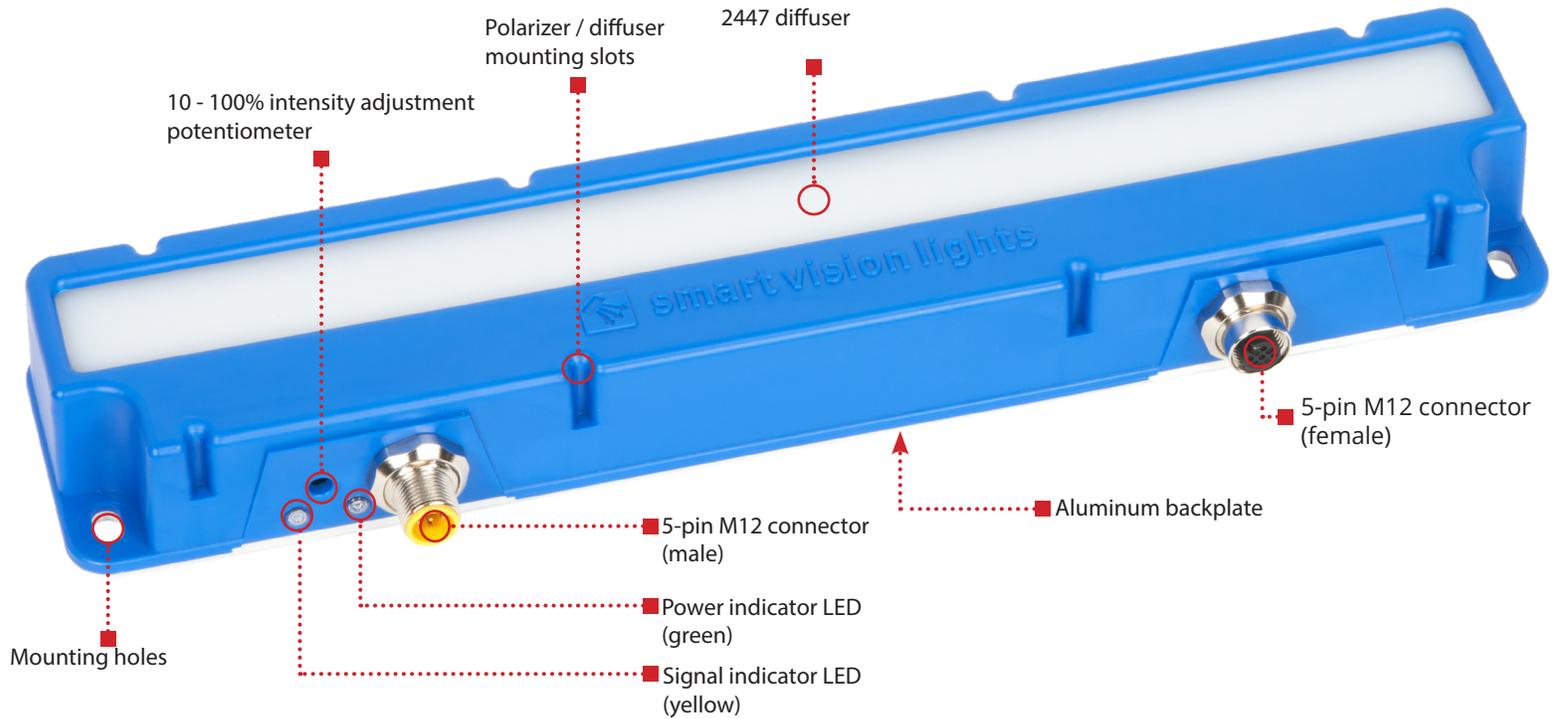


LB300 Linear Light BACKLIGHT



The LB300 is a linear backlight featuring an integrated constant current driver with a lux value of up to 42,000. NPN or PNP triggers can be used to control the light for either strobed or continuous operation. Light intensity can be controlled via 1 - 10 VDC analog intensity line or set manually by the intensity adjustment potentiometer. The LB300 can be daisy-chained with up to six lights in series using a standard 5-PIN M12 jumper cable.

LB300 HIGHLIGHTS

Warranty 10 YEAR	Tested IEC 62471	Compliant CE ROHS	Rated IP 50	Connector 5-PIN M12
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- ✓ Daisy-chain up to six LB300 linear lights using a standard 5-pin M12 jumper cable
- ✓ High-impact injection molded housing
- ✓ Built-in potentiometer for physical intensity adjustment
- ✓ Built-in status indicators
- ✓ Backlight lens (2447 diffuser) is factory installed

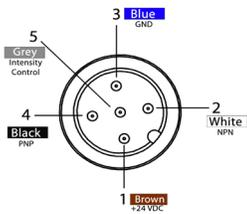
SPECIFICATIONS

Electrical Input	24 VDC +/- 5%
Input Current	Max. 700 mA
Input Power	Max. 17 W
PNP Trigger	2.8 mA @ 4VDC 8.8 mA @ 12VDC 17.6 mA @ 24VDC
NPN Trigger	14.4 mA @ Common (0VDC)
Trigger Input	PNP > +4 VDC (24 VDC max.) to activate or NPN ≥ GND <1VDC to activate (not both)
Strobe Duration	Min. 1 μs Max. ∞
Power Indicator	Turns green when powered up
Status Indicators	Strobe indicator will turn yellow when on
Analog Intensity	The output is adjustable from 10% - 100% by a 1 - 10 VDC signal or front potentiometer. Jumpering pin 5 to pin 1 will provide maximum intensity
Connection	5-pin M12 connector
Operating Temperature	-10° to 40° C (14° to 104° F) RH max 80% non-condensing humidity
Storage Temperature	-20° to 70° C (-4° to 158° F) RH max 80% non-condensing humidity
IP Rating	IP50
Weight	~370 g
Compliances	CE, IEC 62471, RoHS
Warranty	10 years*

*See SmartVisionLights.com/warranty for details

WIRING CONFIGURATION

CONTINUOUS OPERATION MODE



Pin layout for light (Male Connector)

Pins	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*

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

For continuous mode: PNP (pin 4) can be tied to +24 V DC (pin 1) **or** NPN (pin 2) can be tied to Ground (pin 3).

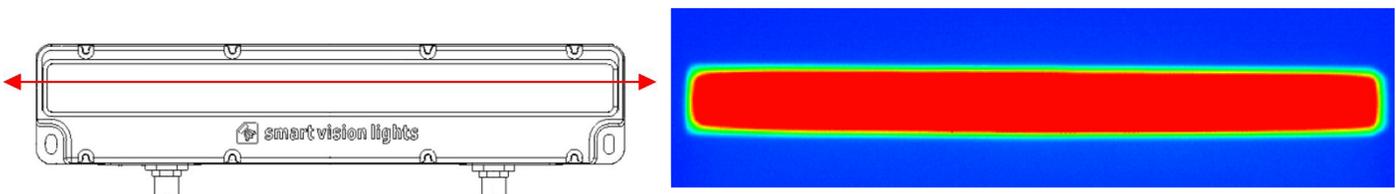
For proper light function, apply either a PNP or NPN signal, not both.

Failure to supply light with correct input current will result in inconsistent lighting behavior.

(see Product Specifications for requirements)

OPTICAL PERFORMANCE

The LB300 has an illuminance value of 42,000 lux at the surface of the lens.



EYE SAFETY

According to IEC 62471:2006. Full documentation available upon request with purchase of product.

Notice

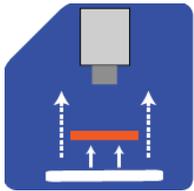
Exempt Group: No photobiological hazard to eyes or skin even for continuous, unrestricted use. Applicable for wavelengths 625, 850, 940, 1050, 1200, 1300, 1450, 1550, and 1650.

Caution

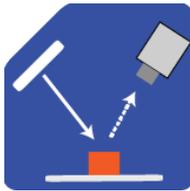
Risk Group 1: Possibly hazardous optical radiation emitted from this product. Do not stare at operating lamp. May be harmful to eyes. Safe for most applications except prolonged exposure. Applicable for wavelengths 470, 505, 530, and WHI.

ILLUMINATION

The LB300 works best for:



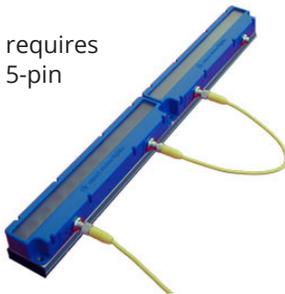
Backlight



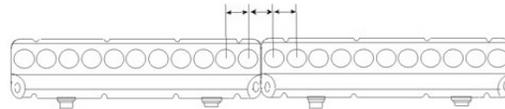
Bright Field

DAISY-CHAIN LIGHTS

LB300 Series of lights requires the use of a standard 5-pin M12 jumper cable to effectively parallel up to six L300 lights.



There is consistent spacing between LEDs as lights are connected together.



PART NUMBER GUIDE

LB300 —

COLOR:

WHI

470

505

530

625

850
940



This light is available in our SWIR LEDs

1050 nm

1200 nm

1300 nm

1450 nm

1550 nm

1650 nm

Part Number Example:
LB300-625 LB300, 625 nm Red Wavelength

Additional wavelengths available upon request.

ACCESSORIES

Power Cables



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

Jumper Cables (Daisy Chain)



Length	Part Number
300 mm	5PM12-J300
1000 mm	5PM12-J1000
2000 mm	5PM12-J2000

Mount



Description	Part Number
3-Axis Pan and Tilt Mount	PB300-M5

Mounting Rails



Length	Part Number
300 mm	LEXT300
600 mm	LEXT600
900 mm	LEXT900
1200 mm	LEXT1200
Custom sizes available	

Diffuser



Description	Part Number
Diffuser Kit	L300-DKIT

Linear Polarizer



Description	Part Number
Linear Polarizer Kit	L300-LP

Power Adapters *

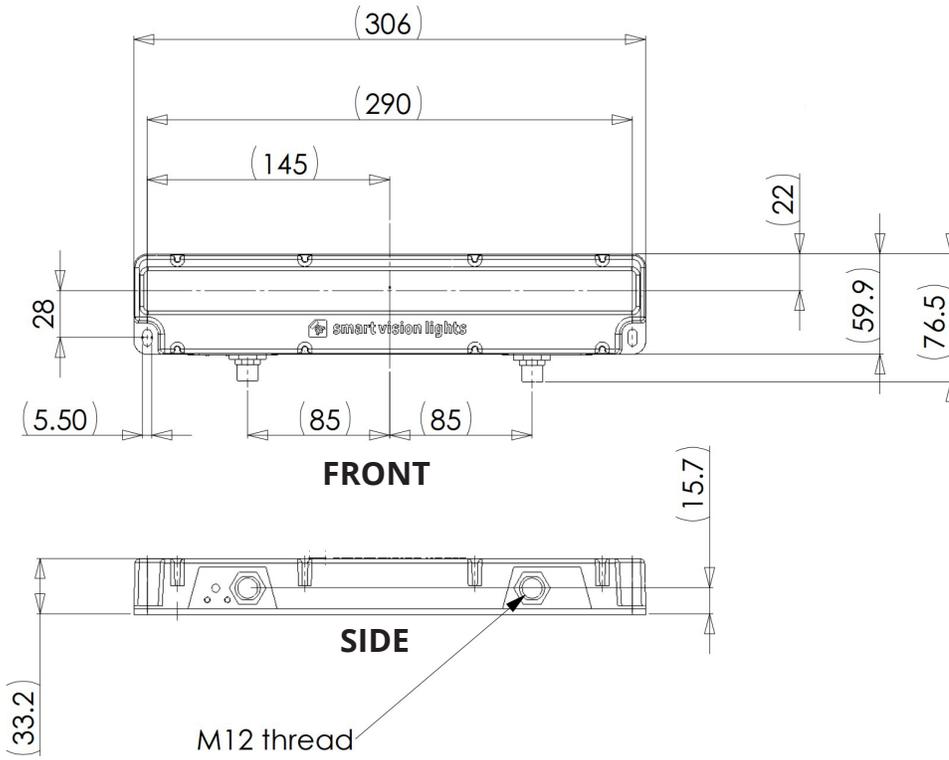


Description	Part Number
AC, 24 V, 1.7 A	T1 Power Supply
24 V DC, 9 A / AC input	T2 Power Supply

* European Versions Available (Add "-EURO" to end of T1. Ex: T1-EURO Power Supply.)

PRODUCT DRAWINGS

*CAD files available on our website
Drawings are in mm



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-pulse driver for complete LED light control.

Continuous Operation Light stays on continuously.

Multi-Drive™ Combines continuous operation and OverDrive™ strobe (high-pulse operation) mode into one easy-to-use light.

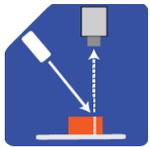
Built-in Driver The built-in driver allows full function without the need of an external controller.

Camera to Light Connect the light directly to the camera, without the need for additional controllers or equipment.

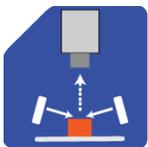
Polarizers Filters that reduce reflections on specular surfaces.

Diffusers Used to widen the angle of light emission, reduce reflections, and increase uniformity.

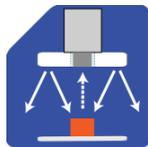
TYPES OF ILLUMINATION



Projector



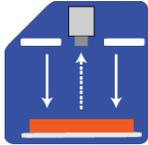
Dark Field



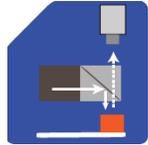
Radial



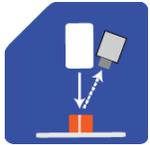
Bright Field



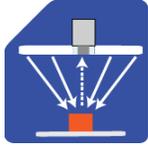
Direct



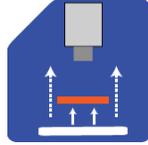
Axial



Line



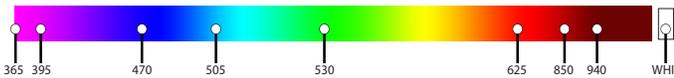
Diffuse Panel



Backlight

COMMON COLOR/WAVELENGTHS LEGEND

Wavelengths options range from 365 nm to 1650 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, 1550 nm, and 1650 nm.*

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



ISO 9001:2015 Certified QMS