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**

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Electrical Input</strong></td>
<td>24VDC +/-5%</td>
</tr>
<tr>
<td><strong>Input Current</strong></td>
<td>Max. 2.5 A draw during strobe</td>
</tr>
<tr>
<td><strong>Wattage</strong></td>
<td>Max. 60 W during strobe</td>
</tr>
<tr>
<td><strong>Strobe Input</strong></td>
<td>PNP: +4VDC or greater to activate</td>
</tr>
<tr>
<td><strong>PNP Line</strong></td>
<td>4 mA @ 4VDC</td>
</tr>
<tr>
<td><strong>NPN Line</strong></td>
<td>15 mA @ Common (0VDC)</td>
</tr>
<tr>
<td><strong>Duty Cycle</strong></td>
<td>Max. Strobe Duration 10%</td>
</tr>
<tr>
<td><strong>Strobe/Pulse Time</strong></td>
<td>Max. 5000 SPS (strokes per second)</td>
</tr>
<tr>
<td>(see SafeStrobe™ Technology for more information)</td>
<td></td>
</tr>
<tr>
<td><strong>Red Indicator LED</strong></td>
<td>ON = light rest (LED inactive)</td>
</tr>
<tr>
<td><strong>Green Indicator LED</strong></td>
<td>ON = power</td>
</tr>
<tr>
<td><strong>Potentiometer</strong></td>
<td>270° turn pot — intensity control of 10%–100%. Turn clockwise to increase intensity.</td>
</tr>
<tr>
<td><strong>Analog Intensity</strong></td>
<td>The output is adjustable from 10%–100% by a 1–10 VDC signal.</td>
</tr>
<tr>
<td><strong>Connection</strong></td>
<td>5-pin M12 connector</td>
</tr>
<tr>
<td><strong>Ambient Temperature</strong></td>
<td>-18º–40ºC (0º–104ºF)</td>
</tr>
<tr>
<td><strong>IP Rating</strong></td>
<td>IP50</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>~155 g</td>
</tr>
<tr>
<td><strong>Compliances</strong></td>
<td>CE, RoHS, IEC 62471</td>
</tr>
<tr>
<td><strong>Warranty</strong></td>
<td>10 years. For complete warranty information, visit smartvisionlights.com/warranty</td>
</tr>
</tbody>
</table>

**WIRING CONFIGURATION**

<table>
<thead>
<tr>
<th>Pin</th>
<th>Function</th>
<th>Signal</th>
<th>Wire Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Power In</td>
<td>+24VDC</td>
<td>BROWN</td>
</tr>
<tr>
<td>2</td>
<td>NPN Sinking Signal</td>
<td>WHITE</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>GND Ground</td>
<td>BLUE</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>PNP Sourcing Signal</td>
<td>BLACK</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Intensity Control</td>
<td>1–10VDC</td>
<td>GREY*</td>
</tr>
</tbody>
</table>

*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).

**SAFESTROBETM 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.
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:

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

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.

Additional wavelengths available upon request. This light is available in our SWIR LEDs.

Additional wavelengths available upon request. This light is available in our SWIR LEDs.

OPTICAL PERFORMANCE FOR THE ODSB75

<table>
<thead>
<tr>
<th>Rating</th>
<th>Illuminance (Lux)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Intensity Rating</td>
<td>32,500</td>
</tr>
</tbody>
</table>

Illuminance measurement taken at surface of ODSB75

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 ms = 10 ms - 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.
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).
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.

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

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