

# Linear Front Lights

## MB-LFL, LFL

Metaphase Linear Front Lights feature high density LED array placement and proprietary Metaphase thermal management technology to assure maximum LED lifetime and lowest cost of ownership. Our Front Lights are designed for longer working distances and feature rugged housings such as those found in industrial robotics work envelopes. Our Linear Front Lights are available in MetaLight (LFL) and high power MetaBright™ (MB-LFL) versions.



### FEATURES

- Homogenous light output that provides high intensity illumination
- Shock and vibration resistant
- LED thermal management for stable performance
- Industry proven for virtually any lighting application
- Flicker free performance and instant start up with Metaphase analog driver technology
- Economical, low cost
- An ideal light for many applications
- Available in MetaLight (LFL) and high power MetaBright™ (MB-LFL) versions
- Optional Constant Current Driver with 0 – 10VDC intensity control, compatible with DDC-3 and ILD-35-24-L

### WAVELENGTHS

Order ID	Description / nanometers
<b>W</b>	White (6000K), Nominal
<b>R</b>	Red / 630nm
<b>G</b>	Green / 530nm
<b>B</b>	Blue / 470nm
<b>IR850 (or IRN)</b>	Infrared / 850nm
<b>IR880 (or IRL)</b>	Infrared / 880nm
<b>IR940</b>	Infrared / 940nm
<b>UV365 (or UVS)</b>	Ultraviolet Short / 365nm
<b>UV395 (or UVL)</b>	Ultraviolet Long / 395nm

### GENERAL SPECIFICATIONS

<b>Power Source:</b>	24VDC ±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)



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MODEL	Dimensions W x L x H Inches (cm)	Active Area W x L Inches (cm)	Weight lbs (grams)	Cable QTY	Cable Length	Cable AWG/ Conductors	Max Input Current @24VDC			
LFL1x4 MB-LFL1x4	.87 x 4.33 x .98 (2.21 x 11.0 x 2.49)	.63 x 4.11 (1.6 x 10.44)	.32 (145)	1	10ft	24/4	.20A			
LFL1x6 MB-LFL1x6	.87 x 6.63 x .98 (2.21 x 16.3 x 2.49)	.67 x 6.43 (1.70 x 16.32)	.42 (191)				.24A			
LFL201 MB-LFL205	1.25 x 6.05 x 1.13 (3.18 x 15.4 x 2.86)	1.0 x 5.65 (2.54 x 14.35)	.56 (253)				.30A			
LFL301 MB-LFL305	1.25 x 11.3 x 1.13 (3.18 x 28.7 x 2.86)	1.18 x 11.0 (2.98 x 27.9)	1.0 (467)				.45A			
LFL401 MB-LFL405	1.25 x 16.3 x 1.13 (3.18 x 41.4 x 2.86)	1.18 x 16.0 (2.98 x 40.6)	1.2 (561)				.62A			
LFL501 MB-LFL505	1.25 x 21.0 x 1.13 (3.18 x 53.5 x 2.86)	1.16 x 20.65 (2.95 x 52.4)	1.4 (626)				.75A			
LFL601 MB-LFL605	1.25 x 26.32 x 1.13 (3.18 x 66.8 x 2.86)	1.18 x 26.0 (2.98 x 66.0)	1.6 (740)				.86A			
Inquire about larger sizes listed below										
LFL701 MB-LFL705										
LFL801 MB-LFL805										
LFL901 MB-LFL905										
LFL1001 MB-LFL1005										
LFL1101 MB-LFL1105										
LFL1201 MB-LFL1205										
LFL1301 MB-LFL1305										
LFL1401 MB-LFL1405										

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Wiring (4 conductor with Intensity Control)**	
Wire Color	Function
RED	+24VDC
WHITE	0-10VDC INTENSITY CONTROL
BLACK	GROUND (24V RTN)
GREEN	SIGNAL GROUND

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

MODEL NUMBER KEY												
MODEL (MetaLight)	or	MODEL (MetaBright)	-	COLOR (Wavelength)	-	VOLTAGE	-	DIFFUSER	-	Connector Option	-	CUSTOM OPTION
LFLXXX	or	MB-LFLXXX	-	XXX	-	XXX	-	XX	-	XX	-	XXX
LFL1x4		MB-LFL1x4	-	<b>W</b> (White 6000K, Nominal)	-	<b>24</b> (+24VDC)	-	<b>CC</b> (Clear Cover)	-	<b>T</b> (M12 Conn.)	-	<b>XXX</b> Customizable per order (ie. Customer's initials)
LFL1x6		MB-LFL1x6	-	<b>R</b> (Red 630nm)	-	<b>12</b> (+12VDC)	-	<b>D2</b> (Matte)	-	<b>BC</b> (Barrel Conn.)	-	<b>XXM</b> Custom cable length (ie. 12M for 12 meters)
LFL201		MB-LFL205	-	<b>G</b> (Green 530nm)	-	<b>U</b> (ULC-2 Controller) <b>KEY</b> (Keyence Controller) <b>ILD</b> (In Line Dimmer) <b>ILS</b> (In Line Strobe)	-	<b>D3</b> (TIR)	-	Choose one or leave blank	-	<b>Z</b> (Intensity Ctrl)
LFL301		MB-LFL305	-	<b>B</b> (Blue 470nm)								
LFL401		MB-LFL405	-	<b>IR850</b> (or <b>IRN</b> ) (Infrared 850nm)								
LFL501		MB-LFL505	-	<b>IR880</b> (or <b>IRL</b> ) (Infrared 880nm)								
LFL601		MB-LFL605	-	<b>IR940</b> (Infrared 940nm) <b>UV365</b> (or <b>UVS</b> ) (UV Short 365nm) <b>UV395</b> (or <b>UVL</b> ) (UV Long 395nm)								
Choose one		Choose one	-	Choose one	-	Choose one	-	Choose one	-	Choose one or leave blank	-	Choose all that apply

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Sample Model Number: **MB-LFL305-W-24-D3-T-Z**

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	4/5/2016	

  

1.18 LENS [29.85]  
11.00 LENS [279.40]  
11.30 [287.02]  
1.13 [28.58]  
5.65 [143.51]

LENS- OPTIONS INCLUDE:  
Option1: TIR Material  
Option2: P95 Single Side Matte Material  
Option3: Clear Cast Acrylic Material

BLACK ANODIZED HOUSING  
POWER CABLE

0.36 [9.14]  
1.13 [28.58]  
1.25 [31.75]  
52 [13.21]  
56 [14.22]

∅ .13 [3.30] ∇ .33 [8.26]  
#M4X0.7 ∇ .25 [6.35]  
2 HOLES NEAR SIDE  
2 HOLE FAR SIDE

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SEE SHEET 2 FOR EXPLODED VIEW AND BOM.

QUANTITY: Per order	TOLERANCE/FINISH UNLESS OTHERWISE SPECIFIED	THIS DOCUMENT IS THE PROPERTY OF METAPHASE TECHNOLOGIES, INC. WHO 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.	TITLE Top Assembly, 1" x 10" Light
MATERIAL: Aluminum/ Plastic	INCHES (MM) DECIMALS THOUSTHS (MICRONS) ANGLES ±1°		USED ON Per customer
FINISH: Black anodize		SIZE B	DRAWING NUMBER LFL301-1
TREATMENT: N/A		SCALE 1:4	REV A

Approval Signature: \_\_\_\_\_ Date: / /



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**COMPLIANCE**



**CONTACT US**

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