

## P R O D U C T D A T A S H E E T



Warranty  
**10**  
YEAR

Compliant  
**IEC**  
62471

Compliant  
**CE**  
RoHS

Rated  
**IP**  
**50**

Connector  
**5-PIN**  
**M12**

## PRODUCT HIGHLIGHTS

- ✓ 45mm industrial extrusion
- ✓ 5-pin M12 quick connect
- ✓ Driver built-in
- ✓ Most intense and diffuse area light available

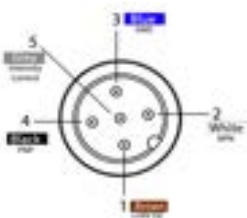
## PRODUCT DESCRIPTION

The AL Area Light connects directly to an external controller. Features an industry standard 5-pin M12 connector. Heat is dissipated through the aluminum heat-sinks which allows the AL Series to be run at a higher current allowing for greater intensity.

## PRODUCT SPECIFICATIONS

Electrical Input	24VDC +/-5%
Input Current	150x150: Max. 0.82 A   300x150: Max. 1.62 A   300x300: Max. 3.35 A
Wattage	150x150: Max. 19.68 W   300x150: Max. 38.88 W   300x300: Max. 80.4 W
On/Off Input	PNP : +3VDC or greater to activate   NPN : GND (<1VDC) to activate
PNP Line	3.7 mA @ 3VDC   6.2 mA @ 5VDC   12.6 mA @ 10VDC   30.4 mA @ 24VDC
NPN Line	22 mA @ Ground (0VDC)
Continuous Mode	NPN can be tied to ground <b>OR</b> PNP can be tied to 24VDC (not both)
Analog Intensity	The output is adjustable from 10%–100% of brightness by a 1–10VDC signal. (Jumpering pin 5 to pin 1 will provide maximum intensity.)
Connection	5-pin M12 connector
Ambient Temperature	-20°C–50°C (-4°F–122°F)
IP Rating	IP50
Weight	150x150: 2.22kg   300x150: 3.06kg   300x300: 4.76kg
Compliances	CE, RoHS, IEC 62471
Warranty	10 years. For complete warranty information, visit <a href="http://smartvisionlights.com/warranty">smartvisionlights.com/warranty</a> .

## WIRING CONFIGURATION



Pin	Function	Signal	Wire Color
1	Power In	+24VDC	BROWN
2	NPN	Sinking Signal	WHITE
3	GND	Ground	BLUE
4	PNP	Sourcing Signal	BLACK
5	Intensity Control	1–10VDC	GREY*

\* Some cables use green/yellow for pin 5  
For maximum intensity, tie pin 5 to pin 1 at +24VDC.

Pin layout for light (Male Connector) 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).

**OPTIONAL**  
For maximum intensity, connect pin 5 to pin 1 at 24VDC.  
Potentiometer intensity needs to be set to 100%.



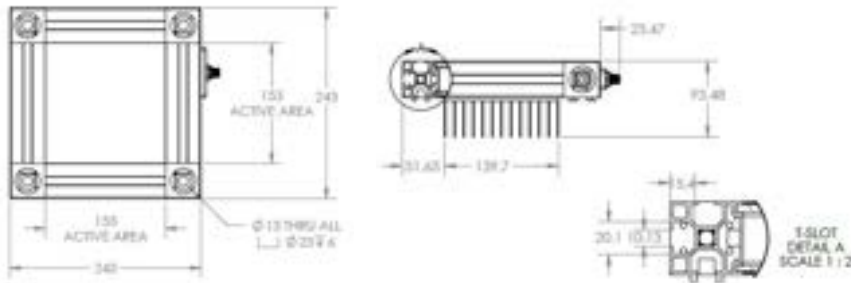
## RESOURCE CORNER

Additional resources, including CAD files, videos, and application examples are available on our website.

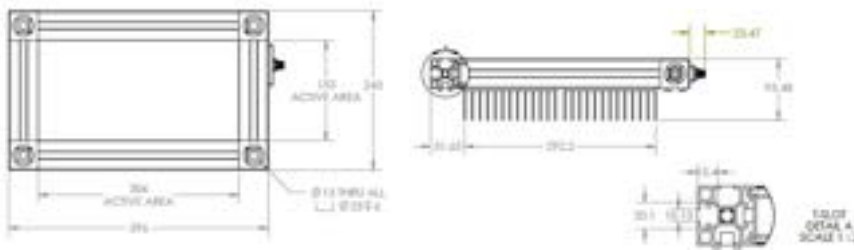


## PRODUCT DRAWING

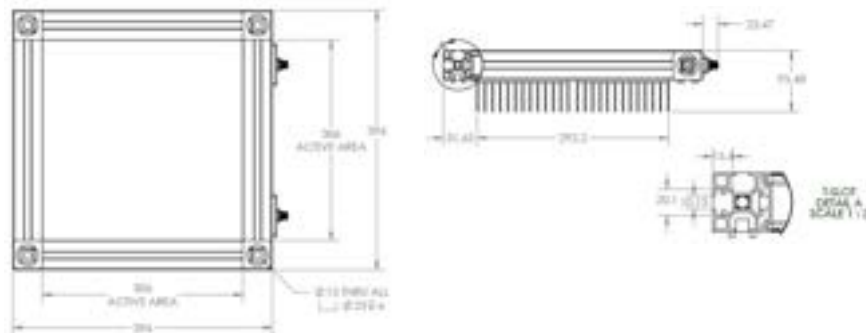
### AL 150x150



### AL 300x150



### AL 300x300



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



## 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, and 940.

#### 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 wavelengths: 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 wavelengths: 365



## PART NUMBER

AL -  -  -

**SIZE:**

(L x W)  
150 x 150  
300 x 150  
300 x 300

**COLOR:**



### Part Number Examples:

**AL-150x150-625** AL, 150 x 150 mm, 625 nm Red Wavelength

**AL-300x150-WHI** AL, 300 x 150 mm, White

**AL-300x300-470** AL, 300 x 300 mm, 470 nm Blue Wavelength

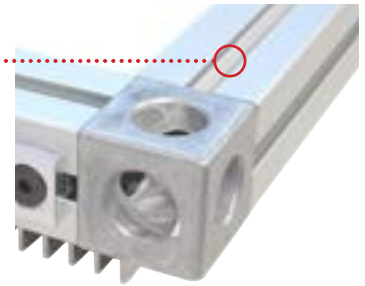
\* The 5-pin M12 Connector is located on the width side of the light.  
Additional Wavelengths available upon request.



## MOUNTING

Smart Vision Lights recommends using drop-in T-nuts for mounting a AL Area Light. T-Slot size on AL extrusion is Bosch size 10 T-nut channel.

Bosch size 10 T-nut channel



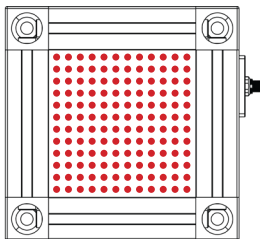
**NOTE**

Removing cover cubes of light may result in voiding of warranty.



## AREA LIT

Each AL has LEDs placed to dispense an even light flow throughout the lighted surface area.



150 mm x 150 mm shown  
(LED size and spacing not shown to scale)



## ILLUMINATION

AL Series of Area Lights works best for:



Bright Field



## ACCESSORIES

### Power Cables



Lengths	Part Number
5 m	5PM12-5
10 m	5PM12-10
15 m	5PM12-15



## 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 ILLUMINATION



Projector



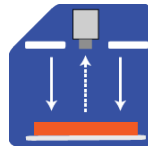
Dark Field



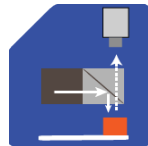
Radial



Bright Field



Direct



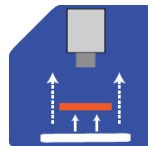
Axial



Line



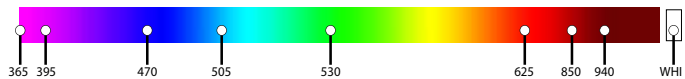
Diffuse Panel



Backlight

### COMMON 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.\*

\*Check Part Number section to see if **this light** is available in SWIR wavelengths.