MetaBright™
Co-Axial Dome Lights

PRODUCT
DATA SHEET

METAPHASE
LIGHTING TECHNOLOGIES

MB-CO

Dome lights are ideal for providing even illumination of curved, specular or rough surfaces. Coaxial lights provide diffused on-axis illumination. Using the coaxial light with a dome light allows for complete, uniform, and diffused lighting by filling the void created by the dome's camera viewing port. The Metaphase CODL (Co-Axial Dome Light) conveniently packages these units together to make integration of the DAL with the Dome light simple and easy. The Dome and Coaxial portions of the MB-CODL have separate intensity control lines.

Pyramid Imaging

FEATURES
• High intensity and uniform, non-directional illumination across the entire lighting hemisphere
• Ideal for highly reflective surfaces and textured or topographic objects
• LED thermal management for stable performance
• Provides cloudy day illumination, minimizing shadows and glare
• Flicker free performance and instant start up with Metaphase analog driver technology
• Enclosed workspace blocks interference of ambient light
• Optical grade reflector coating reflects 99.9% of light for optimum diffused output
• Built-in Constant Current Driver with 0-10VDC Intensity control for both the Co-axial and Dome zones
• Compatible with DDC-3 and ILD-35 Dimmers
• External Constant Current driver (ULC-2) versions available

WAVELENGTHS	
Order ID	Description / nanometers
W	White (6000K), Nominal
R	Red / 630nm
G	Green / 530nm
B	Blue / 470nm
IR850	Infrared / 850nm
UV365	Ultraviolet Short / 365nm

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

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Co-Axial Dome Lights							
Model*	"CO" is Co-Axial Light followed by Active Area [inches x inches] "DL" is Dome Light followed by model # Identifier Expanded Model #	DOME ID (Inside Diameter) = Active Area Dome Dimensions: OD x ID x H Inches (cm)	Weight lbs (Kg)	Cable QTY (one per light)	Cable Length	Standard Cable Description AWG/Conductors	Total (both lights) Typical Current @24VDC (White)
MB-CO1DL2	MB-CO1x1DL206	4.00 x **1.86** x 3.40 (10.16 x 4.71 x 8.64)	1.6 (.72)	2	10ft	Coax 24/4 Dome 24/4	0.4A
MB-CO1DL3	MB-CO1x1DL306	7.40 x **4.00** x 4.35 (18.80 x 10.16 x 11.05)	2.6 (1.18)				0.7A
MB-CO1DL4	MB-CO1x1DL406	11.53 x **7.00** x 6.48 (29.28 x 17.78 x 16.46)	4.2 (1.90)			Coax 24/4 Dome 18/4	1.1A
MB-CO2DL6	MB-CO2x2DL606	18.90 x **12.00** x 10.64 (48.01 x 30.48 x 27.03)	12.6 (5.72)				1.7A
MB-CO2DL7	MB-CO2x2DL706	25.08 x **17.5** x 13.11 (63.70 x 44.45 x 33.30)	19.0 (8.62)				2.3A
MB-CO2DL9	MB-CO2x2DL906	36.00 x **27.50** x 18.90 (91.44 x 69.85 x 48.00)	36.5 (16.6)			Coax 24/4 Dome 18/6	3.9A
MB-CO2DL10	MB-CO2x2DL1006	43.00 x **34.56** x 23.12 (109.2 x 87.78 x 58.72)	44.1 (20.0)				6.4A
MB-CO2DL12	MB-CO2x2DL1206	52.00 x **43.56** x 26.82 (132.1 x 110.6 x 73.20)	59.0 (26.8)				9.0A

*Custom sizes and configurations available

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

Wiring (4 conductors, without Intensity Control)	
Wire Color	Function
RED	+24VDC
WHITE	+24VDC
BLACK	GROUND (24V RTN)
GREEN	GROUND (24V RTN)

Wiring (6 conductors, flying leads)**	
Wire Color	Function
RED, BROWN	+24VDC
YELLOW	SIGNAL GROUND
BLACK, BLUE	GROUND (24V RTN)
ORANGE	0-10VDC INTENSITY CONTROL

When not using Intensity Control, connect the 0-10V control line to +24VDC and connect Signal Ground to Ground (24V RTN)

Wiring (6 conductors, without Intensity Control)	
Wire Color	Function
RED	+24VDC
BROWN	+24VDC
ORANGE	+24VDC
BLACK	GROUND (24V RTN)
BLUE	GROUND (24V RTN)
YELLOW	GROUND (24V RTN)

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 (4 conductor)	
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).
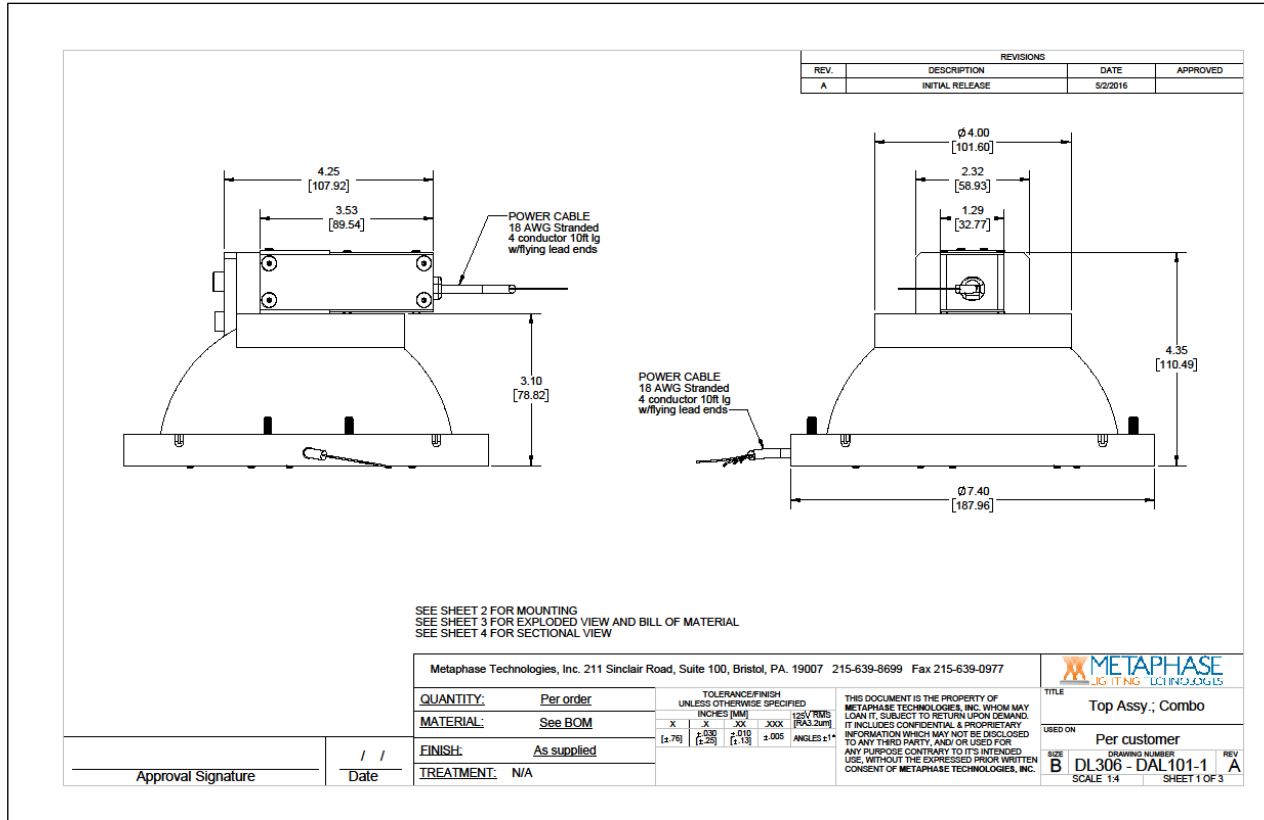
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PART NUMBER KEY									
MODEL	SIZE (inside diameter)	-	WAVELENGTH	-	DRIVER* (most common)	-	CABLE LENGTH	-	CONN.** (most common)
MB-CO	XXX	-	XXXXX	-	XXXXXXX	-	XXX	-	XXXX
MB-CO	**1DL2** (Ø1.86") **1DL3** (Ø4.00") **2DL3** (Ø4.00") **2DL4** (Ø7.00") **2DL6** (Ø12.0") **2DL7** (Ø17.5") **2DL9** (Ø27.5") **2DL10** (Ø34.56") **2DL12** (Ø43.56")		**W** (White 6000K, Nominal) **R** (Red 630nm) **G** (Green 530nm) **B** (Blue 470nm) **IR850** (Infrared 850nm) **UV365** (UV Short 365nm)		**24Z** **24NZ** **24-ILSXXX** **24-ILD** **U**[1] XXX=rate in µs Example: 250		**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-CO1DL3-W-24Z** Example 2: **MB-CO2DL7-W-U**	[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 / **Connector Options Key

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Sample Model Number: **MB-CO1DL3-W-24Z**

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	5/2/2016	

Ø4.00 [101.60]
2.32 [58.93]
1.29 [32.77]
4.25 [107.92]
3.53 [89.54]
3.10 [78.82]
4.35 [110.49]
Ø7.40 [187.96]

POWER CABLE
18 AWG Stranded
4 conductor 10ft lg
w/flying lead ends

SEE SHEET 2 FOR MOUNTING
SEE SHEET 3 FOR EXPLODED VIEW AND BILL OF MATERIAL
SEE SHEET 4 FOR SECTIONAL VIEW

Metaphase Technologies, Inc. 211 Sinclair Road, Suite 100, Bristol, PA. 19007 215-639-8699 Fax 215-639-0977

QUANTITY:	Per order
MATERIAL:	See BOM
FINISH:	As supplied
TREATMENT:	N/A

TOLERANCE/FINISH
UNLESS OTHERWISE SPECIFIED
INCHES [MM]

TITLE: Top Assy.; Combo
USED ON: Per customer
SIZE B
DRAWING NUMBER: DL306 - DAL101-1
REV A
SCALE 1:4   SHEET 1 OF 3

Approval Signature   Date

Pyramid Imaging

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COMPLIANCE

RoHS compliant

CE

CONTACT US

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

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