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
## PRODUCT DESCRIPTION

The SXP30 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 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.

## PRODUCT SPECIFICATIONS

<table>
<thead>
<tr>
<th>Electrical Input</th>
<th>24VDC +/- 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; +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 @ Ground (0VDC)</td>
</tr>
<tr>
<td>Continuous Mode</td>
<td>NPN can be tied to ground OR PNP can be tied to 24VDC (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 1–10VDC 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>
<tr>
<td>Warranty</td>
<td>10 years; see smartvisionlights.com/warranty for more information.</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>1–10VDC</td>
<td>GREY*</td>
</tr>
</tbody>
</table>

* 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

Pin layout for light (Male Connector)
### Wiring Configuration

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<td>1</td>
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<td></td>
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</tr>
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</tr>
</tbody>
</table>

*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

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### 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.

- **DO** Tighten Nut
- **Push Here**
  - Line up key on the cable to key on the male connect before turning the nut. Then turn nut until it is seated.
  - If nut is not turning smoothly, push cable forward while turning nut until nut is seated.
- **DO NOT** Twist Cable
  - Twisting the cable may cause damage to the male connector pins on the LE.
Standard patterns are available and custom patterns can be etched. Patterns are interchangeable.

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.

Kowa Lenses

<table>
<thead>
<tr>
<th>Part #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>KW12JC KOWA</td>
<td>2/3” Format, 12mm f1.4 Manual Iris C-mount Kowa Lens</td>
</tr>
<tr>
<td>KW25JC KOWA</td>
<td>2/3” Format, 25mm f1.6 Manual Iris C-mount Kowa Lens</td>
</tr>
<tr>
<td>KW35JC KOWA</td>
<td>2/3” Format, 35mm f1.6 Manual Iris C-mount Kowa Lens</td>
</tr>
<tr>
<td>KW50JC KOWA</td>
<td>2/3” Format, 50mm f2.0 Manual Iris C-mount Kowa Lens</td>
</tr>
<tr>
<td>KW75JC KOWA</td>
<td>2/3” Format, 75mm f2.5 Manual Iris C-mount Kowa Lens</td>
</tr>
<tr>
<td>KW100JC KOWA</td>
<td>2/3” Format, 100mm f2.8 Manual Iris C-mount Kowa Lens</td>
</tr>
</tbody>
</table>

CUSTOM PATTERNS

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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.

- Retainer Ring on top holding pattern
- Pattern - Remove and Replace
- Master Retainer Ring located in base of projector DO NOT REMOVE!
CAD files available on our website.
Dimensions are in mm.

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**ILLUMINATION**

SXP30 series of Linear Lights works best for:

- Bright Field
- Projector

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**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 — 

**COLOR:**
- WHI
- 470
- 505
- 530
- 625
- 850

Additional wavelengths options available upon request

**Part Number Examples:**
- SXP30-625  SXP30, 625 nm Red Wavelength,
- SXP30-WHI-L  SXP30, White,

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**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.

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**LENS CONFIGURATION**

**Finding Focal Length**

\[
\text{FL} = \frac{\text{PS} \cdot \text{WD}}{\text{FOV}}
\]

**Magnification**

\[
\text{M} = \frac{\text{FOV}}{\text{PS}}
\]
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.

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.*