PRODUCT HIGHLIGHTS

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

smartvisionlights.com
PRODUCT DESCRIPTION

The ODSXP30 Series Projector Light offers the most intense projected pattern offered from an LED. The 9mm² 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 1mm² 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.

PRODUCT SPECIFICATIONS

<table>
<thead>
<tr>
<th>Electrical Input</th>
<th>24 V DC +/- 5%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input Current</td>
<td>Max. 600 mA</td>
</tr>
<tr>
<td>Wattage</td>
<td>Max. 6 W</td>
</tr>
<tr>
<td>Strobe Input</td>
<td>PNP &gt; +4 V DC or greater to activate</td>
</tr>
<tr>
<td>PNP Line</td>
<td>4 mA @ 4 V DC</td>
</tr>
<tr>
<td>NPN Line</td>
<td>15 mA @ Ground (0VDC)</td>
</tr>
<tr>
<td>Continuous Mode</td>
<td>NPN can be tied to ground OR PNP can be tied to 24 V DC (not both)</td>
</tr>
<tr>
<td>Red Indicator LED</td>
<td>LED Strobe Indicator  ON = Light Active</td>
</tr>
<tr>
<td>Green Indicator LED</td>
<td>ON = Power</td>
</tr>
<tr>
<td>Analog intensity</td>
<td>The output is adjustable from 10-100% of brightness by a 1–10 V DC signal. (Jumpering pin 5 to pin 1 will provide maximum intensity)</td>
</tr>
<tr>
<td>Connection</td>
<td>5-pin M12 connector</td>
</tr>
<tr>
<td>Ambient Temperature</td>
<td>-18º–40º C (0º–104º F)</td>
</tr>
<tr>
<td>IP Rating</td>
<td>IP65</td>
</tr>
<tr>
<td>Weight</td>
<td>~413g</td>
</tr>
<tr>
<td>Compliances</td>
<td>CE, RoHS, IEC 62471</td>
</tr>
</tbody>
</table>

WIRING CONFIGURATION

<table>
<thead>
<tr>
<th>Pins</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>1–10 V DC</td>
<td>GREY *</td>
</tr>
</tbody>
</table>

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

If Analog 1–10 V DC 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.
LENSES AND PATTERNS

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

- Line
- Grid
- Cross
- Multiple Line
- Half Sphere
- Thin Line
- Chessboard 50x50
- Chessboard 100x100
- Right Angle
- Full Sphere
- SP-PO-1LN
- SP-PO-8x8GRID
- SP-PO-CH
- SP-PO-8LN
- SP-PO-CLN
- SP-PO-CHB100
- SP-PO-RA
- SP-PO-FS

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.

- Retainer Ring on top holding pattern
- Pattern - Remove and Replace
- Master Retainer Ring located in base of projector DO NOT 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).

\[ RT = Rest Time \]
\[ ST = Strobe Time \]
\[ D = Duty Cycle \]

Calculating Rest Time

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

Example

\[ RT = \frac{10 \text{ ms}}{0.1} = 90 \text{ ms} \]

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.
Additional wavelengths options available upon request.

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

See accessories for additional mounting options.

## LENS CONFIGURATION

### Part Number Examples:
ODSXP30-625 ODSXP30, 625 nm Red Wavelength

Finding Focal Length

\[ FL = \frac{PS \times WD}{FOV} \]

Magnification

\[ M = \frac{FOV}{PS} \]
**ACCESSORIES**

### Power Cables

<table>
<thead>
<tr>
<th>Lengths</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 m</td>
<td>SPM12-5</td>
</tr>
<tr>
<td>10 m</td>
<td>SPM12-10</td>
</tr>
<tr>
<td>15 m</td>
<td>SPM12-15</td>
</tr>
</tbody>
</table>

### Lenses

*See lenses and patterns section for options*

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**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.*

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