

## MB-DAL

Metaphase Diffused Axial 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 and allows the camera to be placed at a longer working distance. Equipped with multiple tapped holes for mounting, the MB-DAL can be easily integrated into existing vision systems. An advanced thermal management system ensures a long lifetime and cost effectiveness. The MB-DAL 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)
- Built-in Constant Current Driver with 0 – 10VDC intensity control
- Compatible with DDC-3 and ILD-35 Dimmers
- Flicker free performance and instant start up with Metaphase analog driver technology

### APPLICATIONS

- Sphere inspection for surface flaws
- Defect detection in glass/plastic containers
- Ball-Bearing inspection
- CD/DVD label inspection
- Bottle cap inspection
- Screw/Bolt thread inspection
- Inspection of LCD displays; medical and automotive components etc.
- Ideal for reflective/shiny surfaces

### 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
UV365	Ultraviolet Short / 365nm
UV395	Ultraviolet Long / 395nm
RGB	Red-Green-Blue
RGBW	Red-Green-Blue-White
WIR850	White-IR850

### GENERAL SPECIFICATIONS

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

MB-DAL

MetaBright™ Diffused Axial 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-DAL105 (1x1)	1.29 x 3.53 (3.28 x 8.95)	1.25 (3.06)	1 x 1 (2.54 x 2.54)	.20 (.09)	1	10ft	24/4	.15	.18
MB-DAL205 (2x2)	2.32 x 4.31 (5.89 x 10.94)	2.36 (6.00)	2 x 2 (5.08 x 5.08)	.81 (.36)				.25	.27
MB-DAL305 (3x3)	3.32 x 5.31 (8.43 x 13.48)	3.36 (8.53)	3 x 3 (7.62 x 7.62)	1.8 (.82)				.43	.45
MB-DAL405 (4x4)	4.31 x 6.30 (10.95 x 16.00)	4.29 (10.90)	4 x 4 (10.16 x 10.16)	2.72 (1.23)			18/4	1.1	1.1
MB-DAL605 (6x6)	6.31 x 9.19 (16.03 x 23.33)	6.17 (15.67)	6 x 6 (15.24 x 15.24)	6.20 (2.81)				2.0	2.2
MB-DAL805 (8x8)	8.38 x 10.56 (21.27 x 26.82)	8.25 (20.95)	8 x 8 (20.32 x 20.32)	12.4 (5.6)				3.1	3.4
MB-DAL1005 (10x10)	10.47 x 12.56 (26.6 x 31.9)	10.33 (26.25)	10 x 10 (25.40 x 25.40)	20.3 (9.2)				4.2	4.5

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	

Wiring with ULC-2	
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	SIZE (inches)	-	WAVELENGTH	-	DRIVER* (most common)	-	DUST COVER	-	IP RATING	-	CABLE LENGTH	-	CONN.** (most Common)
MB-DAL	XXX	-	XXXXX	-	XXX-XXXXXX	-	XXX	-	XXXX	-	XXX	-	XXXX
<b>MB-DAL</b>	<b>2x10</b> (2x10) <b>2x14</b> (2x14) <b>4x10</b> (4x10) <b>105</b> (1x1) <b>205</b> (2x2) <b>305</b> (3x3) <b>405</b> (4x4) <b>605</b> (6x6) <b>805</b> (8x8) <b>1005</b> (10x10)		<b>W</b> (White 6000K, Nominal) <b>R</b> (Red 630nm) <b>G</b> (Green 530nm) <b>B</b> (Blue 470nm) <b>IR850</b> (Infrared 850nm) <b>IR880</b> (Infrared 880nm) <b>IR940</b> (Infrared 940nm) <b>UV365</b> (UV Short 365nm) <b>UV395</b> (UV Long 395nm) <b>RGB</b> (Red-Green-Blue) <b>RGBW</b> <b>WIR850</b>		<b>24Z</b> <b>24-ILSXXX</b> <b>24-ILD</b> <b>24-ILZ</b> <b>24-ILT</b> <b>U<sup>1</sup></b>  XXX=rate in μs Example: 250		<b>DC2</b>  (2 dust covers)  Select or leave blank for 1 dust cover		<b>IP54</b>  Select or leave blank for IP50		<b>5M</b> <b>10M</b>  Length can be customized: ex.7M=7meters  Select or leave blank for 3 meters		<b>M12D<sup>1 2</sup></b> <b>BC<sup>1 3</sup></b>  Select or leave blank for flying leads
Example 1: <b>MB-DAL2x10-R-24Z</b> Example 2: <b>MB-DAL805-W-24Z-DC2-IP54</b>							<sup>1</sup> Not available in lights exceeding 4A input current <sup>2</sup> Default cable length for an M12D connector is 19 inches <sup>3</sup> Default cable length for a Barrel Connector is 10 feet						

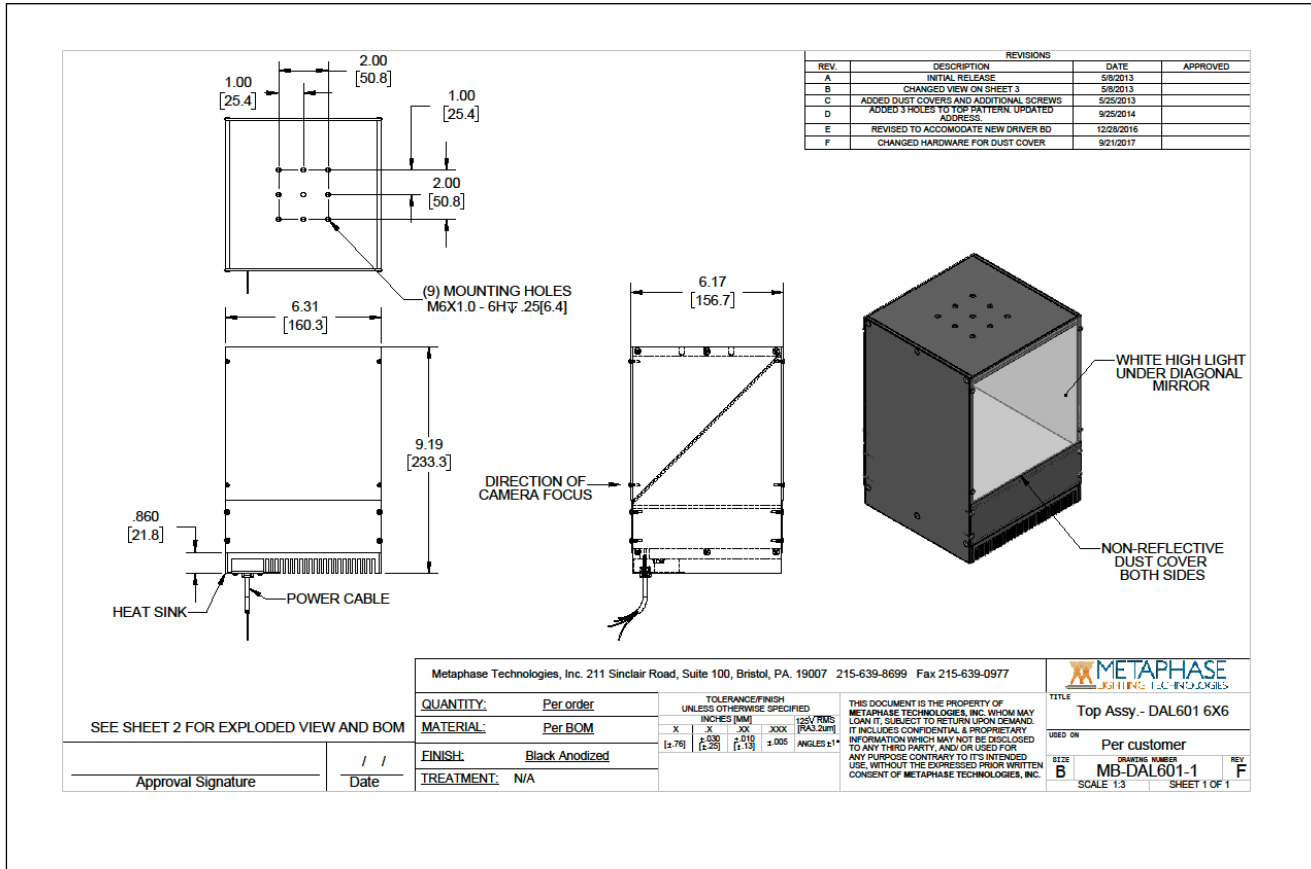
Contact Metaphase Technologies or your local representative for options such as custom diffusers, lenses, polarizers, IP-rated enclosures for harsh environments, higher intensity, custom wavelengths, higher uniformity, etc. Not all options are available for all lights.

\*(Link to Driver Options Key)

\*\*\*(Link to Connector Key)

**MB-DAL**

Sample Model Number: **MB-DAL605-W-24Z-DC2**



**COMPLIANCE**



**CONTACT US**

For more information please contact:



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