

MS-BL & MS2-BL

Wavelengths from 1050nm to 1650nm are now offered in the Metaphase Backlight. Short-wave infrared technology provides the necessary contrast to illuminate test objects that visible and ultraviolet light cannot provide.

The MS-BL SWIR Backlight is a high performance and uniform light source for silhouetting and transmissive applications. Using a full array LED layout, we can pack more LEDs per square inch to provide greater intensity, uniformity and performance. The MS2-BL is a lower LED density model for specific applications.



Available Wavelengths



Broadband IR

is available for the MS-BL and MS2-BL models. These backlights can be configured with any combination of these six available wavelengths.

FEATURES

- Full-array, high-power surface mount LED layout
- Exclusive optical lens provides high uniformity, shadow-free backlight illumination
- Thermal management design draws heat directly from the die ensuring long life
- Available in a limited amount of standard sizes but can be custom designed per order
- Optional Constant Current Driver with 0 – 10VDC intensity control, compatible with DDC-3 and ILD-35 Dimmers

WAVELENGTH (nanometers)

W	White 6000K, Nominal
IR05	1050nm
IR20	1200nm
IR30	1300nm
IR45	1450nm
IR55	1550nm
IR65	1650nm

SPECIFICATIONS

Power Source:	24VDC ±5%
Cable (Standard):	10 ft. (3 m) with flying leads
Housing:	Black Anodized Aluminum
IP Rating:	IP65 sealed, IP50 unsealed
Ambient Temperature:	-20°C to 40°C

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SWIR BACKLIGHTS								
MODEL*	All models: H = 3.0 inches(7.62cm) Width and Length Inches (cm)	Active Area Inches (cm)	Weight lbs (kg)	Cable QTY	Cable Length	Cable Description	Max Current @24VDC	
MS-BL4x4	6.24 x 6.83	4.00 x 4.00	1.6	1	10ft	24 AWG 4 Conductor	1.1A max.	
MS2-BL4x4	(15.850 x 17.348)	(10.160 x 10.160)	(.73)					
MS-BL5x7	7.20 x 9.80	5.00 x 7.00	3.1					
MS2-BL5x7	(18.288 x 24.867)	(12.700 x 17.780)	(1.4)					
MS-BL6x6	8.20 x 8.80	6.00 x 6.00	3.1			18 AWG 6 Conductor	2.0A max.	
MS2-BL6x6	(20.828 x 22.327)	(15.240 x 15.240)	(1.4)					
MS-BL8x8	10.70 x 11.29	8.00 x 8.00	4.6					
MS2-BL8x8	(27.178 x 28.677)	(20.32 x 20.32)	(2.1)					
MS-BL10x25	15.16 x 28.41	10.00 x 25.00	7.8				16 AWG 6 Conductor	7.4A max.
MS2-BL10x25	(38.506 x 72.161)	(25.400 x 25.400)	(3.5)					
MS-BL12x12	1.4.64 x 14.76	12.00 x 12.00	6.0					
MS2-BL12x12	(37.490 x 36.830)	(30.480 x 30.480)	(2.7)					
MS-BL14x14	16.90 x 17.70	14.00 x 14.00	6.2			8.2A max.		
MS2-BL14x14	(42.951 x 44.856)	(35.560 x 35.560)	(2.8)					
MS-BL20x25	24.41 x 28.41	20.25 x 25.00	10.9	9.5A max.				
MS2-BL20x25	(62.001 x 72.161)	(51.435 x 63.500)	(5.0)					
MS-BL24x24	27.41 x 28.16	24.00 x 24.00	11.7	10.0A max.				
MS2-BL24x24	(69.621 x 71.526)	(60.960 x 60.960)	(5.3)					

*Custom sizes and configurations available

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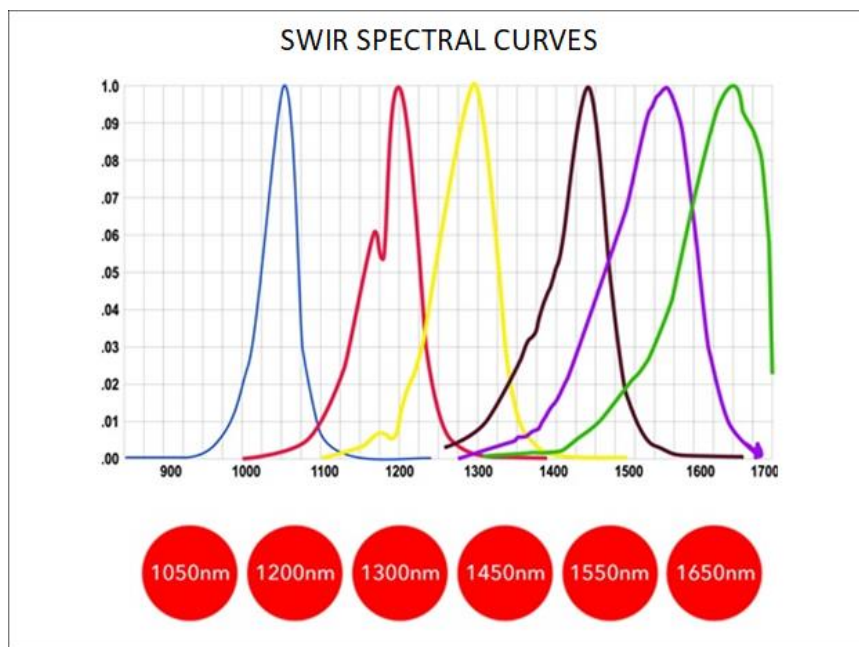
Wiring (4 conductor, flying leads)**	
Wire Color	Function
RED	+24VDC
WHITE	0-10VDC INTENSITY CONTROL
BLACK	GROUND (24V RTN)
GREEN	SIGNAL GROUND

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

Broadband Wiring Cable#1 (4 conductor)	
Wire Color	Function
RED	+24VDC
WHITE	+24VDC
BLACK	GROUND (24V RTN)
GREEN	GROUND (24V RTN)

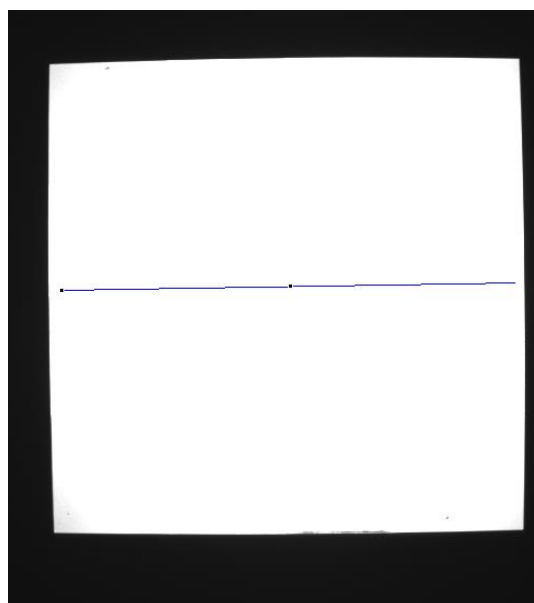
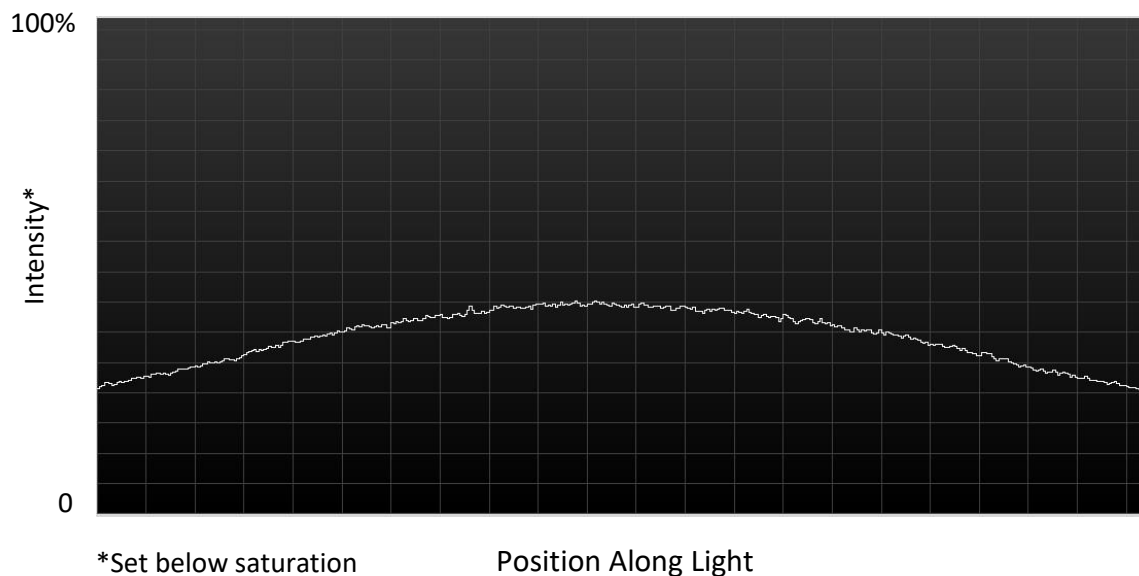
Broadband Wiring Cable#2 (8 conductor)	
Wire Color	Function
BROWN	IR1050, 0-10V Intensity Control
ORANGE	IR1200, 0-10V Intensity Control
BLUE	IR1300, 0-10V Intensity Control
GREEN	IR1450, 0-10V Intensity Control
BROWN-white	IR1550, 0-10V Intensity Control
ORANGE-white	IR1650, 0-10V Intensity Control
BLUE-white	No Connection
GREEN-white	No Connection

**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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SWIR Backlight Uniformity Graph



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PART NUMBER KEY									
MODEL	SIZE (inches)	-	WAVELENGTH	-	DRIVER* (most common)	-	CABLE LENGTH	-	CONN.** (most common)
MS_-BL	XXXXX	-	XXXX	-	XXX-XXXXXX	-	XXX	-	XXXX
MS-BL MS2-BL	4x4 5x7 6x6 8x8 10x25 12x12 14x14 20x25 24x24		W (White 6000K, Nominal) IR05 (Infrared 1050nm) IR20 (Infrared 1200nm) IR30 (Infrared 1300nm) IR45 (Infrared 1450nm) IR55 (Infrared 1550nm) IR65 (Infrared 1650nm)		24Z 24-ILSXXX 24-ILD		5M 10M Length can be customized: ex.7M=7meters Select or leave blank for 3 meters		M12D^{1 2} Select or leave blank for flying leads
			Select all that apply	XXX=rate in μ s Example: 250					
Example 1: MS-BL6x6-IR05IR20IR30IR45IR55-24Z Example 2: MS2-BL12X12-WIR30-24Z					¹ Not available in lights exceeding 4A input current ² Default cable length for an M12D connector is 19 inches				

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: **MS-BL6x6-IR05IR20IR30IR45IR55-24Z**

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	10/19/2017	
B	BOM UPDATE	2/9/2018	
C	REMOVED HEAT SINK FROM STANDARD	2/27/2018	

Metaphase Technologies, Inc. 211 Sinclair Road, Suite 100, Bristol, PA. 19007 215-639-8699 Fax 215-639-0977																	
SEE SHEET 2 FOR EXPLODED VIEW AND BOM.	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>QUANTITY:</td> <td>Per order</td> </tr> <tr> <td>MATERIAL:</td> <td>Per BOM</td> </tr> <tr> <td>FINISH:</td> <td>Black Polane</td> </tr> <tr> <td>TREATMENT:</td> <td>N/A</td> </tr> </table>	QUANTITY:	Per order	MATERIAL:	Per BOM	FINISH:	Black Polane	TREATMENT:	N/A	<p style="font-size: 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.</p>							
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COMPLIANCE



CONTACT US

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