

MB-DALL

Metaphase Diffused Axial Line Lights use beam-splitter technology to radiate homogenous, coaxial illumination in line with the camera aperture. Diffused coaxial lighting eliminates dark spots or shadows inherent in other forms of illumination. Equipped with multiple tapped holes for mounting, the MB-DALL can be easily integrated into existing vision systems. An advanced thermal management system ensures a long lifetime and cost effectiveness. The MB-DALL is also available with strobe and dimming options.



FEATURES

- Exclusive optical beam splitter and diffuser stack
- Multiple tapped holes for ease of mounting
- Thermal management affords cost effective design
- Optional dust cover protection available
- Very high intensity with $\pm 5\%$ uniformity
- High Density Precision Chip Technology (HDPCT)
- Custom sizes available
- Optional 0-10VDC intensity control (-Z option)
- Flicker free performance and instant start up with Metaphase analog driver technology

APPLICATIONS

- Cylindrical items inspection for surface flaws
- Defect detection in glass/plastic containers
- Bottle inspection
- CD/DVD label inspection
- Screw/Bolt thread inspection
- Glass sheet inspection
- Inspection of LCD displays; medical and automotive components etc.

WAVELENGTHS

Order ID	Description / nanometers
W	White (6000K), Nominal
R	Red / 630nm
G	Green / 530nm
B	Blue / 470nm
IR850	Infrared / 850nm
IR880	Infrared / 880nm
IR940	Infrared / 940nm
UV395	Ultraviolet Long / 395nm
RGB	Red-Green-Blue

GENERAL SPECIFICATIONS

Power Source:	24VDC $\pm 5\%$
Cable (Standard):	10-foot cable with flying leads
Housing:	Black Anodized Aluminum
Ambient Temp:	-20°C to 40°C
Lifetime Expectancy:	75,000 hours (except UV)



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MetaBright™ Diffused Axial Line Lights (Single Color)									
MODEL	Overall Width and Length Inches (cm)	Height Inches (cm)	Active Area Inches (cm)	Weight lbs (kg)	Cable QTY	Cable Length	AWG/ Conductors	Maximum Current (Amps)	
								Visible	IR, UVS, UVL
MB-DALL80	3.92 x 5.66 (9.96 x 14.37)	1.50 (3.81)	.98 x 3.40 (2.48 x 8.64)	1.1 (.50)	1	10ft	24/4	0.6	0.7
MB-DALL206	5.66 x 6.48 (14.37 x 16.46)	1.50 (3.81)	.98 x 5.96 (2.48 x 15.14)	2.15 (.97)				1.1	1.3
MB-DALL306	5.66 x 11.52 (14.37 x 29.26)	1.50 (3.81)	.98 x 11.00 (2.48 x 27.94)	3.85 (1.75)			18/4	1.9	2.2

Wiring (4 conductors, flying leads)**	
Wire Color	Function
RED	+24VDC
WHITE	0-10VDC INTENSITY CONTROL
BLACK	GROUND (24V RTN)
GREEN	SIGNAL GROUND

M12 (5 position male)**	
Pin #	Function
1	+24VDC
2	0-10VDC Intensity Control
3	GROUND (24V RTN)
4	SIGNAL GROUND
5	No Connection
The M12 connector option is not recommended for lights rated more than 4 amps	

ULC-2 Wiring	
Wire Color	Function
RED, WHITE (+)	LED INPUT
BLACK, GREEN (-)	
Terminated within a 2 position ULC-2 output connector (Phoenix Contact P/N: BCP-508-2)	

**Note: The 0-10VDC Intensity Control input can accept voltages from 0-24VDC where the light will operate at full intensity in the 10-24VDC range. The light is proportionally dimmer for any Intensity Control voltage less than 10VDC and the light is OFF at approximately 0V or not connected (floating).

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PART NUMBER KEY											
MODEL	LENGTH ID (inches)	-	WAVELENGTH	-	DRIVER* (most common)	-	DUST COVER	-	CABLE LENGTH	-	CONN.** (most Common)
MB-DALL	XXX	-	XXXXX	-	XXX-XXXXXX	-	XXX	-	XXX	-	XXXX
MB-DALL MB-DALL MB-DALL	080 206 306		W (White 6000K, Nominal) R (Red 630nm) G (Green 530nm) B (Blue 470nm) IR850 (Infrared 850nm) IR880 (Infrared 880nm) IR940 (Infrared 940nm) UV365 (UV Short 365nm) UV395 (UV Long 395nm) RGB (Red-Green-Blue)		24Z 24NZ 24-ILD 24-ILZ 24-ILT U ¹		DC2 Select or leave blank for no dust cover		5M 10M Length can be customized: ex.7M=7meters Select or leave blank for 3 meters		M12D ^{1 2} BC ^{1 3} Select or leave blank for flying leads
Example 1: MB-DALL080-W-24Z Example 2: MB-DALL306-W-24Z-DC2-M12D					¹ Not available in lights exceeding 4A input current ² Default cable length for an M12D connector is 19 inches ³ Default cable length for a Barrel Connector is 10 feet						

Contact Metaphase Technologies or your local representative for options such as custom diffusers, lenses, polarizers, IP-rated enclosures for harsh environments, higher intensity, custom wavelengths, higher uniformity, etc. Not all options are available for all lights.

*(Link to Driver Options Key)

** (Link to Connector Key)

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Sample Model Number: **MB-DALL080-W-24Z-DC2**

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	5/20/2016	
B	ADDED OPTIONAL DUST COVER	4/30/2018	

Metaphase Technologies, Inc. 211 Sinclair Road, Suite 100, Bristol, PA. 19007 215-639-8699 Fax 215-639-0977			
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MATERIAL: Per BOM	INCHES (MM)		
FINISH: As supplied	DECIMALS (MM)		
TREATMENT: N/A	ANGLES ±1°	TITLE: Assy, 3.4" Diff Axial Line Light	USED ON: Per customer
Approval Signature	Date	SIZE: B	DRAWING NUMBER: DALL-80-1
		SCALE: 1:2	REV: B SHEET 1 OF 1



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COMPLIANCE



CONTACT US

Contact Metaphase Technologies at **215-639-8699** or your local representative for additional details, options and customizations.