

**MS-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 (15.850 x 17.348)	4.00 x 4.00 (10.160 x 10.160)	1.6 (.73)	1	10ft	24 AWG 4 Conductor	1.1A max.
MS-BL5x7	7.20 x 9.80 (18.288 x 24.867)	5.00 x 7.00 (12.700 x 17.780)	3.1 (1.4)				1.5A max.
MS-BL6x6	8.20 x 8.80 (20.828 x 22.327)	6.00 x 6.00 (15.240 x 15.240)	3.1 (1.4)			18 AWG 6 Conductor	2.0A max.
MS-BL8x8	10.70 x 11.29 (27.178 x 28.677)	8.00 x 8.00 (20.32 x 20.32)	4.6 (2.1)				3.2A max.
MS-BL10x25	15.16 x 28.41 (38.506 x 72.161)	10.00 x 25.00 (25.400 x 25.400)	7.8 (3.5)			16 AWG 6 Conductor	7.4A max.
MS-BL12x12	1.4.64 x 14.76 (37.490 x 36.830)	12.00 x 12.00 (30.480 x 30.480)	6.0 (2.7)				6.9A max.
MS-BL14x14	16.90 x 17.70 (42.951 x 44.856)	14.00 x 14.00 (35.560 x 35.560)	6.2 (2.8)				8.2A max.
MS-BL20x25	24.41 x 28.41 (62.001 x 72.161)	20.25 x 25.00 (51.435 x 63.500)	10.9 (5.0)				9.5A max.
MS-BL24x24	27.41 x 28.16 (69.621 x 71.526)	24.00 x 24.00 (60.960 x 60.960)	11.7 (5.3)				10.0A max.

\*Custom sizes and configurations available

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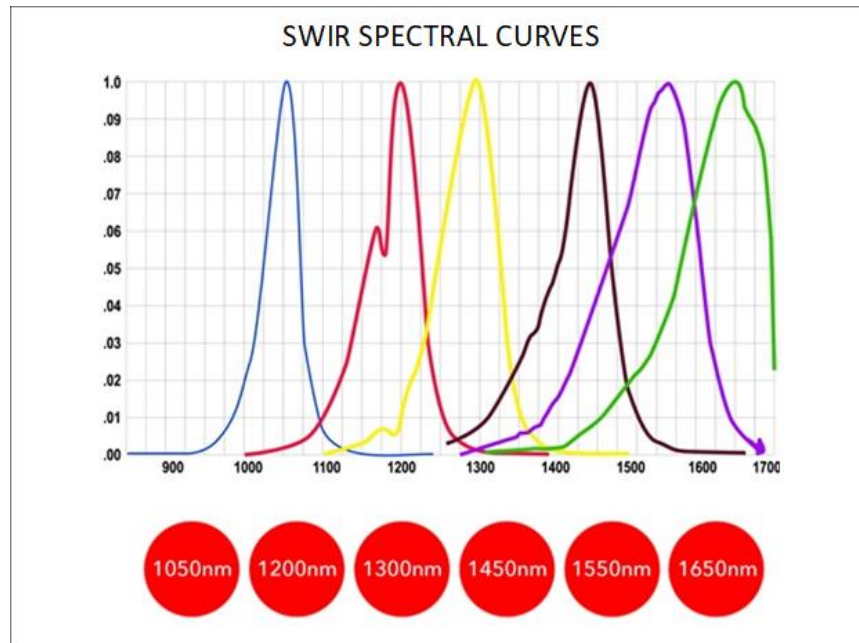
Wiring (4 conductor, flying leads)**	
Wire Color	Function
RED	+24VDC
WHITE	0-10VDC INTENSITY CONTROL
BLACK	GROUND (24V RTN)
GREEN	SIGNAL GROUND

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)

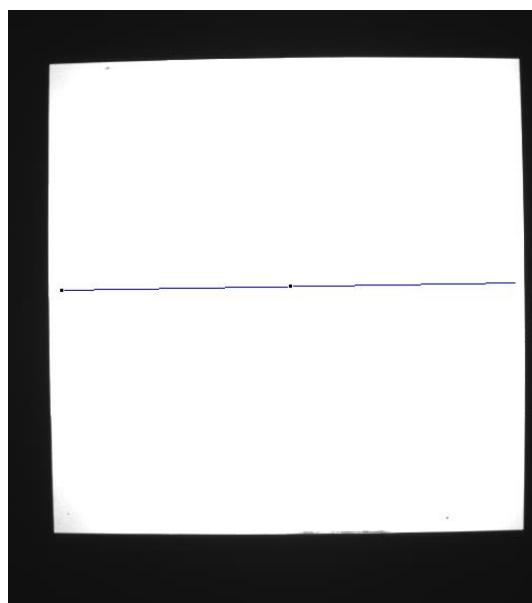
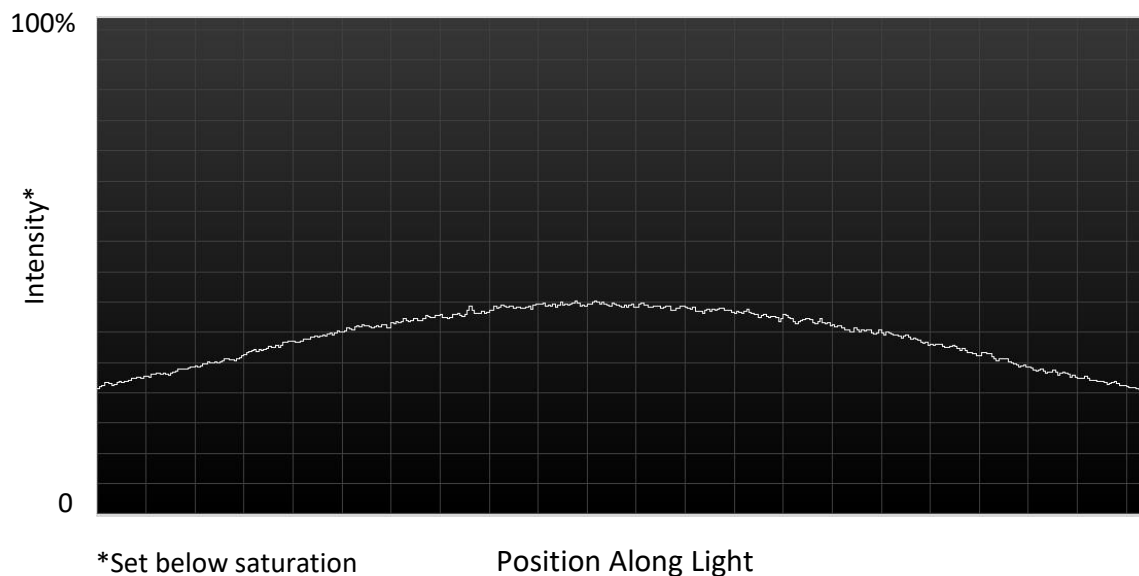
Broadband Wiring Cable#2 (8 conductor)	
Wire Color	Function
BROWN	IR1050, 0-10V Intensity Control
ORANGE	IR1200, 0-10V Intensity Control
BLUE	IR1300, 0-10V Intensity Control
GREEN	IR1450, 0-10V Intensity Control
BROWN-white	IR1550, 0-10V Intensity Control
ORANGE-white	IR1650, 0-10V Intensity Control
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).



MS-BL

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
<b>MS-BL</b>	<b>4x4</b> <b>5x7</b> <b>6x6</b> <b>8x8</b> <b>10x25</b> <b>12x12</b> <b>14x14</b> <b>20x25</b> <b>24x24</b>		<b>W</b> (White 6000K, Nominal) <b>IR05</b> (Infrared 1050nm) <b>IR20</b> (Infrared 1200nm) <b>IR30</b> (Infrared 1300nm) <b>IR45</b> (Infrared 1450nm) <b>IR55</b> (Infrared 1550nm) <b>IR65</b> (Infrared 1650nm)		<b>24Z</b> <b>24-ILSXXX</b> <b>24-ILD</b>		<b>5M</b> <b>10M</b>		<b>M12D<sup>1 2</sup></b>
			Select all that apply	XXX=rate in $\mu$ s Example: 250		Length can be customized: ex. 7M=7meters  Select or leave blank for 3 meters		Select or leave blank for flying leads	
Example 1: <b>MS-BL6x6-IR05IR20IR30IR45IR55-24Z</b>					<sup>1</sup> Not available in lights exceeding 4A input current <sup>2</sup> 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 &amp; 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> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2">TITLE</td> <td colspan="2">ASSY, BACKLIGHT, 6X6</td> </tr> <tr> <td colspan="2">USED ON</td> <td colspan="2">Per customer</td> </tr> <tr> <td>SIZE</td> <td>QUANTITY</td> <td>REV</td> <td></td> </tr> <tr> <td>B</td> <td>MS-BL6X6-1</td> <td>C</td> <td></td> </tr> <tr> <td colspan="2">SCALE 1:2</td> <td colspan="2">SHEET 1 OF 1</td> </tr> </table>	TITLE		ASSY, BACKLIGHT, 6X6		USED ON		Per customer		SIZE	QUANTITY	REV		B	MS-BL6X6-1	C		SCALE 1:2		SHEET 1 OF 1	
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**COMPLIANCE**



**CONTACT US**

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