smart vision lights

PRODUCT DATA SHEET

ODMOBL Series | **BACKLIGHT** | High Output OverDrive

product introduction

The ODMOBL Series of backlights have the highest overdrive light output of any backlight series in the Smart Vision Lights line-up. The ODMOBL Series offers a built in driver with PNP or NPN strobe options. Larger 45mm extrusion allows for greater heat dissipation due to the additional intensity. The ODMOBL is a strobe only light with roughly 8x the intensity of the standard MOBL.

product features

- SafeStrobe Technology Ensures Protected Operation of LEDs
- 7-8x times Brighter Than The Standard MOBL
- Most Intense and Diffuse Backlight Available
- Driver Built In – No External Wiring To A Driver
- PNP and NPN Strobe Input
- Three Available Sizes
- Up to 5000 Strobes Per Second
- Analog Intensity 0-10VDC Signal

product specifications

Electrical Input	24 VDC +/- 5%
Current	Based on size. Contact Smart Vision Lights
Wattage	Based on size. Contact Smart Vision Lights
Strobe Input	PNP ► +4VDC or greater to activate. | NPN ► GND (<1VDC) to activate
Strobe/Pulse Time	Max. 5000 SPS (Strobes Per Second) | Max. Single Pulse = 125ms
PNP Line	3.7mA @ 3VDC | 6.2mA @ 5VDC | 12.6mA @ 10VDC | 30.4mA @ 24 VDC
NPN Line	22mA @ Common (0VDC)
Analog Intensity	The output is adjustable from 10 -100% of brightness by a 0 -10 VDC signal
Connection	5 pin M12 connector
Ambient Temp.	-20º - 50º C (-4º - 122º F)
IP Rating	IP50
Compliances	CE and RoHS
Weight	Based on size. Contact Smart Vision Lights
IEC 62471 Rating	See page 4

product number key

ODMOBL - XXX x XXX - XXX—» Part Number Key

Product Family:
Backlight
ODMOBL

Size:
150x150
300x150
300x300

Color:
470- Blue
505 - Cyan
530 – Green
625 – Red
850, 940 – IR
WHI - White

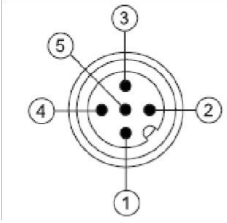
CE and RoHS Compliant

warnings

Attention
Please note that the power requirements vary according to size. Contact Smart Vision Lights for more information regarding current and wattage ratings.

wiring configuration

If Analog 0-10 VDC is not used to control light intensity;
+VDC (24VDC) must be connected to Analog Input - Jumper pin 5 to pin 1

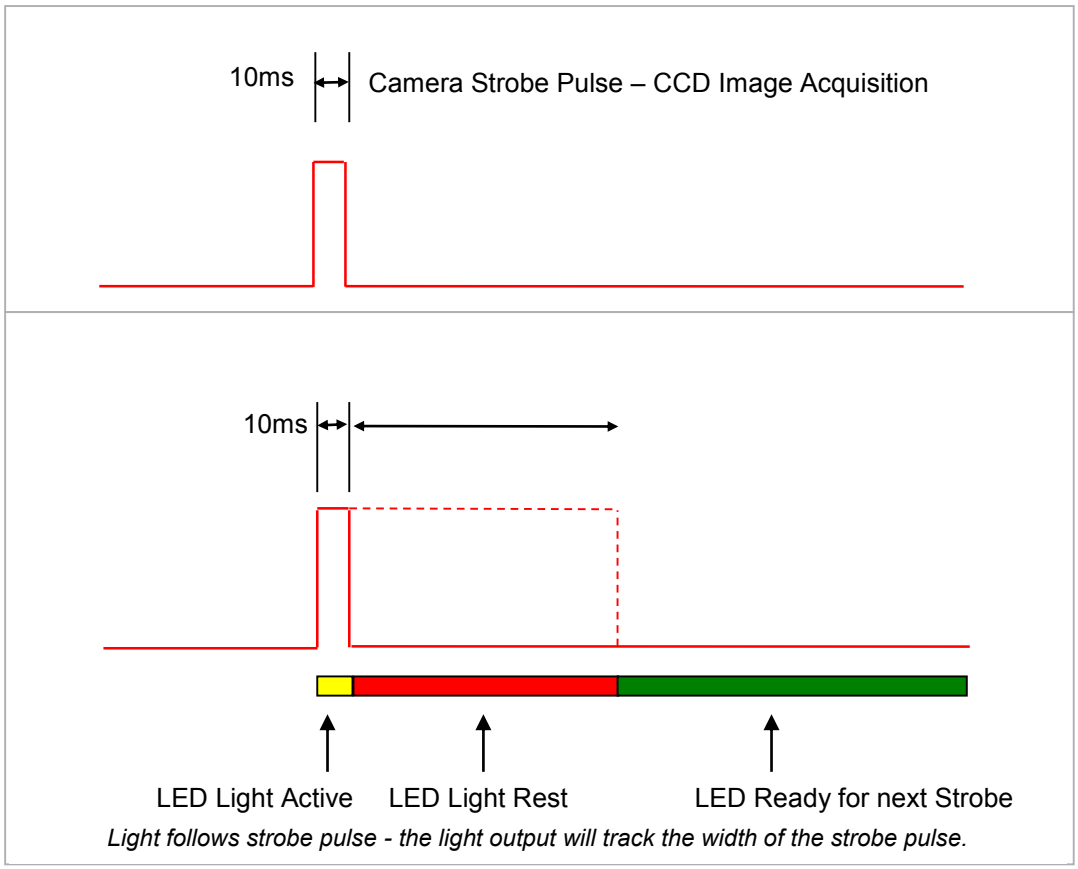


Pin	Function	Signal	Wire Color
1	Power In	+24VDC	BROWN
2	NPN	Sinking Signal	WHITE
3	GND	Ground	BLUE
4	PNP	Sourcing Signal	BLACK
5	Intensity Control	0-10VDC	GREY [1]

[1] Some cables use green with yellow stripe for 0-10V adjustment

Duty Cycle on Performance of Light

All lights are pulse following



Light follows strobe pulse - the light output will track the width of the strobe pulse.

Duty Cycle (*D*) is defined as the ratio between Strobe Time and Rest Time

---

Maximum Duty Cycle for OD Light is 10% = .1

Calculating Rest Time - R_T

$$R_T = \frac{S_T}{D}$$

S_T is the Strobe Time
R_T is the Rest Time
D is Duty Cycle

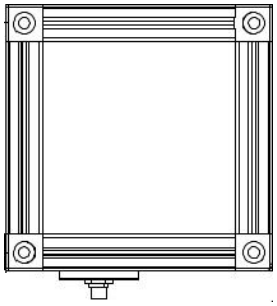
Example: Camera exposure of 10mS where Strobe Time is 10mS.

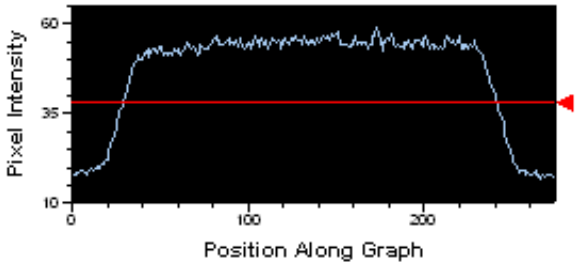
$$R_T = \frac{10ms}{.1} = 100mS$$

Rest Time is 100ms for 10ms Strobe Time

---

optical performance





The MOBL is the brightest backlight available by Smart Vision Lights and offers a very diffuse light pattern at any defined working distance. The Pixel Graph representation shows a steep drop off in intensity outside of the active area with a very diffuse light pattern inside.

Average Intensity Rating	560,000 lux*

*Lux measurement taken at surface of MOBL.

mounting & accessories

All mounting is provided by the standard 45mm industrial extrusion.

Mounting

Polarizer options are available. Contact Smart Vision Lights for more information.

Polarizer

risk group

According to IEC 62471:2006. Full documentation upon request.

Notice

Exempt Group: No photo biological hazard to eyes or skin even for continuous, unrestricted use.
Applicable for wavelengths: 625 and 850.

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.