PRODUCT HIGHLIGHTS

- 5-pin M12 quick connect
- Built-in smart driver
- PNP and NPN trigger signal input
- Intensity adjustable from 10%–100% using built-in potentiometer
PRODUCT INTRODUCTION

The S75 Brick Light Series is a spot light that features a built-in smart driver. NPN or PNP trigger signals can be used to control the on/off input of the light. Intensity of the light can be controlled via 1–10VDC analog signal line or by adjusting the built-in manual potentiometer. Heat is dissipated through the aluminum backplate, which allows the S75 Brick Light Series to be run at a higher intensity current.

PRODUCT SPECIFICATIONS

<table>
<thead>
<tr>
<th>Electrical Input</th>
<th>24VDC ±5%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input Current</td>
<td>Max. 375 mA</td>
</tr>
<tr>
<td>Wattage</td>
<td>Max. 9.0 W</td>
</tr>
<tr>
<td>On/Off 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 @ Ground (0 VDC)</td>
</tr>
<tr>
<td>Yellow Indicator LED</td>
<td>LED strobe indicator</td>
</tr>
<tr>
<td>Green Indicator LED</td>
<td>ON = power</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>Potentiometer</td>
<td>270º 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 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–40ºC (0º–104ºF)</td>
</tr>
<tr>
<td>IP Rating</td>
<td>IP50</td>
</tr>
<tr>
<td>Weight</td>
<td>~155 g</td>
</tr>
<tr>
<td>Compliances</td>
<td>CE, RoHS, IEC 62471</td>
</tr>
<tr>
<td>Warranty</td>
<td>UV LEDs have a 2 year warranty, all other LEDs have a 10 year warranty. 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.
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).
Smart Vision Lights recommends that the S75 be used at a working distance between 300 mm and 4000 mm.

**Beam Diameter (White Light) — 5700K**

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

**Typical Output Performance**

- **Distance = 500 mm**: Illuminance (Lux) = 7250
- **Illuminance measurement taken on White Lights — 5700K**

The S75 Brick Light produces a uniform light pattern.

- **Working Distance = 500 mm**
- **Grid set to 25 mm x 25 mm**
PRODUCT DRAWING

CAD files available on our website. Dimensions are in mm.

ILLUMINATION

S75 Series of Brick Lights works best for:

- Bright Field
- Direct Lighting
- Dark Field

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.

Notice

Risk Group 1: UV emitted from this product. Minimize exposure to eyes and skin. Use appropriate shielding. Safe for most applications except prolonged exposures. Applicable for wavelength 395.

Caution

Risk Group 2: UV emitted from this product. Eye or skin irritation may result from exposure. Use appropriate shielding. Does not pose optical hazard if aversion responses limit exposure. Applicable for wavelength 365.
**PART NUMBER**


**COLOR:**
- WHI
- 365
- 395
- 470
- 505
- 530
- 625
- 850
- 940

**LENS:**
- Leave blank for Standard (Narrow)
- W = Wide
- L = Line

**LINEAR POLARIZER:**
- Leave blank for none
- LPI = Factory Installed

**Part Number Examples:**
- **S75-625**
  S75, 625 nm Red Wavelength, Standard (Narrow) Lens
- **S75-WHI-L**
  S75, White, Line Lens
- **S75-470-W-LPI**
  S75, 470 nm Blue Wavelength, Wide Lens, with Linear Polarizer installed

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**LENS OPTICS**

**NARROW (STANDARD)**
Narrow, 14° angle-cone lenses are standard. Standard lenses project a narrow beam of illumination and are used for long working distances.

**WIDE**
Wide, 30° angle-cone lenses project 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 project a thin, narrow beam of illumination. Note: this lens is not offered in UV.

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**When To Use a Linear Polarizer?**

Polarizing filters can reduce reflections on specular surfaces.

A Linear Polarizer has a typical transmission of 38 percent while blocking 62 percent of the light not in the polarization plane.

**WARNING:** Running a light in continuous operation while using a standard polarizer with certain wavelengths (e.g. white, blue) may burn the polarizer.

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Line Lenses are not offered for UV wavelengths.

*Additional wavelengths and lens options available upon request.*
Mounting options on the S75 Series of Brick Light include four holes. See Accessories for additional mounting options.

Example of the S75 using the Pan and Tilt Mount (Part Number: PB75-M5.)
### ACCESSORIES

#### Power Cables

<table>
<thead>
<tr>
<th>Length</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>

#### Mount

<table>
<thead>
<tr>
<th>Description</th>
<th>Part Number</th>
<th>Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pan and Tilt Mount</td>
<td>PB75-M5</td>
<td>Diffuser Kit for S75</td>
<td>S75-DKIT</td>
</tr>
</tbody>
</table>

#### Linear Polarizer

<table>
<thead>
<tr>
<th>Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linear Polarizer for S75</td>
<td>S75-LP</td>
</tr>
</tbody>
</table>

#### Diffuser

<table>
<thead>
<tr>
<th>Description</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diffuser Kit for S75</td>
<td>S75-DKIT</td>
</tr>
</tbody>
</table>

### 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

- **Projector**
- **Dark Field**
- **Radial**
- **Axial**
- **Line**
- **Bright Field**
- **Diffuse Panel**
- **Backlight**

#### COLOR/WAVELENGTHS LEGEND

Wavelength options range from 365 nm to 1550 nm. Additional wavelengths available for many light families.

[Color chart]

- 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.