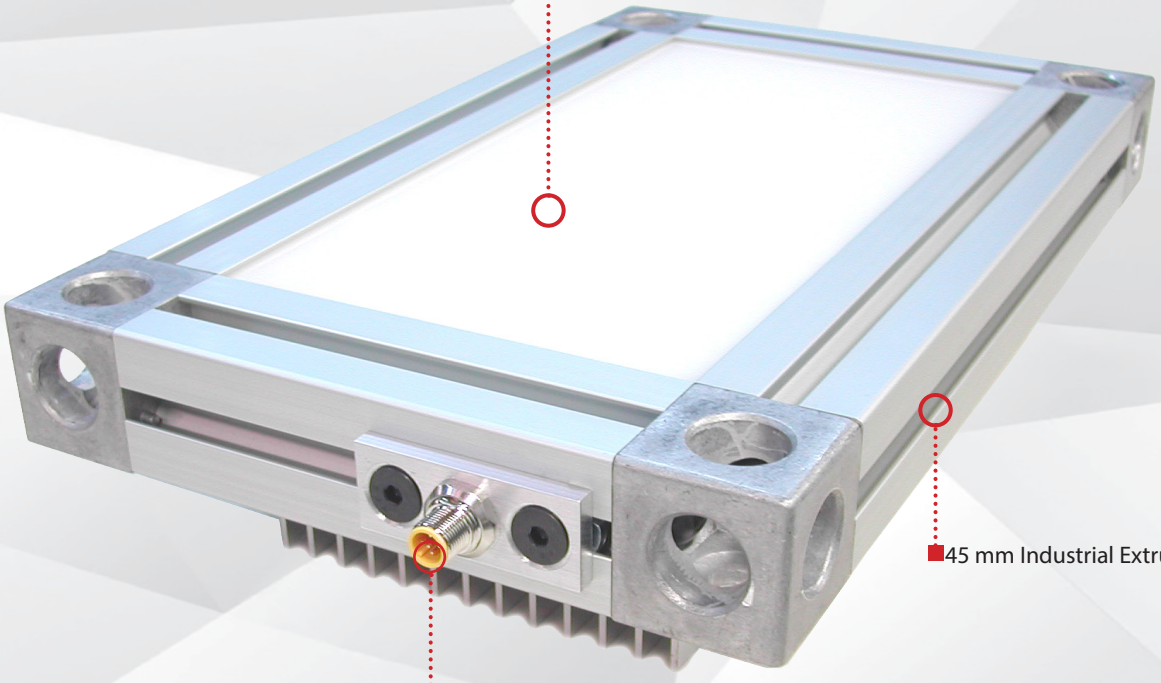
smart vision lights

AL *High Intensity* AREA LIGHT

PRODUCT DATA SHEET



Warranty	Compliant	Compliant	Rated	Connector
10 YEAR	IEC 62471	CE RoHS	IP 50	5-PIN M12

PRODUCT HIGHLIGHTS

- ✓ High uniformity
- ✓ High intensity
- ✓ Built-in driver
- ✓ 45 mm industrial extrusion

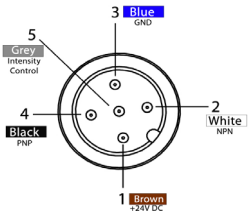
PRODUCT DESCRIPTION

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. 1 A | 300x150: Max. 2 A | 300x300: Max. 4 A
Input Power	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 Trigger	3.7 mA @ 3VDC | 6.2 mA @ 5VDC | 12.6 mA @ 10VDC | 30.4 mA @ 24VDC
NPN Trigger	22 mA @ Ground (0VDC)
Continuous Mode	NPN can be tied to ground **OR** 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	-20ºC–50ºC (-4ºF–122ºF)
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 smartvisionlights.com/warranty.

WIRING CONFIGURATION



Pin layout for light (Male Connector)

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*

OPTIONAL

For maximum intensity, connect pin 5 to pin 1 at 24VDC.

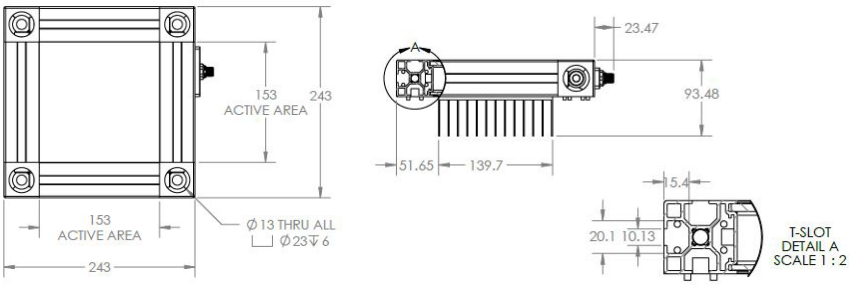
** Some cables use green/yellow for pin 5*
For maximum intensity, tie pin 5 to pin 1 at +24VDC.
*For continuous mode: Tie PNP (pin 4) can be tied to +24VDC (pin 1) **or** tie NPN (pin 2) can be tied to Ground (pin 3).*

RESOURCE CORNER

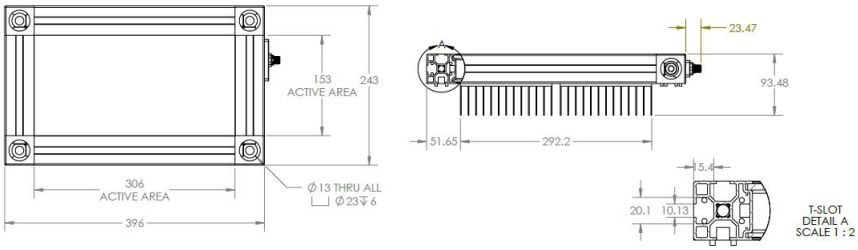
Additional resources, including CAD files, videos, and application examples are available on our website.

PRODUCT DRAWING

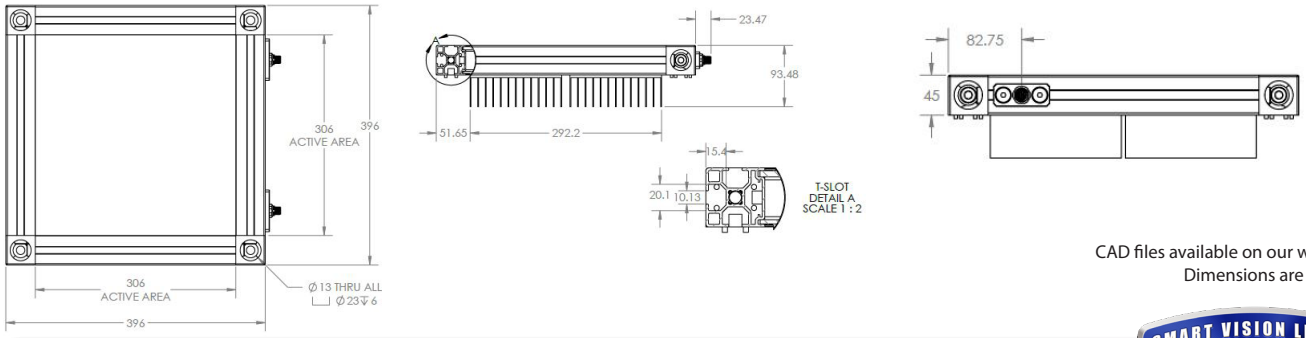
AL 150x150



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.

PART NUMBER

AL – □□□ – □□□ – □□□

SIZE:
(L x W)
150 x 150
300 x 150
300 x 300

COLOR:
WHI
470
505
530
625
850
940

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

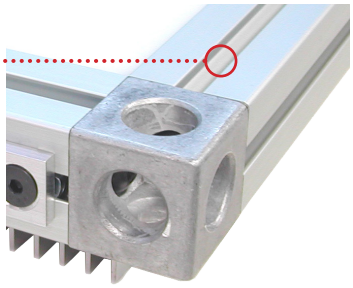
Part Number Examples:

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

MOUNTING

For mounting, use Bosch size 10 drop-in T-nuts.

Bosch size 10 T-nut channel

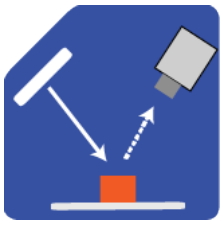


NOTE

Removing corner cubes of light will void warranty.

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

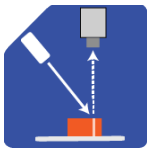
GLOSSARY

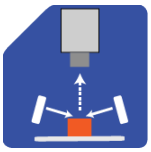
This glossary covers all Smart Vision Lights product families; some content in this section may not apply to this specific light.

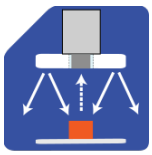
TERMINOLOGY

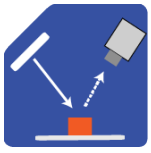
OverDrive™ Lights include an integrated high-pulse driver for complete LED light control.
Continuous Operation Lights stay on continuously.
Multi-Drive™ Combines continuous operation and OverDrive™ strobe (high-pulse operation) mode into one easy-to-use light.
Built-In Driver The built-in driver allows 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.

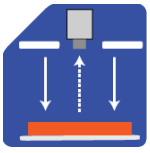
TYPES OF ILLUMINATION

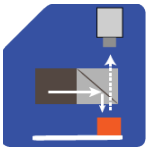

Projector

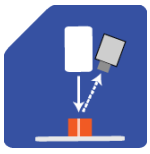

Dark Field

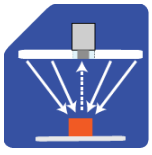

Radial

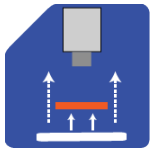

Bright Field


Direct


Axial

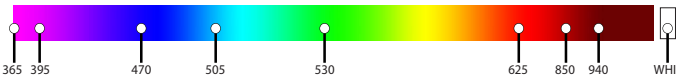

Line


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.*

SWIR SHORTWAVE **INFRARED**

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.*