

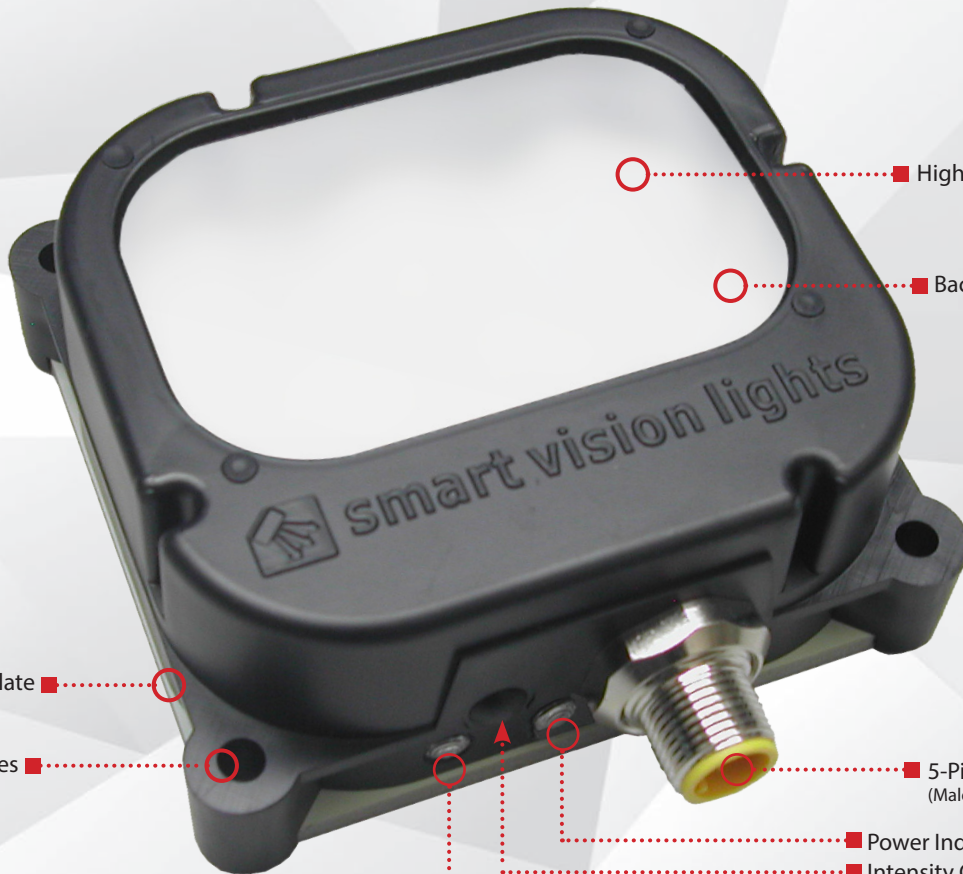


smart
vision lights

ODSB75 Brick Light SPOT LIGHT

OVERDRIVE™ | BACKLIGHT

PRODUCT DATA SHEET



High-Intensity LEDs

Backlight Lens (Diffuser)

Aluminum Backplate

Four Mounting Holes

5-Pin M12 Connector (Male)

Power Indicator LED (Green)

Intensity Control (10%–100%)

Signal Indicator LED (Yellow)



Warranty
10
YEAR

Compliant
IEC
62471

Compliant
CE
RoHS

Rated
IP
50

Connector
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 OverDrive™ 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.

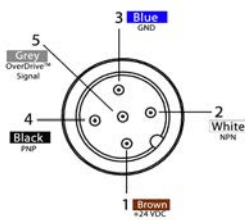


PRODUCT SPECIFICATIONS

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 (strokes 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	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 1–10 VDC signal.
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*

* 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.



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.



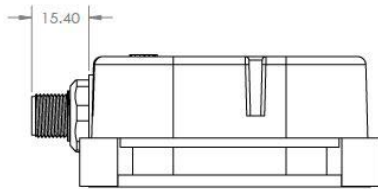
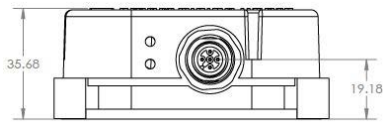
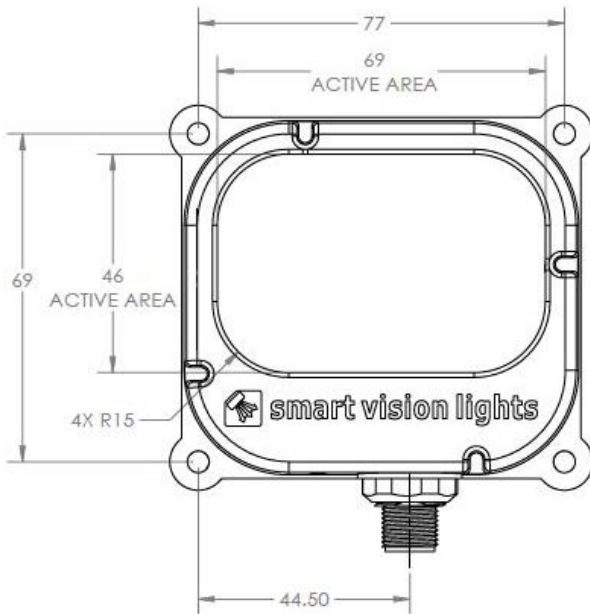
RESOURCE CORNER

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



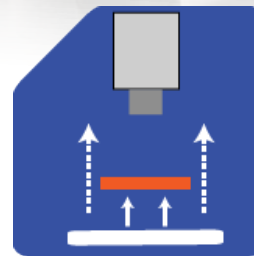
PRODUCT DRAWING

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 –



Part Number Example:

ODSB75-625 (ODSB75, 625 Red Wavelength)



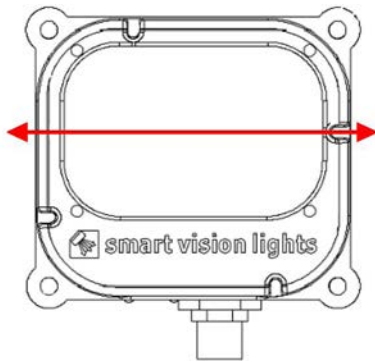
This light is available in our SWIR LEDs.



Additional wavelengths available upon request.

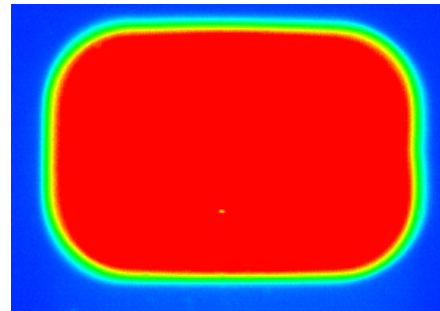
OPTICAL PERFORMANCE

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



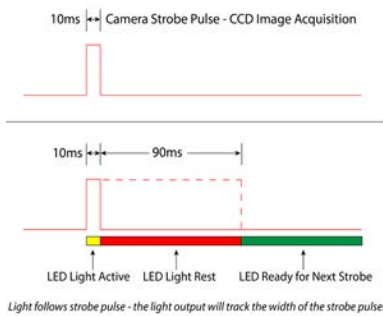
OPTICAL PERFORMANCE FOR THE ODSB75

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



DUTY CYCLE

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



Calculating Rest Time

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

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

Example

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

Rest Time is 90 ms for 10 ms Strobe Time

Calculating Strobe Rate

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

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

Example

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

Strobe Rate is 1000 strokes per second

Calculating Duty Cycle

$$D = ST \times SR$$

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

Example

$$0.1 = 0.0001 \times 1000$$

Duty Cycle is 10% (0.1)

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

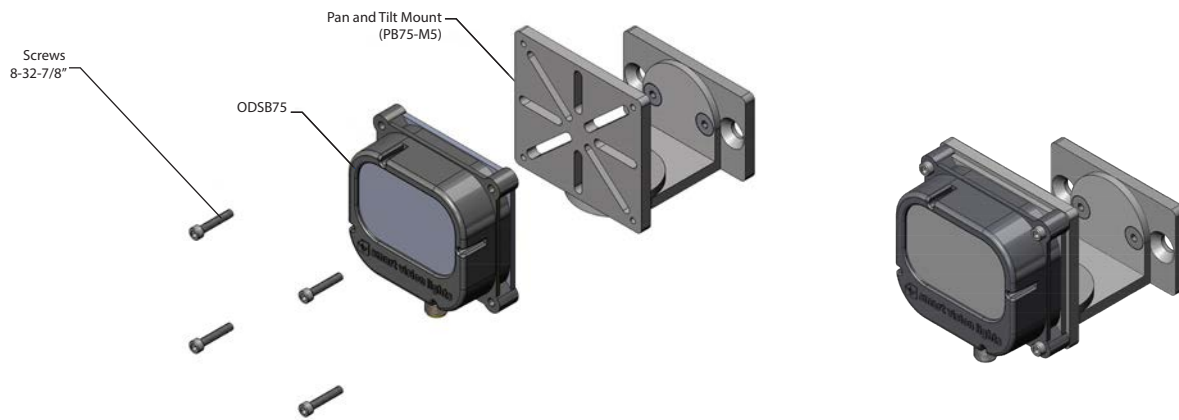
Note: Strobe time is limited by the strobe rate.



MOUNTING




Mounting options on the ODSB75 Series Brick Light include four holes. See Accessories for additional mounting options.

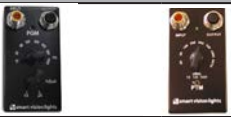
Example of the ODSB75 shown using the Pan and Tilt Mount (Part Number: PB75-M5).





ACCESSORIES

Mount		Power Cables		Mounting Rails	
					
Description	Part Number	Length	Part Number	Length	Part Number
Pan and Tilt Mount	PB75-M5	5 m	5PM12-5	300 mm	LEXT300
		10 m	5PM12-10	600 mm	LEXT600
		15 m	5PM12-15	900 mm	LEXT900
				1200 mm	LEXT1200
				Custom sizes available	

Pulse Modules	
	
Description	Part Number
Pulse Generator Module	PGM
Pulse Timing Module	PTM



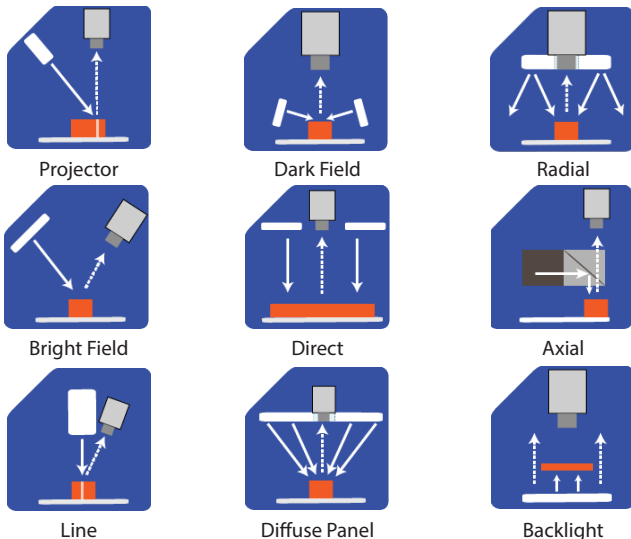
GLOSSARY

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

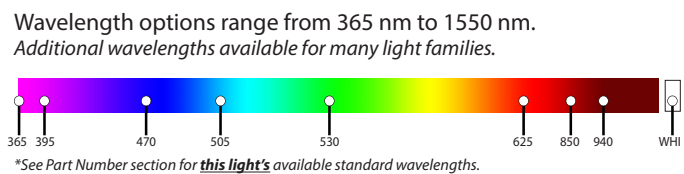
TERMINOLOGY

- 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



COLOR/WAVELENGTHS LEGEND



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