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

smartvisionlights.com
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

<table>
<thead>
<tr>
<th>Electrical Input</th>
<th>24VDC +/-5%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input Current</td>
<td>Max. 2.5 A draw during strobe</td>
</tr>
<tr>
<td>Wattage</td>
<td>Max. 96 W during strobe</td>
</tr>
<tr>
<td>Strobe Input</td>
<td>PNP: +4VDC or greater to activate</td>
</tr>
<tr>
<td>PNP Line</td>
<td>4 mA @ 4VDC</td>
</tr>
<tr>
<td>NPN Line</td>
<td>15 mA @ Common (0VDC)</td>
</tr>
<tr>
<td>Duty Cycle</td>
<td>Max. 10%</td>
</tr>
<tr>
<td>Strobe/Pulse Time</td>
<td>Max 5000 SPS (strokes per second)</td>
</tr>
<tr>
<td>Potentiometer</td>
<td>270° turn pot — intensity control of 10%–100%. Turn clockwise to increases intensity.</td>
</tr>
<tr>
<td>Analog Intensity</td>
<td>The output is adjustable from 10%–100% of brightness by a 1–10VDC analog signal.</td>
</tr>
<tr>
<td>Connection</td>
<td>5-pin M12 connector</td>
</tr>
<tr>
<td>Ambient Temperature</td>
<td>-18º–40ºC (0º–104ºF)</td>
</tr>
<tr>
<td>IP Rating</td>
<td>IP68</td>
</tr>
<tr>
<td>Weight</td>
<td>~760 g</td>
</tr>
<tr>
<td>Compliances</td>
<td>CE, RoHS, IEC 62471</td>
</tr>
<tr>
<td>Warranty</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</td>
<td>Sinking Signal</td>
<td>WHITE</td>
</tr>
<tr>
<td>3</td>
<td>GND</td>
<td>Ground</td>
<td>BLUE</td>
</tr>
<tr>
<td>4</td>
<td>PNP</td>
<td>Sourcing Signal</td>
<td>BLACK</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, connect pin 5 to pin 1 at 24VDC. Potentiometer intensity needs to be set to 100%.

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).
LIGHT PATTERNS

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

**Lighting Pattern for the ODSW75 with Narrow (Standard) Lenses**

<table>
<thead>
<tr>
<th>Working Distance mm (inches)</th>
<th>Pattern (80%–100% measured intensity) mm (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>500 mm (19.7&quot;)</td>
<td>120 mm (~4.7&quot;) D</td>
</tr>
<tr>
<td>1000 mm (39.4&quot;)</td>
<td>240 mm (~9.4&quot;) D</td>
</tr>
<tr>
<td>2000 mm (78.8&quot;)</td>
<td>480 mm (~18.9&quot;) D</td>
</tr>
</tbody>
</table>

**Typical Output Performance**

- **Distance = 500 mm**
  - **Illuminance (Lux)**: 38,000
  - **Illuminance measurement taken on White Lights — 5700K**

**Lighting Pattern for the ODSW75 with Wide (W) Lenses**

<table>
<thead>
<tr>
<th>Working Distance mm (inches)</th>
<th>Pattern (80%–100% measured intensity) mm (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>500 mm (19.7&quot;)</td>
<td>180 mm (~7&quot;) D</td>
</tr>
<tr>
<td>1000 mm (39.4&quot;)</td>
<td>360 mm (~14.2&quot;) D</td>
</tr>
<tr>
<td>2000 mm (78.8&quot;)</td>
<td>720 mm (~28.3&quot;) D</td>
</tr>
</tbody>
</table>

**Typical Output Performance**

- **Distance = 500 mm**
  - **Illuminance (Lux)**: 32,500
  - **Illuminance measurement taken on White Lights — 5700K**

**Lighting Pattern for the ODSW75 with Line (L) Lenses**

<table>
<thead>
<tr>
<th>Working Distance mm (inches)</th>
<th>Pattern (80%–100% measured intensity) mm (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>500 mm (19.7&quot;)</td>
<td>100 mm (~3.9&quot;) H x 200 mm (~7.8&quot;) V</td>
</tr>
<tr>
<td>1000 mm (39.4&quot;)</td>
<td>200 mm (~7.8&quot;) H x 400 mm (~15.7&quot;) V</td>
</tr>
<tr>
<td>2000 mm (78.8&quot;)</td>
<td>400 mm (~15.7&quot;) H x 800 mm (~31.5&quot;) V</td>
</tr>
</tbody>
</table>

**Typical Output Performance**

- **Distance = 500 mm**
  - **Illuminance (Lux)**: 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**
**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**

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.

### 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).

**Calculating Rest Time**

\[
RT = \frac{ST}{D}
\]

**Calculating Strobe Rate**

\[
SR = \frac{D}{ST}
\]

**Calculating Duty Cycle**

\[
D = ST \times SR
\]

Example:

- ST = 10 ms
- D = Duty Cycle

- SR = 0.1
- ST = Strobe Time

Strobe Rate is 1000 strobes per second

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

Note: Strobe time is limited by the strobe rate.
## ACCESSORIES

### Power Cables

<table>
<thead>
<tr>
<th>Length</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 m</td>
<td>W5PM12-5</td>
</tr>
<tr>
<td>10 m</td>
<td>W5PM12-10</td>
</tr>
<tr>
<td>15 m</td>
<td>W5PM12-15</td>
</tr>
</tbody>
</table>

### Power Cables (Washdown)

<table>
<thead>
<tr>
<th>Length</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 m</td>
<td>W5PM12-15</td>
</tr>
</tbody>
</table>

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.

### COLORS/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.

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.