

MB-LL

The MetaBright™ Line Light is another product in the Metaphase family of LED lights for line scan. Its narrow, structured beam delivers high intensity and concentrated light for a narrow field of view. The high-intensity and uniformity allows the MetaBright™ Line Light to be used as front light to inspect for material defects, angled to obtain an off-axis effect to highlight surface defects or it may be placed beneath the object for a backlight effect to inspect for holes, voids, or contaminants. The MetaBright™ Line Light is available White, Red, Green, Blue, IR, and UVL with independent intensity control.



FEATURES

- High uniformity both laterally and longitudinally
- High intensity, over 1 million Lux
- Lens options for various beam widths and working distances
- Adjustable lens focusing range of mm to meters
- Backlight versions for web backlight and silhouetting applications
- Lengths range from 1 inch to 120 inches
- Built-in constant current driver(s) with 0-10VDC Intensity Control
- Compatible with DDC-3 and ILD-35 Dimmers

APPLICATIONS

- Geometry measurements of long targets
- Direct position measurement
- Web inspection (foil, plastic film, PCBs, glass, paper, web converting, etc.)
- Printed circuit board inspection
- Detection of holes in highly transparent films (nonwovens)
- Tube or bottle inspection
- Quality control in food, chemicals, and textile industry
- Fabrics
- Solar Cells
- Hot Steel Inspection

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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SINGLE COLOR MetaBright LINE LIGHTS														
MODEL*	Overall Length Inches / cm	Lens Length Inches / cm	Weight lbs/Kg	Cable(s)			*Typical Current (Amps) @24VDC							
				Quantity	Length	AWG/ Conductors	WHITE	RED	GREEN	BLUE	IR	UVS	UVL	
MB-LL050	1.25 / 3.175	1.15 / 2.921	0.4 / .181	1		24/4	0.2	0.2	0.3	0.2	0.3	0.1	0.1	
MB-LL106	3.00 / 7.820	2.25 / 5.715	0.7 / .318			18/4	0.5	0.4	0.6	0.6	0.3	0.3	0.2	
MB-LL206	5.90 / 14.98	4.00 / 10.16	1.4 / .635				0.7	0.6	0.8	0.8	0.4	0.6	0.5	
MB-LL306	10.94 / 27.80	10.85 / 27.56	2.6 / 1.18				1.5	1.1	1.6	1.6	0.8	1.3	1.1	
MB-LL406	16.00 / 40.64	15.92 / 40.44	3.8 / 1.72				2.2	1.7	2.4	2.4	1.2	2.6	2.2	
MB-LL506	21.06 / 53.50	20.98 / 53.30	5.0 / 2.27	2	10ft	18/4(1)	3.0	2.3	3.2	3.2	1.6	3.4	2.9	
MB-LL606	26.17 / 66.48	26.09 / 66.28	6.2 / 2.81				3.7	2.8	4.1	4.0	1.9	4.3	3.7	
MB-LL706	31.20 / 79.25	31.12 / 79.04	7.4 / 3.36			24/2(1)	4.5	3.4	4.9	4.8	2.3	5.1	4.4	
MB-LL806	36.30 / 92.20	36.22 / 92.00	9.4 / 4.26				5.2	4.0	5.7	5.6	2.7	6.0	5.1	
MB-LL907	42.03 / 106.8	41.28 / 104.8	12.2 / 5.53			16/4(1)	24/2(1)	6.0	4.5	6.5	6.4	3.1	6.9	5.9
MB-LL1007	47.03 / 119.5	46.27 / 117.5	15.0 / 6.80					6.7	5.1	7.3	7.2	3.5	7.7	6.6
MB-LL1107	52.03 / 132.2	51.27 / 130.2	17.7 / 8.03					7.4	5.7	8.1	8.0	3.9	8.6	7.3
MB-LL1207	57.03 / 144.9	56.27 / 142.9	20.0 / 9.07					8.2	6.2	8.9	8.8	4.3	9.4	8.1
MB-LL1307	62.03 / 157.6	61.27 / 155.6	21.7 / 9.84					8.9	6.8	9.7	9.6	4.7	10.3	6.4
MB-LL1407	67.03 / 170.3	66.27 / 168.3	23.5 / 10.7			3	20ft	16/4(2)	9.7	7.4	10.5	10.4	5.1	11.1
MB-LL1507	72.03 / 183.0	71.27 / 181.0	25.2 / 11.4	10.4	7.9				11.4	11.2	5.5	12.0	7.4	
MB-LL1607	77.03 / 195.7	76.27 / 193.7	28.5 / 12.9	24/2(1)	10.9			8.3	11.9	11.8	5.8	12.8	8.0	
MB-LL1707	82.03 / 208.4	81.27 / 206.4	31.2 / 14.2		11.7			8.9	12.7	12.6	6.2	13.7	8.5	
MB-LL1807	87.03 / 221.1	86.27 / 219.1	34.0 / 15.4	12.4	9.5			13.5	13.4	6.6	14.6	9.0		
MB-LL1907	92.03 / 233.8	91.27 / 231.8	36.8 / 16.7	13.2	10.0			14.3	14.2	7.0	15.4	9.5		
MB-LL2007	97.03 / 246.5	96.27 / 244.5	38.9 / 17.6	13.9	10.6			15.1	15.0	7.4	16.3	10.1		
MB-LL2107	102.03 / 259.1	101.27 / 257.2	44.8 / 20.3	14.6	11.2			15.9	15.8	7.8	17.1	10.6		
MB-LL2207	107.03 / 271.9	106.27 / 289.9	48.1 / 21.8	15.4	11.7			16.8	16.6	8.2	18.0	11.1		
MB-LL2307	112.03 / 284.6	111.27 / 282.6	51.5 / 23.4	16.1	12.3			17.6	17.4	8.6	18.8	11.7		
MB-LL2407	117.03 / 297.3	116.27 / 295.3	56.0 / 25.4	16.9	12.9	18.4	18.2	9.0	19.7	12.2				
MB-LL2507	122.03 / 310.0	121.27 / 308.0	61.0 / 27.7	17.6	13.4	19.2	19.0	9.4	20.6	12.7				

*Add approximately 25% to all input current calculations for cooling fans.

*Custom sizes and configurations are available

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1 Cable Wiring	
Wire Color	Function
RED	+24VDC
GREEN	SIGNAL GROUND
BLACK	GROUND (24 RTN)
WHITE	0-10VDC Intensity Control

2 Cable Wiring			
Wire Color	Function	Wire Color	Function
RED	+24VDC	RED	No Connection
GREEN	GROUND (24V RTN)	GREEN	SIGNAL GROUND
BLACK	GROUND (24 RTN)	BLACK	No Connection
WHITE	0-10VDC Intensity Control	WHITE	0-10VDC Intensity Control

3 Cable Wiring					
Wire Color	Function	Wire Color	Function	Wire Color	Function
RED	+24VDC	RED	+24VDC	RED	No Connection
GREEN	GROUND (24V RTN)	GREEN	GROUND (24V RTN)	GREEN	SIGNAL GROUND
BLACK	GROUND (24V RTN)	BLACK	GROUND (24V RTN)	BLACK	No Connection
WHITE	+24VDC	WHITE	+24VDC	WHITE	0-10VDC Intensity Control

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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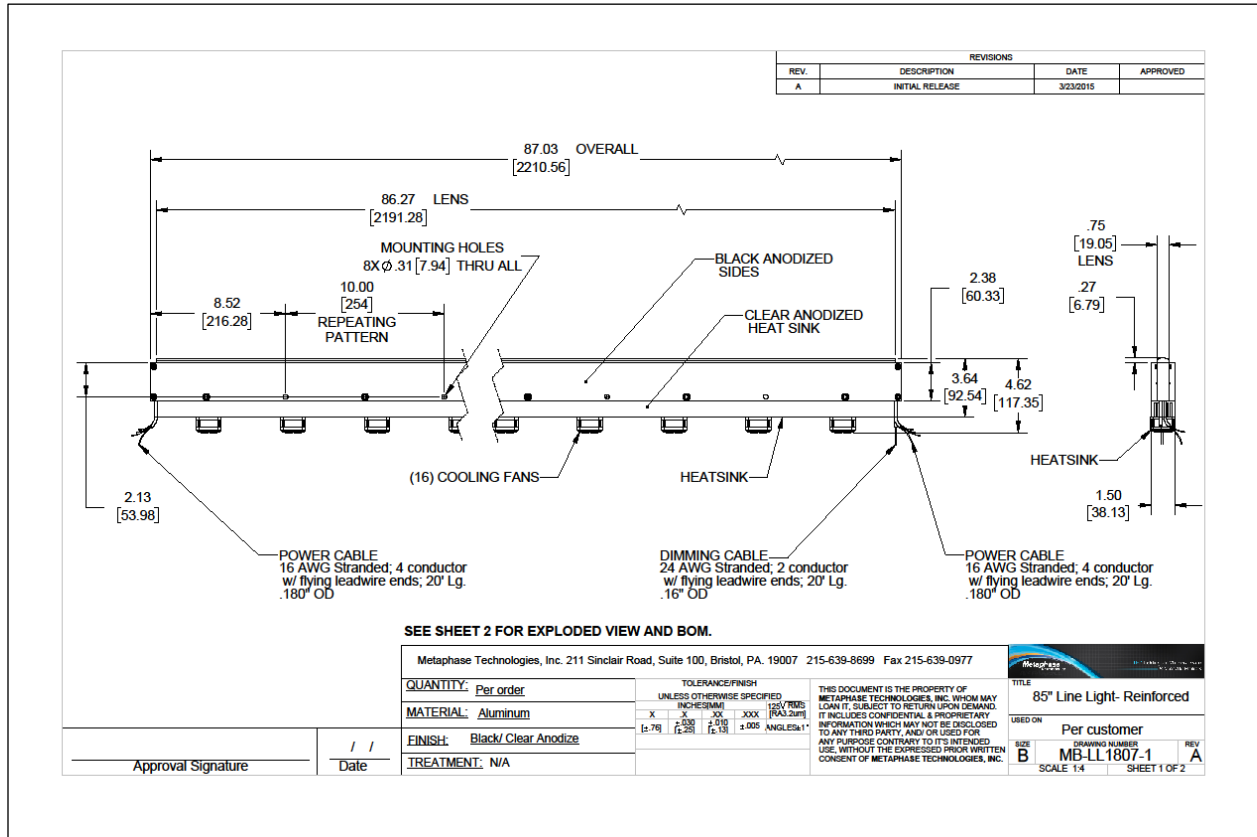
PART NUMBER KEY											
MODEL	SIZE	-	WAVELENGTH	-	DRIVER* (most common)	-	LENS	-	CABLE LENGTH	-	CONN.* (most common)
MB-LL	XXXX	-	XXXXX	-	XXX-XXXXXX	-	XXXX	-	XXX	-	XXXX
MB-LL	050 to 2507		W (White 6000K, Nominal) R (Red 630nm) G (Green 530nm) B (Blue 470nm) IR850 (Infrared 850nm) UV395 (UV Long 395nm) RGB (Red-Green-Blue)		24Z 24Z-ILT 24-ILSXXX 24-ILD U¹		LL (long lens)		5M 10M		M12D^{1 2} BC^{1 3}
					XXX=rate in μs Example: 250		Select or leave blank for standard lens		Length can be customized: ex. 7M=7meters Select or leave blank for 3 meters		Select or leave blank for flying leads
Example 1: MB-LL406-W-24Z-M12D Example 2: MB-LL1107-R-24Z-LL					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						

When ordering the Backlight version diffuser, add a B designator before LL. Example: **MB-BLL206-W-24Z**

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.

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Sample Model Number: MB-LL1807-W-LL-24Z



COMPLIANCE



CONTACT US

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