

MB-DT

These special illuminators provide intense, evenly diffused illumination. The Diffused Tube light is ideal for inspection of reflective, specular, rough or topographic surfaces. Optical grade reflector coating returns 99.9% of light for optimum diffused output.



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, compatible with DDC-3 and ILD-35

WAVELENGTHS

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

GENERAL 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)

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Diffused Tube Lights								
MODEL*	Outer Dimensions: W x L x H Inches (cm)	Bottom Opening (Active Area) W x L Inches (cm)	Camera Slot Length Inches (cm)	Weight lbs (Kg)	Cable QTY	Cable Length	Standard Cable Description	Typical Current @24VDC (White)
MB-DT216	10.84 x 11.00 x 5.13 (27.53 x 28.00 x 13.02)	6.84 x 10.00 (17.37 x 25.40)	3.75 (9.52)	2.8 (1.27)	1	10ft	24 AWG 4 Conductor	1.1A
MB-DT306	10.84 x 17.75 x 5.13 (27.53 x 45.08 x 13.02)	6.84 x 16.75 (17.37 x 42.54)	10.0 (25.40)	4.5 (2.04)			18 AWG 4 Conductor	2.0A
MB-DT406	10.84 x 28.90 x 5.13 (27.53 x 73.41 x 13.02)	6.84 x 27.90 (17.37 x 70.87)	21.16 (53.73)	7.3 (3.31)			18 AWG 6 Conductor	3.5A
MB-DT506	10.84 x 38.50 x 5.13 (27.53 x 97.79 x 13.02)	6.84 x 37.50 (17.37 x 95.25)	33.60 (85.34)	9.8 (4.44)				5.0A

*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	
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 (active area length)	-	WAVELENGTH	-	DRIVER* (most common)	-	CABLE LENGTH	-	CONN.** (most common)
MB-DT	XXX	-	XXXXX	-	XXXXXXX	-	XXX	-	XXXX
MB-DT	216 (5x10") 306 (5x15") 406 (5x25") 506 (5x35")		W (White 6000K, Nominal) R (Red 630nm) G (Green 530nm) B (Blue 470nm) IR850 (Infrared 850nm) UV395 (UV Long 395nm) RGB (Red-Green-Blue)		24Z 24Z-TRG 24-ILSXXX 24-ILD U¹		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-DT306-W-24Z Example 2: MB-DT506-R-24-ILD					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-DT306-W-24Z**

REVISIONS

REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	11/14/2011	
B	REMOVED 4X #8-32 CLINCH NUT	1/7/2015	

Dimensions: R5.00 [127] OUTSIDE, #8-32 MOUNTING HOLES 2 PER END, 6.00 [152.40] CENTERED, 10.84 [275.34], 5.13 [130.18], 1.63 [41.28], 10.00 [254] CAMERA SLOT (CENTERED), 1.52 [38.60] CAMERA SLOT, 6.84 [173.74] BOTTOM OPENING, 16.75 [425.45] BOTTOM VIEW, 17.75 [450.85] BOTTOM OPENING.

INTERIOR IS PAINTED SPECIAL WHITE FOR SUPERIOR REFLECTION.

POWER CABLE

TOP CAMERA PLATE INCLUDED (.02 THK. ALUM.) RETAINED BY SCREWS.

SEE SHEET 2 FOR EXPLODED VIEW AND BOM.

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QUANTITY:	1 per assy.	<small>TOLERANCE/FINISH UNLESS OTHERWISE SPECIFIED INCHES (MM) (25/100) (1/32) (1/16) (1/8) (3/16) (1/4) (3/8) (1/2) (5/8) (3/4) (7/8) (1) (1 1/8) (1 1/4) (1 3/4) (2) (2 1/4) (3) (4) (5) (6) (8) (10) (12) (15) (20) (25) (30) (40) (50) (60) (75) (100) (125) (150) (200) (250) (300) (400) (500) (600) (800) (1000) ANGLES ±1°</small>	<small>THIS DOCUMENT IS THE PROPERTY OF METAPHASE TECHNOLOGIES, INC. WHOM MAY LOAN IT. SUBJECT TO RETURN UPON DEMAND. IT INCLUDES CONFIDENTIAL & PROPRIETARY INFORMATION WHICH MAY NOT BE DISCLOSED TO ANY THIRD PARTY, AND/OR USED FOR ANY PURPOSE CONTRARY TO ITS INTENDED USE, WITHOUT THE EXPRESSED PRIOR WRITTEN CONSENT OF METAPHASE TECHNOLOGIES, INC.</small>		
MATERIAL:	See BOM			TITLE	Assy.; Diffused Tube Light- 15"
FINISH:	Black Anodize			USED ON	Per Customer
TREATMENT:	N/A			<small>SCALE 1:4</small> <small>REV B</small>	<small>DT306-1</small> <small>SHEET 1 OF 1</small>



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COMPLIANCE



CONTACT US

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