



Vision Light Tech

creating optical solutions

Co-Axial Dome Light (CODL)



Applications

- applications requiring light and camera to on-axis and/or the products height varies.
- high-speed bar reading
- pcb inspection
- machine vision & automation
- robotic inspection

Features

High intensity and uniform, non-directional illumination across entire lighting hemisphere for area scan

LED heat management for consistent performance

Ideal for highly reflective surfaces and textured or topographic objects

Provides complete illumination using a range of direct and indirect light, minimizing shadows and glare

Enclosed workspace blocks interference of ambient light

Optical grade reflector coating reflects 99.9% of light for optimum diffused output

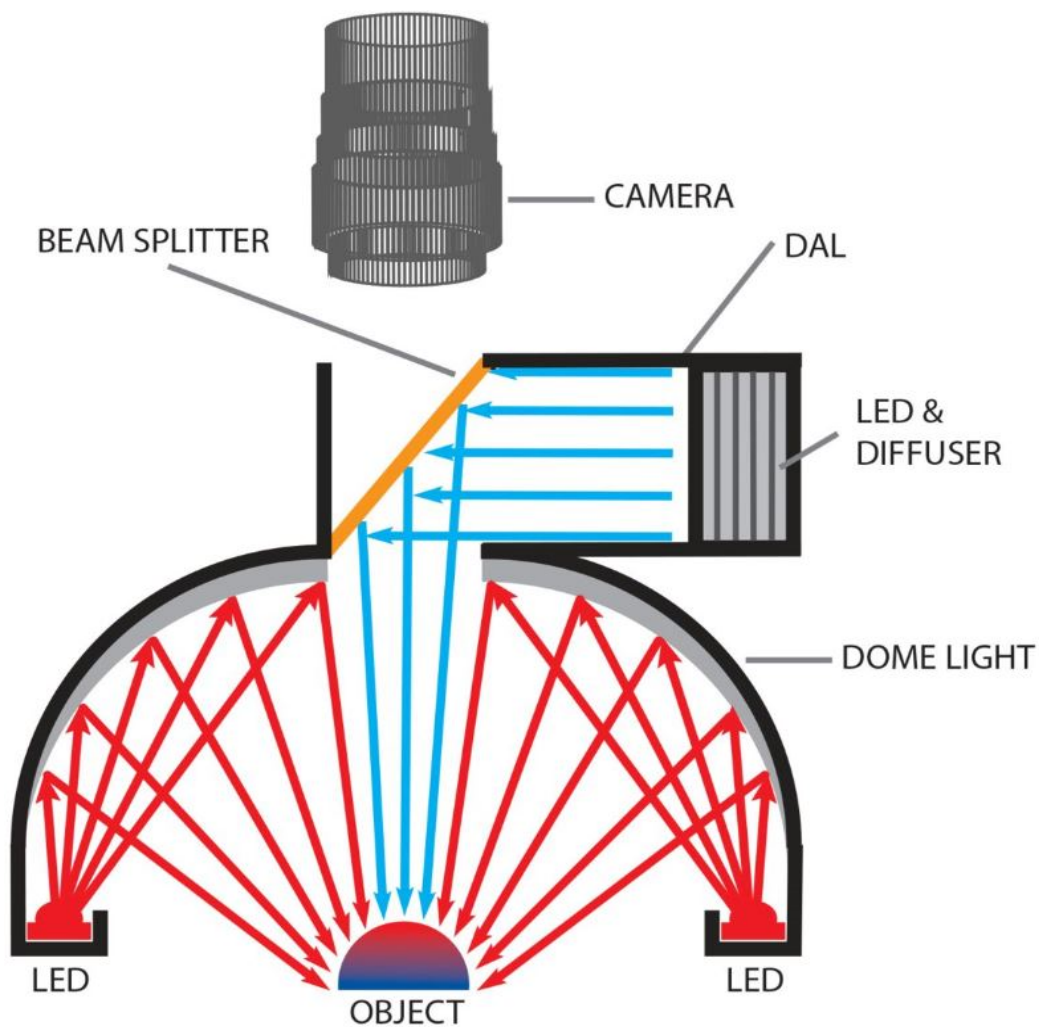
Built-in Constant Current Driver with 0 – 10VDC intensity control, compatible with DDC-3 and ILD-35-24-L

Co-Axial Dome Light (CODL):

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 hole. The codl (co-axial dome light) conveniently packages these units together to make integration of the dal with the dome light simple and easy. The codl is available with a wide variety of led colors such as white, red, green, blue, ir, uv and rgb with independent color control. The dome and coaxial portions of the mb-codl have separate intensity control lines.

SPECIFICATIONS:

Power Source:	24VDC +/-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)



DRIVER & STROBE OPTIONS

We Offer our lights with many different driver configurations to make the lights compatible with the latest LED controllers and Vision Cameras. This provides greater flexibility, control, and convenience when integrating our illumination systems. Some drivers may not be compatible with all sizes due to current requirements etc. Please contact us for details.

- 24v – Our most popular configuration for use with a standard 24v constant voltage power supply
 - ULC-2 – Compatible – For use with constant current controllers such as our ULC-2 Universal Controller
 - ILS – Configured for Strobing applications with Power Boost for increased Intensity for Rising and Falling Edge Triggers
 - Keyence – Compatibility with Keyence Light controllers such as the Keyence CA-DC21E
 - Baumer – Compatibility with Baumer VeriSens Cameras
 - Cognex – Compatibility with Cognex Cameras
- Please call us for any additional information.



Model	Reference	Inside Diameter
CO1DL2	CO1x1_DL206	1.86"
CO1DL3	CO1x1_DL306	4.0"
CO2DL3	CO2x2_DL306	4.0"
CO2DL4	CO2x2_DL406	7.0"
CO2DL6	CO2x2_DL606	12.0"
CO2DL9	CO2x2_DL909	27.5"
HP-DA1DA3	CO1x1_Custom	2.0"



MB-CODL

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 hole. The CODL (Co-Axial Dome Light) conveniently packages these units together to make integration of the DAL with the Dome light simple and easy. The CODL is available with a wide variety of LED colors such as white, red, green, blue, IR, UV and RGB with independent color control. The Dome and Coaxial portions of the MB-CODL have separate intensity control lines.



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-35-24-L 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 (or IRN)	Infrared / 850nm
IR880 (or IRL)	Infrared / 880nm
IR940	Infrared / 940nm
UV365 (or UVS)	Ultraviolet Short / 365nm
UV395 (or UVL)	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° to 40°C
Lifetime Expectancy:	75,000 hours (except UV)

Co-Axial Dome Lights

PRODUCT DATA SHEET



Vision Light Tech
creating optical solutions

MB-CODL

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	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)			Dome 24/4	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



MB-CODL

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).



MB-CODL

MODEL NUMBER KEY									
LED TYPE	-	CO-AX SIZE	DOME SIZE (Inside Diameter)	-	WAVELENGTH	-	OPTION 1	-	OPTION 2
MB	-	COX	DLXX	-	XXX	-	XXX	-	X-XXX
MB (MetaBright)		CO1 (1x1) CO2 (2x2)	DL2 (ø1.86") DL3 (ø4.00") DL4 (ø7.00") DL6 (ø12.0") DL7 (ø17.5") DL9 (ø27.5") DL10 (ø34.56") DL12 (ø43.56")		W (White 6000K, Nominal) R (Red 630nm) G (Green 530nm) B (Blue 470nm) IR850 (or IRN) (Infrared 850nm) IR880 (or IRL) (Infrared 880nm) IR940 (Infrared 940nm) UV365 (or UVS) (UV Short 365nm) UV395 (or UVL) (UV Long 395nm) RGB (Red-Green-Blue)		24 (+24VDC, standard)		T (M-12 Connector)
							U (ULC-2 interface) KEY (Keyence Controller) ILD (In Line Dimmer) ILS (In Line Strobe)		XXX (Custom code)

Contact us 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.



MB-CODL

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

