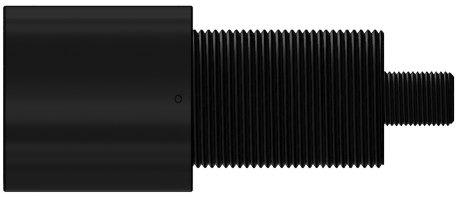
The telescoping lens can be adjusted by first loosening the M2 locking screw, followed by either extending or retracting the lens housing to desired position. Once lens is set to desired position, tighten M2 locking screw.

Fully Extended



Locking Screw

Fully Retracted

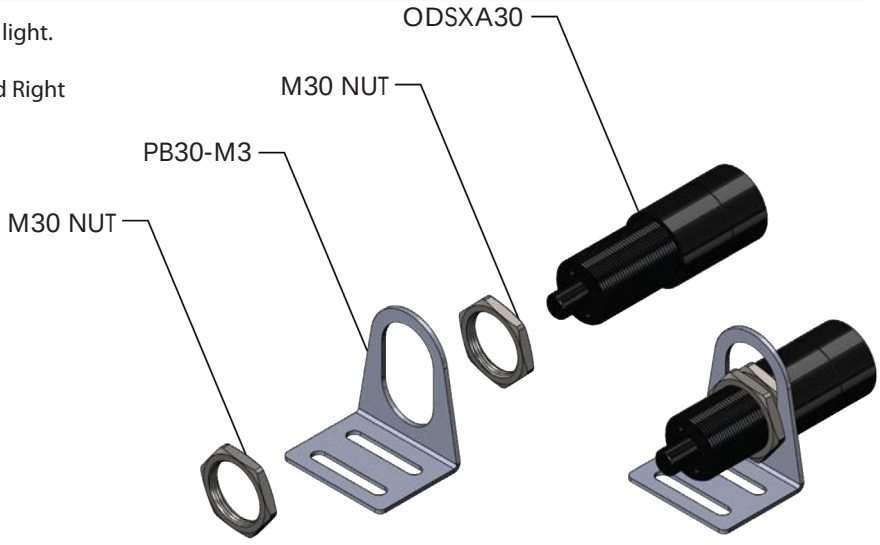


MOUNTING

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

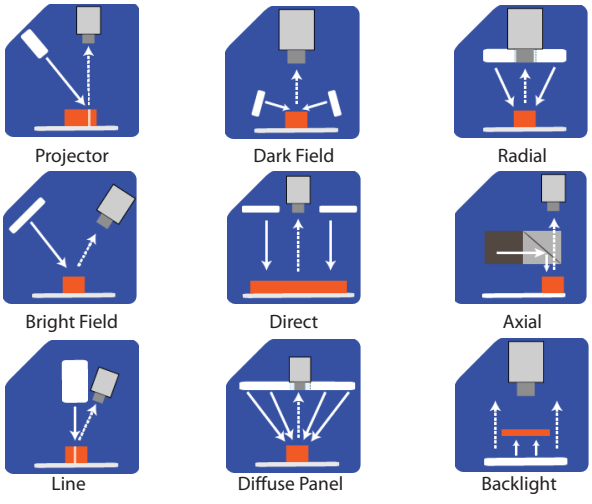
GLOSSARY

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

TERMINOLOGY

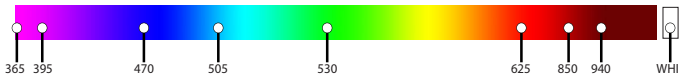
OverDrive™ Lights include an integrated high-pulse driver for complete LED light control.
Continuous Operation Lights stay on continuously.
Multi-Drive™ Combines continuous operation and OverDrive™ strobe (high-pulse operation) mode into one easy-to-use light.
Built-in Driver The built-in driver allows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

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.*

smart vision lights

ODSXF30 *Prox Light* SPOTLIGHT

FIBER OPTIC | 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 SXF30 Prox Light
- ✓ SafeStrobeTM technology ensures protected operation of LEDs
- ✓ Built-in driver, cutable fiber optic allows for custom length for non-SWIR wavelengths.
- ✓ 5-pin M12 quick connect
- ✓ PNP and NPN trigger signal input
- ✓ Focusing lens for fiber optic available

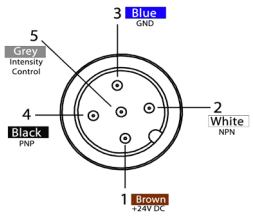
PRODUCT DESCRIPTION

The ODSXF30 Series of Spot Lights were designed with flexibility in mind. The special fiber adapter allows for the placement of the light to be away from the object being inspected, even allowing the light to be placed around a corner from the object. Standard fiber size is 1 meter in length, with the option to customize the length to the application needs. The ODSXF30 light output is 2.5 times that of the standard SXF30. 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 length of the light. Intensity of the light can be controlled via 1–10VDC analog signal. The ODSXF30 has convenient mounting options that make mounting this spot light an easy task.

PRODUCT SPECIFICATIONS

Electrical Input	24VDC +/- 5%
Input Current	Max. 1.25 A
Wattage	Max. 30 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	(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% of brightness by a 1–10VDC signal. (Jumpering pin 5 to pin 1 will provide maximum intensity).
Connection	5-pin M12 connector
Ambient Temperature	-0º–45º C (32º–114º F)
IP Rating	IP65
Weight	~320g
Compliances	CE, RoHS, IEC-62471
Warranty	10 years. For more information, visit smartvisionlights.com/warranty.

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

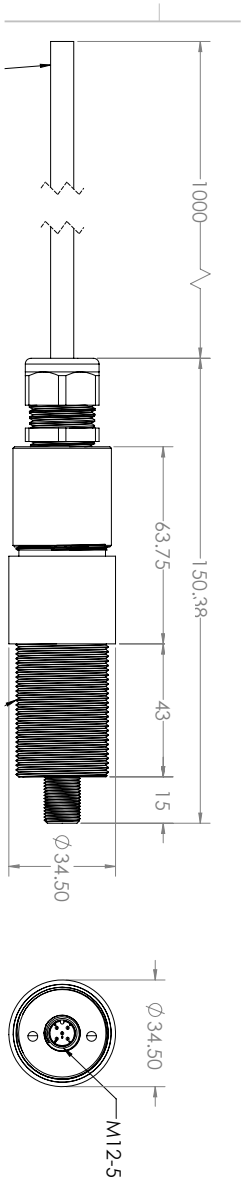
If Analog 1-10VDC is not used to control light intensity, analog input must be connected to +VDC (24VDC) – Jumper pin 5 to pin 1

RESOURCE CORNER

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

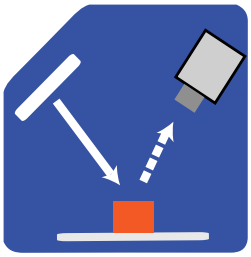
PRODUCT DRAWING

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

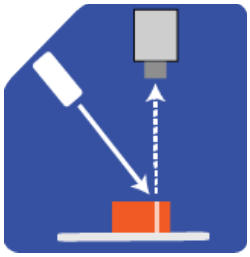


ILLUMINATION

ODSXF30 series of Prox Spot 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, 940, 1050, 1200, 1300, 1450, and 1550.

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.

PART NUMBER

ODSXF30 – □□□

COLOR:

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

Part Number Examples:

ODSXF30-625 ODSXF30, 625 nm Red Wavelength, Standard

ODSXF30-WHI ODSXF30, White

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)

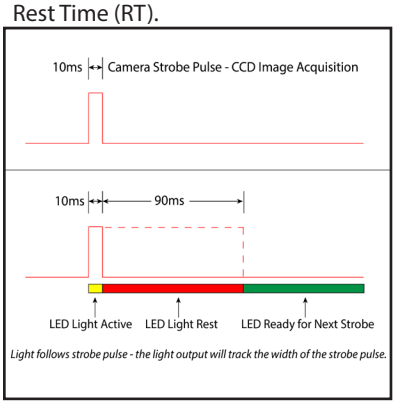
SAFESTROBE™ TECHNOLOGY

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 ODSXF30.

DUTY CYCLE (OVERDRIVE™ MODE ONLY)

This section applies only when light is in OverDrive™ mode.

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

$$RT = \frac{10\ ms}{0.1} - 10\ ms = 90\ ms$$

Rest Time is 90 ms for 10 ms Strobe Time

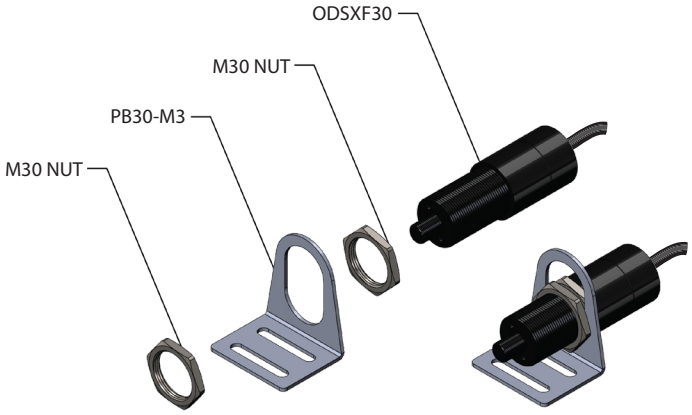
Maximum Duty Cycle for OverDrive™ light is 10% (0.1)

MOUNTING

Two M30 nuts for mounting are included with the light.

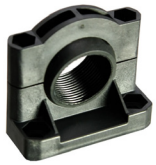
Example of the ODSXF30 shown using the Slotted Right Angle mount (**Part Number: PB30-M3**).

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

Focusing Lens

Description	Part Number
Focusing lens for fiber optic light	PSFB-LENS-FC2

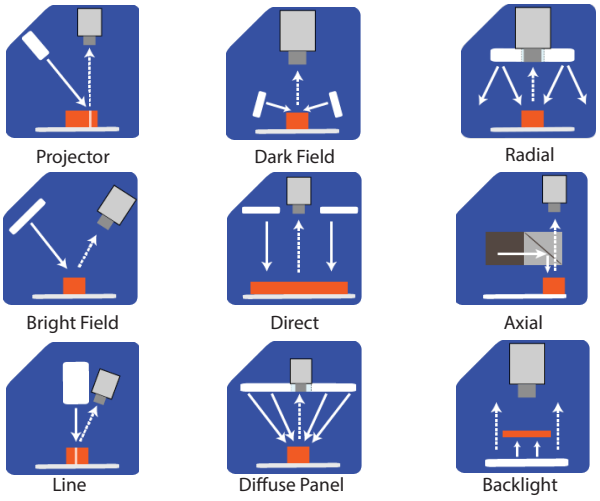
GLOSSARY

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

TERMINOLOGY

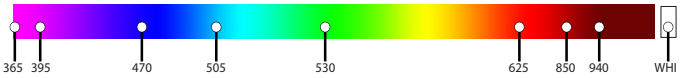
OverDrive™ Lights include an integrated high-pulse driver for complete LED light control.
Continuous Operation Lights stay on continuously.
Multi-Drive™ Combines continuous operation and OverDrive™ strobe (high-pulse operation) mode into one easy-to-use light.
Built-In Driver The built-in driver allows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

smart vision lights ODSXP30 *Projector* SPOTLIGHT STRUCTURED LIGHT

PRODUCT DATA SHEET

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

PRODUCT HIGHLIGHTS

- ✓ 5-pin M12 quick connect
- ✓ Kit available to withstand dust and splash-up environments
- ✓ Built-in driver, no external wiring to driver needed
- ✓ PNP and NPN strobe input
- ✓ Multiple interchangeable patterns
- ✓ Standard optics provides tight focused light

PRODUCT DESCRIPTION

ODSXP30

The ODSXP30 Series Projector Spot Light offers the most intense projected pattern offered from an LED. The 9mm^2 die size emits 9x the intensity as a standard high output LED. The housing is constructed of a finned aluminum heat sink and designed to dissipate as much heat as possible therefore allowing the LED to be run at a much higher current than the standard 1mm^2 die LED's. Multiple interchangeable pattern styles are available along with optional custom patterns. The ODSXP30 Series is able to project a thinner and more define pattern of light compared to laser projectors making the ODSXP30 a more accurate light.

IP65-KIT

The IP65-KIT works to seal and protect the ODSXP30 to be able to withstand dust and splashes of water, therefore, creating an IP65 rating.

**** Any ODSXP30 Projector Spot Light that was purchased before October 1, 2019 will not be compatible with the IP65-KIT and will need to be replaced. This is due to a manufacturing change to the heat sink to allow the bottom gasket and lens cover to be attached to the heat sink with screws.**

WHAT'S INCLUDED

When you order an ODSXP30 Projector Spot Light, the following item is included:

ODSXP30
PROJECTOR SPOT LIGHT

When you order a Projector Spot Light and IP65-KIT, the following items are included:

ODSXP30
PROJECTOR SPOT LIGHT

+

IP65-KIT
50 OR 70 MM
LENS OPTION

RESOURCE CORNER

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

PRODUCT SPECIFICATIONS

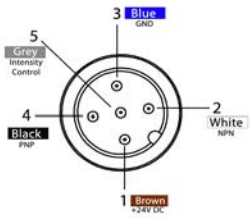
ODSXP30

Electrical Input	24VDC +/- 5%
Input Current	Max. 15A
Wattage	Max. 360 W
Strobe Input	PNP > +4VDC or greater to activate | NPN > GND (<1VDC) to activate
PNP Line	4 mA @ 4VDC | 10 mA @ 12 V DC | 20 mA @ 24VDC
NPN Line	15 mA @ Ground (0VDC)
Continuous Mode	NPN can be tied to ground **OR** PNP can be tied to 24VDC (not both)
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	IP50
Weight	~413g
Compliances	CE, RoHS, IEC 62471

IP65-KIT

IP Rating	IP65
Weight	~0.1kg

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 *

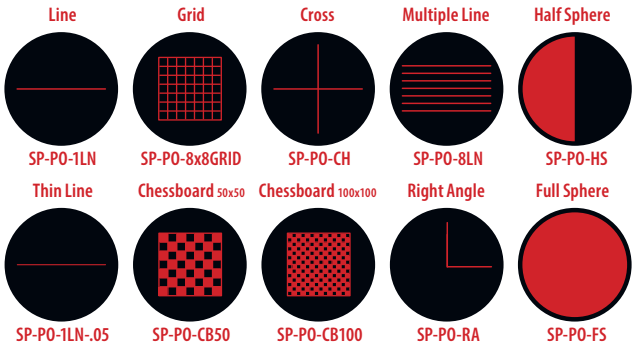
* Some cables use green/yellow for 1-10V adjustment

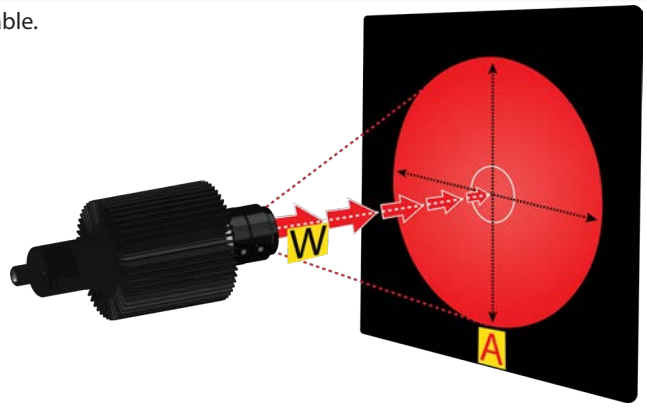
If Analog 1–10VDC is not used to control light intensity;

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

LENSES AND PATTERNS

Standard patterns are available to be etched. Patterns are interchangeable.

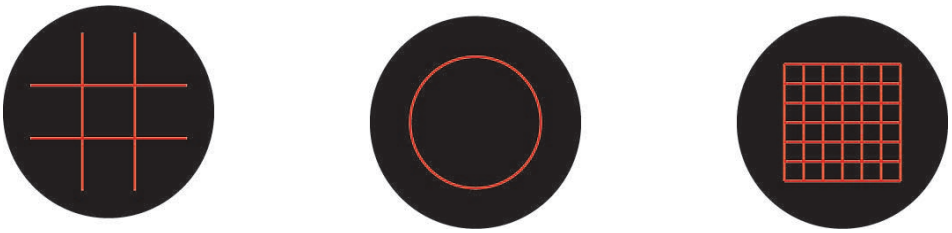




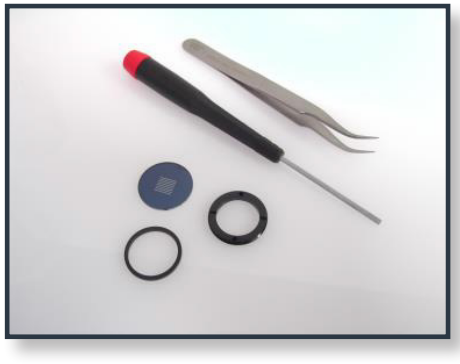
Lenses	
Part #	**Description**
CLENS0006	Tamron 1/1.8" Format 2MP 6mm Megapixel Lens
CLENS0008	Tamron 1/1.8" Format 2MP 8mm Megapixel Lens
CLENS00012	Tamron 1/1.8" Format 2MP 12mm Megapixel Lens
CLENS00016	Tamron 1/1.8" Format 2MP 16mm Megapixel Lens
CLENS00025	Tamron 1/1.8" 25 mm F/1.6 with Lock for Megapixel Cameras
CLENS00050	Tamron CCTV 50mm Lens

CUSTOM PATTERNS

Custom patterns are available upon request.



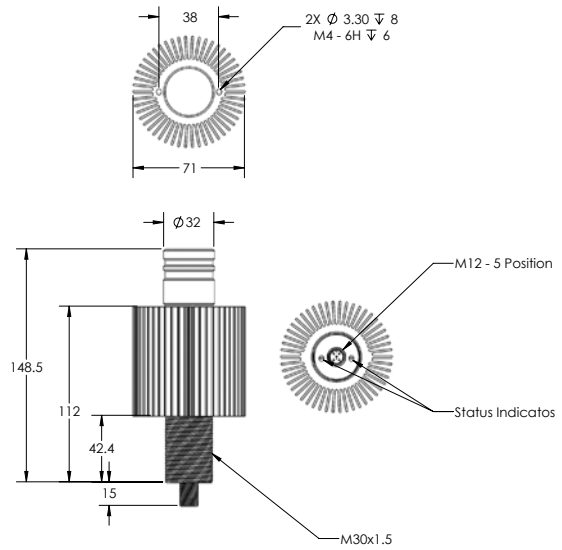
PATTERN REPLACEMENT



Screwdriver or Tweezers are recommended to remove retaining ring, but **are not included**. 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.

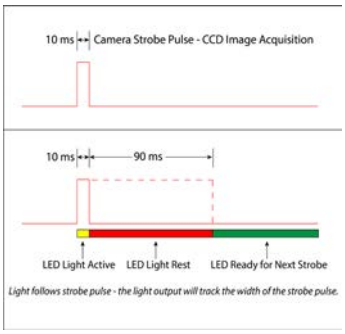
PRODUCT DRAWING

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



DUTY CYCLE

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



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

Calculating Rest Time

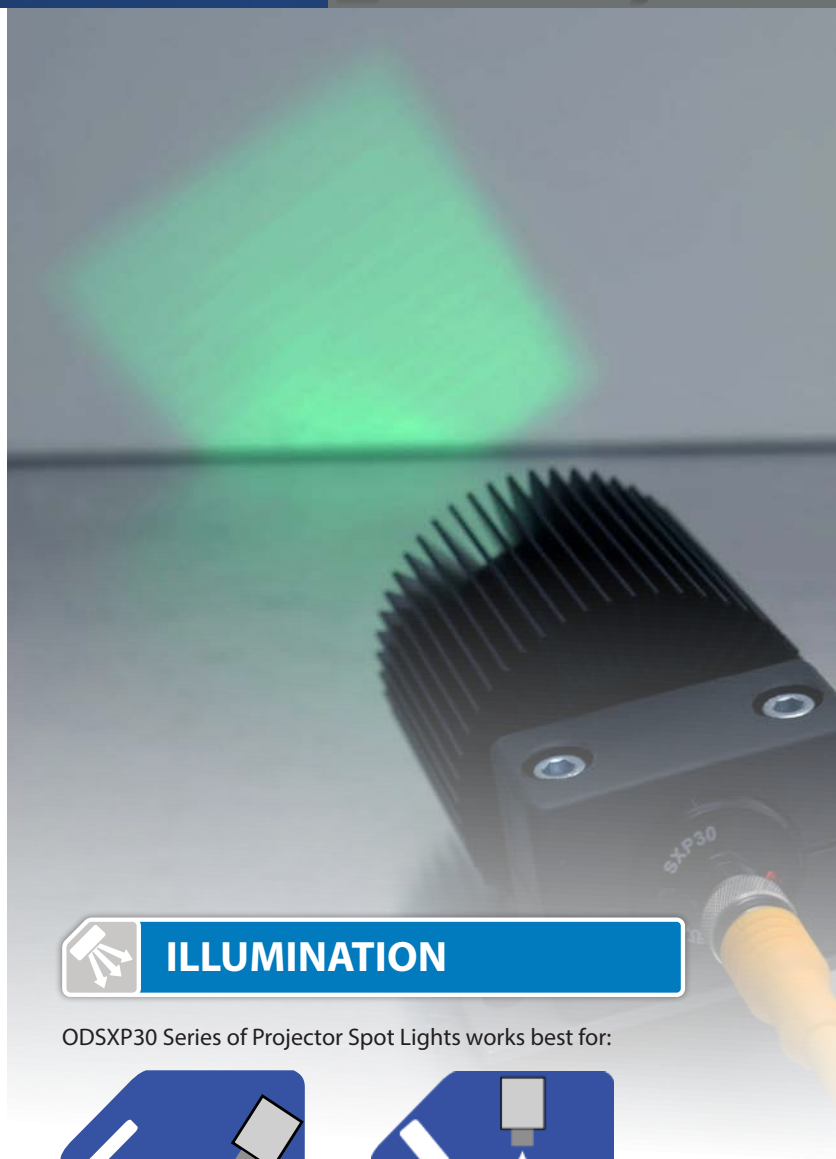
$$RT = \frac{ST}{D} - ST$$

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

Example

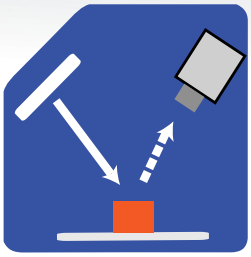
$$RT = \frac{10\ ms}{.1} - 10\ ms = 90\ ms$$

Rest Time is 90 ms for 10 ms Strobe Time

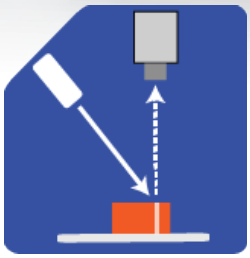


ILLUMINATION

ODSXP30 Series of Projector Spot 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.

PART NUMBER

ODSXP30 – □□□ – □□ – IP65 – □□□

COLOR:

WHI 470 505 530 625 850

*Leave blank if only ordering the IP65-KIT.

LENS SIZE:
50 mm
70 mm

KIT

Kit includes light, lens cover, bottom gasket, lens adapter, lens cover o-ring, and screws

Part Number Examples:

ODSXP30-625	SXP30, 625 nm Red Wavelength **(Light Only)**
ODSXP30-625-70-IP65-KIT	SXP30, 625 nm Red Wavelength, 70 mm lens cover, bottom gasket, lens adapter, lens cover o-ring, and screws
SXP30-70-IP65-KIT	IP65-KIT with 70 mm lens cover, bottom gasket, lens adapter, lens cover o-ring, and screws **(No Light)**

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)

IMPORTANT:

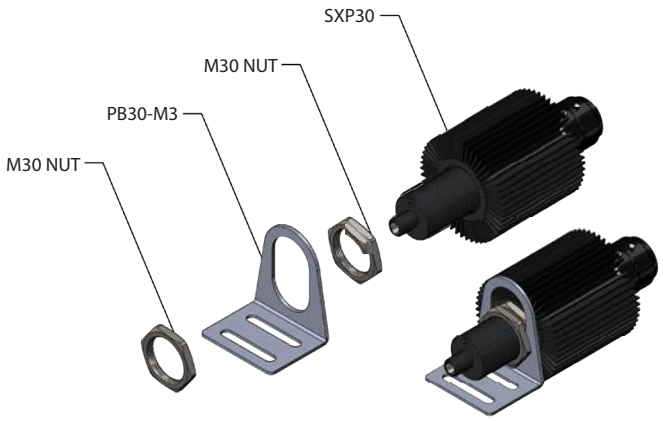
Any ODSXP30 Projector Spot Light that was purchased before October 1, 2019 will not be compatible with the IP65-Kit and will need to be replaced. This is due to a manufacturing change to the heat sink to allow the bottom gasket and lens cover to be attached to the heat sink with screws.

MOUNTING

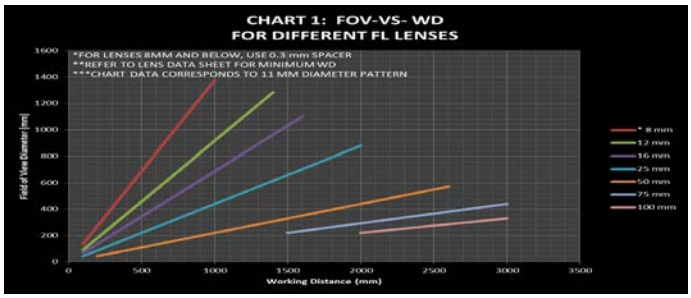
Two M30 nuts for mounting are included with the light.

Example of the ODSXP30 shown using the Slotted Right Angle mount (**Part Number: PB30-M3**).

See accessories for additional mounting options.



LENS CONFIGURATION



FOV = Field of View Diameter
FL = Focal Length
WD = Working Distance
PS = Pattern Size
M = Magnification

Finding Focal Length

$$FL = \frac{PS \cdot WD}{FOV}$$

Magnification

$$M = \frac{FOV}{PS}$$

ACCESSORIES

Power Cables

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

Lenses

Part Number
*See lenses and patterns section for options.

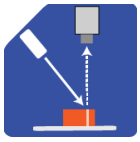
GLOSSARY

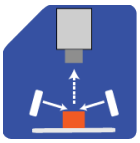
This glossary covers all Smart Vision Lights product families; some content in this section may not apply to this specific light.

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.

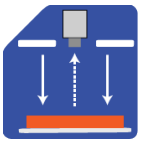
TYPES OF ILLUMINATIONS

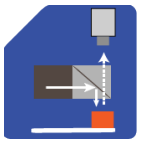

Projector

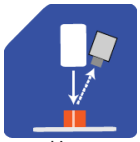

Dark Field

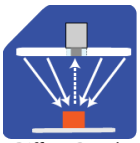

Radial

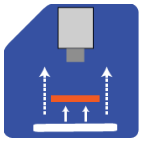

Bright Field


Direct


Axial

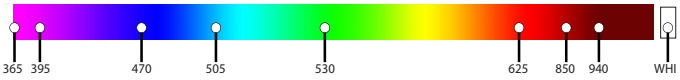

Line


Diffuse Panel


Backlight

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.*

SHORT WAVE **INFRARED**

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

smart vision lights

ODSXW30 *Prox Light* SPOTLIGHT

WASHDOWN | OVERDRIVE™

PRODUCT DATA SHEET

OverDRIVE

Warranty	Compliant	Compliant	Rated	Connector
10 YEAR	IEC 62471	CE RoHS	IP 68	5 PIN M12

PRODUCT HIGHLIGHTS

- ✓ OverDrive™ — Up to 2.5 times brighter than a standard SXW30 Prox Light
- ✓ 5-pin M12 quick connect
- ✓ Built-in driver, no external wiring to driver needed
- ✓ PNP and NPN strobe input
- ✓ Washdown IP68 Rating.
- ✓ Standard optics provides tight focused light

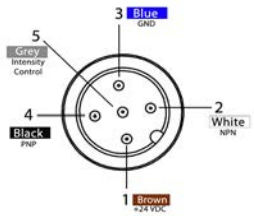
PRODUCT DESCRIPTION

The ODSXW30 Series of Prox Lights feature a single high current LED enclosed in a 30mm Washdown IP68 Barrel Style Housing. The ODSXW30 Series features an NPN and PNP strobe signal with a 1–10VDC analog intensity control signal for added versatility. The ODSXW30 Series also has multiple mounting options allowing for ease of install. Operation mode is strobe only with 5-6x the intensity of the standard SXW30.

PRODUCT SPECIFICATIONS

Electrical Input	24VDC +/- 5%
Input Current	Max. 175 mA
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)
Continuous Mode	NPN can be tied to ground **OR** PNP can be tied to 24VDC (not both)
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	IP68
Weight	~266g
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

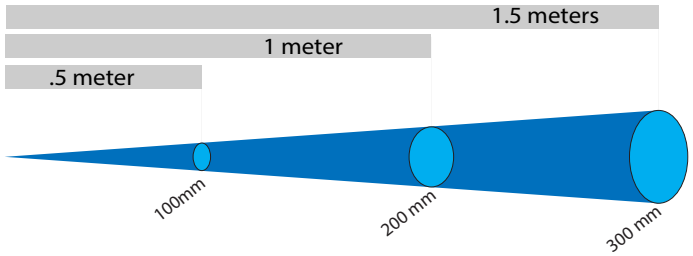
RESOURCE CORNER

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

LIGHT PATTERNS

Smart Vision Lights recommends the ODSXW30 be used at a working distance between .5M to 4M.

Illumination measurement taken on White Light - 6500K

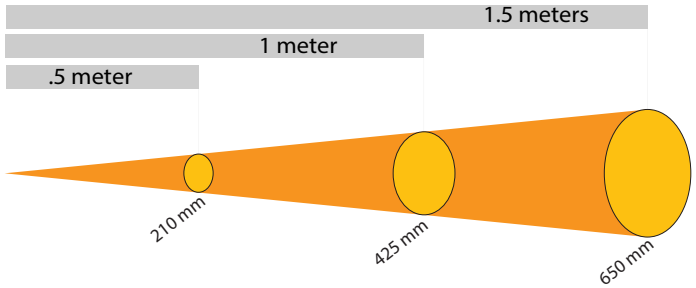


LIGHTING PATTERN FOR THE ODSXW30

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

Illumination measurement taken on White Light - 6500K

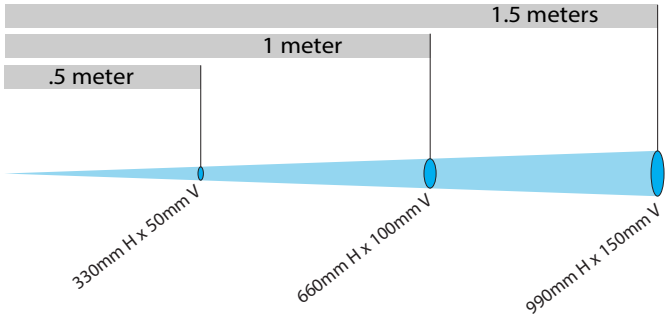


LIGHTING PATTERN FOR THE ODSXW30

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

Illumination measurement taken on White Light - 6500K



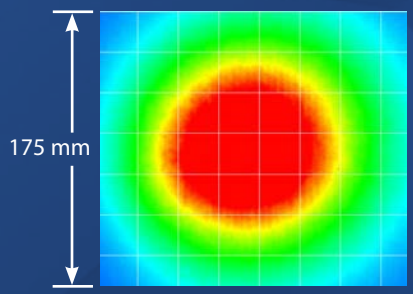
LIGHTING PATTERN FOR THE ODSXW30

Working Distance mm (inches)	Pattern (80% - 100% measured intensity) mm (inches)
.5m (19.7")	330mm (~13") H x 50mm (~2") V
1m (39.4")	660mm (~26") H x 100mm (~4") V
1.5m (59")	990mm (~39") H x 150mm (~6") V

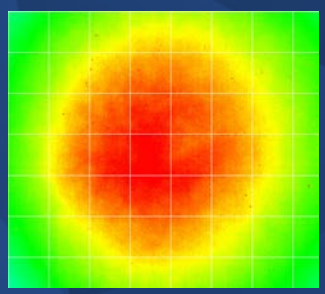
Typical Output Preformance	Illumination (Lux)
Distance = .5 meter	10,000
Illumination measurement taken on White Lights - 6500K	

The ODSXW30 Prox Light produces a uniform light pattern.

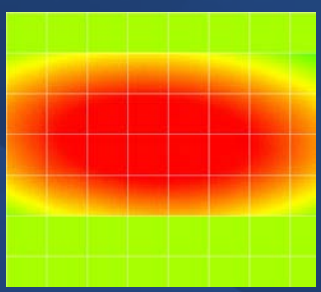
Working Distance = 500 mm Grid set to 25 mm x 25 mm



Narrow



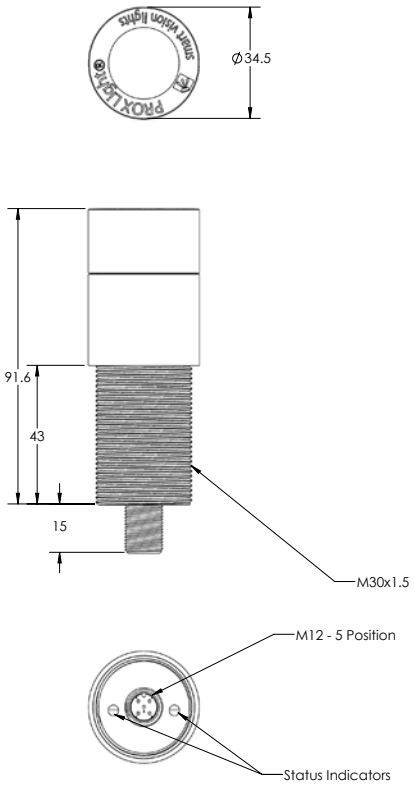
Wide



Line

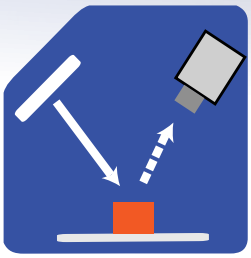
PRODUCT DRAWING

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

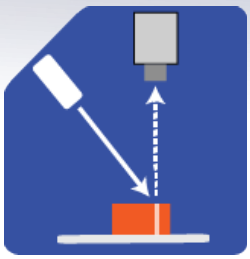


ILLUMINATION

ODSXW30 series of Prox Lights works best for:



Bright Field



Projector

EYE SAFETY

SMART VISION LIGHTS IEC 62471 COMPLIANT

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

ODSXW30 – □□□ – □

COLOR:

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

LENS:

Leave blank for standard (narrow)

W = Wide

L = Line

Part Number Examples:

ODSXW30-625 ODSXW30, 625 nm Red Wavelength, Standard (Narrow) Lenses

ODSXW30-WHI-L ODSXW30, White, Line 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 lens 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.

LINE

Line lenses create a thin narrow beam of illumination. Line lenses create a line of light when used on the L300 linear light. Line are 10° and 50° angle cone lenses.

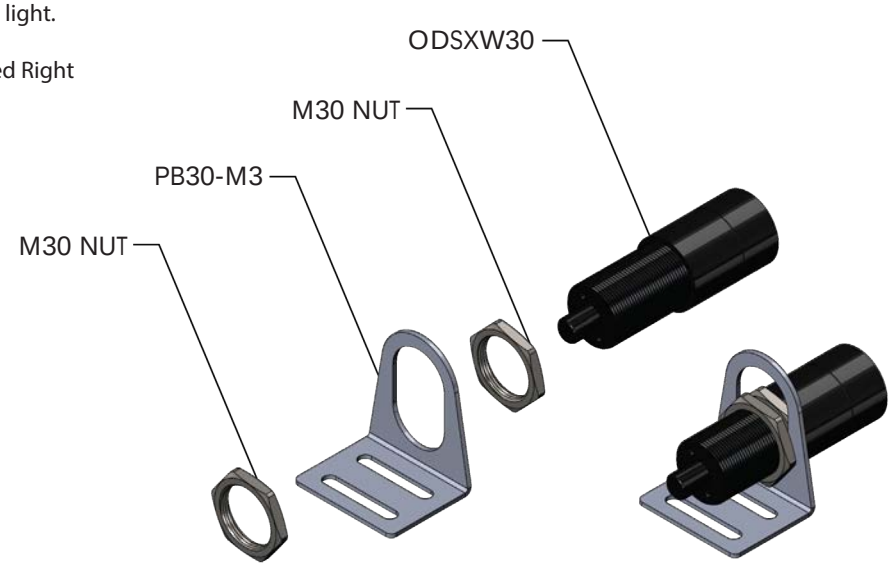
** Additional lens options available upon request.*

MOUNTING

Two M30 nuts for mounting are included with the light.

Example of the ODSXW30 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

Power Cables (Wash-down)

Lengths	Part Number
10 m	W5PM12-10
15 m	W5PM12-15

Washdown cables have a 316 Stainless Steel connector(s).

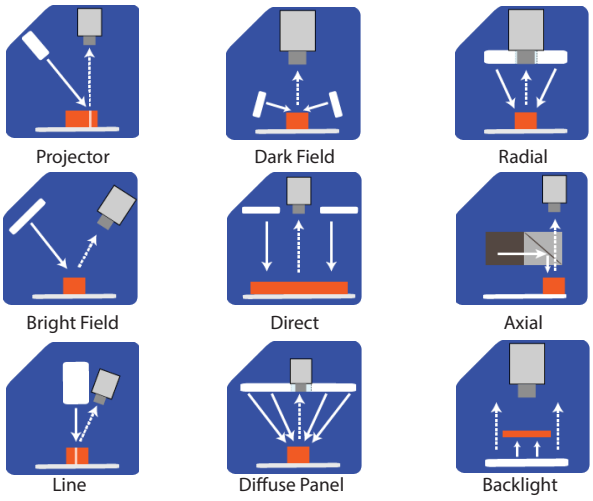
GLOSSARY

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

TERMINOLOGY

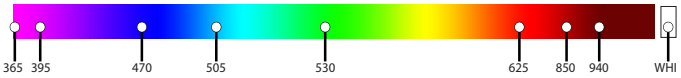
OverDrive™ Lights include an integrated high-pulse driver for complete LED light control.
Continuous Operation Lights stay on continuously.
Multi-Drive™ Combines continuous operation and OverDrive™ strobe (high-pulse operation) mode into one easy-to-use light.
Built-in Driver The built-in driver allows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

smart vision lights

S75 *Brick Light* SPOT LIGHT

PRODUCT DATA SHEET

High-Intensity LEDs

Aluminum Backplate

Four Mounting Holes

5-Pin M12 Connector (Male)

Power Indicator LED (Green)

Intensity Control (10%–100%)

Signal Indicator LED (Yellow)

Warranty	Compliant	Compliant	Rated	Connector
10 YEAR	IEC 62471	CE RoHS	IP 50	5-PIN M12

PRODUCT HIGHLIGHTS

- ✓ 5-pin M12 quick connect
- ✓ Built-in smart driver
- ✓ PNP and NPN trigger signal input
- ✓ Intensity adjustable from 10%–100% using built-in potentiometer

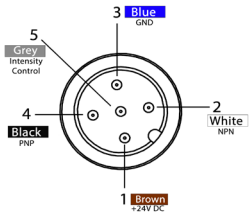
PRODUCT INTRODUCTION

The S75 Brick Light Series is a spot light that features a built-in smart driver. NPN or PNP trigger signals can be used to control the on/off input of the light. Intensity of the light can be controlled via 1–10VDC analog signal line or by adjusting the built-in manual potentiometer. Heat is dissipated through the aluminum backplate, which allows the S75 Brick Light Series to be run at a higher intensity current.

PRODUCT SPECIFICATIONS

Electrical Input	24VDC +/–5%
Input Current	Max. 375 mA
Wattage	Max. 9.0 W
On/Off 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 (0 VDC)
Yellow Indicator LED	LED strobe indicator ON = light active
Green Indicator LED	ON = power
Continuous Mode	NPN can be tied to ground **OR** PNP can be tied to 24VDC (not both)
Potentiometer	270º turn pot — intensity control of 10%–100%. Turn clockwise to increases intensity.
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–40ºC (0º–104ºF)
IP Rating	IP50
Weight	~155 g
Compliances	CE, RoHS, IEC 62471
Warranty	UV LEDs have a 2 year warranty, all other LEDs have a 10 year warranty. For complete warranty information, visit smartvisionlights.com/warranty.

WIRING CONFIGURATION



Pin layout for light (Male Connector)

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	1–10VDC	GREY*

OPTIONAL

For maximum intensity, connect pin 5 to pin 1 at 24VDC. Potentiometer intensity needs to be set to 100%.

** Some cables use green/yellow for pin 5*
For maximum intensity, tie pin 5 to pin 1 at +24VDC.
*For continuous mode: Tie PNP (pin 4) can be tied to +24VDC (pin 1) **or** tie NPN (pin 2) can be tied to Ground (pin 3).*

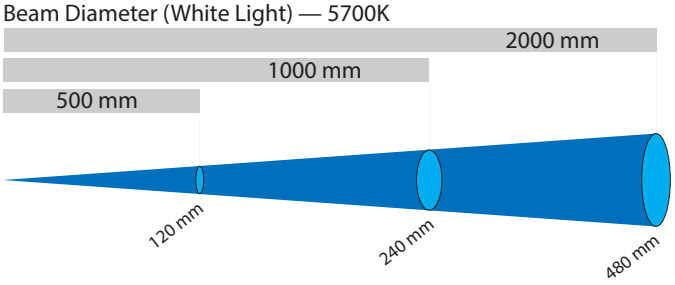
RESOURCE CORNER

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

LIGHT PATTERNS

Smart Vision Lights recommends that the S75 be used at a working distance between 300 mm and 4000 mm.

Beam Diameter (White Light) — 5700K

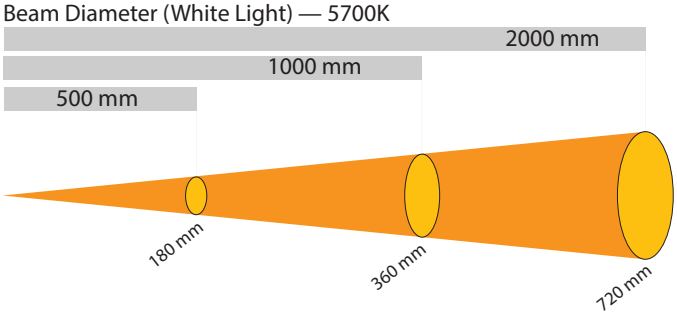


LIGHTING PATTERN FOR THE S75 **with Narrow (Standard) Lenses**

Working Distance mm (inches)	Pattern (80%–100% measured intensity) mm (inches)
500 mm (19.7")	120 mm (~4.7") D
1000 mm (39.4")	240 mm (~9.4") D
2000 mm (78.8")	480 mm (~18.9") D

Typical Output Performance	Illuminance (Lux)
Distance = 500 mm	7250
Illuminance measurement taken on White Lights — 5700K	

Beam Diameter (White Light) — 5700K

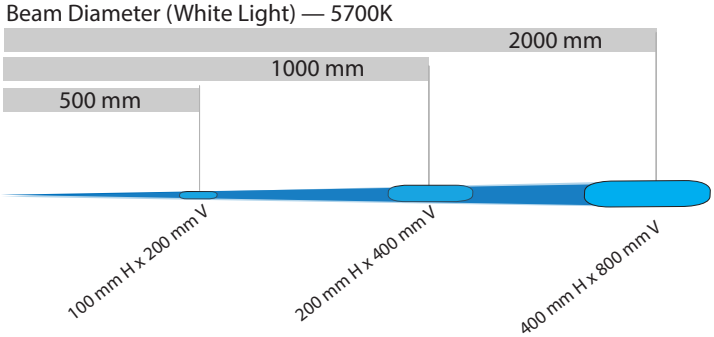


LIGHTING PATTERN FOR THE S75 **with Wide (W) Lenses**

Working Distance mm (inches)	Pattern (80%–100% measured intensity) mm (inches)
500 mm (19.7")	180 mm (~7") D
1000 mm (39.4")	360 mm (~14.2") D
2000 mm (78.8")	720 mm (~28.3") D

Typical Output Performance	Illuminance (Lux)
Distance = 500 mm	6500
Illuminance measurement taken on White Lights — 5700K	

Beam Diameter (White Light) — 5700K



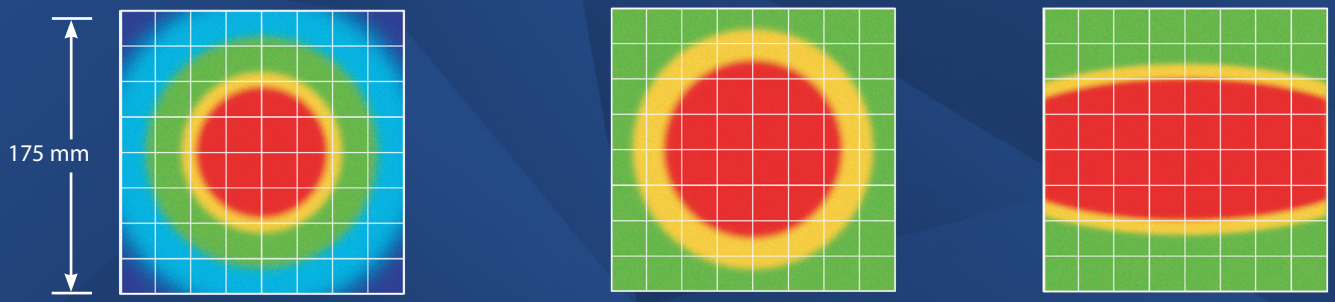
LIGHTING PATTERN FOR THE S75 **with Line (L) Lenses**

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	9800
Illuminance measurement taken on White Lights — 5700K	

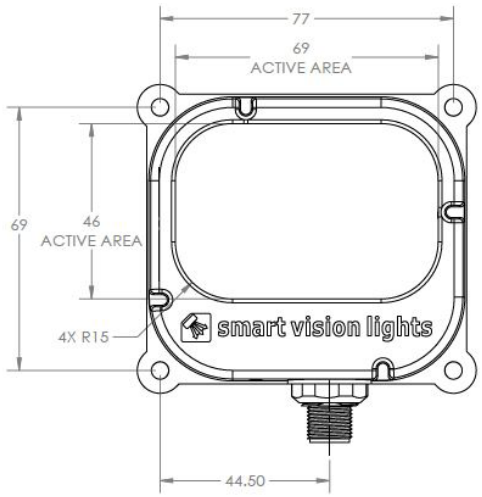
The S75 Brick Light produces a uniform light pattern.

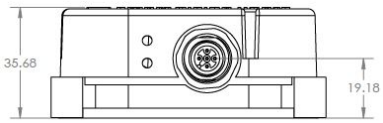
Working Distance = 500 mm Grid set to 25 mm x 25 mm

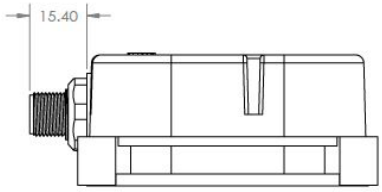


PRODUCT DRAWING

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

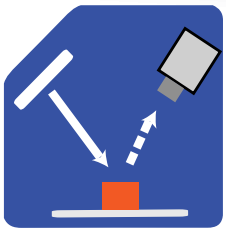




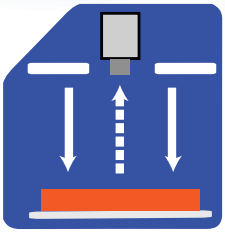


ILLUMINATION

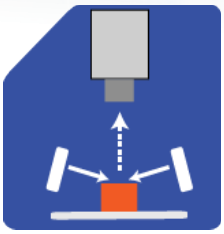
S75 Series of Brick Lights works best for:



Bright Field



Direct Lighting



Dark Field

EYE SAFETY

SMART VISION LIGHTS IEC 62471 COMPLIANT

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

Notice

Exempt Group: No photobiological hazard to eyes or skin even for continuous, unrestricted use. Applicable for wavelengths 625, 850, 940, 1050, 1200, 1300, 1450, and 1550.

Caution

Risk Group 1: Possibly hazardous optical radiation emitted from this product. Do not stare at operating lamp. May be harmful to eyes. Safe for most applications except prolonged exposure. 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 wavelength 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 wavelength 365.

PART NUMBER

S75 – □□□□ – □ – □□□

COLOR:

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

LENS:

Leave blank for Standard (Narrow)

W = Wide

L = Line

LINEAR POLARIZER:

Leave blank for none

LPI = Factory Installed

Part Number Examples:

S75-625 S75, 625 nm Red Wavelength, Standard (Narrow) Lens

S75-WHI-L S75, White, Line Lens

S75-470-W-LPI S75, 470 nm Blue Wavelength, Wide Lens, with Linear Polarizer installed

SWIR SHORTWAVE INFRARED

This light is available in our SWIR LEDs.

1050 nm | 1200 nm | 1300 nm | 1450 nm | 1550 nm

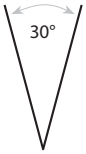
Line Lenses are not offered for UV wavelengths.

Additional wavelengths and lens options available upon request.

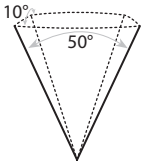
LENS OPTICS

NARROW (STANDARD)
Narrow, 14° angle-cone lenses are standard. Standard lenses project a narrow beam of illumination and are used for long working distances.

WIDE
Wide, 30° angle-cone lenses project a large area of illumination. They create a floodlight effect, can be used for short working distances.



LINE
Line, with a 10° width and a 50° fan-angle project a thin, narrow beam of illumination. Note: this lens is not offered in UV.



** Additional lens options available upon request.*

When To Use a Linear Polarizer?

Polarizing filters can reduce reflections on specular surfaces.

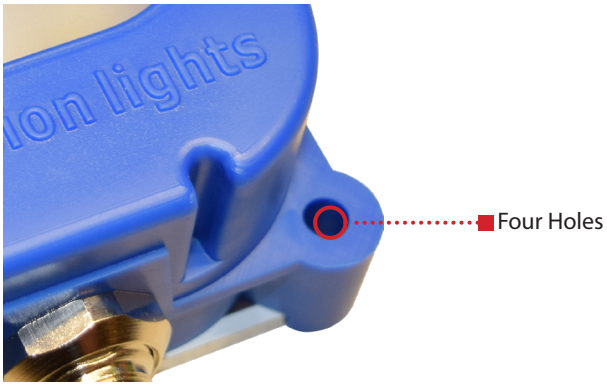
A Linear Polarizer has a typical transmission of 38 percent while blocking 62 percent of the light not in the polarization plane.

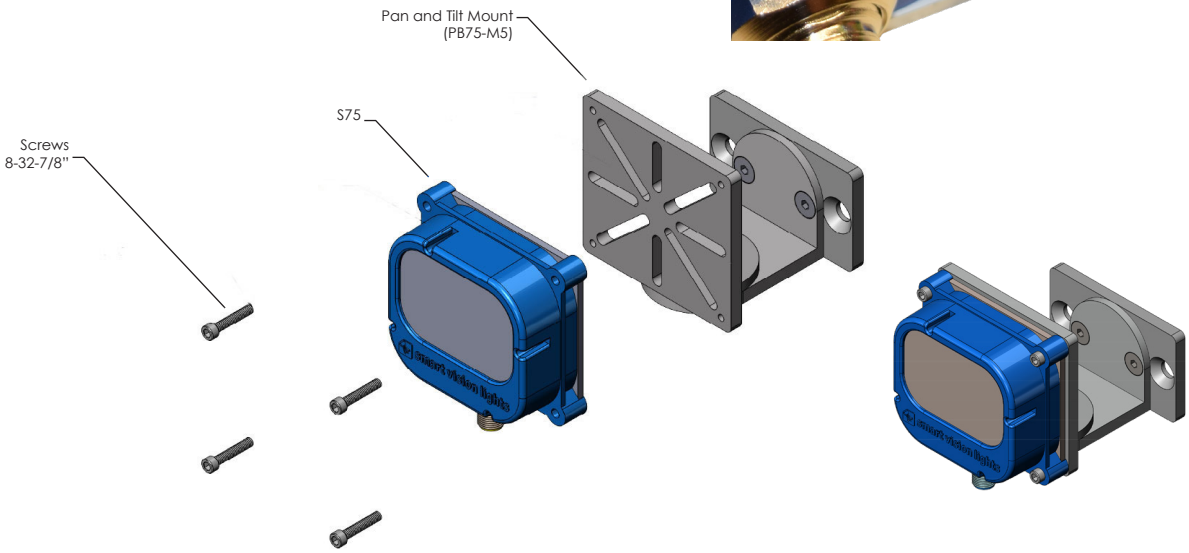
WARNING: Running a light in continuous operation while using a standard polarizer with certain wavelengths (e.g. white, blue) may burn the polarizer.

MOUNTING

Mounting options on the S75 Series of Brick Light include four holes. See Accessories for additional mounting options.

Example of the S75 using the Pan and Tilt Mount (**Part Number: PB75-M5.**)



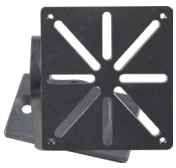


ACCESSORIES

Power Cables

Length	Part Number
5 m	5PM12-5
10 m	5PM12-10
15 m	5PM12-15

Mount



Description	Part Number
Pan and Tilt Mount	PB75-M5

Linear Polarizer

Description	Part Number
Linear Polarizer for S75	S75-LP

Diffuser

Description	Part Number
Diffuser Kit for S75	S75-DKIT

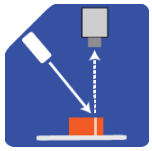
GLOSSARY

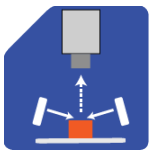
This glossary covers all Smart Vision Lights product families; some content in this section may not apply to this specific light.

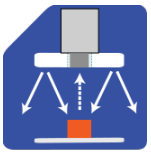
TERMINOLOGY

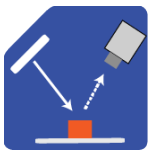
OverDrive™ Light includes an integrated high-current strobe driver for complete LED light control.
Continuous Operation Light stays on continuously.
Multi-Drive™ Combines continuous operation and OverDrive™ strobe (high-current strobe operation) modes into one easy-to-use light.
Built-In Driver The built-in driver allows full function without the need for an external driver.
Camera to Light Connect 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.

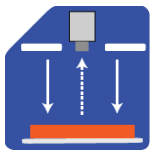
TYPES OF ILLUMINATIONS

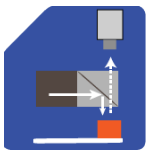

Projector

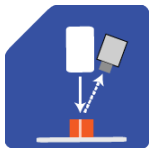

Dark Field

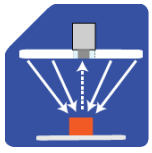

Radial

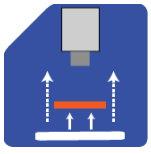

Bright Field


Direct


Axial

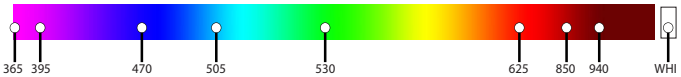

Line


Diffuse Panel


Backlight

COLOR/WAVELENGTHS LEGEND

Wavelength 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.*

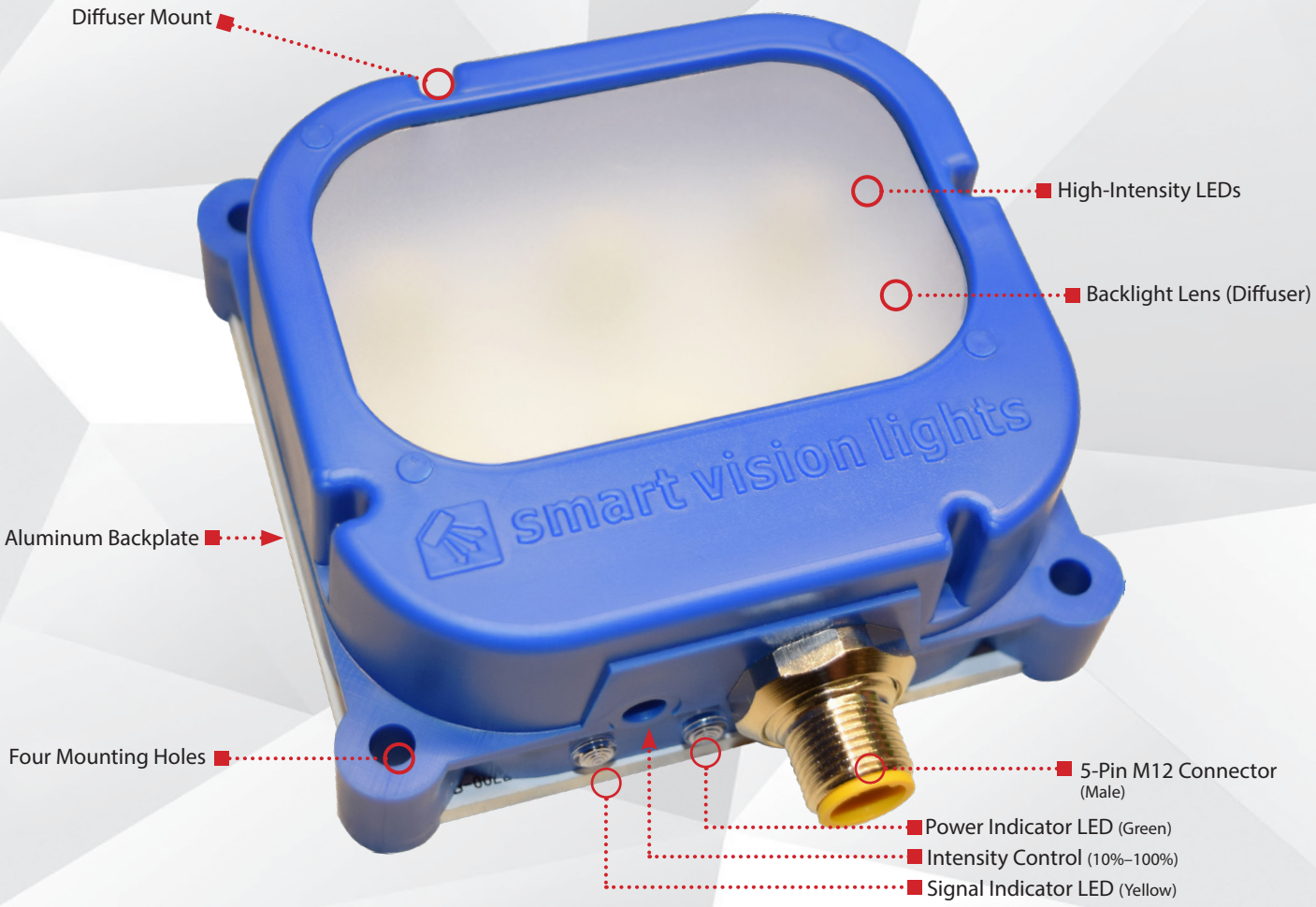
SWIR SHORTWAVE **INFRARED**

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.*

smart vision lights

SB75 *Brick Light* SPOT LIGHT BACKLIGHT

PRODUCT DATA SHEET



Warranty	Compliant	Compliant	Rated	Connector
10 YEAR	IEC 62471	CE RoHS	IP 50	5-PIN M12

PRODUCT HIGHLIGHTS

- ✓ 5-pin M12 quick connect
- ✓ Built-in smart driver
- ✓ PNP and NPN trigger signal input
- ✓ Backlight lens (diffuser) is factory installed
- ✓ Intensity adjustable from 10%–100% using built-in potentiometer

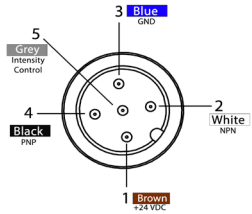
PRODUCT INTRODUCTION

The SB75 Brick Light features a built-in smart driver and a diffused lens, making it a viable option for silhouetting objects. The manual potentiometer control allows the intensity to be adjusted from 10%–100%. A user can also adjust the intensity with the 1–10VDC analog signal line. Heat is dissipated through the aluminum backplate, allowing the SB75 to be run at a higher current and a greater intensity.

PRODUCT SPECIFICATIONS

Electrical Input	24VDC +/–5%
Input Current	Max. 375 mA
Wattage	Max. 9.0 W
On/Off Input	PNP: +4 VDC 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)
Yellow Indicator LED	LED strobe indicator ON = light active
Green Indicator LED	ON = power
Continuous Mode	NPN can be tied to ground **OR** PNP can be tied to 24VDC (not both)
Potentiometer	270° turn pot — intensity control of 10%–100%. Turn clockwise to increases intensity.
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	-18°–40°C (0°–104°F)
IP Rating	IP50
Weight	~155 g
Compliances	CE, RoHS, IEC 62471
Warranty	10 years. For complete warranty information, visit smartvisionlights.com/warranty.

WIRING CONFIGURATION



Pin layout for light (male connector)

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	1–10VDC	GREY*

OPTIONAL

For maximum intensity, connect pin 5 to pin 1 at 24VDC. Potentiometer intensity needs to be set to 100%.

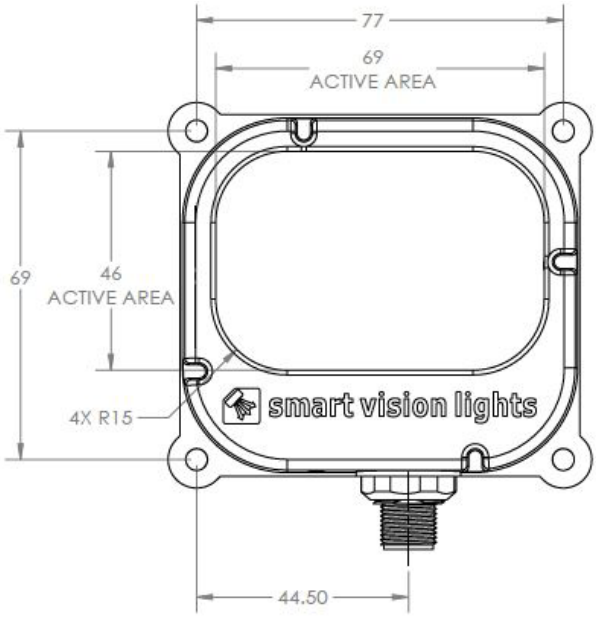
** Some cables use green/yellow for pin 5*
For maximum intensity, tie pin 5 to pin 1 at +24VDC.
*For continuous mode: Tie PNP (pin 4) can be tied to +24VDC (pin 1) **or** tie NPN (pin 2) can be tied to Ground (pin 3).*

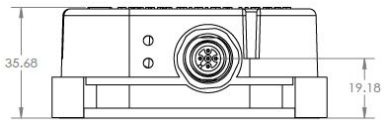
RESOURCE CORNER

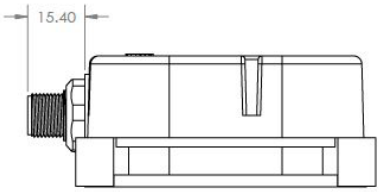
Additional resources, including CAD files, videos, and application examples, are available on our website.

PRODUCT DRAWING

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

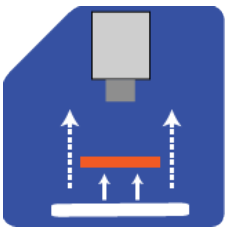






ILLUMINATION

SB75 Series of Brick Lights works best for:



Backlight

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, 940, 1050, 1200, 1300, 1450, and 1550.

Caution

Risk Group 1: Possibly hazardous optical radiation emitted from this product. Do not stare at operating lamp. May be harmful to eyes. Safe for most applications except for prolonged exposure. Applicable for wavelengths 470, 505, 530, and WHI.

PART NUMBER

SB75 – □□□□

COLOR:

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

Additional wavelength options available upon request.

Part Number Example:
SB75-625 (SB75, 625 nm Red Wavelength)

SWIR SHORTWAVE INFRARED

This light is available in our SWIR LEDs.

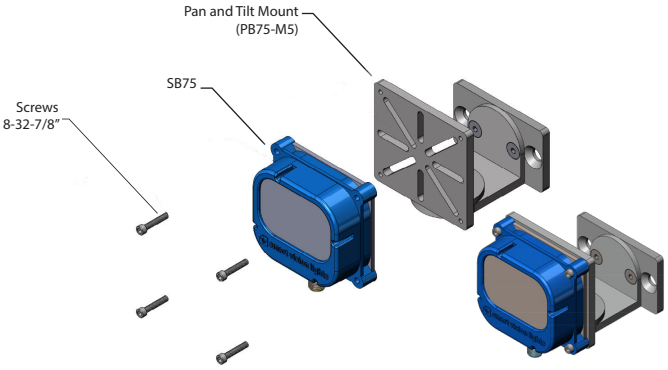
1050 nm | 1200 nm | 1300 nm | 1450 nm | 1550 nm

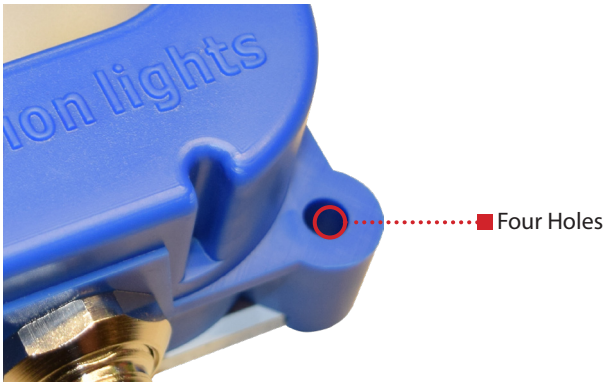
MOUNTING

The SB75 Brick Light has four holes for mounting.

Diagram shows pan and tilt mounting **(part number PB75-M5)**.

See Accessories for additional mounting options.





ACCESSORIES

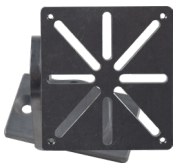
Power Cables

Length	Part Number
5 m	5PM12-5
10 m	5PM12-10
15 m	5PM12-15

Variable Control Pot

Description	Part Number
Controls the intensity of the light	IVP-C1

Mount



Description	Part Number
Pan and Tilt Mount	PB75-M5

Mounting Rails

Length	Part Number
300 mm	LEXT300
600 mm	LEXT600
900 mm	LEXT900
1200 mm	LEXT1200
Custom sizes available	

GLOSSARY

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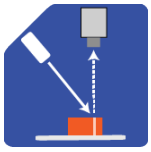
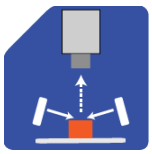
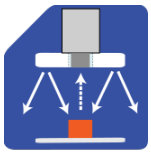
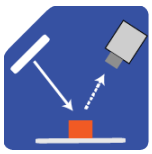
Camera to Light Connect the light directly to the camera, without the need for additional controllers or equipment.
Polarizers Filters that reduce reflections on specular surfaces.
Diffuser Used to widen the angle of light emission, reduce reflections, and increase uniformity.

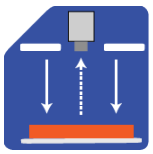
TYPES OF ILLUMINATIONS

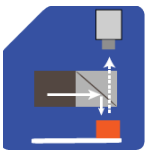

Projector

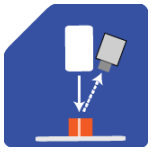

Dark Field

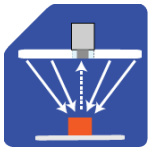

Radial

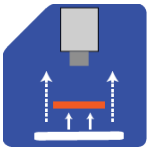

Bright Field


Direct


Axial

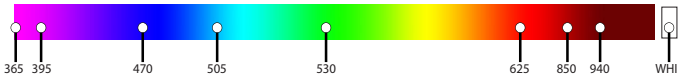

Line


Diffuse Panel


Backlight

COLOR/WAVELENGTHS LEGEND

Wavelength 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 SHORTWAVE **INFRARED**

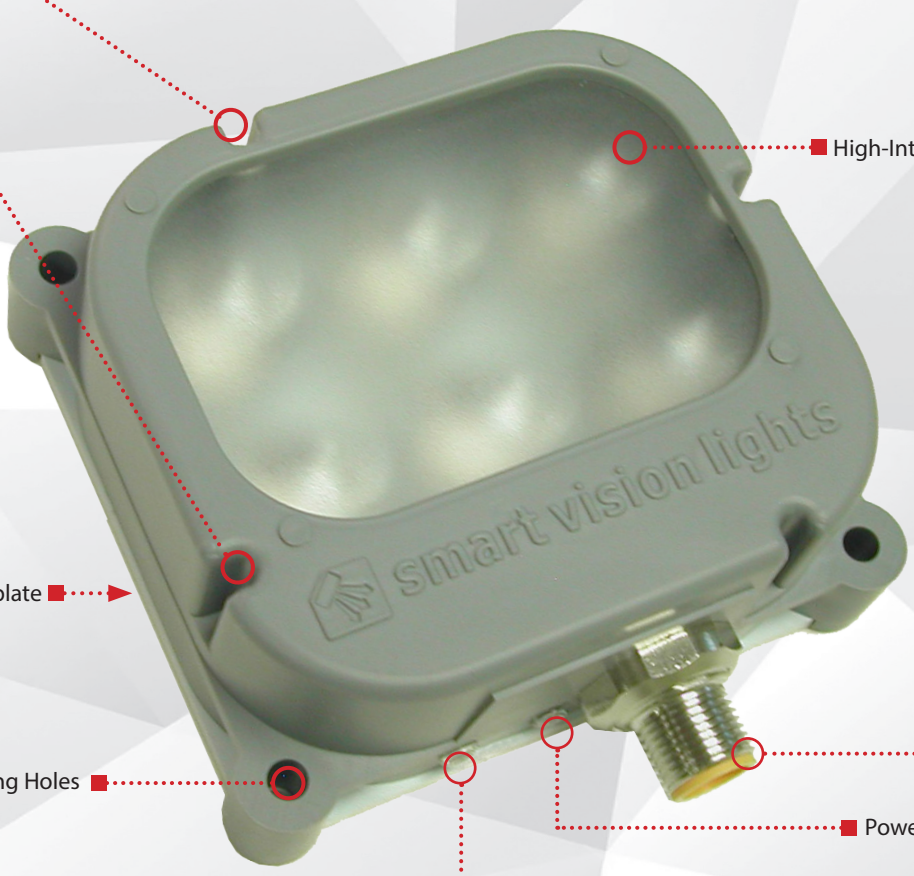
Shortwave infrared LEDs are available in 1050 nm, 1200 nm, 1300 nm, 1450 nm, and 1550 nm.
*Check Part Number section to see if **this light** is available in SWIR wavelengths.*

smart vision lights

SC75 *Brick Light* SPOT LIGHT

GREY SERIES

PRODUCT DATA SHEET



Warranty	Compliant	Compliant	Rated	Connector
10 YEAR	IEC 62471	CE RoHS	IP 50	5-PIN M12

PRODUCT HIGHLIGHTS

- ✓ 5-pin M12 quick connect
- ✓ Built-in smart driver
- ✓ PNP and NPN trigger signal input

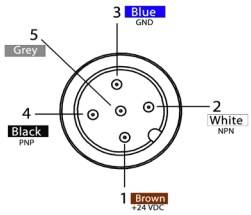
PRODUCT INTRODUCTION

The SC75 is the basic spot light version of the S75 Brick Light. It features a built-in smart driver. NPN or PNP trigger signals can be used to control the on/off input of the light. A 75 mm active light area provides an intense and diffuse light pattern at any given working distance.

PRODUCT SPECIFICATIONS

Electrical Input	24VDC +/–5%
Input Current	Max. 375 mA
Wattage	Max. 9.0 W
On/Off 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 @ gound (0VDC)
Yellow Indicator LED	LED strobe indicator ON = light active
Green Indicator LED	ON = power
Continuous Mode	NPN can be tied to ground **OR** PNP can be tied to 24VDC (not both).
Connection	5-pin M12 connector
Ambient Temperature	-18º–40ºC (0º–104ºF)
IP Rating	IP50
Weight	~155 g
Compliances	CE, RoHS, IEC 62471
Warranty	10 years. For complete warranty information, visit smartvisionlights.com/warranty.

WIRING CONFIGURATION



Pin layout for light (male connector)

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	N/C	N/C	GREY*

** Some cables use green/yellow for pin 5*
*For continuous mode: Tie PNP (pin 4) to +24VDC (pin 1) **or** tie NPN (pin 2) to ground (pin 3).*

MAXIMUM INTENSITY
Light is set to maximum intensity.
It is not adjustable.

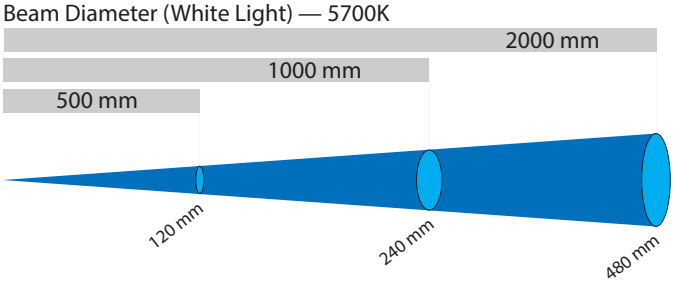
RESOURCE CORNER

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

LIGHT PATTERNS

Smart Vision Lights recommends that the SC75 be used at a working distance between 300 mm and 4000 mm.

Beam Diameter (White Light) — 5700K

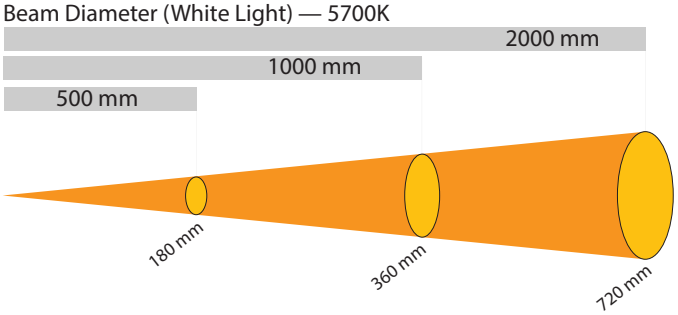


LIGHTING PATTERN FOR THE SC75 **with Narrow (Standard) Lenses**

Working Distance mm (inches)	Pattern (80%–100% measured intensity) mm (inches)
500 mm (19.7")	120 mm (~4.7") D
1000 mm (39.4")	240 mm (~9.4") D
2000 mm (78.8")	480 mm (~18.9") D

Typical Output Performance	Illuminance (Lux)
Distance = 500 mm	7250
Illuminance measurement taken on White Lights — 5700K	

Beam Diameter (White Light) — 5700K

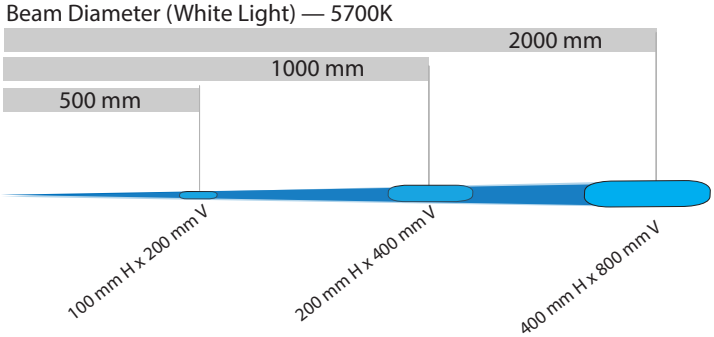


LIGHTING PATTERN FOR THE SC75 **with Wide (W) Lenses**

Working Distance mm (inches)	Pattern (80%–100% measured intensity) mm (inches)
500 mm (19.7")	180 mm (~7") D
1000 mm (39.4")	360 mm (~14.2") D
2000 mm (78.8")	720 mm (~28.3") D

Typical Output Performance	Illuminance (Lux)
Distance = 500 mm	6500
Illuminance measurement taken on White Lights — 5700K	

Beam Diameter (White Light) — 5700K



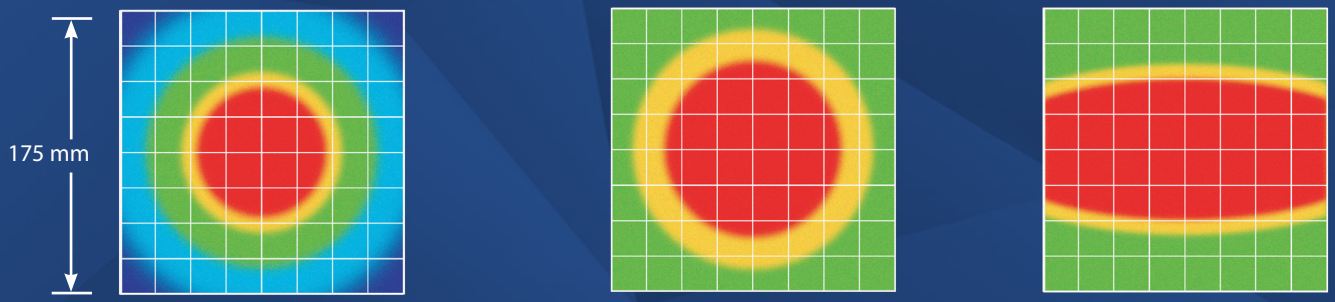
LIGHTING PATTERN FOR THE SC75 **with Line (L) Lenses**

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	9800
Illuminance measurement taken on White Lights — 5700K	

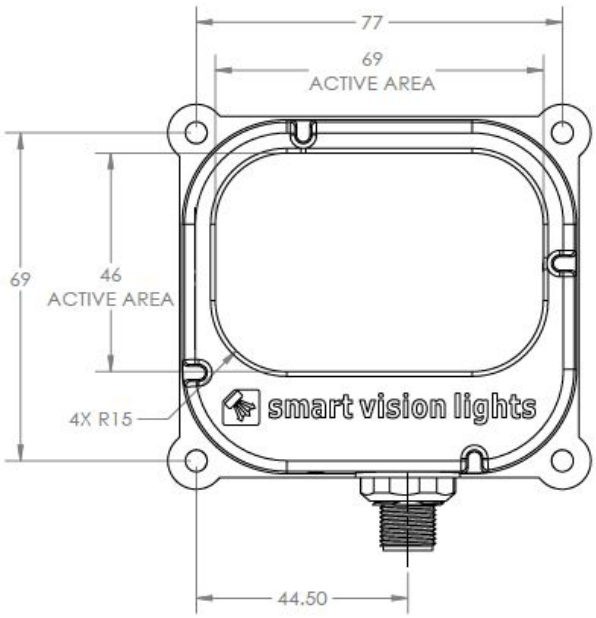
The SC75 Brick Light produces a uniform light pattern.

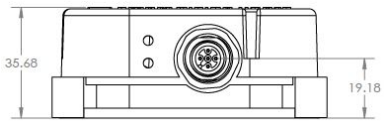
Working distance = 500 mm Grid set to 25 mm x 25 mm

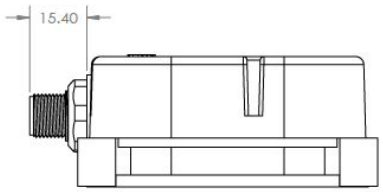


PRODUCT DRAWING

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

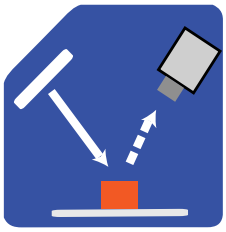




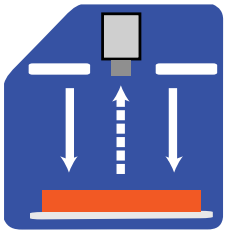


ILLUMINATION

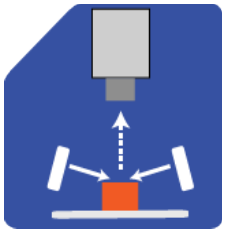
SC75 Series of Brick Lights works best for:



Bright Field



Direct Lighting



Dark Field

EYE SAFETY

According to IEC 62471: 2006. Full documentation available 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 eyes. Safe for most applications except for prolonged exposure. Applicable for wavelengths 470, 505, 530, and WHI.

PART NUMBER

SC75 – □□□ – □

COLOR:

WHI | 470 | 505 | 530 | 625 | 850

LENS:

Leave blank for Standard (Narrow)

W = Wide

L = Line

Additional wavelengths options available upon request.

Part Number Examples:

SC75-625 S75, 625 Red Wavelength, Standard (Narrow) Lens

SC75-WHI-L S75, White, Line Lens

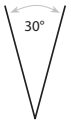
LENS OPTICS

NARROW (STANDARD)

Narrow, 14° angle-cone lenses are standard. Standard lenses project a narrow beam of illumination and are used for long working distances.

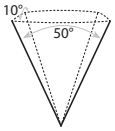
WIDE

Wide, 30° angle-cone lenses project 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 project a thin, narrow beam of illumination.



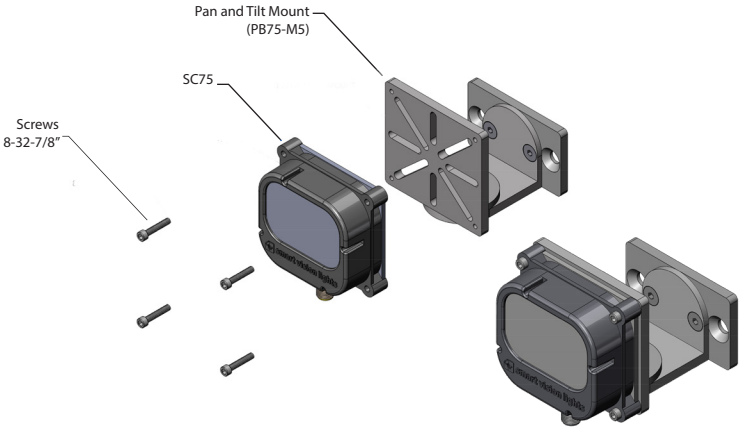
Additional lens options available upon request.

MOUNTING

The SC75 Brick Light has four holes for mounting.

Diagram shows pan and tilt mounting (**Part Number: PB75-M5).**

See Accessories for additional mounting options.

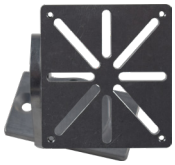


ACCESSORIES

Power Cables

Length	Part Number
5 m	5PM12-5
10 m	5PM12-10
15 m	5PM12-15

Mount



Description	Part Number
Pan and Tilt Mount	PB75-M5

Diffuser

Description	Part Number
Diffuser Kit for SC75	S75-DKIT

Polarizer

Description	Part Number
Polarizer for SC75	S75-LP

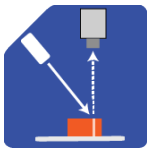
GLOSSARY

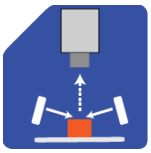
This glossary covers all Smart Vision Lights product families; some content in this section may not apply to this specific light.

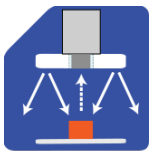
TERMINOLOGY

OverDrive™ Light includes an integrated high-current strobe driver for complete LED light control.
Continuous Operation Light stays on continuously.
Multi-Drive™ Combines continuous operation and OverDrive™ strobe (high-current strobe operation) modes into one easy-to-use light.
Built-In Driver The built-in driver allows full function without the need for an external driver.
Camera to Light Connect 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.

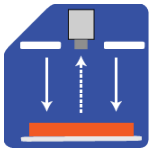
TYPES OF ILLUMINATIONS

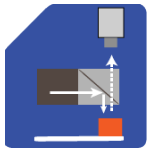

Projector

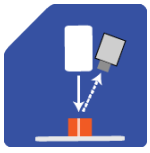

Dark Field

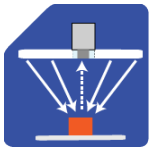

Radial

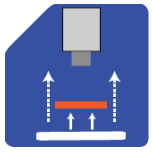

Bright Field


Direct


Axial

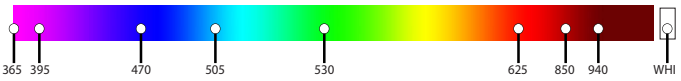

Line


Diffuse Panel


Backlight

COLOR/WAVELENGTHS LEGEND

Wavelength 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 SHORTWAVE 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.*

smart vision lights

SW75 *Brick Light* SPOT LIGHT

WASHDOWN

PRODUCT DATA SHEET

Warranty	Compliant	Compliant	Rated	Connector
10 YEAR	IEC 62471	CE RoHS	IP 68	5-PIN M12

PRODUCT HIGHLIGHTS

- ✓ IP68 standards
- ✓ Stainless-steel 316 housing with a silicone gasket
- ✓ Acrylic and polycarb window options
- ✓ PNP and NPN trigger signal input
- ✓ FDA complian for food manufacturing and corrosive environments

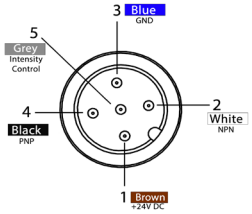
PRODUCT INTRODUCTION

The SW75 Brick Light spot light features a stainless-steel IP68 rated enclosure specially designed for food industry and washdown environments where water and harsh detergents are present. NPN or PNP trigger signals can be used to control the pulse of the light. The light's intensity can be controlled via 1–10VDC analog signal line or by adjusting the built-in manual potentiometer.

PRODUCT SPECIFICATIONS

Electrical Input	24VDC +/–5%
Input Current	Max. 375 mA
Wattage	Max. 9.0 W
On/Off 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)
Yellow Indicator LED	LED strobe indicator ON = light active
Green Indicator LED	ON = power
Continuous Mode	NPN can be tied to ground **OR** PNP can be tied to 24VDC (not both).
Potentiometer	270º turn pot — intensity control of 10%–100%. Turn clockwise to increases intensity.
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–40ºC (0º–104ºF)
IP Rating	IP68
Weight	~760 g
Compliances	CE, RoHS, IEC 62471
Warranty	10 year warranty. For complete warranty information, visit smartvisionlights.com/warranty.

WIRING CONFIGURATION



Pin layout for light (male connector)

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	1–10VDC	GREY*

OPTIONAL

For maximum intensity, connect pin 5 to pin 1 at +24VDC. Potentiometer intensity needs to be set to 100%.

** Some cables use green/yellow for pin 5*
For maximum intensity, tie pin 5 to pin 1 at +24VDC.
*For continuous mode: Tie PNP (pin 4) can be tied to +24VDC (pin 1) **or** tie NPN (pin 2) can be tied to Ground (pin 3).*

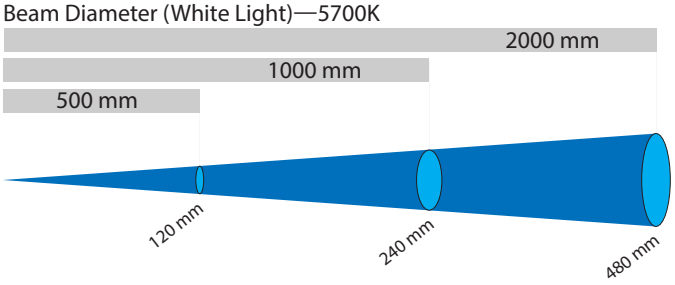
RESOURCE CORNER

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

LIGHT PATTERNS

Smart Vision Lights recommends that the SW75 be used at a working distance between 300 mm and 4000 mm.

Beam Diameter (White Light)—5700K

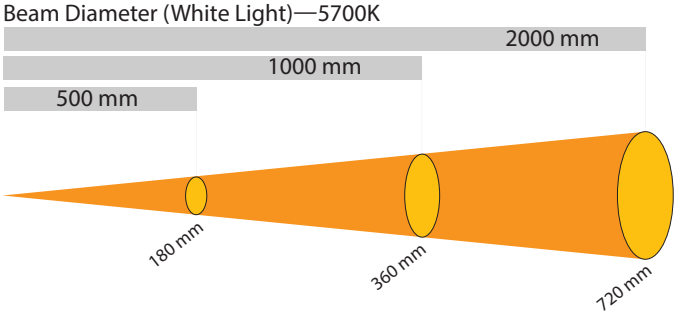


LIGHTING PATTERN FOR THE SW75 **with Narrow (Standard) Lenses**

Working Distance mm (inches)	Pattern (80%–100% measured intensity) mm (inches)
500 mm (19.7")	120 mm (~4.7") D
1000 mm (39.4")	240 mm (~9.4") D
2000 mm (78.8")	480 mm (~18.9") D

Typical Output Performance	Illuminance (Lux)
Distance = 500 mm	7250
Illuminance measurement taken on White Lights—5700K	

Beam Diameter (White Light)—5700K

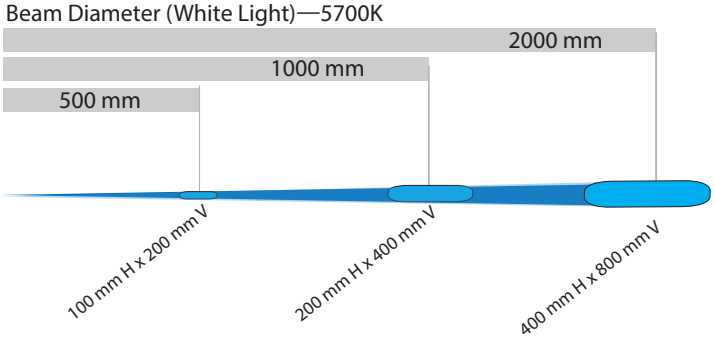


LIGHTING PATTERN FOR THE SW75 **with Wide (W) Lenses**

Working Distance mm (inches)	Pattern (80%–100% measured intensity) mm (inches)
500 mm (19.7")	180 mm (~7") D
1000 mm (39.4")	360 mm (~14.2") D
2000 mm (78.8")	720 mm (~28.3") D

Typical Output Performance	Illuminance (Lux)
Distance = 500 mm	6500
Illuminance measurement taken on White Lights—5700K	

Beam Diameter (White Light)—5700K



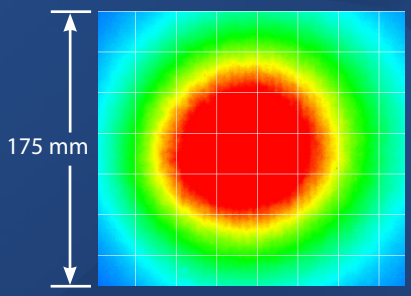
LIGHTING PATTERN FOR THE SW75 **with Line (L) Lenses**

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

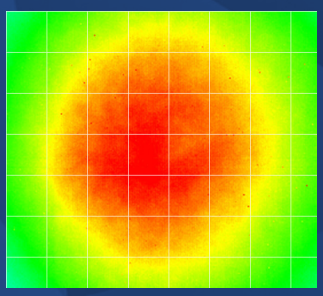
Typical Output Performance	Illuminance (Lux)
Distance = 500 mm	9800
Illuminance measurement taken on White Lights—5700K	

The SW75 Brick Light produces a uniform light pattern.

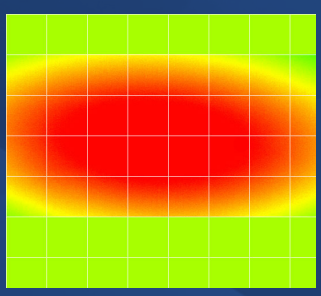
Working distance = 500 mm Grid set to 25 mm x 25 mm



Narrow



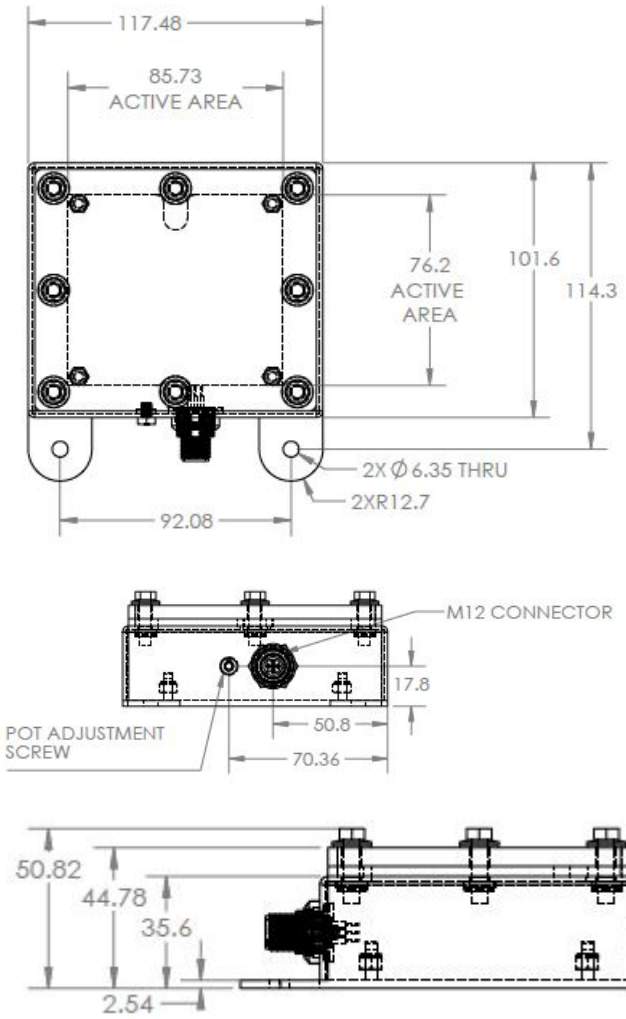
Wide



Line

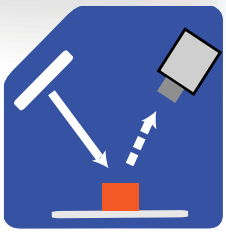
PRODUCT DRAWING

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

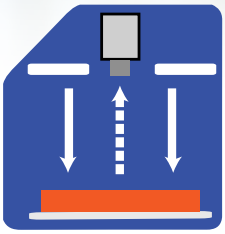


ILLUMINATION

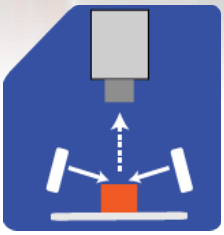
SW75 Series of Brick Lights works best for:



Bright Field



Direct Lighting



Dark Field

EYE SAFETY

SMART VISION LIGHTS IEC 62471 COMPLIANT

According to IEC 6247: 2006. Full documentation available upon request.

Notice

Exempt Group: No photobiological hazard to eyes or skin even for continuous, unrestricted use. Applicable for wavelengths 625, 850, 940, 1050, 1200, 1300, 1450, and 1550.

Caution

Risk Group 1: Possibly hazardous optical radiation emitted from this product. Do not stare at operating lamp. May be harmful to eyes. Safe for most applications except for prolonged exposure. Applicable for wavelengths 470, 505, 530, and WHI.

PART NUMBER

SW75 – □□□□ – □

COLOR:

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

LENS:

Leave blank for Standard (Narrow)

W = Wide

L = Line

Additional wavelengths options available upon request.

Part Number Examples:

SW75-625 SW75, 625 nm Red Wavelength, Standard (Narrow) Lens

SW75-WHI-L SW75, White, Line Lens

SWIR SHORTWAVE INFRARED

This light is available in our SWIR LEDs.

1050 nm | 1200 nm | 1300 nm | 1450 nm | 1550 nm

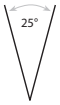
LENS OPTICS

NARROW (STANDARD)

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

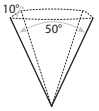
WIDE

Wide, 25° angle-cone lenses project a large area of illumination. They create a floodlight effect, 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.

ACCESSORIES

Power Cables

Length	Part Number
5 m	5PM12-5
10 m	5PM12-10
15 m	5PM12-15

Power Cables (Washdown)

Length	Part Number
15 m	W5PM12-15

Washdown cable has a 316 Stainless-steel connector.

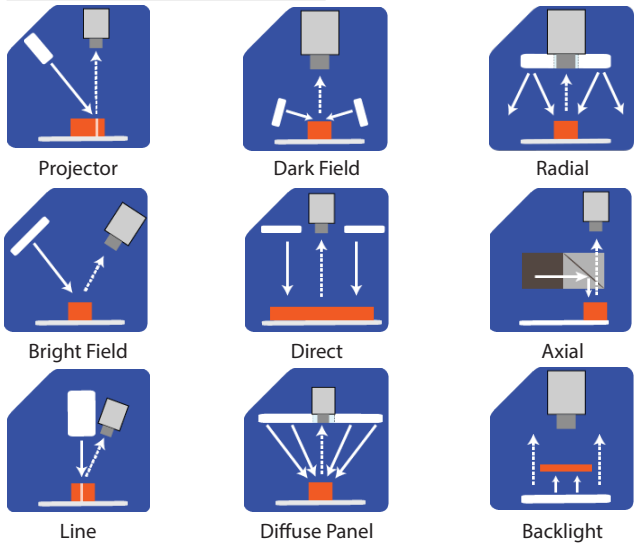
GLOSSARY

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

TERMINOLOGY

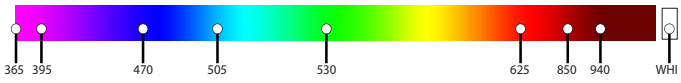
OverDrive™ Light includes an integrated high-current strobe driver for complete LED light control.
Continuous Operation Light stays on continuously.
Multi-Drive™ Combines continuous operation and OverDrive™ strobe (high-current strobe operation) modes into one easy-to-use light.
Built-In Driver The built-in driver allows full function without the need for an external driver.
Camera to Light Connect 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

Wavelength 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 SHORTWAVE **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.*

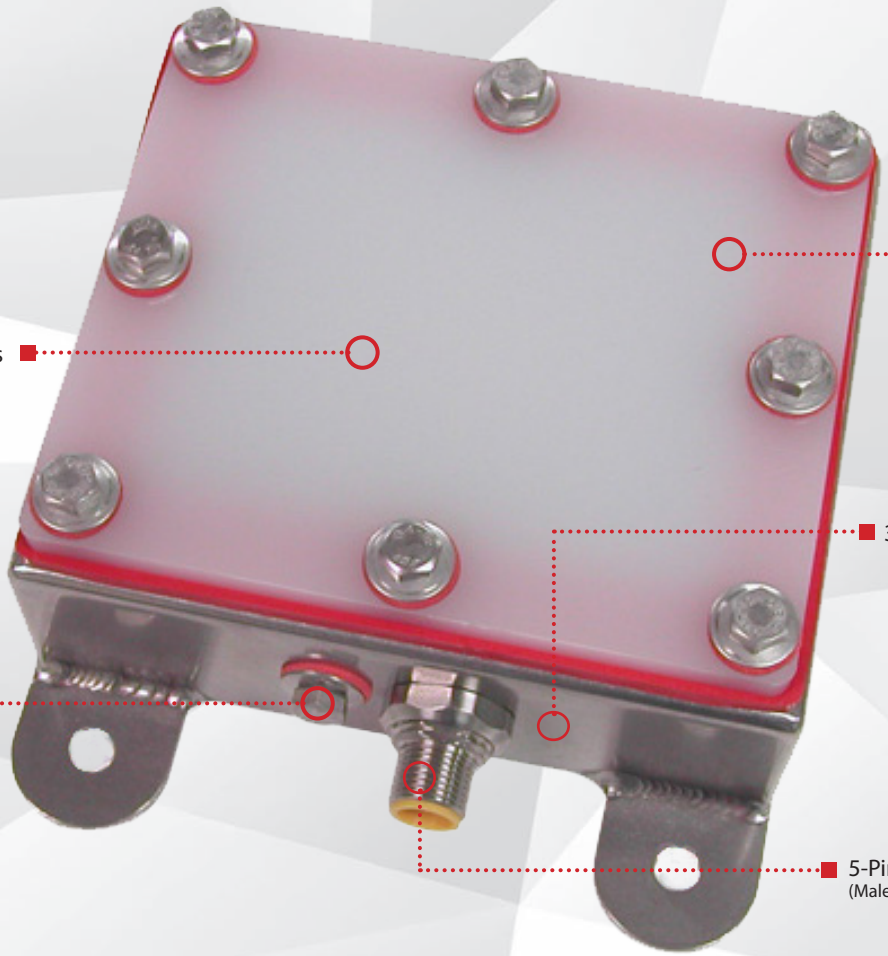
smart vision lights

SWB75 *Brick Light*

SPOT LIGHT

WASHDOWN | BACKLIGHT

PRODUCT DATA SHEET



Warranty	Compliant	Compliant	Rated	Connector
10 YEAR	IEC 62471	CE RoHS	IP 68K	5-PIN M12

PRODUCT HIGHLIGHTS

- ✓ IP68K standards
- ✓ Stainless-steel 316 housing
- ✓ Built-in driver; no external wiring needed
- ✓ PNP and NPN trigger input signal
- ✓ Perfect for food manufacturing and washdown environments

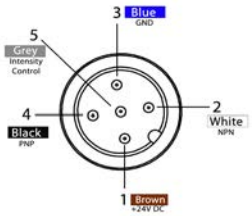
PRODUCT INTRODUCTION

The SWB75 Brick Light spot light features a stainless-steel IP68K-rated enclosure specially designed for food industry and washdown environments where water and harsh detergents are present. The SWB75 features a diffused lens and is a viable option for silhouetting objects. NPN or PNP trigger signals can be used to control the pulse of the light. Intensity of the light can be controlled via 1–10VDC analog signal line or by adjusting the built-in manual potentiometer

PRODUCT SPECIFICATIONS

Electrical Input	24VDC +/–5%
Input Current	Max. 375 mA
Wattage	Max. 9.0 W
On/Off 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)
Yellow Indicator LED	LED strobe indicator ON = light active
Green Indicator LED	ON = power
Continuous Mode	NPN can be tied to ground **OR** PNP can be tied to 24VDC (not both)
Potentiometer	270° turn pot — intensity control of 10%–100%. Turn clockwise to increases intensity.
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	-18°–40°C (0°–104°F)
IP Rating	IP68K
Weight	~155 g
Compliances	CE, RoHS, IEC 62471
Warranty	10 years. For complete warranty information, visit smartvisionlights.com/warranty.

WIRING CONFIGURATION



Pin layout for light (male connector)

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	1–10VDC	GREY*

** Some cables use green/yellow for pin 5*

For maximum intensity, tie pin 5 to pin 1 at +24VDC.

*For continuous mode: Tie PNP (pin 4) can be tied to +24VDC (pin 1) **or** tie NPN (pin 2) can be tied to Ground (pin 3).*

OPTIONAL

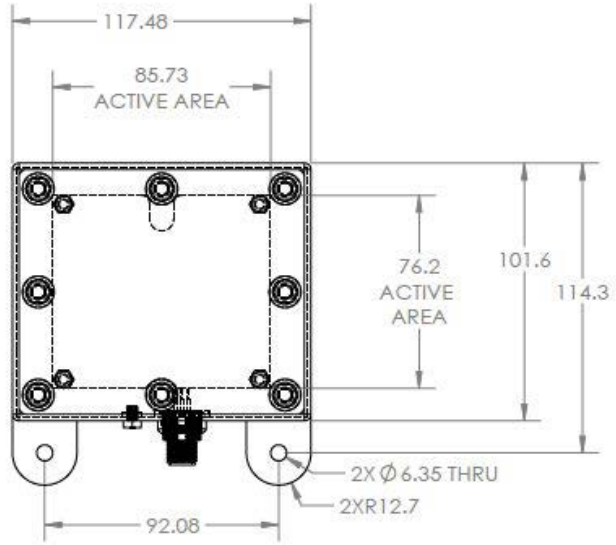
For maximum intensity, connect pin 5 to pin 1 at 24VDC. Potentiometer intensity needs to be set to 100%.

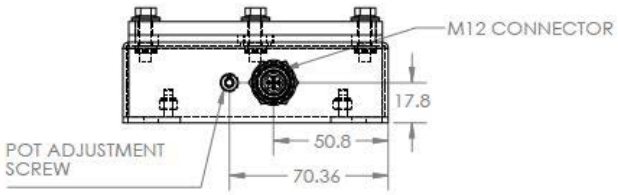
RESOURCE CORNER

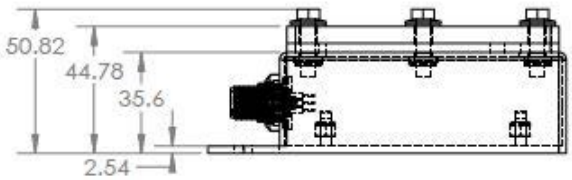
Additional resources, including CAD files, videos, and application examples, are available on our website.

PRODUCT DRAWING

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

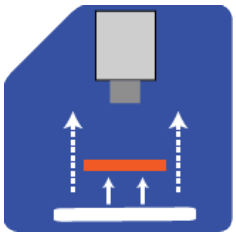






ILLUMINATION

SWB75 Series of Brick Lights works best for:



Backlight

EYE SAFETY

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

Notice

Exempt Group: No photobiological hazard to eyes or skin even for continuous, unrestricted use. Applicable for wavelengths 625, 850, 940, 1050, 1200, 1300, 1450, and 1550.

Caution

Risk Group 1: Possibly hazardous optical radiation emitted from this product. Do not stare at operating lamp. May be harmful to eyes. Safe for most applications except for prolonged exposure. Applicable for wavelengths 470, 505, 530, and WHI.

PART NUMBER

SWB75 – □□□□

COLOR:

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

Additional wavelengths options available upon request.

Part Number Example:

SWB75-625 SWB75, 625 nm Red Wavelength, Standard (Narrow) Lens

SWIR SHORTWAVE INFRARED

This light is available in our SWIR LEDs.

1050 nm | 1200 nm | 1300 nm | 1450 nm | 1550 nm

ACCESSORIES

Power Cables

Length	Part Number
5 m	5PM12-5
10 m	5PM12-10
15 m	5PM12-15

Power Cables (Washdown)

Length	Part Number
15 m	W5PM12-15

Washdown cable has a 316 stainless-steel connector.

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.
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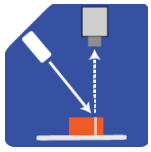
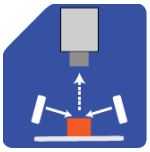
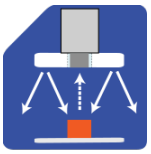
Camera to Light Connect the light directly to the camera, without the need for additional controllers or equipment.
Polarizers Filters that reduce reflections on specular surfaces.
Diffuser Used to widen the angle of light emission, reduce reflections, and increase uniformity.

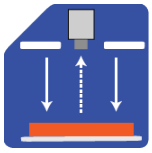
TYPES OF ILLUMINATIONS

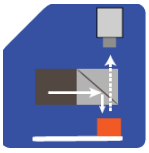

Projector

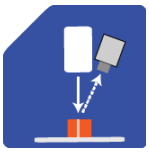

Dark Field

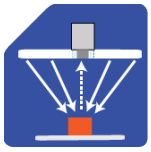

Radial

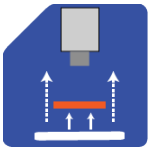

Bright Field


Direct


Axial

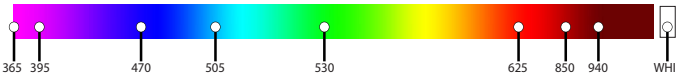

Line


Diffuse Panel


Backlight

COLOR/WAVELENGTHS LEGEND

Wavelength 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 SHORTWAVE **INFRARED**

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

smart vision lights

SX30 *Prox Light* SPOTLIGHT

PRODUCT DATA SHEET

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

PRODUCT HIGHLIGHTS

- ✓ 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 SX30 Series of Prox Lights is enclosed in a 30mm Barrel Style Housing. The SX30 Series feature an NPN and PNP strobe signal with a 1–10VDC analog intensity control signal for added versatility. The SX30 Series has multiple mounting options allowing for ease of install and comes with two mounting nuts.

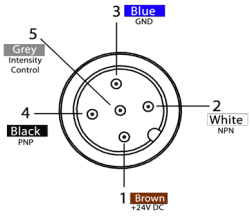
PRODUCT SPECIFICATIONS

Electrical Input	24VDC +/- 5%
Input Current	Max. 175 mA
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)
Continuous Mode	NPN can be tied to ground **OR** PNP can be tied to 24VDC (not both)
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
Warranty	2 years; see smartvisionlights.com/warranty for more information.

RESOURCE CORNER

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

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

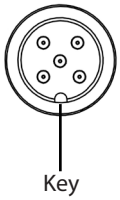
If Analog 1–10VDC is not used to control light intensity;

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

CONNECTING A 5-PIN M12 CABLE

WARNING:

When connecting a 5-pin M12 cable to the male connector on the SX30, do not twist the cable. Tighten the nut only. Twisting the cable may result in damage to the pins.

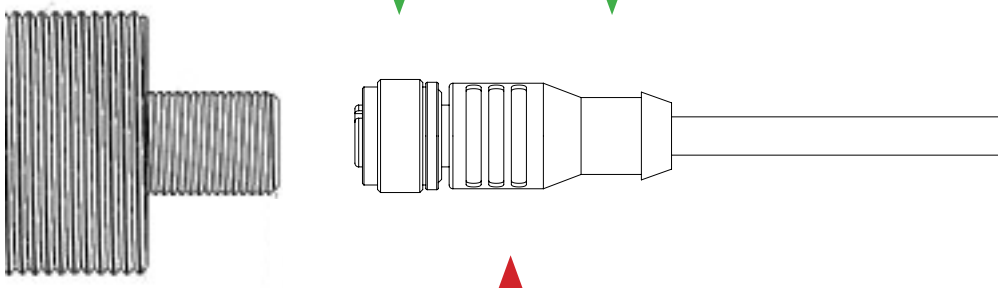


Line up key on the cable to key on the male connect before turning the nut. Then turn nut until it is seated.

DO Tighten Nut

Push Here

If nut is not turning smoothly, push cable forward while turning nut until nut is seated.



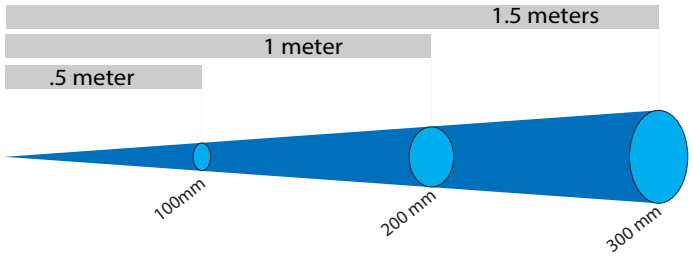
Twisting the cable may cause damage to the male connector pins on the LE.

DO NOT Twist Cable

LIGHT PATTERNS

Smart Vision Lights recommends the SX30 be used at a working distance between 500 mm to 4000 mm.

Beam Diameter (White Light) – 6500 K

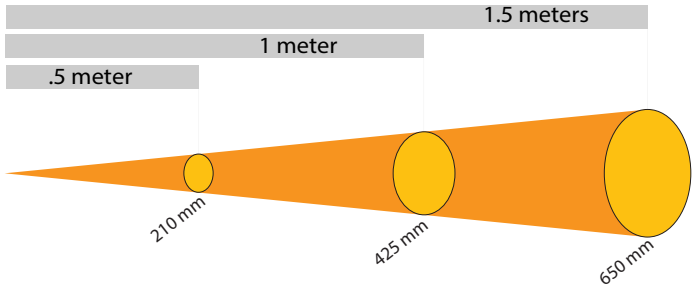


LIGHTING PATTERN FOR THE SX30 (NARROW)

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

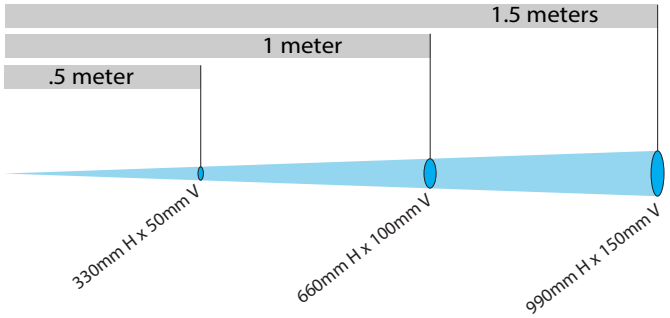


LIGHTING PATTERN FOR THE SX30 (WIDE)

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	

Beam Diameter (White Light) – 6500 K



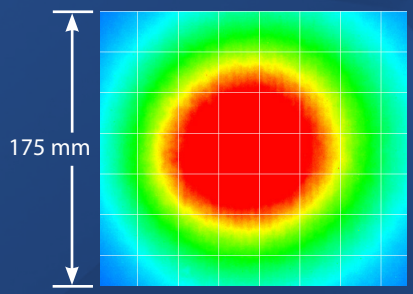
LIGHTING PATTERN FOR THE SX30 (LINE)

Working Distance mm (inches)	Pattern (80% - 100% measured intensity) mm (inches)
.5m (19.7")	330mm (~13") H x 50mm (~2") V
1m (39.4")	660mm (~26") H x 100mm (~4") V
1.5m (59")	990mm (~39") H x 150mm (~6") V

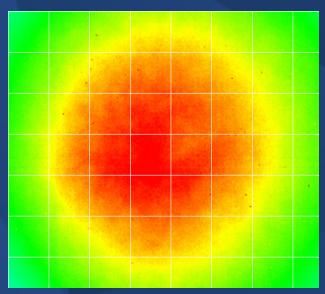
Typical Output Preformance	Illuminance (Lux)
Distance = .5 meter	10,000
Illumination measurement taken on White Lights - 6500K	

The SX30 Prox Light produces a uniform light pattern.

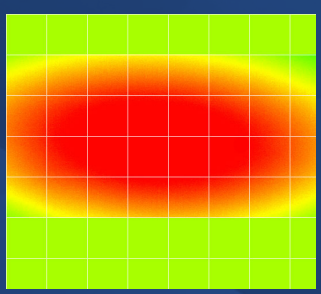
Working Distance = 500 mm Grid set to 25 mm x 25 mm



Narrow



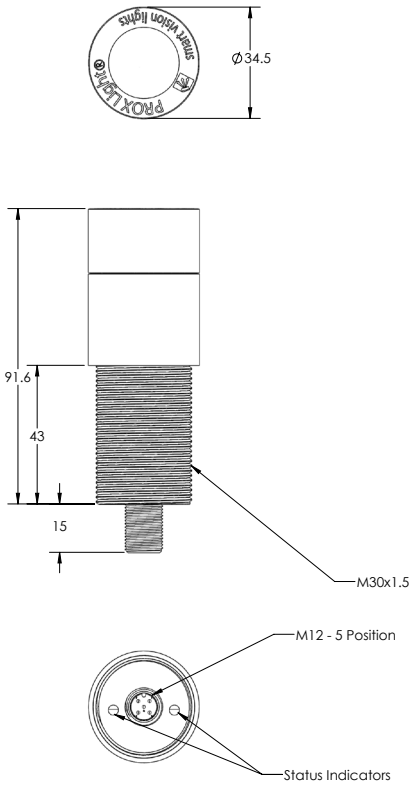
Wide



Line

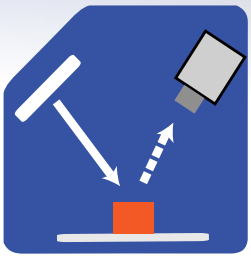
PRODUCT DRAWING

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

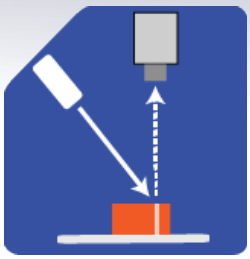


ILLUMINATION

SX30 series of Prox Spot 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

SX30 – □□□ – □

COLOR:

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

LENS:

Leave blank for standard (narrow)

W = Wide

L = Line

Additional wavelengths options available upon request

Part Number Examples:

SX30-625 SX30, 625 nm Red Wavelength, Standard (Narrow) Lenses

SX30-WHI-L SX30, White, Line Lenses

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

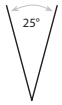
NARROW

Narrow lens 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.

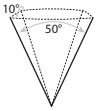
WIDE

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.



LINE

Line lenses create a thin narrow beam of illumination. Line are 10° and 50° angle cone lenses.



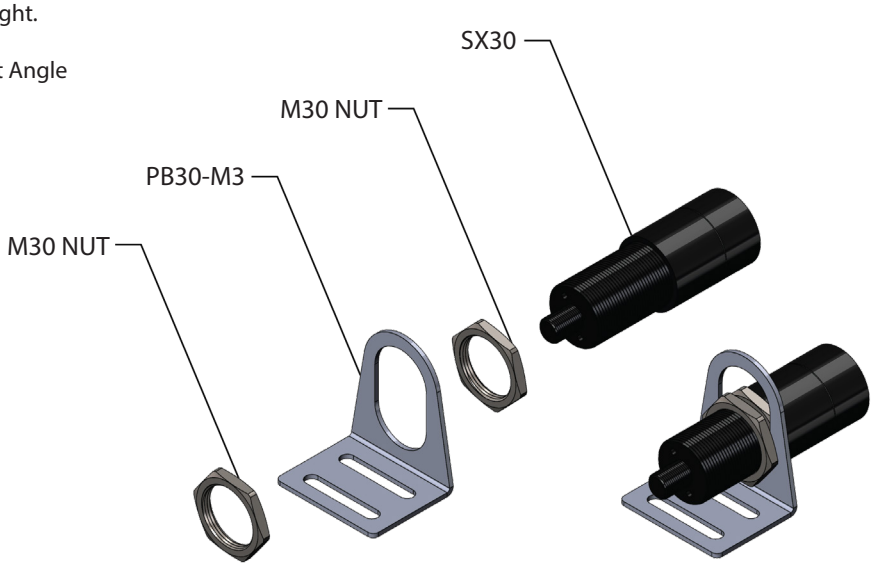
** Additional lens options available upon request.*

MOUNTING

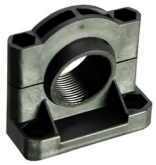
Two M30 nuts for mounting are included with the light.

Example of the SX30 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

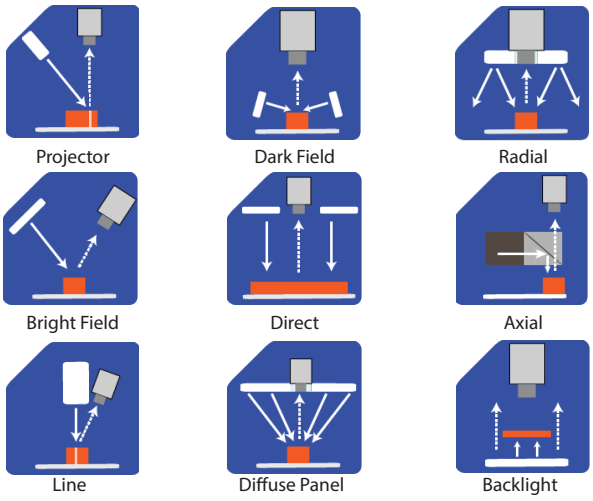
GLOSSARY

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

TERMINOLOGY

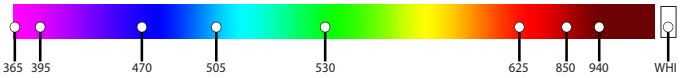
OverDrive™ Lights include an integrated high-pulse driver for complete LED light control.
Continuous Operation Lights stay on continuously.
Multi-Drive™ Combines continuous operation and OverDrive™ strobe (high-pulse operation) mode into one easy-to-use light.
Built-in Driver The built-in driver allows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

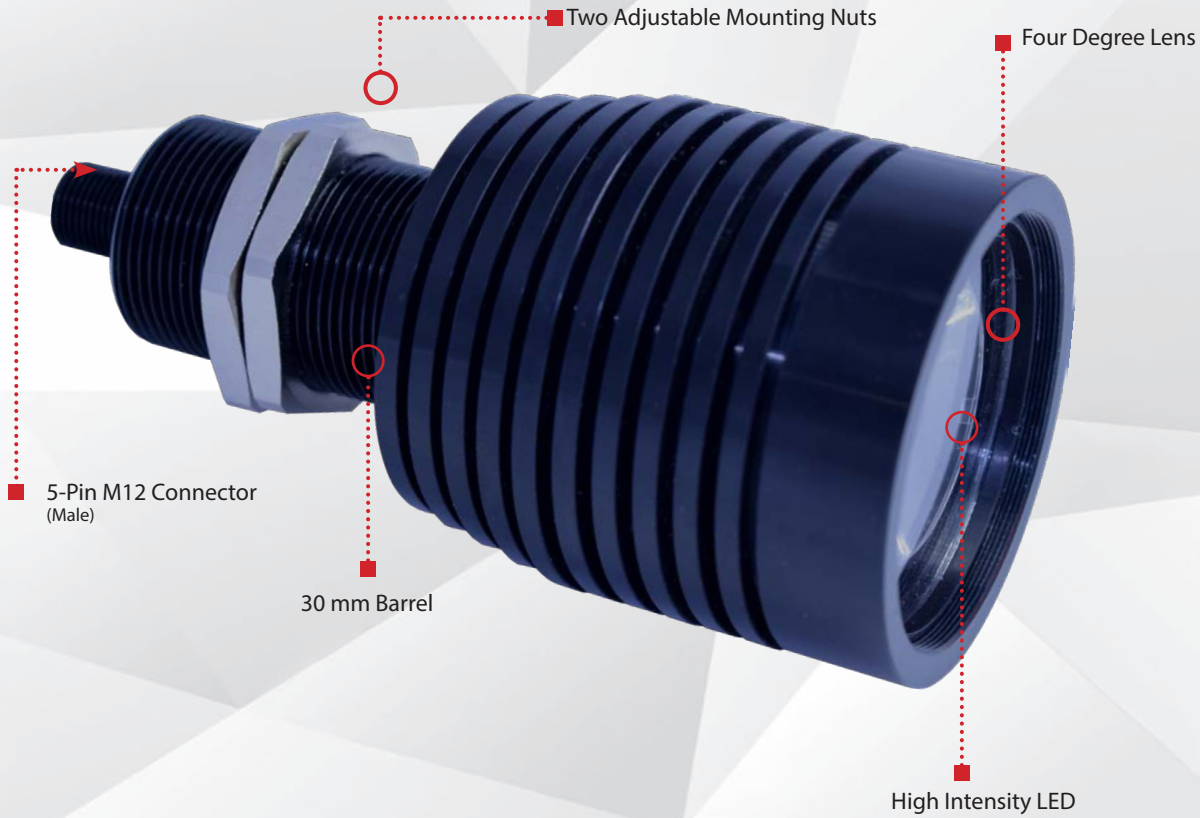
Shortwave infrared LEDs are available in 1050 nm, 1200 nm, 1300 nm, 1450 nm, and 1550 nm.*
Check Part Number section to see if **this light is available in SWIR wavelengths.*

smart vision lights

SX30 (N4) PROX SERIES SPOT LIGHT

LONG DISTANCE

PRODUCT DATA SHEET



Warranty	Compliant	Compliant	Rated	Connector
10 YEAR	IEC 62471	CE RoHS	IP 50	5 PIN M12

PRODUCT HIGHLIGHTS

- ✓ Narrow, 4 degree lens allows for a long, tightly focused beam of light
- ✓ Built-in driver, no external wiring needed
- ✓ PNP and NPN strobe input
- ✓ 5-pin M12 quick connect
- ✓ Multiple mounting options

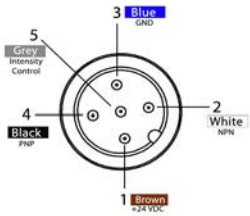
PRODUCT DESCRIPTION

The SX30 Series of Prox Lights feature a single high current LED enclosed in a 30mm Barrel Style Housing. The SX30 Series feature an NPN and PNP strobe signal with a 1–10VDC analog intensity control signal for added versatility. The SX30 Series has multiple mounting options allowing for ease of install and comes with two mounting nuts.

PRODUCT SPECIFICATIONS

Electrical Input	24VDC +/- 5%
Input Current	Max. 175 mA
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)
Continuous Mode	NPN can be tied to ground **OR** PNP can be tied to 24VDC (not both)
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	IP50
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 pin 5*

OPTIONAL

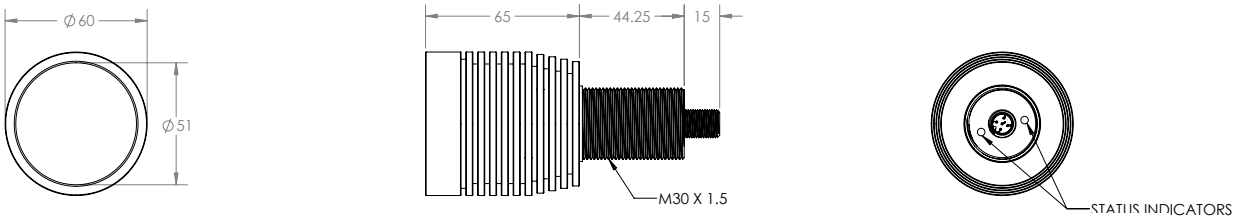
For maximum intensity, analog intensity may be connected to +V DC (24VDC) - Jumper pin 5 to pin 1

RESOURCE CORNER

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

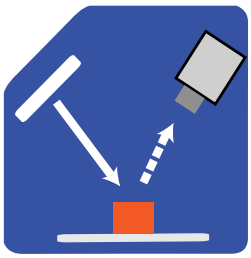
PRODUCT DRAWING

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

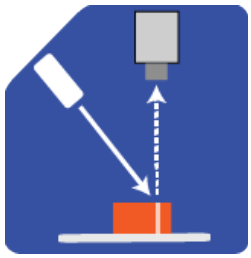


ILLUMINATION

SX30 (N4) series of Prox Lights works best for:



Bright Field

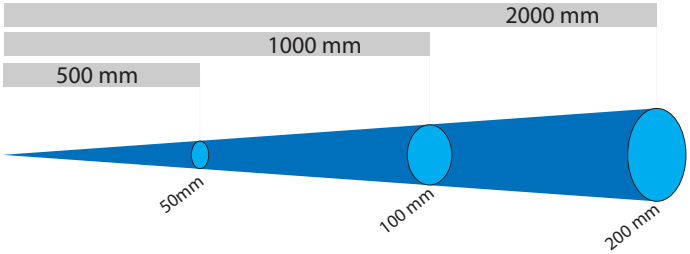


Projector

LIGHT PATTERNS

Smart Vision Lights recommends the SX30 (N4) be used at a working distance between 500 mm to 4000 mm.

Illumination measurement taken on White Light – 6500 K

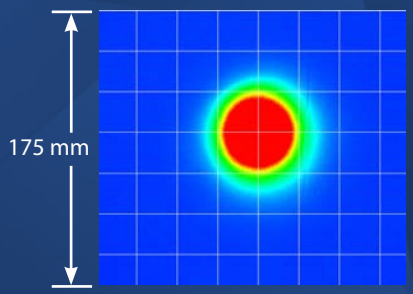


LIGHTING PATTERN FOR THE SX30 (N4) **with 4° (narrow) Lenses**

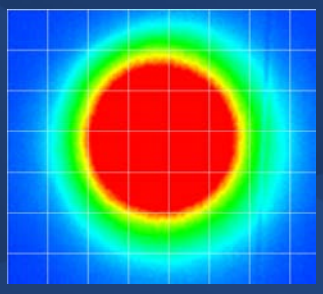
Working Distance mm (inches)	Pattern (80% - 100% measured intensity) mm (inches)
500 mm (19.7")	50 mm (~2")
1000 mm (39.4")	100 mm (~3.9")
2000 mm (78.8")	200 mm (~7.8")

Typical Output Preformance	Illumination (Lux)
Distance = 500 mm	50,000
Illumination measurement taken on White Lights – 6500K	

The SX30 (N4) produces a uniform light pattern.
(Grid set to 25 mm x 25 mm)



Working Distance: 500 mm



Working Distance: 1000 mm

PART NUMBER

SX30 – □□□ – N4

COLOR:

WHI 470 505 530 625 850 940

Part Number Examples:

SX30-625-N4 SX30, 625 Red Wavelength, Narrow 4 Degree Lens

Additional wavelengths options available upon request.
UV wavelengths not available.

SWIR SHORT WAVE INFRARED

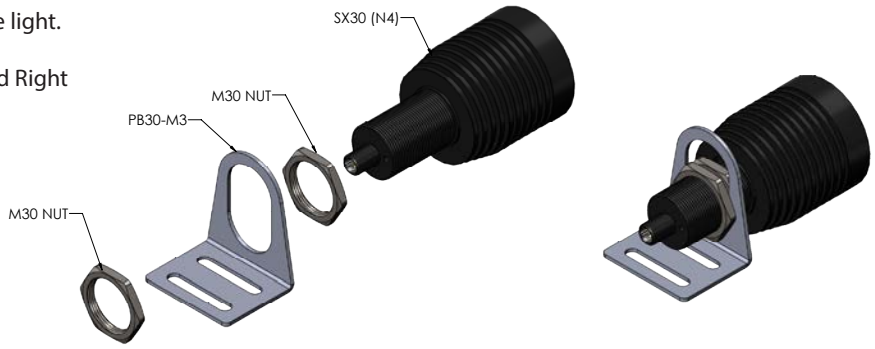
This light is available in our SWIR LEDs
(1050 nm, 1200 nm, 1300 nm, 1450 nm, 1550 nm)

MOUNTING

Two M30 nuts for mounting are included with the light.

Example of the SX30 (N4) shown using the Slotted Right Angle mount (**Part Number: PB30-M3**).

See accessories for additional mounting options.



EYE SAFETY

SMART VISION LIGHTS IEC 62471 COMPLIANT

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.

ACCESSORIES

Power Cables

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

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 Adapters *

Description	Part Number
AC, 24 Volt, 1.7 Amp	T1 Power Supply

* **European Versions Available** (Add -EURO to end of T1 or T2. Example T1-EURO Power Supply)

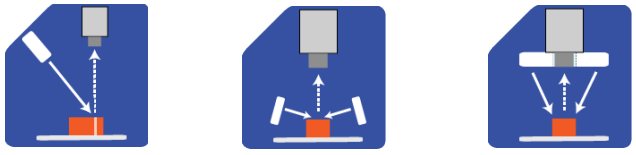
GLOSSARY

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

TERMINOLOGY

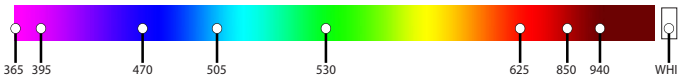
OverDrive™ Lights include an integrated high-pulse driver for complete LED light control. OverDrive™ light part numbers start with OD.
Continuous Operation Lights stays on continuously.
Multi-Drive™ Combines continuous operation and OverDrive™ strobe (high-pulse operation) mode into one easy-to-use light.
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.
Diffusers Used to widen the angle of light emission, reduce reflections and increase uniformity.

TYPES OF ILLUMINATION



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.

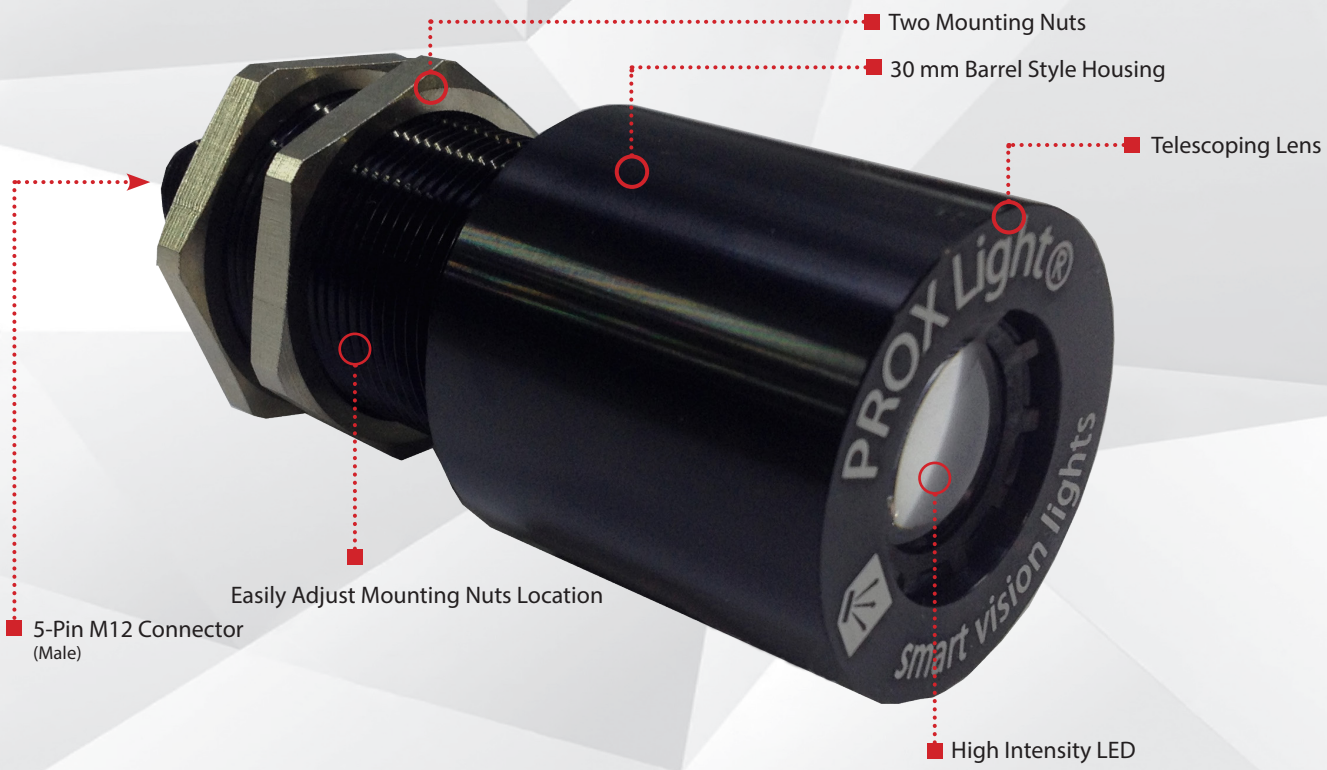
SWIR SHORT WAVE INFRARED

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

smart vision lights

SXA30 *Prox Light*
SPOTLIGHT
ADJUSTABLE LENS

PRODUCT DATA SHEET



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

PRODUCT HIGHLIGHTS

- ✓ Telescoping lens allows the projected spot to be set to desired size
- ✓ 5-pin M12 quick connect
- ✓ Built-in driver
- ✓ 30 mm barrel style housing
- ✓ Standard optics provides tight focused light

PRODUCT DESCRIPTION

The SXA30 Series of Adjustable Spot Lights features an adjustable length lens allowing for the projected spot to be set to a desired size, without having to adjust the position of the entire light. The SXA30 Series also offers a completely homogeneous light pattern at any recommended working distance for a very define and even projected spot. NPN or PNP strobe triggers can be used to control the pulse of the light. Intensity of the light can be controlled via 1–10VDC remote analog signal. The versatility of the SXA30 Series and its convenient mounting options make this light the ideal spot light.

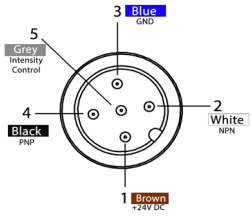
PRODUCT SPECIFICATIONS

Electrical Input	24 V DC +/- 5%
Input Current	Max. 175 mA
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)
Continuous Mode	NPN can be tied to ground **OR** PNP can be tied to 24VDC (not both)
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	0º–45º C (32º–114º F)
IP Rating	IP65
Weight	~320g
Compliances	CE, RoHS, IEC 62471
Warranty	2 years; see smartvisionlights.com/warranty for more information.

RESOURCE CORNER

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

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 *

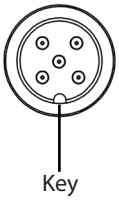
* Some cables use green/yellow for 1-10V adjustment

If Analog 1-10VDC is not used to control light intensity, analog input must be connected to +VDC (24VDC) – Jumper pin 5 to pin 1

CONNECTING A 5-PIN M12 CABLE

WARNING:

When connecting a 5-pin M12 cable to the male connector on the SXA30, do not twist the cable. Tighten the nut only. Twisting the cable may result in damage to the pins.

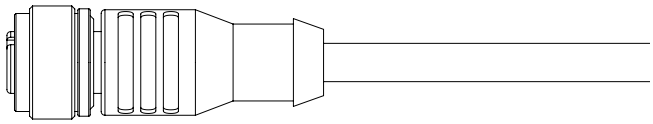


Line up key on the cable to key on the male connect before turning the nut. Then turn nut until it is seated.

DO Tighten Nut

Push Here

If nut is not turning smoothly, push cable forward while turning nut until nut is seated.



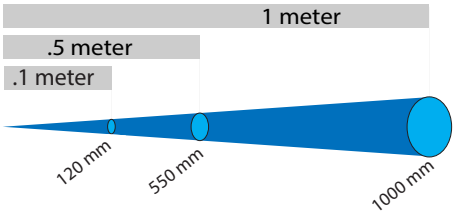
Twisting the cable may cause damage to the male connector pins on the LE.

DO NOT Twist Cable

LIGHT PATTERNS

Smart Vision Lights recommends the SXA30 be used at a working distance between 500 mm and 4000 mm

Beam Diameter (White Light) – 6500 K

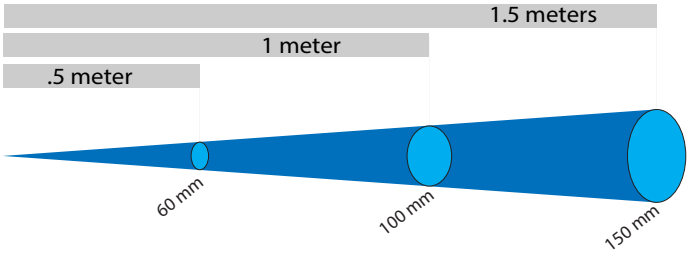


LIGHTING PATTERN FOR THE SXA30 **Fully Retracted Lens**

Working Distance mm (inches)	Pattern (80% - 100% measured intensity) mm (inches)
.1 m (19.7")	120 mm (~4") D
.5 m (39.4")	550 mm (~8") D
1 M (39.4")	1000 mm (~8") D

Typical Output Preformance	Illuminance (Lux)
Distance = .5 meter	400
Illumination measurement taken on White Lights - 6500K	

Beam Diameter (White Light) – 6500 K



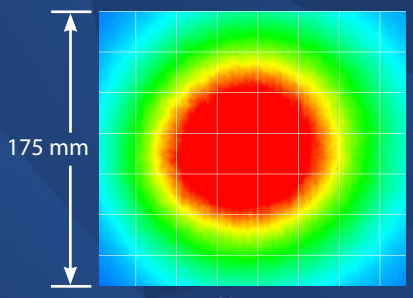
LIGHTING PATTERN FOR THE SXA30 **Fully Extended Lens**

Working Distance mm (inches)	Pattern (80% - 100% measured intensity) mm (inches)
.5 M (19.7")	60 mm (~4") D
1 M (39.4")	100 mm (~8") D
1.5 M (59")	150 mm (~12") D

Typical Output Performance	Illuminance (Lux)
Distance = .5 meter	2600
Illumination measurement taken on White Lights - 6500K	

The SXA30 Prox Light produces a uniform light pattern.

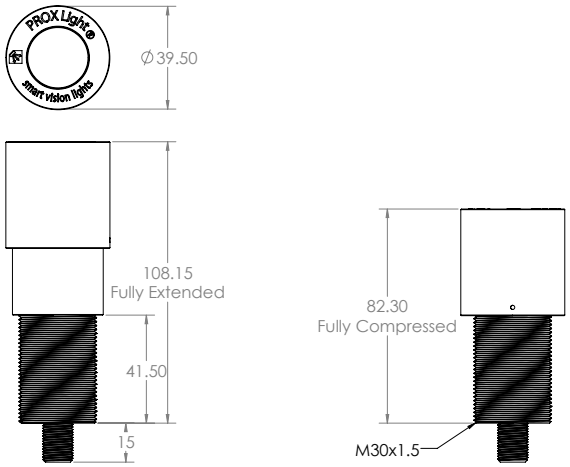
Working Distance = 1 M Grid set to 25 mm x 25 mm



Narrow

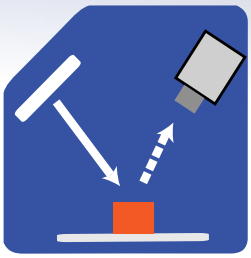
PRODUCT DRAWING

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

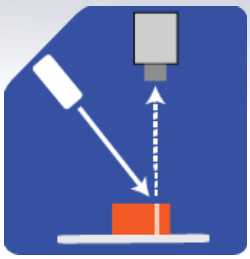


ILLUMINATION

SXA30 series of Prox Lights works best for:



Bright Field



Projector

EYE SAFETY

SMART VISION LIGHTS IEC 62471 COMPLIANT

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

SXA30 – □□□

COLOR:

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

Part Number Example:

SXA30-625 SXA30, 625 nm Red Wavelength, Standard (Narrow) Lenses

Additional wavelengths options available upon request

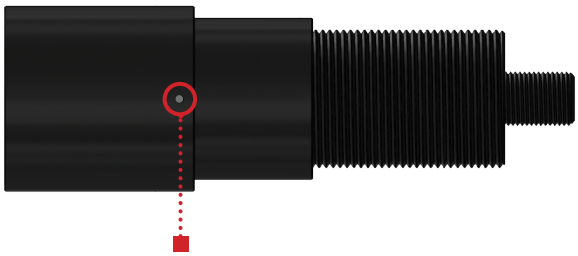
SWIR SHORT WAVE INFRARED

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

ADJUSTING LENS

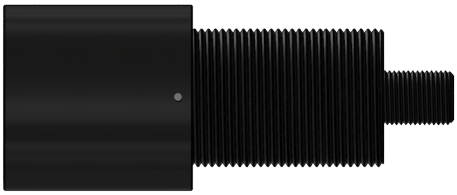
The telescoping lens can be adjusted by first loosening the M2 locking screw, followed by either extending or retracting the lens housing to desired position. Once lens is set to desired position, tighten M2 locking screw.

Fully Extended



Locking Screw

Fully Retracted

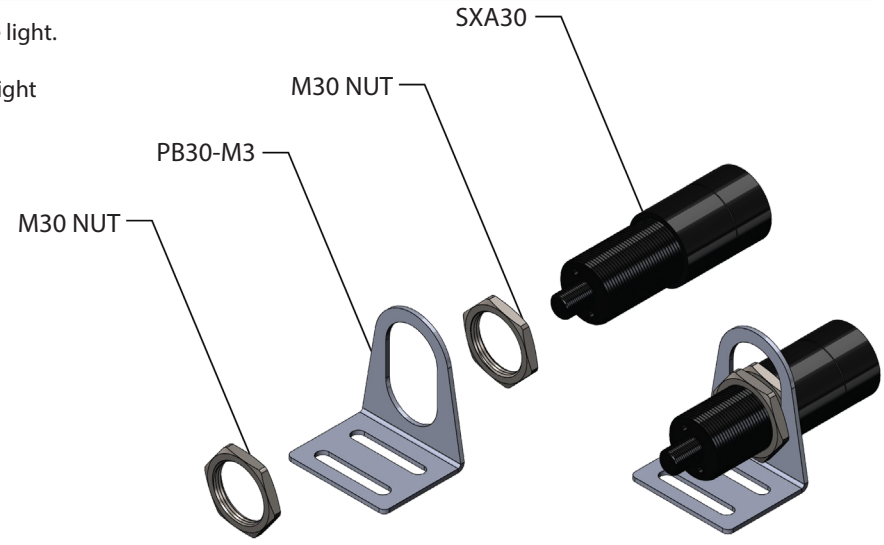


MOUNTING

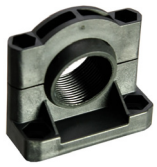
Two M30 nuts for mounting are included with the light.

Example of the SXA30 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

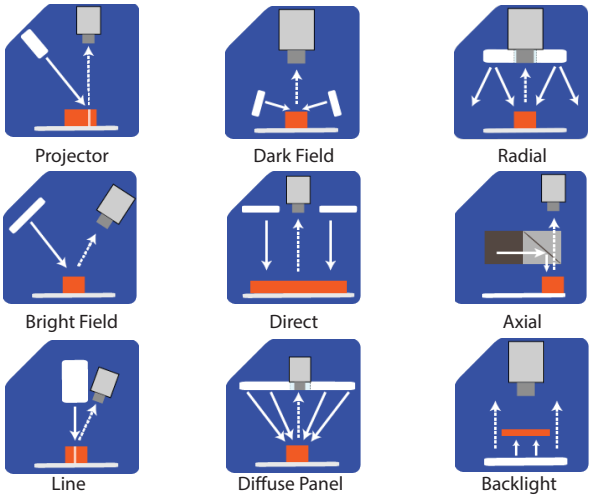
GLOSSARY

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

TERMINOLOGY

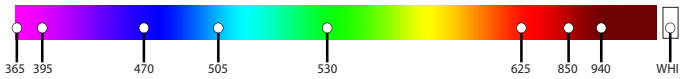
OverDrive™ Lights include an integrated high-pulse driver for complete LED light control.
Continuous Operation Lights stay on continuously.
Multi-Drive™ Combines continuous operation and OverDrive™ strobe (high-pulse operation) mode into one easy-to-use light.
Built-In Driver The built-in driver allows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

PRODUCT DATA SHEET

SXF30 Series | **FIBER ADAPTER** | PROX Light

product introduction

The SXF30 Series of lights were designed with flexibility and focus ability in mind. The special fiber adapter allows the projected light to be bent around objects while still containing its intensity and tight focus pattern. Standard fiber size includes the 2 meter length with the option to customize to any length. The plug n' play design of the SXF30 gives the users tremendous flexibility without the concern for additional wiring. The many mounting options include, but are not limited to, the Swivel Bracket, the Slotted Right Angle Bracket, and the heavy duty Bolt-on Block Mount. The SXF30 also features an integrated constant current driver utilizing 24VDC built directly into the light. NPN or PNP strobe triggers can be used to control the pulse of the light.

product features

- 30mm Barrel Style Housing
- M12 Quick Disconnect
- Driver Built In- No External Wiring To A Driver
- PNP and NPN Strobe Input
- Special Optics For Focus Into A Fiber
- 1m Fiber Length Included - Custom Lengths Available
  - 2 meter – PSFB-2

product specifications

Electrical Input	24VDC +/- 5%
Current	Max. 250mA
Wattage	Max. 6W
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 @ 24VDC
NPN Line	22mA @ Common (0VDC)
Continuous Mode	Light will be in continuous mode by leaving signal on strobe input active
Analog Intensity	The output is adjustable from 10%-100% of brightness by a 0-10VDC signal
Connection	5 pin M12 connector
Lifespan	100,000 hrs
IP Rating	IP50
Certification	CE and RoHS certified
IEC 62471 Rating	See page 2

product number key

SXF30 - XXX —» **Part Number Key**

Product Family:
Fiber Bundle
SXF30

Color:
470- Blue
505 – Cyan
530 – Green
625 – Red
850/940 – IR
WHI - White

CE and RoHS Compliant

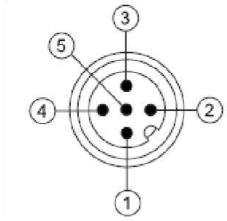
warnings

Attention

Please note that the power requirements are 250mA per foot at 24VDC. Failure to supply light with 250mA per foot will result in non-repeatable lighting. Contact Smart Vision Lights for more information.

wiring configuration

If Analog 0-10VDC 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 [1]

[1] Some cables use green with yellow stripe for 0-10V adjustment

mounting & accessories

Power Cables
5m, 10m, 15m

PB30-M1
Swivel Mount

PB30-M2
Slotted Block Mount

PB30-M3
Slotted Right Angle

PB30-M6
Bolt-on Block Mount

PSFB-LENS-FC1
Focusable Lens

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

smart vision lights

SXP30 *Projector*
SPOTLIGHT KIT
STRUCTURED LIGHT

PRODUCT DATA SHEET

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

PRODUCT HIGHLIGHTS

- ✓ 5-pin M12 quick connect
- ✓ Kit available to withstand dust and splash-up environments
- ✓ Built-in driver, no external wiring to driver needed
- ✓ PNP and NPN strobe input
- ✓ Multiple interchangeable patterns
- ✓ Standard optics provides tight focused light

PRODUCT DESCRIPTION

SXP30

The SXP30 Series Projector Spot Light offers the most intense projected pattern offered from an LED. The 9mm^2 die size emits 9x the intensity as a standard high output LED. The housing is constructed of a finned aluminum heat sink and designed to dissipate as much heat as possible therefore allowing the LED to be run at a much higher current than the standard 1mm^2 die LED's. Multiple interchangeable pattern styles are available along with optional custom patterns. The SXP30 Series is able to project a thinner and more define pattern of light compared to laser projectors making the SXP30 a more accurate light.

IP65-KIT

The IP65-KIT works to seal and protect the SXP30 to be able to withstand dust and splashes of water, therefore, creating an IP65 rating.

** **Any SXP30 Projector Spot Light that was purchased before October 1, 2019 will not be compatible with the IP65-KIT and will need to be replaced. This is due to a manufacturing change to the heat sink to allow the bottom gasket and lens cover to be attached to the heat sink with screws.**

WHAT'S INCLUDED

When you order a SXP30 Projector Spot Light, the following item is included:

SXP30
PROJECTOR SPOT LIGHT

When you order a Projector Spot Light and IP65-KIT, the following items are included:

SXP30
PROJECTOR SPOT LIGHT

+

IP65-KIT
50 OR 70 MM
LENS OPTION

RESOURCE CORNER

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

PRODUCT SPECIFICATIONS

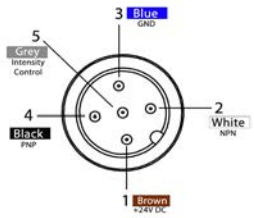
SXP30

Electrical Input	24VDC +/- 5%
Input Current	Max. 600 mA
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)
Continuous Mode	NPN can be tied to ground **OR** PNP can be tied to 24VDC (not both)
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	~413g
Compliances	CE, RoHS, IEC 62471
Warranty	10 years; see smartvisionlights.com/warranty for more information.

IP65-KIT

IP Rating	IP65
Weight	~0.1kg

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

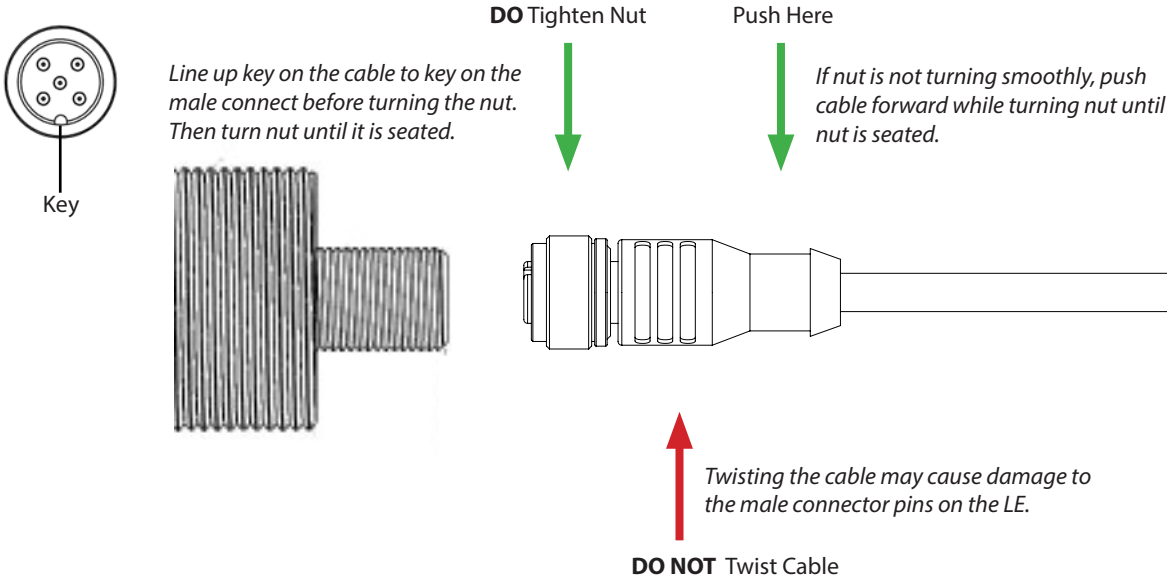
If Analog 1–10VDC is not used to control light intensity;

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

CONNECTING A 5-PIN M12 CABLE

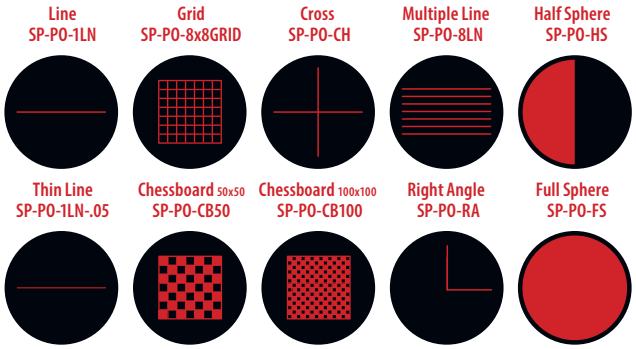
WARNING:

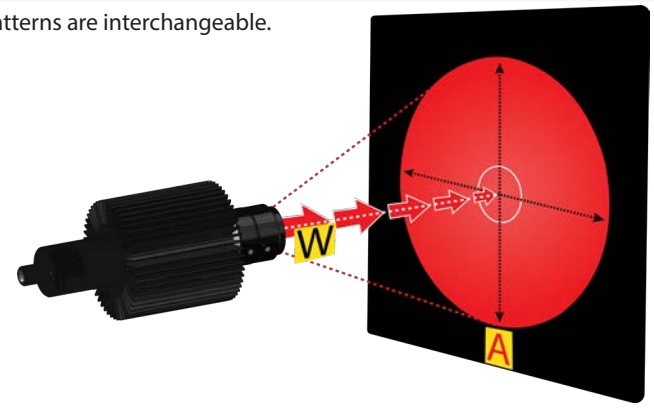
When connecting a 5-pin M12 cable to the male connector on the SXP30, do not twist the cable. Tighten the nut only. Twisting the cable may result in damage to the pins.



LENSES AND PATTERNS

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

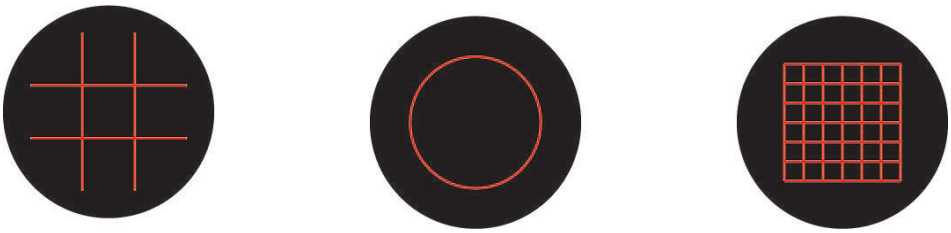




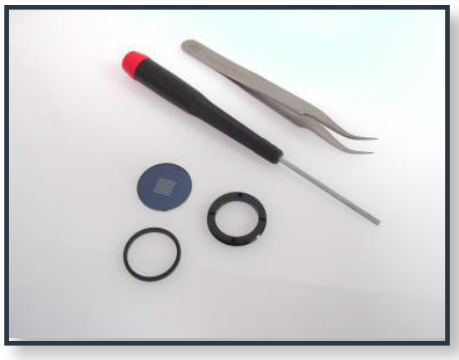
Lenses	
Part #	**Description**
CLENS0006	Tamron 1/1.8" Format 2MP 6mm Megapixel Lens
CLENS0008	Tamron 1/1.8" Format 2MP 8mm Megapixel Lens
CLENS00012	Tamron 1/1.8" Format 2MP 12mm Megapixel Lens
CLENS00016	Tamron 1/1.8" Format 2MP 16mm Megapixel Lens
CLENS00025	Tamron 1/1.8" 25 mm F/1.6 with Lock for Megapixel Cameras
CLENS00050	Tamron CCTV 50mm Lens

CUSTOM PATTERNS

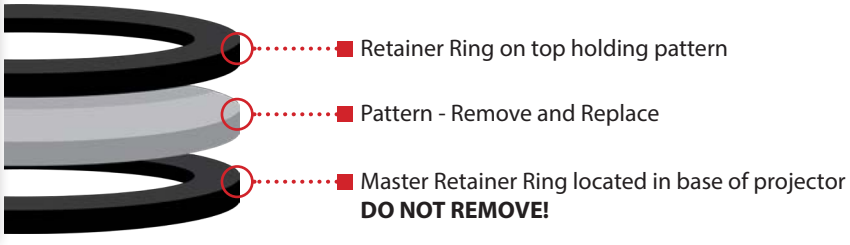
Custom patterns are available upon request.



PATTERN REPLACEMENT

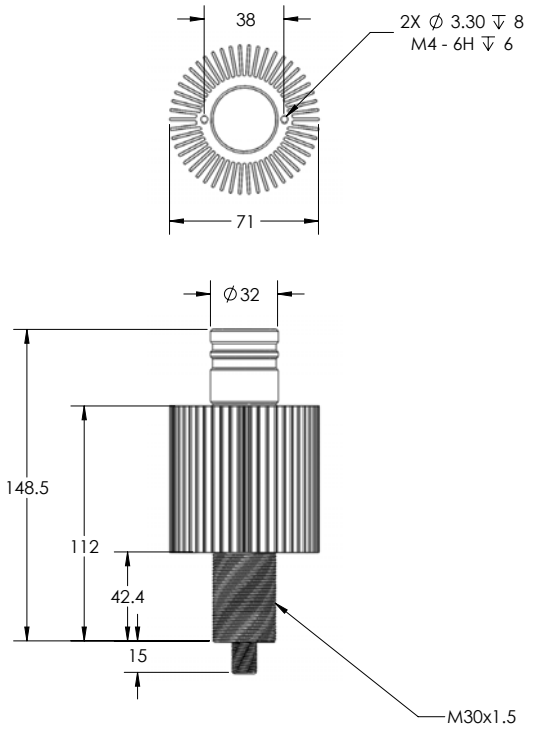


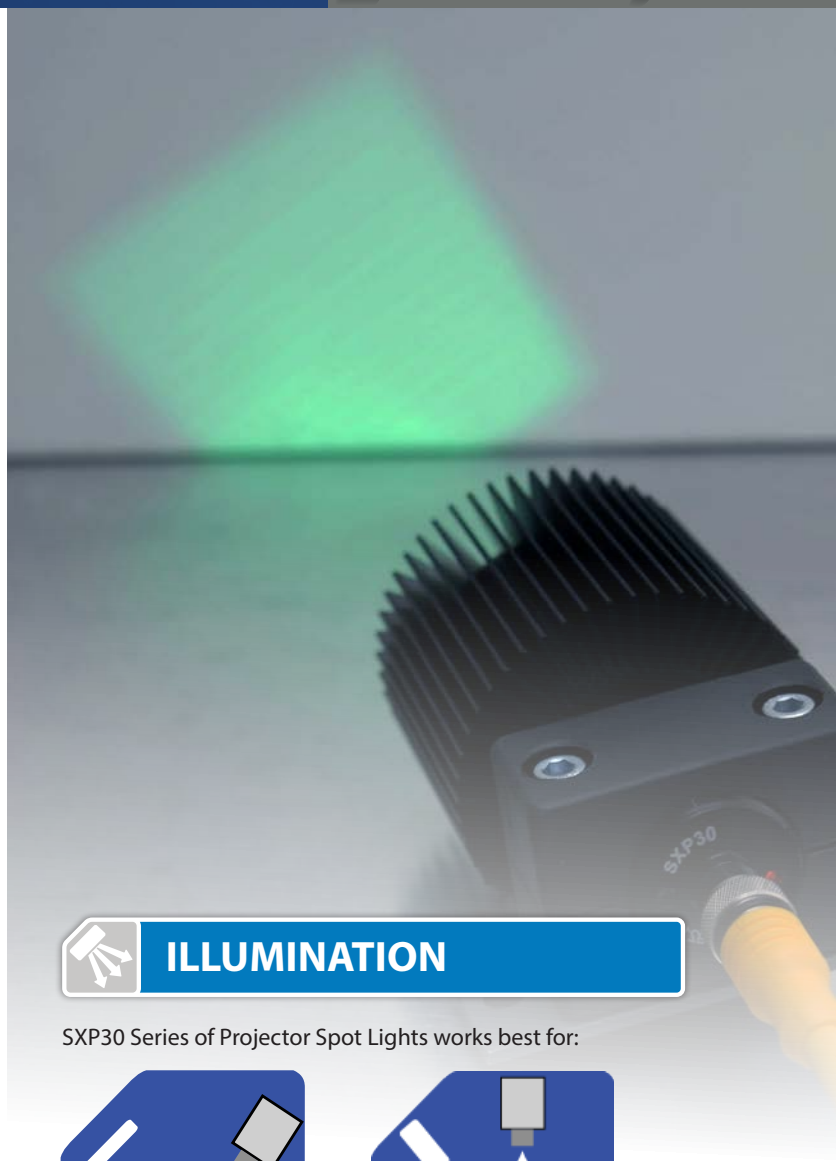
Screwdriver or Tweezers are recommended to remove retaining ring, but **are not included**. Retaining Ring will turn Clockwise to install and Counter-Clockwise to remove. There are 2 small holes and 2 slots in ring to install/remove. Install the skinny metal side of pattern towards the LED



PRODUCT DRAWING

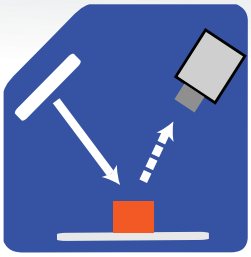
CAD files available on our website.
Dimensions are in mm.



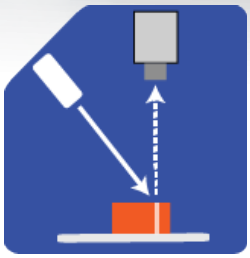


ILLUMINATION

SXP30 Series of Projector Spot 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.

PART NUMBER

SXP30 – □□□ – □□ – IP65 – □□□

COLOR:

WHI 470 505 530 625 850

*Leave blank if only ordering the IP65-KIT.

LENS SIZE:
50 mm
70 mm

KIT
Kit includes light, lens cover, bottom gasket, lens adapter, lens cover o-ring, and screws

Part Number Examples:

SXP30-625 SXP30, 625 nm Red Wavelength **(Light Only)**

SXP30-625-70-IP65-KIT SXP30, 625 nm Red Wavelength, 70 mm lens cover, bottom gasket, lens adapter, lens cover o-ring, and screws

SXP30-70-IP65-KIT IP65-KIT with 70 mm lens cover, bottom gasket, lens adapter, lens cover o-ring, and screws **(No Light)**

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)

IMPORTANT:

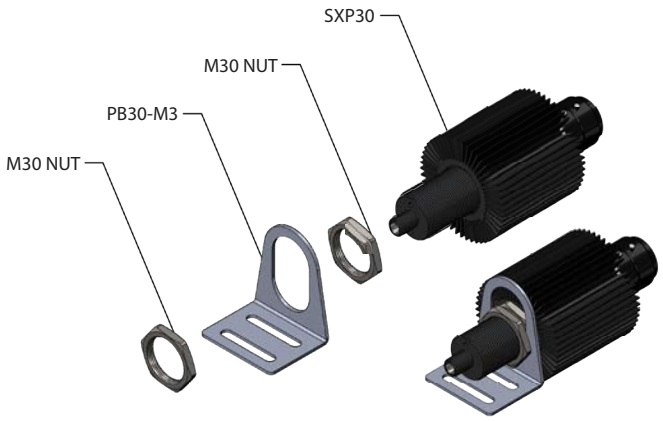
Any SXP30 Projector Spot Light that was purchased before October 1, 2019 will not be compatible with the IP65-Kit and will need to be replaced. This is due to a manufacturing change to the heat sink to allow the bottom gasket and lens cover to be attached to the heat sink with screws.

MOUNTING

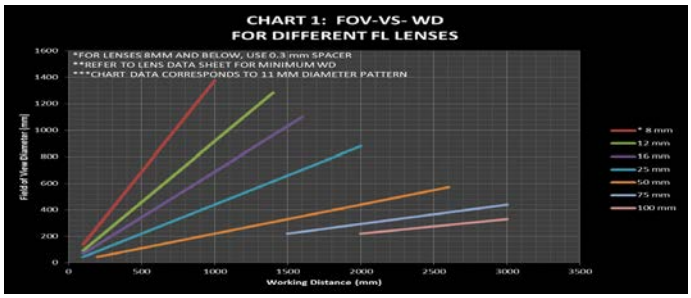
Two M30 nuts for mounting are included with the light.

Example of the SXP30 shown using the Slotted Right Angle mount (**Part Number: PB30-M3**).

See accessories for additional mounting options.



LENS CONFIGURATION



FOV = Field of View Diameter
FL = Focal Length
WD = Working Distance
PS = Pattern Size
M = Magnification

Finding Focal Length

$$FL = \frac{PS \cdot WD}{FOV}$$

Magnification

$$M = \frac{FOV}{PS}$$

ACCESSORIES

Power Cables

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

Power Adapters *

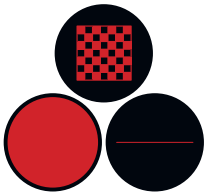
Description	Part Number
AC, 24 Volt, 1.7 Amp	T1 Power Supply

* **European Versions Available** (Add -EURO to end of T1 or T2. Example T1-EURO Power Supply)

Lenses

Part Number
*see lenses and patterns section for options

Patterns



Part Number
*see lenses and patterns section for options

Lens Spacers

Lens Spacer Size	Part Number
0.5 mm	LENS SPACER-0.5
1.0 mm	LENS SPACER-1.0
2.0 mm	LENS SPACER-2.0
5.0 mm	LENS SPACER-5.0
10.0 mm	LENS SPACER-10.0
15.0 mm	LENS SPACER-15.0
20.0 mm	LENS SPACER-20.0
25.0 mm	LENS SPACER-25.0
30.0 mm	LENS SPACER-30.0
35.0 mm	LENS SPACER-35.0
40.0 mm	LENS SPACER-40.0
45.0 mm	LENS SPACER-45.0
50.0 mm	LENS SPACER-50.0

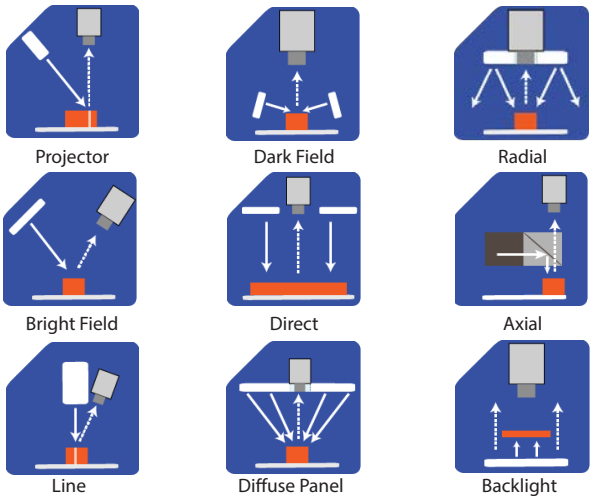
GLOSSARY

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

TERMINOLOGY

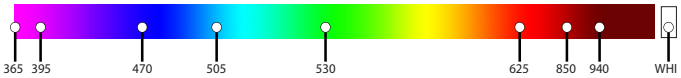
OverDrive™ Lights include an integrated high-pulse driver for complete LED light control.
Continuous Operation Lights stay on continuously.
Multi-Drive™ Combines continuous operation and OverDrive™ strobe (high-pulse operation) mode into one easy-to-use light.
Built-in Driver The built-in driver allows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

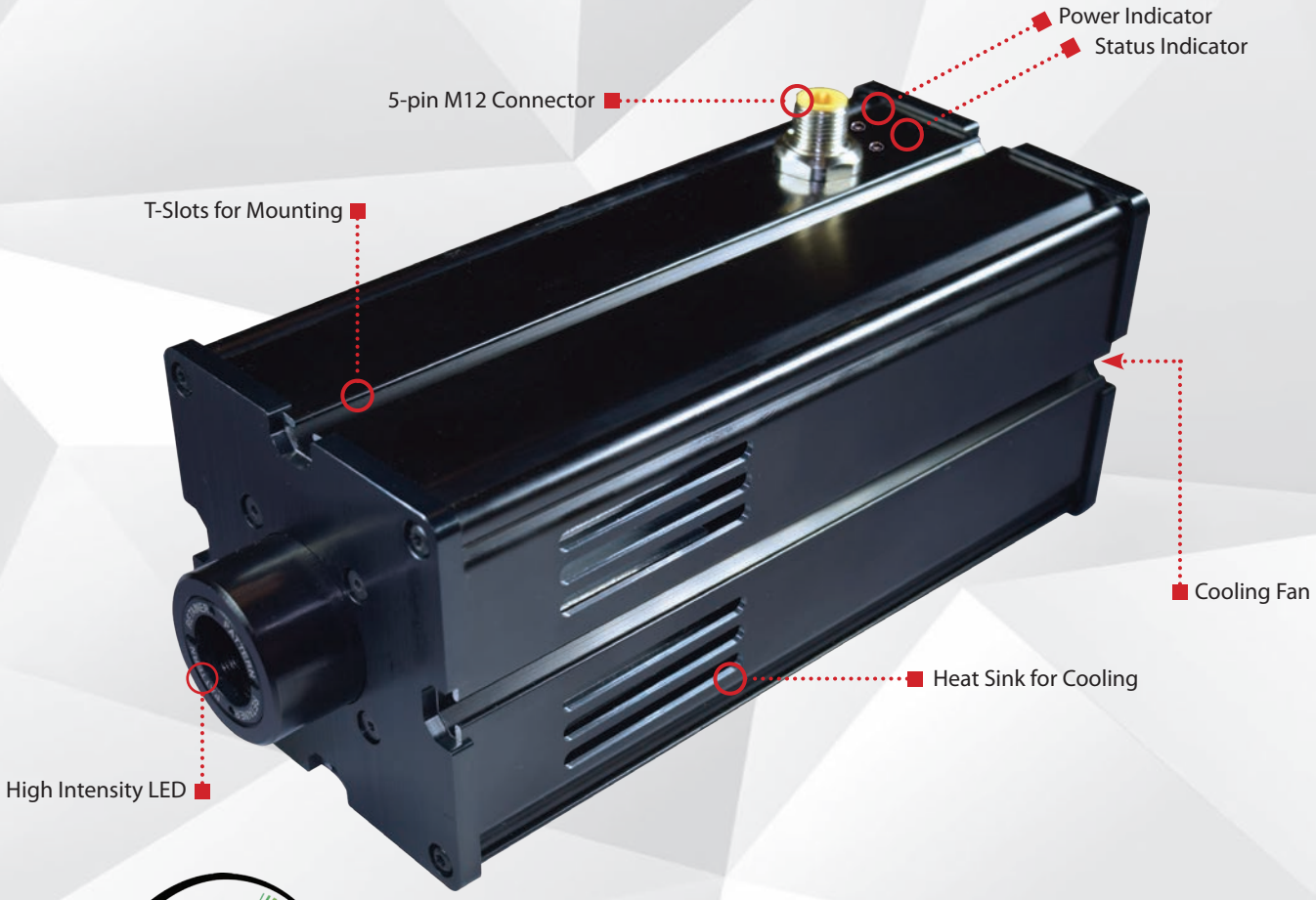
SWIR SHORT WAVE **INFRARED**

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

smart vision lights

SXP80 *Structured Light Projector*

PRODUCT DATA SHEET



nanoDrive™

Warranty	Compliant	Compliant	Connector
3 YEAR	IEC 62471	CE RoHS	5 PIN M12

PRODUCT HIGHLIGHTS

- ✓ Built-in NanoDrive™ delivers full power to the light in 500 nanoseconds for either continuous or OverDrive™ strobe operation
- ✓ 5-pin M12 industrial standard connector
- ✓ PNP and NPN trigger signal input
- ✓ Multiple interchangeable patterns available
- ✓ Accepts standard C-Mount lenses

PRODUCT DESCRIPTION

The SXP80 Series is among the highest intensity based projectors available in the market. With the ability to produce a thin and well-defined light pattern, the SXP80 performs with intensities comparable to that of laser projectors but without the speckle and can be used both far-field and near-field applications. The projector features Smart Vision Lights' newest high-speed, high-output, driver technology as well as forced-air cooling. NanoDrive provides very fast high energy strobe capabilities with on/off times as short as 500 ns, as well as the highest-intensity continuous operation available. Multiple interchangeable pattern styles are available, along with optional custom patterns.

PRODUCT SPECIFICATIONS

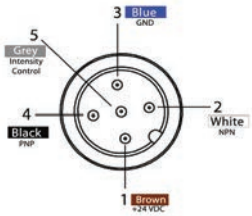
	CONTINUOUS OPERATION	OVERDRIVE™ STROBE MODE
Electrical Input	24VDC +/- 5%	
Input Current	Max. 4.0 A	Max. 8.8 A
Wattage	Max. 96 W	Max. 211 W
PNP Line	4 mA @ 5VDC | 8 mA @ 10VDC | 15 mA @24VDC	
NPN Line	15 mA @ Ground (0VDC)	
OverDrive™ Strobe Mode	**Not applicable**	Connect pin 5 to GND (see Wiring Configuration for more information)
Strobe Duration	**Not applicable**	Min. 10 µs | Max. 50 ms (see SafeStrobe™ Technology for more information)
Duty Cycle	**Not applicable**	Max. 10%
Strobe Input	**Not applicable**	PNP: +4VDC or greater to activate NPN: GND (<1VDC) to activate
Continuous Operation Mode	NPN can be tied to ground **OR** PNP can be tied to 24VDC (not both)	**Not applicable**
On/Off Input	PNP: +4VDC or greater to activate NPN: GND (<1VDC) to activate	**Not applicable**
Connection	5-pin M12 connector	
Power Indicator	Lights up green when power is applied	
Status Indicator	Lights up green when activated and red when the light is in fault condition	
Ambient Temperature	0º–40º C (32º–104ºF)	
Weight	960 g	
Compliances	CE, RoHS, IEC 62471	
Warranty	3 year warranty. For complete warranty information, visit smartvisionlights.com/warranty.	

RESOURCE CORNER

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

WIRING CONFIGURATION

CONTINUOUS OPERATION MODE



Pin layout for light (male connector)

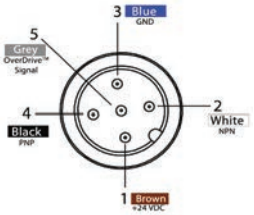
Pins	Function	Signal	Wire Color
1	Power In	+24VDC	BROWN
2	NPN	Sinking Signal	WHITE
3	GND	Ground	BLUE
4	PNP	Sourcing Signal	BLACK
5	Intensity Control	1-10VDC**	GREY*

** Some cables use green/yellow for pin 5*
*** For maximum intensity, it is possible to tie pin 5 to pin 1 at +24 V DC.*
*For continuous mode: PNP (pin 4) can be tied to +24 V DC (pin 1) **or** NPN (pin 2) can be tied to Ground (pin 3).*

For the light to function properly, apply either a PNP or NPN signal, not both.

Failure to supply light with correct input current will result in non-repeatable lighting.
(See Product Specifications for requirement.)

OVERDRIVE™ STROBE MODE



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	OverDrive™ Signal	Ground	GREY*

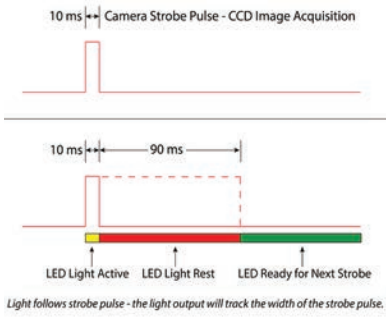
** Some cables use green/yellow for pin 5*

Failure to supply light with correct input current will result in non-repeatable lighting
(See Product Specifications for requirement.)

DUTY CYCLE (OVERDRIVE™ MODE ONLY)

This section applies only if light is in OverDrive™ strobe mode.

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



Light follows strobe pulse - the light output will track the width of the strobe pulse.

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 (strobes per second)
ST = Strobe Time (seconds)
D = Duty Cycle

Example

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

Strobe Rate is 1000 strobes per second

Calculating Duty Cycle

$$D = ST \times SR$$

SR = Strobe Rate (strobes 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)

Note: Strobe time is limited by the strobe rate.

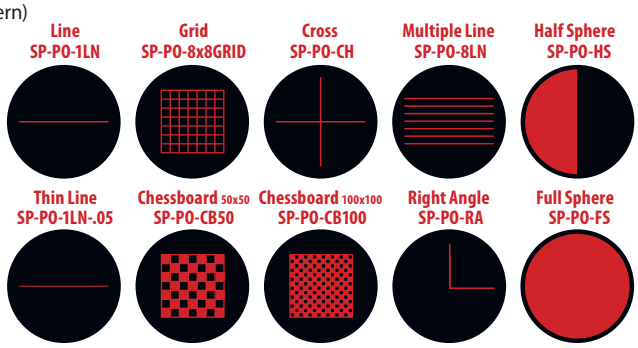
LIGHT INTENSITY

Operation	Typical Output Performance	Illuminance (Lux)
Continuous Mode	Distance = 100 mm	458,000
OverDrive™ Mode	Distance = 100 mm	916,000
Illuminance measurement taken on White Lights, 5700 K		

Light measurement acquired using a 35 mm Tamron lens.

PATTERNS

Standard patterns available. Patterns are interchangeable.
Part number e.g SP-PO-1LN (for a line pattern)



CUSTOM PATTERNS

Custom patterns can be etched to meet your needs.

Custom patterns specifications

- Square pattern boundaries: 8 mm maximum width/height
- Round pattern boundaries: 11 mm maximum diameter
- Minimum Feature size: 20 microns

Please contact SVL for a form for specifying your custom pattern requirements

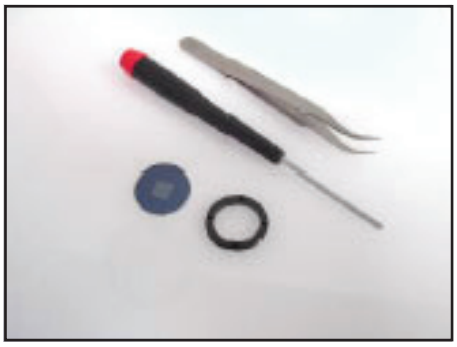
Custom pattern examples

3 x 3 grid
no border

Full circle

6 x 6 grid
with borders

PATTERN REPLACEMENT



Screwdriver or tweezers are recommended to remove retaining ring, but **are not included**. Retaining Ring will turn clockwise to install and counter-clockwise to remove. There are two small holes and two slots in ring to install/remove. Install the shiny metal side of pattern towards the LED

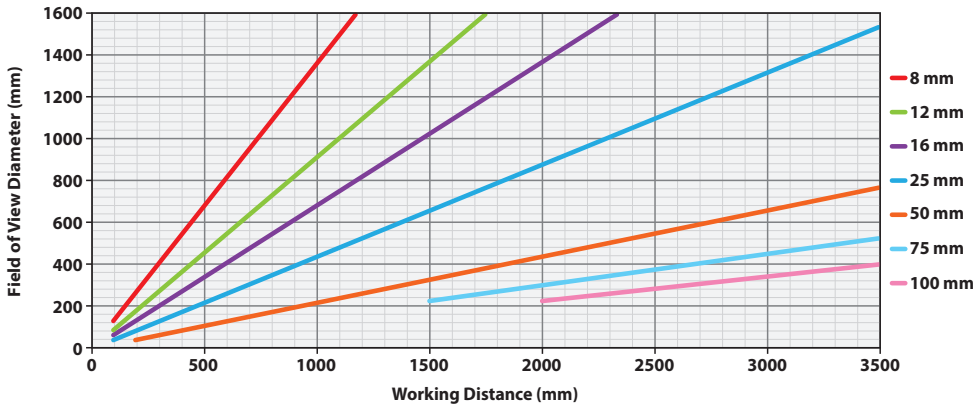
LENSES

Lenses	
Part Number	**Description**
CLENS0006	Tamron 1/1.8" Format 2MP 6 mm Megapixel Lens
CLENS0008	Tamron 1/1.8" Format 2MP 8 mm Megapixel Lens
CLENS0012	Tamron 1/1.8" Format 2MP 12 mm Megapixel Lens
CLENS0016	Tamron 1/1.8" Format 2MP 16 mm Megapixel Lens
CLENS0025	Tamron 1/1.8" 25 mm F/1.6 with Lock for Megapixel Cameras
CLENS0050	Tamron CCTV 50 mm Lens

STANDARD LENS CONFIGURATION

For lens options using a standard configuration use chart 1.

CHART 1: FOV-VS-WD
For Different FL Lenses



FOV = Field of View Diameter
FL = Focal Length
WD = Working Distance
PS = Pattern Size
M = Magnification

To estimate the Focal Length (FL) required for Working Distance (WD) and Field of View (FOV).

1. Use Chart 1 to estimate the Focal Length (FL) required for Working Distance (WD) and Field of View (FOV).
2. Use the equations below to determine the pattern size (PS), magnification, FOV, and FL relations

Magnification	**Finding Focal Length**
M = FOV/PS	M = WD/FL

For estimation only. User should determine best spacer/lensing options for application.

If the required Working Distance (WD) and/or Field of View (FOV) cannot be achieved with the standard view configuration (Chart 1), use chart 2 or chart 3 to help determine the spacer and lens combination.

CHART 2: Working Distance Using Lens Spacers

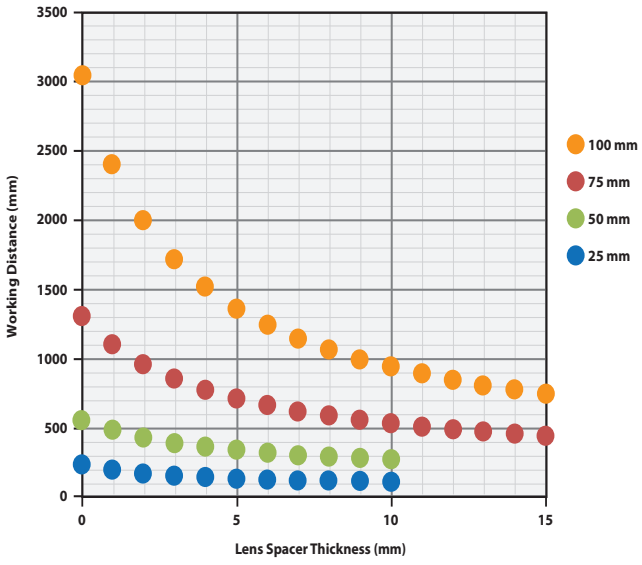
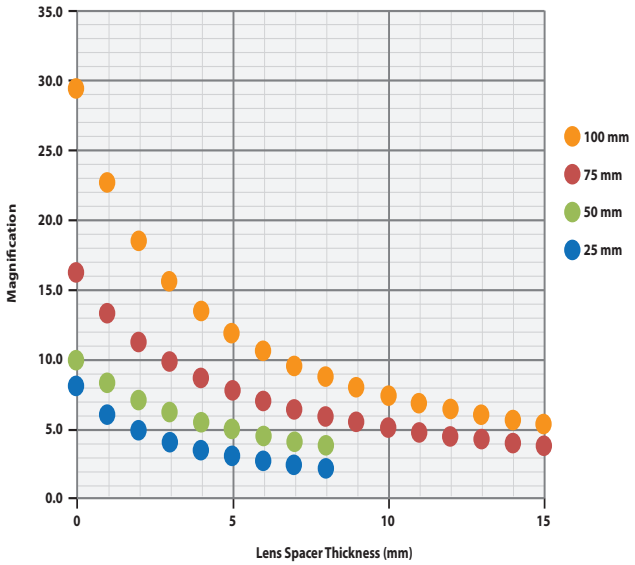


CHART 3: Projected Pattern Magnification Using Lens Spacers



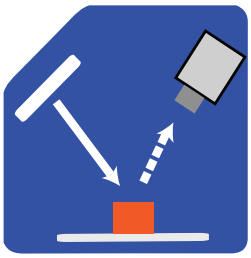
For estimation only. User should determine best spacer/lensing options for application.

NANODRIVE™

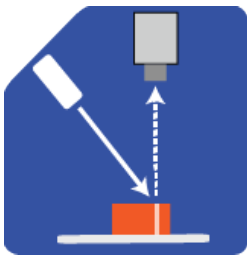
NanoDrive™ is the latest LED driver technology developed by Smart Vision Lights. To keep up with faster image acquisition by high-speed cameras, lighting applications require light sources to reach full intensity in the shortest amount of time. To meet this demand, we developed NanoDrive™ to deliver tens of amps to the LEDs within 500 nanoseconds or less, allowing the light to reach its full LED power/light intensity faster than ever before. And like its predecessor, the Multi-Drive™, the NanoDrive™ can operate in either continuous or OverDrive™ strobe mode. NanoDrive™ technology is patent-pending.

ILLUMINATION

SXP80 series of lights works best for:



Bright Field



Projector

SAFESTROBE™ TECHNOLOGY

SafeStrobe™ is a unique technology that applies safe working parameters to ensure high current LEDs are not damaged by driving them beyond their limits, such as maximum strobe time or duty cycle. This is especially beneficial for overdriving our high current LEDs.

EYE SAFETY

SMART VISION LIGHTS IEC 62471 COMPLIANT

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.

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, 530, and WHI.

PART NUMBER

SXP80 – □□□

COLOR:

WHI | 470 | 530 | 625

Part Number Examples:

SXP80-625 SXP80, 625 nm Red Wavelength

Patterns and lenes should be are ordered separately if required
See page 4 of the data sheet for details
Contact SVL if you require a custom pattern

Additional wavelengths options available upon request.

MOUNTING

Every side of the light features a T-slot for easy mounting.
Each light comes with two M5 screws and two T-nuts.

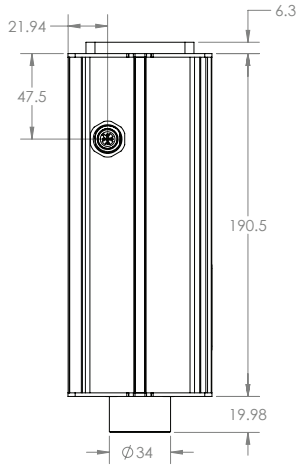
M5 Screws

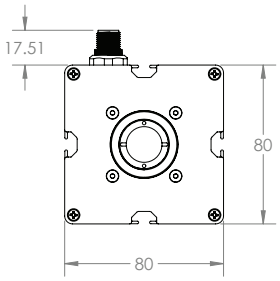
T-nuts
80/20 #14122

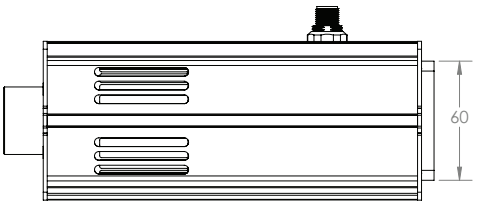
T-slot for mounting

PRODUCT DRAWING

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







ACCESSORIES

Power Cables

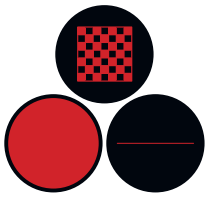
Lengths	Part Number
5 m	5PM12-5
10 m	5PM12-10
15 m	5PM12-15

Replacement Filter

Part Number

ELEC0005
Call for replacements

Patterns



Part Number

See lenses and patterns section for options.

Lenses

Part Number

See lenses and patterns section for options.

Lens Spacers

Lens Spacer Size	Part Number
0.5 mm	LENS SPACER-0.5
1.0 mm	LENS SPACER-1.0
2.0 mm	LENS SPACER-2.0
5.0 mm	LENS SPACER-5.0
10.0 mm	LENS SPACER-10.0
15.0 mm	LENS SPACER-15.0
20.0 mm	LENS SPACER-20.0
25.0 mm	LENS SPACER-25.0
30.0 mm	LENS SPACER-30.0
35.0 mm	LENS SPACER-35.0
40.0 mm	LENS SPACER-40.0
45.0 mm	LENS SPACER-45.0
50.0 mm	LENS SPACER-50.0

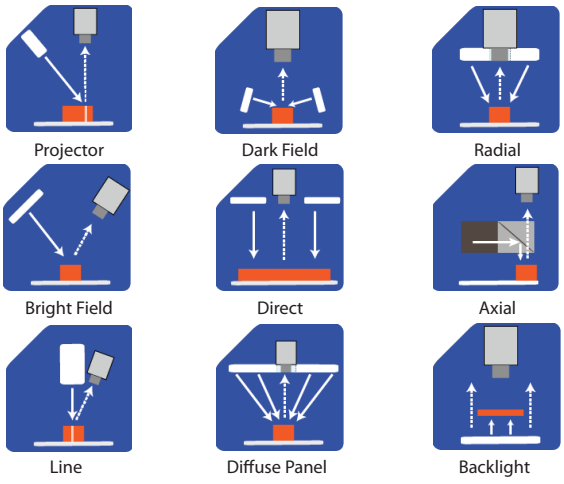
GLOSSARY

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

TERMINOLOGY

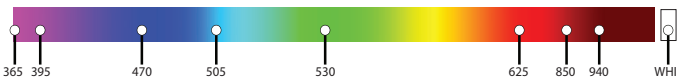
Built-in Driver The built-in driver allows full function without the need of an external controller.
Camera to Light Connecting the light directly to the camera, without the need for additional controllers or equipment.
Continuous Operation Lights stay on continuously.
Diffuser Used to widen the angle of light emission, reduce reflections, and increase uniformity.
Multi-Drive™ Combines continuous operation and OverDrive™ strobe (high-pulse operation) mode into one easy-to-use light.
NanoDrive™ The industry's leading driver, delivering full power to the light in 500 nanoseconds or less, while still allowing the light to operate in either continous or OverDrive™ strobe mode.
OverDrive™ Lights include an integrated high-pulse driver for complete LED light control.
Polarizers Filters that reduce reflections on specular surfaces.

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.