

SWIR LED ILLUMINATION

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 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.



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-35-24-L

WAVELENGTH (nanometers)

W	White 6000K, Nominal
SWIR	1050nm
SWIR	1200nm
SWIR	1300nm
SWIR	1450nm
SWIR	1550nm
SWIR	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

SWIR (Short-Wave Infrared)

SWIR BACKLIGHTS							
MODEL*	Standard models: H = 3.0 inches(7.62cm) H4 models: H = 4.0 inches (10.16cm) 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-BL6x6-H4	8.20 x 8.80 (20.828 x 22.327)	6.00 x 6.00 (15.240 x 15.240)	3.4 (1.5)				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-BL8x8-H4	10.70 x 11.29 (27.178 x 28.677)	8.00 x 8.00 (20.32 x 20.32)	5.0 (2.3)				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-BL12x12-H4	1.4.64 x 14.76 (37.490 x 36.830)	12.00 x 12.00 (30.480 x 30.480)	6.4 (2.9)				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-BL14x14-H4	16.90 x 17.70 (42.951 x 44.856)	14.00 x 14.00 (35.560 x 35.560)	6.7 (3.0)				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

SWIR (Short-Wave Infrared)

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

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 (-)	

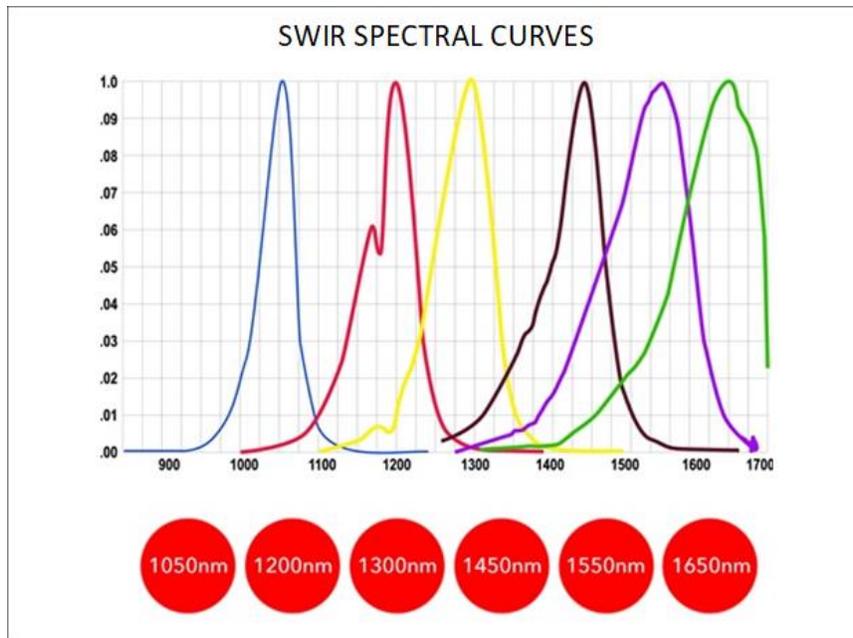
Terminated within a 2 position ULC-2 output connector (Phoenix Contact P/N: BCP-508-2)

**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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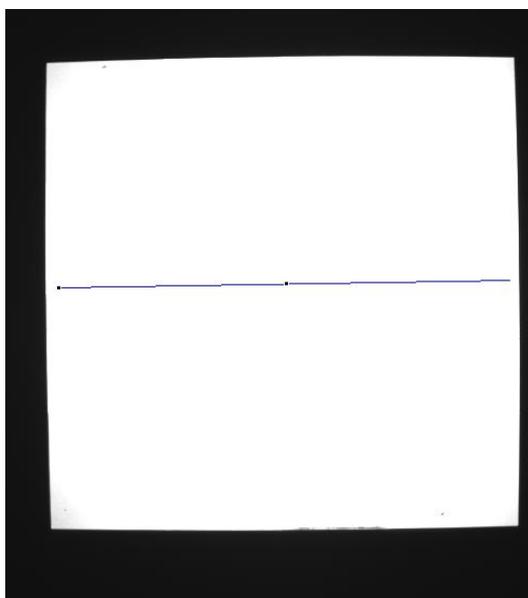
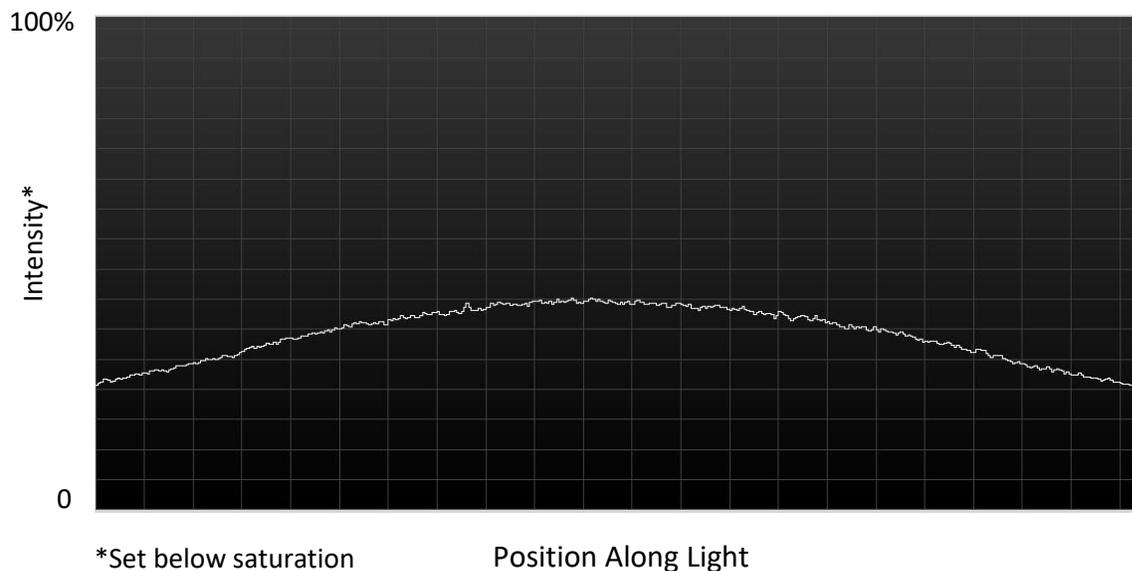
MODEL NUMBER KEY							
MODEL	LENS AREA	-	WAVELENGTH	-	OPTION 1	-	OPTION 2
MS-BL	XXxXX	-	XXXXXX	-	XXX	-	X-XXX
MS-BL	4x4 5x7 6x6 6x6-H4 8x8 8x8-H4 10x25 12x12 12x12-H4 14x14 14x14-H4 20x25 24x24		W (White, 6000K, Nominal) IR1050 (1050nm) IR1200 (1200nm) IR1300 (1300nm) IR1450 (1450nm) IR1550 (1550nm) IR1650 (1650nm)		24 (+24VDC, standard) U (ULC-2 interface) KEY (Keyence Controller) ILD (In Line Dimmer) ILS (In Line Strobe)		Z (0-10V Intensity Control) XXX (Customizable per order)

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.



SWIR (Short-Wave Infrared)

SWIR Backlight Uniformity Graph



SWIR (Short-Wave Infrared)

Sample Model Number: **MS-BL6x6-H4-1R1050-24-Z**

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	2/16/2018	

Metaphase Technologies, Inc. 211 Sinclair Road, Suite 100, Bristol, PA. 19007 215-639-8699 Fax 215-639-0977		
QUANTITY: Per order	TOLERANCE/FINISH UNLESS OTHERWISE SPECIFIED	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.
MATERIAL: Per BOM	INCHES (MM)	
FINISH: Black Polane	X .X .XX .XXX ±.03 [0.76] ±.010 [0.25] ±.005 [0.13] ANGLES ±1°	
TREATMENT: N/A		
Approval Signature	Date	TITLE: ASSY, BACKLIGHT, 6X6-H4 USED ON: Per customer SIZE: B DRAWING NUMBER: MS-BL6X6-H4-1 REV: A SCALE: 1:2 SHEET 1 OF 1

COMPLIANCE



CONTACT US

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