

**EDITION 2023**



# LED

## Illumination Solution Provider

### Machine Vision Industry



**One Stop Solution for Machine Vision Laboratory Setup**

[www.machine-vision-shop.com](http://www.machine-vision-shop.com)

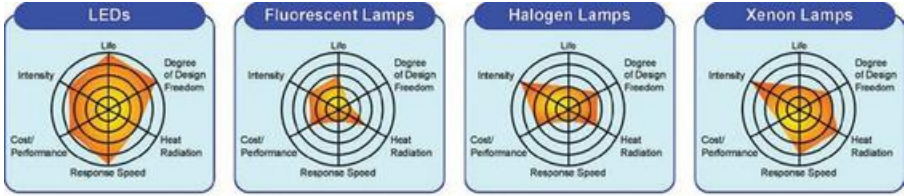
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2023

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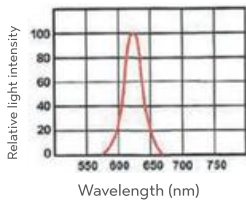
## THE IMPORTANCE OF LED ILLUMINATION



(Comparison Of Image Processing Illumination)

<h3>FLEXIBLE SHAPE DESIGN</h3>	<ul style="list-style-type: none"> <li>• Consists of a collection of individual LEDs</li> <li>• Provides much greater shape flexibility</li> <li>• Have greater freedom in the shape design</li> <li>• Have greater choices in sizes</li> <li>• Able to fulfil various application needs</li> </ul>
<h3>LONG LIFE</h3>	<ul style="list-style-type: none"> <li>• Have intensity half life from 10,000 to 50,000 hours under continuous use</li> <li>• Heat development can be controlled by system</li> </ul> <p>The image shows two bar charts. The left chart, labeled '(Life)', compares the lifetimes of Electric Bulbs, Halogen, Fluorescent Lamp, and LED. The right chart, labeled '(Response Speed) (Power Consumption)', compares the power consumption of Electric Bulb and LED.</p>
<h3>FAST RESPONSE</h3>	<ul style="list-style-type: none"> <li>• Fast Response Time</li> <li>• Able to display LEDs' strength by switching between multiple illuminations or between multiple circuits in a single illumination</li> <li>• Can be synchronized with a strobe or camera</li> <li>• Able to regulate with high-precision pulse modulation</li> </ul>
<h3>SELECTABLE COLOR</h3>	<ul style="list-style-type: none"> <li>• Variations in choice of illumination provide differences in resulted image</li> </ul>
<h3>LOW TOTAL RUNNING COST</h3>	<ul style="list-style-type: none"> <li>• Low initial installation cost for daily operation &amp; maintenance</li> <li>• LED illumination system offer great advantages in cost performance</li> </ul>

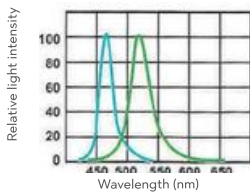
## WAVELENGTH OF LIGHTING



**RED LED** -630nm

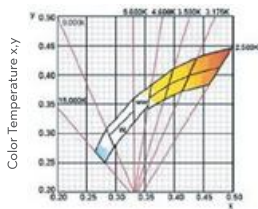
Remark: Not to be used as reference for Osram range.

Blue / Green LED (Peak wavelength is 470/525nm)



**BLUE LED** -470nm  
**GREEN LED** -525nm

Remark: Not to be used as reference for Osram range.



## WHITE LED

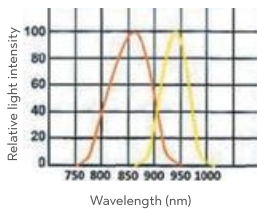
W=Cool White

X	0.296	0.287	0.307	0.311	X	0.311	0.307	0.33	0.33
Y	0.276	0.295	0.315	0.294	Y	0.294	0.315	0.339	0.318

WW = Yellowish White

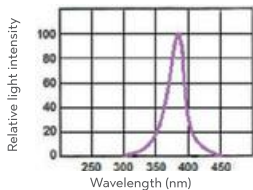
X	0.33	0.33	0.361	0.357	X	0.33	0.33	0.357	0.356
Y	0.339	0.36	0.385	0.361	Y	0.318	0.339	0.361	0.351

Infrared LED (Peak wavelength is 850/940nm)



**INFRARED LED** -850nm  
-940nm

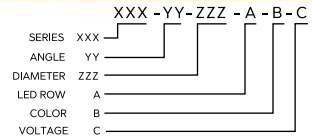
Infrared LED (Peak wavelength is 375nm)



**UV LED** -365nm  
-375nm

## PRODUCT PART NUMBER

All product part number follows this naming convention:

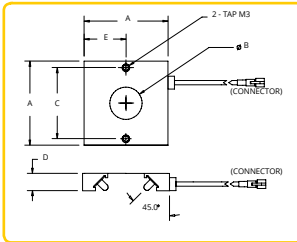
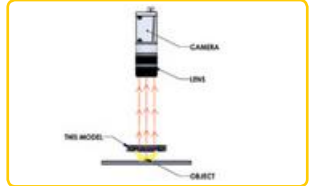
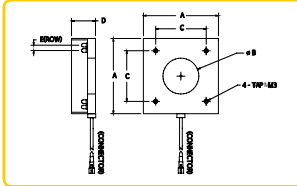


A. Direct Illumination	Model	Single Color (R, W, B, G)	RGB	RGBW	IR	UV
1. Direct Illumination Shower Series	LSQ, LSQF, LSW, IDD	✓			✓	✓
2. Direct Illumination Low Angle Series	LLA	✓			✓	✓
3. Half Circle Illumination	IDDC, LLAC, LSWC	✓				
4. Direct Illumination Bar Series	LBRX, LBRQ, LBM, LBMQ, LBS, LBQ, MLBX2, MLBQ, HLBRX, HLBS2, HLBQ2, HDLB, HDLBQ	✓	✓	✓	✓	✓
<b>B. Diffused Illumination</b>						
1. Diffused Illumination Ring Series	DLR3, DFR4, HPD, HPD2	✓		✓		
2. Diffused Illumination Square / Angular Series	DLS2, DLW2, DLQ2, DLF2, DLC, BHLQ	✓		✓		
3. Diffused Illumination Square / Ring Series	F-DXX, F-DXX-D			✓		
<b>C. Indirect Illumination</b>						
1. Indirect Illumination Dome Series	IDS5	✓	✓	✓	✓	
2. Indirect Illumination Tunnel Series	IDT3	✓	✓			
3. Indirect Illumination Square Series	IDQ3	✓	✓			
<b>D. Backlight Illumination</b>						
1. Side Illumination Series	BHDS, BHD, BHDQ	✓				
2. Line Illumination Series	LBL3	✓				
3. High Illumination Series	BHS4, BHH, BHC2, BHLX3	✓			✓	
<b>E. Coaxial Illumination</b>						
1. Coaxial Illumination Series	CAS200 & 45, CAS3, HCAS2, CASC	✓		✓		
<b>F. 4 Sectional Illumination</b>						
1) 4 Sectional Illumination Series	HPD, IDS5, IDS4, IDSL, LBRQ, LLA-75, MLLA	✓		✓		
<b>G. Modular Illumination</b>						
1) Small Modular Illumination	PM	✓		✓		
2) Big Modular Illumination	MD	✓		✓		
<b>H. Spotlight Illumination</b>						
1) Spotlight illumination Series	HBF, HBFS, FIBX2	✓				
<b>I. Ingress Protection Illumination (IP-65)</b>						
1) IP Series	LBRP, HPDP, BHP, IP-HLBS2	✓				
<b>J. Line Scan Illumination</b>						
1) Line Scan Illumination Series	LSN6, LSNY, CAL	✓				
<b>K. 12V Illumination</b>						
1) 12V Illumination Series	LSW, LLA, CAS2, IDS4, LBRX 3 & 6 ROWS	✓				
<b>L. IR Illumination</b>						
1) IR Illumination Series	CAS2, IDS5, LLA, LSW, BHLX3, BHS4, LBRQ, LBRX				✓	
<b>M. UV Illumination</b>						
1) UV Illumination Series	CAS2, LBRQ, LBRX, LLA, LSW, HPD					✓
<b>N. RGBW Illumination</b>						
1) RGBW Illumination Series	DLC2, DLF3, MLBQ, MD-MLBQ, LSW2, HPD, HPD2, DLR3, CAS2, MD-IDQ3, MD-IDT3, IDS5			✓		
<b>O. Microscope Illumination</b>						
1) Microscope Illumination Series	MILX	✓				
<b>P. Customized Illumination</b>						
1) Customized Illumination Series	ALL	✓	✓	✓	✓	✓

## LSQ SERIES - 00°, 45° High Intensity, Concentrated Ring Illumination

LSQ 00°, 45° series with square casing and LED arrays are arranged densely in ring shape for light arrays to be concentrated to a spot for extreme bright light. By using a flexible PCB board, the product quality and efficiency could be improved as flexible boards are able to achieve optimized angle with variations of outer and inner diameter to target a work piece.

Applications: Substrate Inspection, Label Inspection, Flat Surface, Fiducial Recognition



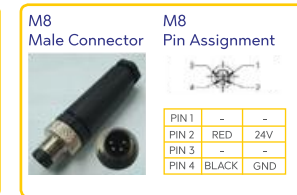
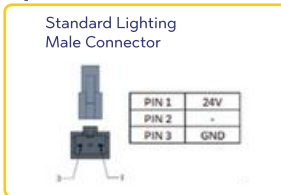
Technical Specification:  
 -Color Red, Green, Blue and White  
 -24V DC Input Power  
 -Continuous and Strobe Application  
 -Compact Size  
 -Lighting Cable 500mm  
 Customize Lighting:  
 -Customize Sizes, Mounting Requirements  
 -Color and Voltage Available  
 -Consult Technical Sales for More Information  
 LED Wavelength  
 Red LED - 630nm  
 Green LED - 525nm  
 Blue LED - 470nm

Model	Dimensions (MM)					Color	Voltage / Watt	Current	Weight (g)
	A	ØB	C	D	E (Row)				
LSQ-00-050-2-X	56.5	27.0	38.0	18.0	2.0	●●●○ ●●●○	24V / 2.52W 24V / 2.88W	105mA 120mA	80
LSQ-00-060-3-X	64.0	27.0	33.0	19.0	3.0	●●●○ ●●●○	24V / 3.60W 24V / 4.32W	150mA 180mA	110

Model	Dimensions (MM)					Color	Voltage / Watt	Current	Weight (g)
	A	ØB	C	D	E				
LSQ-45-030-1-X	39.0	15.0	33.0	8.0	19.5	●●●○ ●●●○	24V / 0.72W 24V / 0.72W	30mA 30mA	40
LSQ-45-040-1-X	46.0	22.0	39.0	8.0	23.0	●●●○ ●●●○	24V / 0.72W 24V / 1.08W	30mA 45mA	40
LSQ-45-050-1-X	52.5	28.0	46.0	8.0	26.3	●●●○ ●●●○	24V / 1.08W 24V / 1.44W	45mA 60mA	60

Remark: 2 types of white are available- WW: Cool WW: Yellowish White

## Optional Connector



Product Part Numbering System:  
LSQ-00-050-2-X-24V-M8

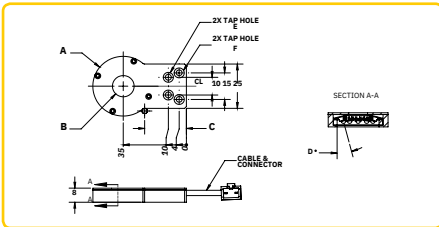
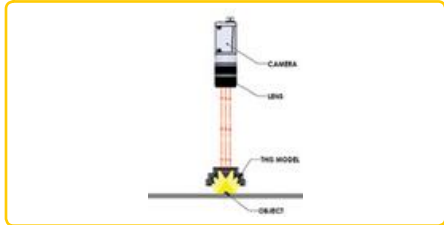
Product Part Numbering System:  
LSQ-00-050-2-X-24V-M12



### LSQ STACKABLE SERIES – 00°, 15°, 30°, 45°

LSQ stackable series provides 4 different angles of lighting for multiple observations during inspection. Illumination from different angles provide slightly different results.

Applications: Substrate Inspection, Label Inspection, Flat Surface, Fiducial Recognition



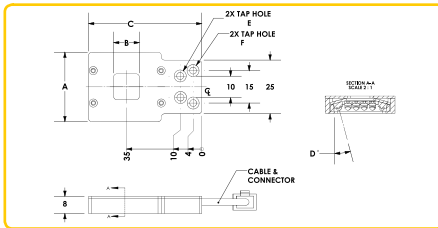
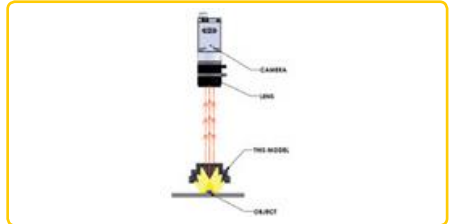
Technical Specification:  
 - Colour Red, Green, Blue and White  
 - 24V DC Input Power  
 - Continuous and Strobe Applications  
 - Compact Size  
 LED Wavelength  
 Red LED - 630nm  
 Green LED - 525nm  
 Blue LED - 470nm

Model	Dimensions (MM)						Color	Voltage / Watt	Current	Weight (g)
	ØA	ØB	C	D	Tap Hole E	Tap Hole F				
LSQ-00-033-1-X	34	12	23	0	M4	Ø3.2	● ● ● ○ ● ● ● ○	24V / 0.36W 24V / 0.72W	15mA 30mA	29
LSQ-00-045-1-X	46	24	15	0	M3	Ø3.2	● ● ● ○ ● ● ● ○	24V / 0.72W 24V / 1.44W	30mA 60mA	32
LSQ-00-051-1-X	52	33.5	11	0	Ø3.2	M3	● ● ● ○ ● ● ● ○	24V / 0.72W 24V / 1.44W	30mA 60mA	33
LSQ-15-033-1-X	34	12	23	15	M4	Ø3.2	● ● ● ○ ● ● ● ○	24V / 0.36W 24V / 0.72W	15mA 30mA	29
LSQ-15-045-1-X	46	24	15	15	M3	Ø3.2	● ● ● ○ ● ● ● ○	24V / 0.72W 24V / 1.08W	30mA 45mA	30
LSQ-15-051-1-X	52	33.5	11	15	Ø3.2	M3	● ● ● ○ ● ● ● ○	24V / 0.72W 24V / 1.44W	30mA 60mA	31
LSQ-30-033-1-X	34	12	23	30	M4	Ø3.2	● ● ● ○ ● ● ● ○	24V / 0.36W 24V / 0.72W	15mA 30mA	29
LSQ-30-045-1-X	46	24	15	30	M3	Ø3.2	● ● ● ○ ● ● ● ○	24V / 0.72W 24V / 1.44W	30mA 60mA	31
LSQ-30-051-1-X	52	33.5	11	30	Ø3.2	M3	● ● ● ○ ● ● ● ○	24V / 0.72W 24V / 1.44W	30mA 60mA	31
LSQ-45-033-1-X	34	12	23	45	M4	Ø3.2	● ● ● ○ ● ● ● ○	24V / 0.36W 24V / 0.72W	15mA 30mA	29
LSQ-45-045-1-X	46	24	15	45	M3	Ø3.2	● ● ● ○ ● ● ● ○	24V / 0.72W 24V / 1.08W	30mA 45mA	30
LSQ-45-051-1-X	52	33.5	11	45	Ø3.2	M3	● ● ● ○ ● ● ● ○	24V / 1.08W 24V / 1.44W	45mA 60mA	31

## LSQF STACKABLE SERIES - 00°, 15°, 30°, 45°

LSQF stackable series provides different angles of lighting for multiple observations during inspection. Illumination from different angles provide slightly different results.

Applications: Substrate Inspection, Label Inspection, Flat Surface, Fiducial Recognition



### Technical Specification:

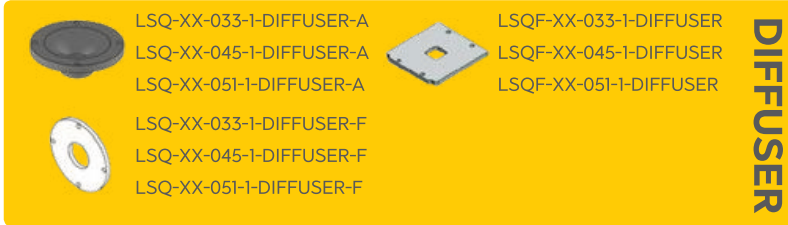
- Colour Red, Green, Blue and White
- 24V DC Input Power
- Continuous and Strobe Applications
- Compact Size
- LED Wavelength
- Red LED - 630nm
- Green LED - 525nm
- Blue LED - 470nm

Model	Dimensions (MM)						Color	Voltage / Watt	Current	Weight (g)
	A	B	C	D	E	F				
LSQF-00-033-1-X	32.3	12	52.7	0	M4	Ø3.2	● ● ○ ● ● ○	24V / 0.72W 24V / 1.08W	30mA 45mA	29
LSQF-00-045-1-X	44.3	24	58.7	0	M3	Ø3.2	● ● ○ ● ● ○	24V / 1.08W 24V / 1.8W	45mA 75mA	32
LSQF-00-051-1-X	50.3	30	61	0	Ø3.2	M3	● ● ○ ● ● ○	24V / 1.44W 24V / 2.16W	60mA 90mA	34
LSQF-15-033-1-X	32.3	12	52.7	15	M4	Ø3.2	● ● ○ ● ● ○	24V / 1.44W 24V / 1.44W	60mA 60mA	29
LSQF-15-045-1-X	44.3	24	58.7	15	M3	Ø3.2	● ● ○ ● ● ○	24V / 1.44W 24V / 1.44W	60mA 60mA	32
LSQF-15-051-1-X	50.3	30	61	15	Ø3.2	M3	● ● ○ ● ● ○	24V / 1.44W 24V / 2.88W	60mA 120mA	34
LSQF-30-033-1-X	32.3	12	52.7	30	M4	Ø3.2	● ● ○ ● ● ○	24V / 1.44W 24V / 1.44W	60mA 60mA	29
LSQF-30-045-1-X	44.3	24	58.7	30	M3	Ø3.2	● ● ○ ● ● ○	24V / 1.44W 24V / 1.44W	60mA 60mA	32
LSQF-30-051-1-X	50.3	30	61	30	Ø3.2	M3	● ● ○ ● ● ○	24V / 1.44W 24V / 2.88W	60mA 120mA	34
LSQF-45-033-1-X	32.3	12	52.7	45	M4	Ø3.2	● ● ○ ● ● ○	24V / 1.44W 24V / 1.44W	60mA 60mA	28
LSQF-45-045-1-X	44.3	24	58.7	45	M3	Ø3.2	● ● ○ ● ● ○	24V / 1.44W 24V / 1.44W	60mA 60mA	32
LSQF-45-051-1-X	50.3	30	61	45	Ø3.2	M3	● ● ○ ● ● ○	24V / 1.44W 24V / 2.88W	60mA 120mA	34

## LSQ & LSQF Stackable Series – Available Accessories

### Optional Diffuser

Diffusers can be added to LSQ & LSQF Stackable Series for uniform light distribution. Adding a diffuser helps to reduce glare from glossy applications and produce lighting that is softer, more beautiful and more shadow-free. The thickness of a diffuser is 2mm.



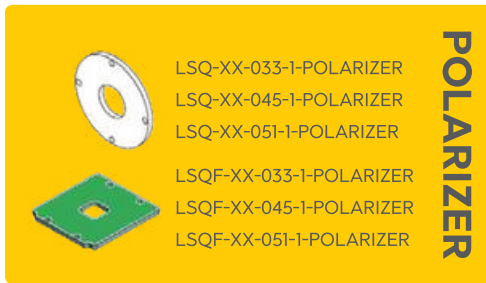
LSQ-XX-033-1-DIFFUSER-A  
LSQ-XX-045-1-DIFFUSER-A  
LSQ-XX-051-1-DIFFUSER-A

LSQF-XX-033-1-DIFFUSER  
LSQF-XX-045-1-DIFFUSER  
LSQF-XX-051-1-DIFFUSER

**DIFFUSER**

### Optional Polarizer

Polarizers can be added to LSQ & LSQF Stackable Series in the case in which polarised light is required to acquire ideal results. Adding a polarizer ensures the maximum elimination of unwanted glare and helps to absorb harsh reflection to provide better performance. The thickness of a polarizer is 0.8mm.




LSQ-XX-033-1-POLARIZER  
LSQ-XX-045-1-POLARIZER  
LSQ-XX-051-1-POLARIZER

LSQF-XX-033-1-POLARIZER  
LSQF-XX-045-1-POLARIZER  
LSQF-XX-051-1-POLARIZER

**POLARIZER**


### Optional Connector

Standard Lighting  
Male Connector




PIN 1	24V
PIN 2	-
PIN 3	GND

M8  
Male Connector




M8  
Pin Assignment




PIN 1	-	-
PIN 2	RED	24V
PIN 3	-	-
PIN 4	BLACK	GND

M12  
Male Connector



M12  
Pin Assignment



PIN 1	BROWN	24V
PIN 2	WHITE	-
PIN 3	BLUE	GND
PIN 4	BLACK	-
PIN 5	GRAY	-

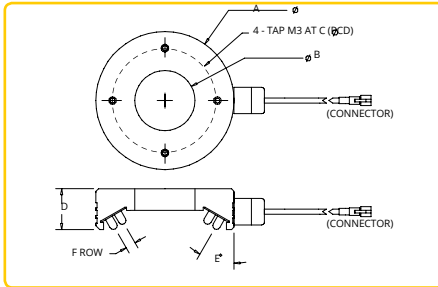
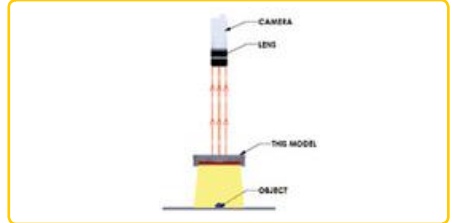
Product Part Numbering System:  
LSQ-00-033-1-X-24V-M8

Product Part Numbering System:  
LSQ-00-033-1-X-24V-M12

## LSW SERIES– High Intensity, Concentrated Ring Illumination

LED arrays are arranged densely for the light arrays to be concentrated to a spot for extreme bright light. By using a flexible PCB board, the product quality and efficiency could be improved as flexible boards are able to achieve optimized angle with variations of outer and inner diameter to target a work piece.

Applications: Substrate Inspection, Label Inspection, Flat Surface, Fiducial Recognition



### Technical Specification:

- Color Red, Green, Blue and White
- 24V DC Input Power
- Continuous and Strobe Applications
- Compact Size
- Lighting Cable 500mm

### Customize Lighting:

- Customize Sizes, Mounting Requirements
- Color and Voltage Available
- Consult Technical Sales for More Information

### LED Wavelength

- Red LED - 630nm
- Green LED - 525nm
- Blue LED - 470nm

Model	Dimensions (MM)					F Row	Color	Voltage / Watt	Current	Weight (g)
	ØA	ØB	ØC	D	E					
LSW-00-040-2-X	43.0	15.0	28.0	20.0	0	2.0	● ● ● ● ● ●	24V / 1.44W 24V / 1.80W	60mA 75mA	40
LSW-00-050-2-X	54.0	23.5	41.0	20.0	0	2.0	● ● ● ● ● ●	24V / 2.16W 24V / 2.88W	90mA 120mA	60
LSW-00-070-3-X	70.0	26.0	56.0	20.0	0	3.0	● ● ● ● ● ●	24V / 4.32W 24V / 5.40W	180mA 225mA	120
LSW-00-090-4-X	92.0	40.0	70.0	20.0	0	4.0	● ● ● ● ● ●	24V / 6.48W 24V / 8.28W	270mA 345mA	200
LSW-15-038-2-X	38	15	28	16	15	2.0	● ● ● ● ● ●	24V / 1.44W 24V / 2.16W	60mA 90mA	38
LSW-15-050-2-X	50.0	28.0	40.0	16.0	15	2.0	● ● ● ● ● ●	24V / 2.16W 24V / 2.52W	90mA 105mA	40
LSW-15-070-2-X	70.0	32.0	56.0	20.5	15	2.0	UV375	24V / 4.32W	180mA	103
LSW-15-070-3-X	70.0	32.0	56.0	20.5	15	3.0	● ● ● ● ● ● IR850 IR940	24V / 4.32W 24V / 5.76W 24V / 2.88W 24V / 2.88W	180mA 240mA 120mA 120mA	100
LSW-15-090-4-X	92.0	47.0	70.0	20.5	15	4.0	● ● ● ● ● ●	24V / 7.92W 24V / 10.08W	330mA 420mA	180
LSW-15-100-5-X	103.0	48.0	80.0	22.0	15	5.0	● ● ● ● ● ●	24V / 10.80W 24V / 13.68W	450mA 570mA	200
LSW-30-040-2-X	46.0	20.0	35.0	16.5	30	2.0	● ● ● ● ● ●	24V / 1.80W 24V / 2.52W	75mA 105mA	40
LSW-30-050-2-X	54.0	23.5	41.0	18.0	30	2.0	● ● ● ● ● ●	24V / 2.16W 24V / 2.88W	90mA 120mA	60
LSW-30-070-3-X	70.0	32.0	56.0	20.0	30	3.0	● ● ● ● ● ●	24V / 4.32W 24V / 5.40W	180mA 225mA	120
LSW-30-090-4-X	92.0	48.0	70.0	22.0	30	4.0	● ● ● ● ● ●	24V / 8.28W 24V / 10.44W	345mA 435mA	200
LSW-45-050-2-X	54.0	25.0	44.0	20.0	45	2.0	● ● ● ● ● ●	24V / 2.16W 24V / 2.88W	90mA 120mA	70
LSW-45-070-3-X	70.0	35.0	60.0	21.0	45	3.0	● ● ● ● ● ●	24V / 4.68W 24V / 5.76W	195mA 240mA	120
LSW-45-090-4-X	92.0	52.0	70.0	24.0	45	4.0	● ● ● ● ● ●	24V / 8.28W 24V / 10.44W	345mA 435mA	200
LSW-45-100-5-X	100.0	48.0	80.0	30.0	45	5.0	● ● ● ● ● ●	24V / 11.16W 24V / 14.40W	465mA 600mA	250

Remark: 2 types of white are available – W: Cool White WW: Yellowish White.



## LSW SERIES – Available Accessories

### Optional Diffuser

Diffusers can be added to LSW series for uniform light distribution. Adding a diffuser helps to reduce glare from glossy applications and produce lighting that is softer, more beautiful and more shadow-free. The thickness of a diffuser is 2mm.



LSW-00-040-2-DIFFUSER  
 LSW-00-050-2-DIFFUSER  
 LSW-00-070-3-DIFFUSER  
 LSW-00-090-4-DIFFUSER  
 LSW-15-038-2-DIFFUSER  
 LSW-15-050-2-DIFFUSER  
 LSW-15-070-3-DIFFUSER  
 LSW-15-090-4-DIFFUSER  
 LSW-15-100-5-DIFFUSER

**DIFFUSER**

### Optional Polarizer

Polarizers can be added to LSW series in the case in which polarised light is required to acquire ideal results. Adding a polarizer ensures the maximum elimination of unwanted glare and helps to absorb harsh reflection to provide better performance. The thickness of a polarizer is 0.8mm.

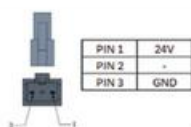


LSW-00-040-2-POLARIZER  
 LSW-00-050-2-POLARIZER  
 LSW-00-070-3-POLARIZER  
 LSW-00-090-4-POLARIZER  
 LSW-15-038-2-POLARIZER  
 LSW-15-050-2-POLARIZER  
 LSW-15-070-3-POLARIZER  
 LSW-15-090-4-POLARIZER  
 LSW-15-100-5-POLARIZER

**POLARIZER**

### Optional Connector


Standard Lighting  
Male Connector



PIN 1	24V
PIN 2	+
PIN 3	GND

M8  
Male Connector

M8  
Pin Assignment



PIN 1	-	-
PIN 2	RED	24V
PIN 3	-	-
PIN 4	BLACK	GND

Product Part Numbering System:  
LSW-00-040-2-X-24V-M8

M12  
Male Connector

M12  
Pin Assignment



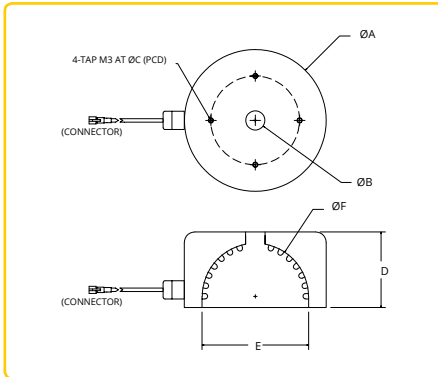
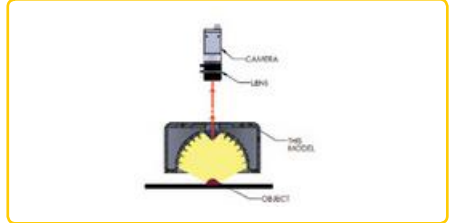
PIN 1	BROWN	24V
PIN 2	WHITE	-
PIN 3	BLUE	GND
PIN 4	BLACK	-
PIN 5	GRAY	-

Product Part Numbering System:  
LSW-00-040-2-X-24V-M12

## IDD SERIES – Direct Dome Illumination

Multiple rows of LEDs are mounted inside a dome densely, allowing strong irradiation to be made by shining extreme bright light at whole angles.

Applications: SMD LED and Resistor Inspection, Crack and Chip Inspection



### Technical Specification:

- Color Red, Green, Blue and White
- 24V DC Input Power
- Continuous and Strobe Applications
- Compact Size
- Lighting Cable 500mm

### Customize Lighting:

- Customize Sizes, Mounting Requirements
- Color and Voltage Available
- Consult Technical Sales for More Information

### LED Wavelength

- Red LED - 630nm
- Green LED - 525nm
- Blue LED - 470nm

Model	Dimensions (MM)					Color	Voltage / Watt	Current	Weight (g)
	ØA	ØB	ØC	D	E				
IDD-00-045-4-X	55.0	12.0	40.0	23.5	40.0	● ● ● ●	24V / 2.88W 24V / 3.60W	120mA 150mA	80
IDD-00-075-7-X	80.0	11.0	50.0	42.5	60.0	● ● ● ● ● ● ● ●	24V / 7.92W 24V / 10.08W	330mA 420mA	195

Remark: 2 types of white are available - W: Cool White WW: Yellowish White

## Optional Connector

Standard Lighting  
Male Connector

PIN 1	24V
PIN 2	-
PIN 3	GND

M8  
Male Connector

M8  
Pin Assignment

PIN 1	-	-
PIN 2	RED	24V
PIN 3	-	-
PIN 4	BLACK	GND

M12  
Male Connector

M12  
Pin Assignment

PIN 1	BROWN	24V
PIN 2	WHITE	-
PIN 3	BLUE	GND
PIN 4	BLACK	-
PIN 5	GRAY	-

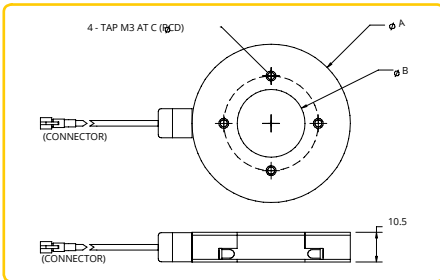
Product Part Numbering System:  
IDD-00-045-4-X-24V-M8

Product Part Numbering System:  
IDD-00-045-4-X-24V-M12

## LLA SERIES 90° - Direct, Low Angle, Ring Illumination

LED arrays are arranged in 90° provides side and low angle of illumination.  
LLA 90° series are available in 1 row to suit different brightness requirements.

Applications: Edge Detection, Scratch on Metal or Glossy Surface



### Technical Specification:

- Color Red, Green, Blue and White
- 24V DC Input Power
- Continuous and Strobe Applications
- Compact Size
- Lighting Cable 500mm
- Customize Lighting:
  - Customize Sizes, Mounting Requirements
  - Color and Voltage Available
  - Consult Technical Sales for More Information
- LED Wavelength
  - Red LED - 630nm
  - Green LED - 525nm
  - Blue LED - 470nm

Model	Dimensions (MM)			Color	Voltage / Watt	Current	Weight (g)
	ØA	ØB	ØC				
LLA-90-050-1-X	56	24	33.5	●●○	24V / 1.08W 24V / 1.44W	45mA 60mA	50
LLA-90-080-1-X	80	50	56.5	●●○	24V / 1.80W 24V / 2.52W	75mA 105mA	70
LLA-90-100-1-X	101	71	77.5	●●○	24V / 2.52W 24V / 3.24W	105mA 135mA	100
LLA-90-120-1-X	125	95	101.5	●●○	24V / 3.84W 24V / 4.32W	160mA 180mA	110
LLA-90-150-1-X	151	121	127.5	●●○	24V / 3.96W 24V / 5.04W	165mA 210mA	120
LLA-90-180-1-X	181	151	157.5	●●○	24V / 4.68W 24V / 6.12W	195mA 255mA	180
LLA-90-210-1-X	211	181	187	●●○	24V / 5.76W 24V / 7.20W	240mA 300mA	190

Remark: 2 types of white are available- W: Cool White WW: Yellowish White

## Optional Connector

Standard Lighting Male Connector

PIN 1	24V
PIN 2	+
PIN 3	GND

M8 Male Connector

M8 Pin Assignment

PIN 1	-	-
PIN 2	RED	24V
PIN 3	-	-
PIN 4	BLACK	GND

M12 Male Connector

M12 Pin Assignment

PIN 1	BROWN	24V
PIN 2	WHITE	-
PIN 3	BLUE	GND
PIN 4	BLACK	-
PIN 5	GRAY	-

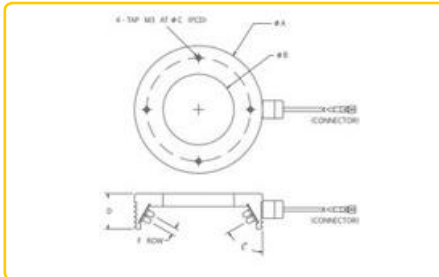
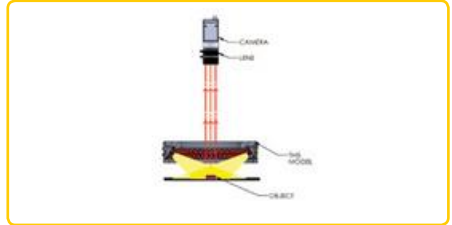
Product Part Numbering System:  
LLA-90-050-1-X-24V-M8

Product Part Numbering System:  
LLA-90-050-1-X-24V-M12

## LLA SERIES 60°, 75° - Direct, Low Angle, Ring Illumination

LED arrays are arranged in 60° & 75° provides side and low angle of illumination.  
LLA 60° & 75° series are available to suit different brightness requirements.

Applications: Edge Detection, Scratch on Metal or Glossy Surface



### Technical Specification:

- Color Red, Green, Blue and White
- 24V DC Input Power
- Continuous and Strobe Applications
- Compact Size
- Lighting Cable 500mm

### Customize Lighting:

- Customize Sizes, Mounting Requirements
- Color and Voltage Available
- Consult Technical Sales for More Information

LED Wavelength  
Red LED - 630nm  
Green LED - 525nm  
Blue LED - 470nm

Model	Dimensions (MM)						Color	Voltage / Watt	Current	Weight (g)
	ØA	ØB	ØC	D	E	F Row				
LLA-60-070-2-X	74.0	41.0	60.0	20.5	60.0	2.0	● ● ● ● ● ● ● ● ● ● ● ●	24V / 3.60W 24V / 4.68W 24V / 4.32W	150mA 195mA 180mA	90
LLA-60-090-2-X	90.0	57.0	75.0	20.5	60.0	2.0	● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ●	24V / 5.76W 24V / 2.88W 24V / 2.88W 24V / 2.88W	240mA 120mA 120mA 120mA	114
LLA-60-100-2-X	100	67	75	20.5	60.0	2.0	● ● ● ● ● ● ● ● ● ● ● ●	24V / 5.04W 24V / 6.48W	210mA 270mA	150
LLA-60-150-3-X	151.0	114.0	136.0	23.5	60.0	3.0	● ● ● ● ● ● ● ● ● ● ● ●	24V / 11.88W 24V / 15.12W	495mA 630mA	300
LLA-60-200-2-X	202.0	167.0	186.0	20.5	60.0	2.0	● ● ● ● ● ● ● ● ● ● ● ●	24V / 10.80W 24V / 14.04W	450mA 585mA	350
LLA-75-130-3-X	131.0	94.0	116.0	24.5	75.0	3.0	● ● ● ● ● ● ● ● ● ● ● ●	24V / 10.08W 24V / 12.96W	420mA 540mA	260
LLA-75-170-3-X	175.0	136.0	159.0	24.5	75.0	3.0	● ● ● ● ● ● ● ● ● ● ● ●	24V / 13.68W 24V / 17.64W	570mA 735mA	410

Remark: 2 types of white are available WVC Cold White WVR Warm White WWS Warm White



## LLA SERIES 60°, 75° – Available Accessories

### Optional Diffuser

Diffusers can be added to LLA series for uniform light distribution. Adding a diffuser helps to reduce glare from glossy applications and produce lighting that is softer, more beautiful and more shadow-free. The thickness of a diffuser is 2mm.



LLA-60-070-2-DIFFUSER  
LLA-60-090-2-DIFFUSER  
LLA-60-100-2-DIFFUSER  
LLA-60-150-3-DIFFUSER  
LLA-60-200-2-DIFFUSER  
LLA-75-130-3-DIFFUSER  
LLA-75-170-3-DIFFUSER

**DIFFUSER**

### Optional Polarizer

Polarizers can be added to LLA Series in instances in which polarised light is required to acquire ideal results. Adding a polarizer ensures the maximum elimination of unwanted glare and helps to absorb harsh reflection to provide better performance. The thickness of a polarizer is 0.8mm.




LLA-60-070-2-POLARIZER  
LLA-60-090-2-POLARIZER  
LLA-60-100-2-POLARIZER  
LLA-60-150-3-POLARIZER  
LLA-60-200-2-POLARIZER  
LLA-75-130-3-POLARIZER  
LLA-75-170-3-POLARIZER

**POLARIZER**

### Optional Connector



Standard Lighting  
Male Connector



PIN 1	24V
PIN 2	-
PIN 3	GND

M8  
Male Connector

M8  
Pin Assignment

PIN 1	-	-
PIN 2	RED	24V
PIN 3	-	-
PIN 4	BLACK	GND

Product Part Numbering System:  
LLA-60-070-2-X-24V-M8

M12  
Male Connector

M12  
Pin Assignment



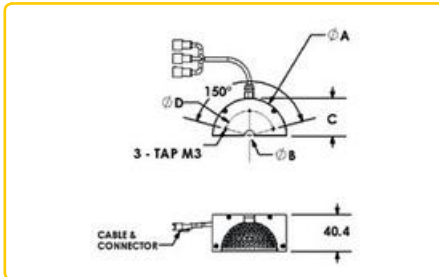
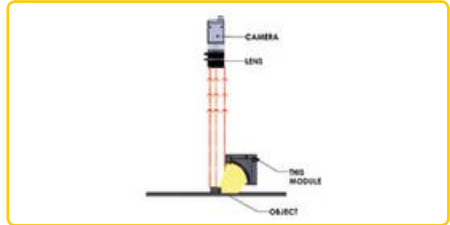

PIN 1	BROWN	24V
PIN 2	WHITE	-
PIN 3	BLUE	GND
PIN 4	BLACK	-
PIN 5	GRAY	-

Product Part Numbering System:  
LLA-60-070-2-X-24V-M12

## IDDC, LLAC, LSWC SERIES– Half Circle Illumination

LED arrays are arranged in angles, providing side or low angle of illumination.  
Half angle series are available to suit different brightness requirements

Applications: Edge Detection, Scratch on Metal or Glossy Surface



### Technical Specification:

- Color Red, Green, Blue and White
- 24V DC Input Power
- Continuous and Strobe Applications
- Compact Size
- Lighting Cable 500mm

### Customize Lighting:

- Customize Sizes, Mounting Requirements
- Color and Voltage Available
- Consult Technical Sales for More Information

Red LED - 630nm  
Green LED - 525nm  
Blue LED - 470nm

Model	Dimensions (MM)					Color	Voltage / Watt	Current	Weight (g)
	A	B	C	D	E				
LLAC-90-100-1-X	203.6	173.2	140	220	14	● ● ●	24V / 3.60W 24V / 5.04W	165mA 210mA	300
LLAC-90-070-1-X	154.8	124.4	94.2	170	14	● ● ●	24V / 2.88W 24V / 3.96W	120mA 165mA	210
LLAC-60-070-2-X	77.5	41	30.3	42.4	20.5	● ● ●	24V / 1.44W	60mA	80
LSWC-15-050-2-X	55.6	28	29.3	40	16	● ● ●	24V / 0.48W 24V / 0.96W	60mA 40mA	50
IDDC-00-080-9-RGB	81	10.8	54	54	41.5	● ● ●	24V / 1.44W 24V / 3.36W 24V / 3.86W	60mA 140mA 160mA	150

## Optional Connector

Standard Lighting Male Connector

PIN 1	24V
PIN 2	-
PIN 3	GND

M8 Male Connector M8 Pin Assignment

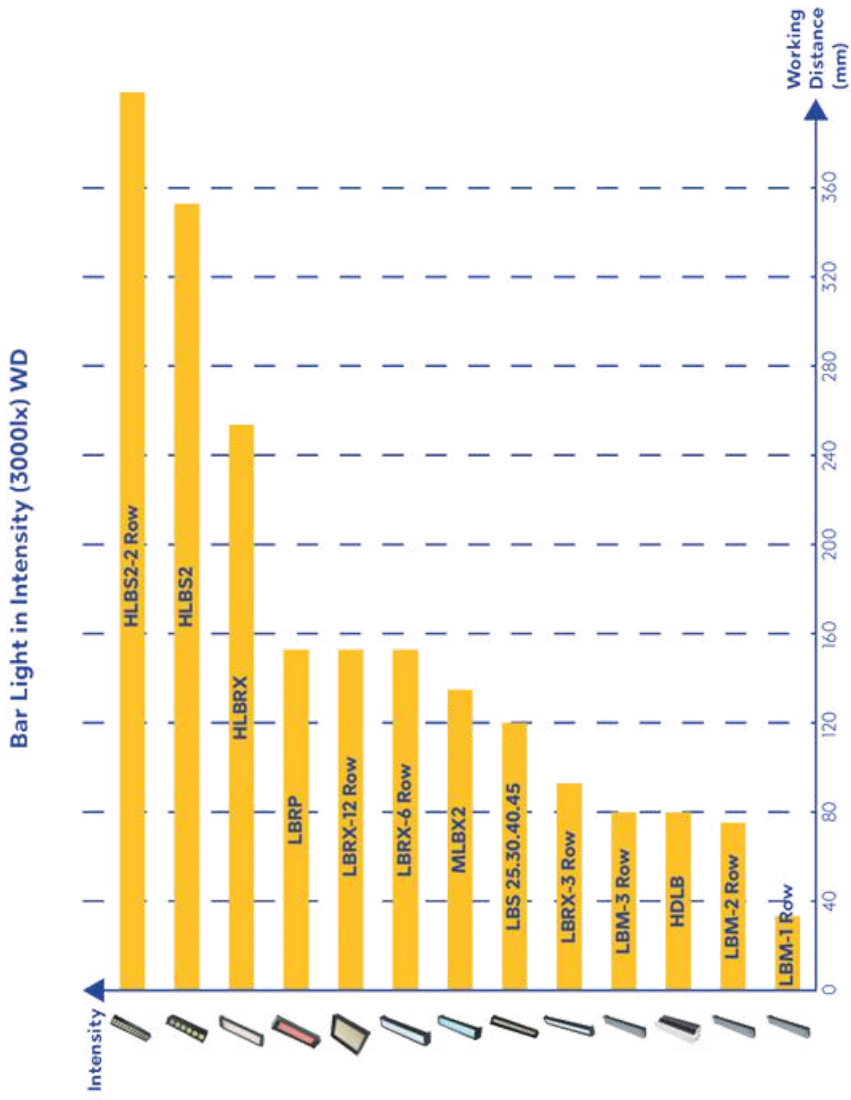
PIN 1	-	-
PIN 2	RED	24V
PIN 3	-	-
PIN 4	BLACK	GND

M12 Male Connector M12 Pin Assignment

PIN 1	BROWN	24V
PIN 2	WHITE	-
PIN 3	BLUE	GND
PIN 4	BLACK	-
PIN 5	GRAY	-

Product Part Numbering System:  
LLAC-60-070-2-X-24V-M8

Product Part Numbering System:  
LLAC-60-070-2-X-24V-M12

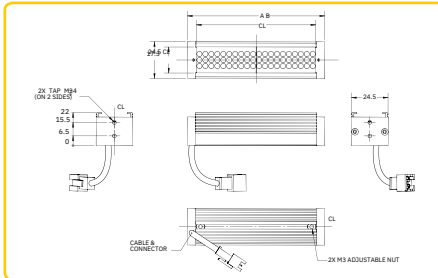
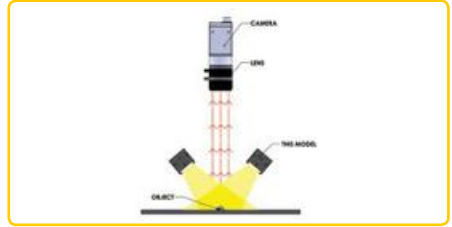


## LBRX 3 ROWS SERIES – Direct, Rectangular SMD Illumination

(for short working distance)

3 rows of SMD LEDs with lens arrays are arranged in a rectangular array to provide rectangular illumination, which can be mounted with different angle to provide differences in illumination reflection for image processing.

Applications: General Illumination, Label Inspection, Character Inspection, Code Recognition



### Technical Specification:

- Color Red, Green, Blue and White
- 24V DC Input Power
- Continuous and Strobe Applications
- Compact Size
- Lighting Cable 500mm
- Customize Lighting:
  - Customize Sizes, Mounting Requirements
  - Color and Voltage Available
- Consult Technical Sales for More Information
- LED Wavelength
  - Red LED - 630nm
  - Green LED - 525nm
  - Blue LED - 470nm

Model	Dimensions (MM)		Color	Voltage / Watt		Current	RGB Color	Voltage / Watt		Current	Weight (g)
	A	B									
LBRX-00-040-3-X	52.0	40.0	● ● ● IR850	24V / 0.79W	33mA	● ● ●	24V / 1.80W	75mA	50		
				24V / 1.01W	42mA		24V / 1.80W	75mA			
				24V / 1.08W	45mA		24V / 1.80W	75mA			
LBRX-00-080-3-X	92.0	80.0	● ● ● IR850	24V / 1.58W	66mA	● ● ●	24V / 3.60W	150mA	70		
				24V / 2.02W	84mA		24V / 3.60W	150mA			
				24V / 2.16W	90mA		24V / 3.60W	150mA			
LBRX-00-120-3-X	132.0	120.0	● ● ● IR850	24V / 2.38W	99mA	● ● ●	24V / 5.40W	225mA	95		
				24V / 3.02W	126mA		24V / 5.40W	225mA			
				24V / 3.24W	135mA		24V / 5.40W	225mA			
LBRX-00-160-3-X	172.0	160.0	● ● ● IR850	24V / 3.17W	132mA	● ● ●	24V / 7.20W	300mA	115		
				24V / 4.03W	168mA		24V / 7.20W	300mA			
				24V / 4.32W	180mA		24V / 7.20W	300mA			
LBRX-00-200-3-X	212.0	200.0	● ● ● IR850	24V / 3.96W	165mA	● ● ●	24V / 9.00W	375mA	140		
				24V / 5.04W	210mA		24V / 9.00W	375mA			
				24V / 5.40W	225mA		24V / 9.00W	375mA			

Remarks: LBRX 3 rows series can be cascaded (single colour / RGB) up to maximum length of 960mm

\*\* It is not recommended to light on the RED, GREEN, BLUE (RGB) LEDs at the same time

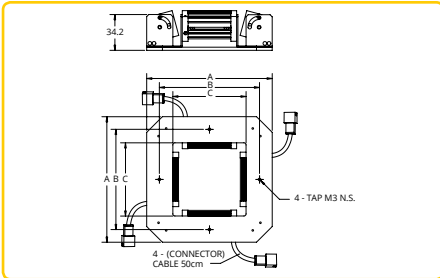
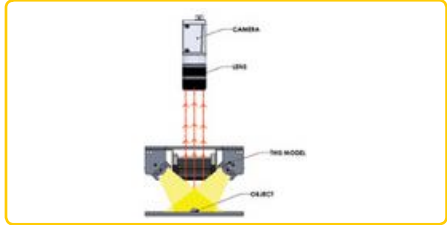


## LBRQ 3 ROWS SERIES – Direct, Multiple Rectangular Illumination

(for short working distance)

LBRQ 3 rows series consists of a combination of 4 LBRX LED arrays. Each array's angle can be adjusted for different height applications.

Applications: Lead Inspection, Character Inspection, Code Recognition



Technical Specification:

- Color Red, Green, Blue and White
- 24V DC Input Power
- Continuous and Strobe Applications
- Compact Size
- Lighting Cable 500mm

Customize Lighting:

- Customize Sizes, Mounting Requirements
- Color and Voltage Available
- Consult Technical Sales for More Information

LED Wavelength

- Red LED - 630nm
- Green LED - 525nm
- Blue LED - 470nm

Model	Dimensions (MM)			Color	Voltage / Watt	Current	RGB Color	Voltage / Watt	Current	Weight (g)
	A	B	C							
LBRQ-00-040-3-X	120.0	95.8	70.0	● ● ● IR850	24V / 3.17W	132mA	● ● ●	24V / 7.20W	300mA	385
					24V / 4.03W	168mA		24V / 7.20W	300mA	
					24V / 4.32W	180mA		24V / 7.20W	300mA	
LBRQ-00-080-3-X	160.0	135.8	110.0	● ● ● IR850	24V / 6.34W	264mA	● ● ●	24V / 14.40W	600mA	510
					24V / 8.06W	336mA		24V / 14.40W	600mA	
					24V / 8.64W	360mA		24V / 14.40W	600mA	
LBRQ-00-120-3-X	200.0	175.8	150.0	● ● ● IR850	24V / 9.50W	396mA	● ● ●	24V / 21.60W	900mA	595
					24V / 12.10W	504mA		24V / 21.60W	900mA	
					24V / 12.96W	540mA		24V / 21.60W	900mA	
LBRQ-00-160-3-X	240.0	215.8	190.0	● ● ● IR850	24V / 12.67W	528mA	● ● ●	24V / 28.80W	1200mA	740
					24V / 16.13W	672mA		24V / 28.80W	1200mA	
					24V / 17.28W	720mA		24V / 28.80W	1200mA	
LBRQ-00-200-3-X	280.0	255.8	230.0	● ● ● IR850	24V / 15.84W	660mA	● ● ●	24V / 36.00W	1500mA	900
					24V / 20.16W	840mA		24V / 36.00W	1500mA	
					24V / 21.60W	900mA		24V / 36.00W	1500mA	

Remarks: LBRQ 3 rows series can be cascaded (single colour / RGB) up to maximum length of 480mm.

\*\* It is not recommended to light on the RED, GREEN, BLUE (RGB) LEDs at the same time

## LBRX & LBRQ 3 ROWS SERIES – Available Accessories

### Optional Diffuser

Diffusers can be added to LBRX & LBRQ 3 rows series for uniform light distribution. Adding a diffuser helps to reduce glare from glossy applications and produce lighting that is softer, more beautiful and more shadow-free. The thickness of a diffuser is 2mm.



DIFFUSER

- LBRX-00-200-3-DIFFUSER
- LBRX-00-160-3-DIFFUSER
- LBRX-00-120-3-DIFFUSER
- LBRX-00-080-3-DIFFUSER
- LBRX-00-040-3-DIFFUSER
- LBRQ-00-200-3-DIFFUSER
- LBRQ-00-160-3-DIFFUSER
- LBRQ-00-120-3-DIFFUSER
- LBRQ-00-080-3-DIFFUSER
- LBRQ-00-040-3-DIFFUSER

### Optional Polarizer

There are two models of polarizers available – vertical (V) and horizontal (H). Adding a polarizer ensures the maximum elimination of unwanted glare and helps to absorb harsh reflection to provide better performance. The thickness of a polarizer is 0.8mm.



POLARIZER

- LBRX-00-200-3-POLARIZER-H
- LBRX-00-200-3-POLARIZER-V
- LBRX-00-160-3-POLARIZER-H
- LBRX-00-160-3-POLARIZER-V
- LBRX-00-120-3-POLARIZER-H
- LBRX-00-120-3-POLARIZER-V
- LBRX-00-080-3-POLARIZER-H
- LBRX-00-080-3-POLARIZER-V
- LBRX-00-040-3-POLARIZER-H
- LBRX-00-040-3-POLARIZER-V

### Optional Flexible Mounting Bracket

Mounting bracket is designed with flexible mounting purposes either by inward mounting or outward mounting.



Mounting Bracket

Inward Mounting




Outward Mounting

Bracket Part No.  
**LBRX-3-ROW-BRACKET**  
Available Lighting Model

LBRX-00-040-3-X	LBRX-00-160-3-X
LBRX-00-080-3-X	LBRX-00-200-3-X
LBRX-00-120-3-X	

### Optional Connector



Standard Lighting Male Connector



PIN 1	24V
PIN 2	-
PIN 3	GND

M8 Male Connector

M8 Pin Assignment

PIN 1	-	-
PIN 2	RED	24V
PIN 3	-	-
PIN 4	BLACK	GND

M12 Male Connector

M12 Pin Assignment




PIN 1	BROWN	24V
PIN 2	WHITE	-
PIN 3	BLUE	GND
PIN 4	BLACK	-
PIN 5	GRAY	-

Product Part Numbering System:  
LBRQ-00-040-3-X-24V-M8

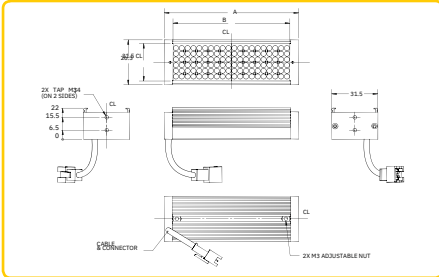
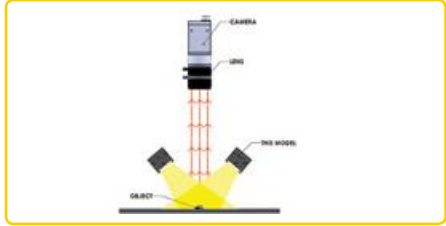
Product Part Numbering System:  
LBRQ-00-040-3-X-24V-M12

## LBRX 6 ROWS SERIES – Direct, Rectangular SMD Illumination

(for short working distance)

6 rows of SMD LEDs with lens arrays are arranged in a rectangular array to provide rectangular illumination, which can be mounted with different angle to provide differences in illumination reflection for image processing.

Applications: General Illumination, Label Inspection, Character Inspection, Code Recognition



### Technical Specification:

- Color Red, Green, Blue and White
  - 24V DC Input Power
  - Continuous and Strobe Applications
  - Compact Size
  - Lighting Cable 500mm
  - Customize Lighting:
    - Customize Sizes, Mounting Requirements
    - Color and Voltage Available
  - Consult Technical Sales for More Information
- LED Wavelength  
 Red LED- 630nm  
 Green LED - 525nm  
 Blue LED - 470nm

Model	Dimensions (MM)		Color	Voltage / Watt	Current	RGB Color	Voltage / Watt	Current	Weight (g)
	A	B							
LBRX-00-040-6-X	52.0	40.0	● ● ●	24V / 1.87W	78mA	● ● ●	24V / 2.40W	100mA	70
			● ● ○	24V / 1.73W	72mA		24V / 1.92W	80mA	
			IR850	24V / 1.73W	72mA		24V / 2.16W	90mA	
LBRX-00-080-6-X	92.0	80.0	● ● ●	24V / 3.74W	156mA	● ● ●	24V / 4.80W	200mA	100
			● ● ○	24V / 3.46W	144mA		24V / 3.84W	160mA	
			IR850	24V / 3.46W	144mA		24V / 4.32W	180mA	
LBRX-00-120-6-X	132.0	120.0	● ● ●	24V / 5.62W	234mA	● ● ●	24V / 7.20W	300mA	130
			● ● ○	24V / 5.18W	216mA		24V / 5.76W	240mA	
			IR850	24V / 5.18W	216mA		24V / 6.48W	270mA	
LBRX-00-160-6-X	172.0	160.0	● ● ●	24V / 7.49W	312mA	● ● ●	24V / 9.60W	400mA	170
			● ● ○	24V / 6.91W	288mA		24V / 7.68W	320mA	
			IR850	24V / 6.91W	288mA		24V / 8.64W	360mA	
LBRX-00-200-6-X	212.0	200.0	● ● ●	24V / 9.36W	390mA	● ● ●	24V / 12.0W	500mA	210
			● ● ○	24V / 8.64W	360mA		24V / 9.60W	400mA	
			IR850	24V / 8.64W	360mA		24V / 10.8W	450mA	

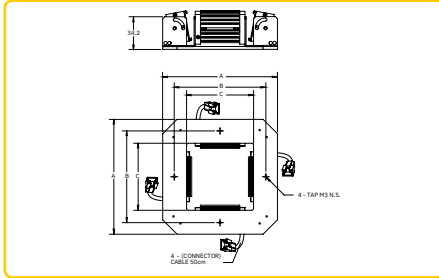
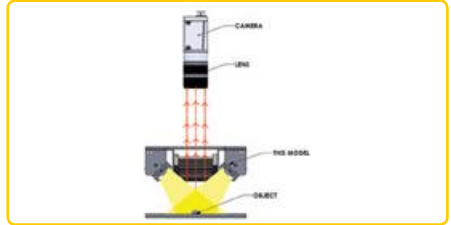
Remarks: LBRX 6 rows series can be cascaded (single colour / RGB) up to maximum length of 760mm.

\*\* It is not recommended to light on the RED, GREEN, BLUE (RGB) LEDs at the same time

## LBRQ 6 ROWS SERIES – Direct, High Intensity, Multiple Rectangular Illumination (for short working distance)

LBRQ 6 rows series consists of a combination of 4 LBRX LED arrays fit into a rectangular structure. Each array's angle can be adjusted for different height application.

Applications: Lead Inspection, Character Inspection, Code Recognition



### Technical Specification:

- Color Red, Green, Blue and White
- 24V DC Input Power
- Continuous and Strobe Applications
- Compact Size
- Lighting Cable 500mm

### Customize Lighting:

- Customize Sizes, Mounting Requirements
  - Color and Voltage Available
  - Consult Technical Sales for More Information
- LED Wavelength  
 Red LED - 630nm  
 Green LED - 525nm  
 Blue LED - 470nm

Model	Dimensions (MM)			Color	Voltage / Watt	Current	RGB Color	Voltage / Watt	Current	Weight (g)
	A	B	C							
LBRQ-00-040-6-X	120.0	95.8	70.0	●	24V / 7.49W	312mA	● ● ●	24V / 9.60W	400mA	355
				● ● ○	24V / 6.91W	288mA		24V / 7.68W	320mA	
				IR850	24V / 6.91W	288mA		24V / 8.64W	360mA	
LBRQ-00-080-6-X	160.0	135.8	110.0	●	24V / 14.98W	624mA	● ● ●	24V / 19.20W	800mA	500
				● ● ○	24V / 13.82W	576mA		24V / 15.36W	640mA	
				IR850	24V / 13.82W	576mA		24V / 17.28W	720mA	
LBRQ-00-120-6-X	200.0	175.8	150.0	●	24V / 22.46W	936mA	● ● ●	24V / 28.80W	1200mA	600
				● ● ○	24V / 20.74W	864mA		24V / 23.04W	960mA	
				IR850	24V / 20.74W	864mA		24V / 25.92W	1080mA	
LBRQ-00-160-6-X	240.0	215.8	190.0	●	24V / 29.95W	1248mA	● ● ●	24V / 38.40W	1600mA	800
				● ● ○	24V / 27.65W	1152mA		24V / 30.72W	1280mA	
				IR850	24V / 27.65W	1152mA		24V / 34.56W	1440mA	
LBRQ-00-200-6-X	280.0	255.8	230.0	●	24V / 37.44W	1560mA	● ● ●	24V / 48.00W	2000mA	900
				● ● ○	24V / 34.56W	1440mA		24V / 38.40W	1600mA	
				IR850	24V / 34.56W	1440mA		24V / 43.20W	1800mA	

Remarks: LBRQ 6 rows series can be cascaded (single colour / RGB) up to maximum length of 480mm.

\*\* It is not recommended to light on the RED, GREEN, BLUE (RGB) LEDs at the same time

## LBRX & LBRQ 6 ROWS SERIES – Available Accessories

### Optional Diffuser

Diffusers can be added to LBRX & LBRQ 6 rows series for uniform light distribution. Adding a diffuser helps to reduce glare from glossy applications and produce lighting that is softer, more beautiful and more shadow-free. The thickness of a diffuser is 2mm.



LBRX-00-200-6-DIFFUSER  
LBRX-00-160-6-DIFFUSER  
LBRX-00-120-6-DIFFUSER  
LBRX-00-080-6-DIFFUSER  
LBRX-00-040-6-DIFFUSER  
LBRQ-00-200-6-DIFFUSER  
LBRQ-00-160-6-DIFFUSER  
LBRQ-00-120-6-DIFFUSER  
LBRQ-00-080-6-DIFFUSER  
LBRQ-00-040-6-DIFFUSER

DIFFUSER

### Optional Polarizer

There are two models of polarizers available – vertical (V) and horizontal (H). Adding a polarizer ensures the maximum elimination of unwanted glare and helps to absorb harsh reflection to provide better performance. The thickness of a polarizer is 0.8mm.



LBRX-00-200-6-POLARIZER-H  
LBRX-00-200-6-POLARIZER-V  
LBRX-00-160-6-POLARIZER-H  
LBRX-00-160-6-POLARIZER-V  
LBRX-00-120-6-POLARIZER-H  
LBRX-00-120-6-POLARIZER-V  
LBRX-00-080-6-POLARIZER-H  
LBRX-00-080-6-POLARIZER-V  
LBRX-00-040-6-POLARIZER-H  
LBRX-00-040-6-POLARIZER-V

POLARIZER


### Optional Flexible Mounting Bracket

Mounting bracket is designed with flexible mounting purposes either by inward mounting or outward mounting.



Mounting Bracket

Inward Mounting




Outward Mounting

Bracket Part No.  
**LBRX-6-ROW-BRACKET**  
Available Lighting Model  
LBRX-00-040-6-X    LBRX-00-160-6-X  
LBRX-00-080-6-X    LBRX-00-200-6-X  
LBRX-00-120-6-X



### Optional Connector

Standard Lighting Male Connector



PIN 1	24V
PIN 2	-
PIN 3	GND

M8 Male Connector      M8 Pin Assignment

PIN 1	-	-
PIN 2	RED	24V
PIN 3	-	-
PIN 4	BLACK	GND

M12 Male Connector      M12 Pin Assignment




PIN 1	BROWN	24V
PIN 2	WHITE	-
PIN 3	BLUE	GND
PIN 4	BLACK	-
PIN 5	GRAY	-

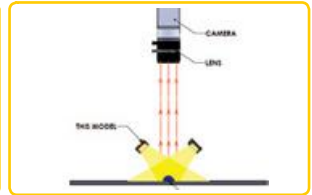
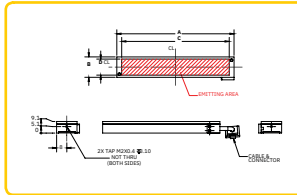
Product Part Numbering System:  
LBRX-00-040-6-X-24V-M8

Product Part Numbering System:  
LBRX-00-040-6-X-24V-M12

## LBM SERIES – Compact Rectangular Illumination

### Optional Diffuser

LBM Series is a compact rectangular illumination which is suitable for small or narrow inspection.

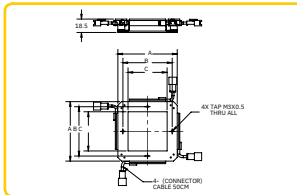


Model	Dimensions (MM)				Color	Voltage / Watt	Current	Weight (g)
	A	B	C	D				
LBM-00-040-1-X	50	9	42.4	5.6	● ● ○ ● ● ○	24V / 0.31W 24V / 0.62W	13mA 26mA	19
LBM-00-080-1-X	92	9	84.4	5.6	● ● ○ ● ● ○	24V / 0.62W 24V / 1.25W	26mA 52mA	24
LBM-00-040-2-X	50	13	42.4	9.6	● ● ○ ● ● ○	24V / 0.72W 24V / 1.44W	30mA 60mA	21
LBM-00-080-2-X	92	13	84.4	9.6	● ● ○ ● ● ○	24V / 1.25W 24V / 2.50W	52mA 104mA	27
LBM-00-040-3-X	50	16	42.4	12.6	● ● ○ ● ● ○	24V / 1.08W 24V / 2.16W	45mA 90mA	22
LBM-00-080-3-X	92	16	84.4	12.6	● ● ○ ● ● ○	24V / 1.87W 24V / 3.74W	78mA 156mA	29

## LBMQ SERIES – Compact Rectangular Illumination

LBMQ Series are a combination of 4 LBM LED arrays.

Each array angle can be adjusted for different height application.



Model	Dimensions (MM)			Color	Voltage / Watt	Current	Weight (g)
	A	B	C				
LBMQ-00-040-1-X	82	68	54	● ● ○ ● ● ○	24V / 1.25W 24V / 2.49W	52mA 104mA	102
LBMQ-00-040-2-X	86	68	54	● ● ○ ● ● ○	24V / 2.88W 24V / 4.99W	120mA 208mA	116
LBMQ-00-040-3-X	89	68	54	● ● ○ ● ● ○	24V / 3.74W 24V / 8.64W	156mA 360mA	120

LED Wavelength

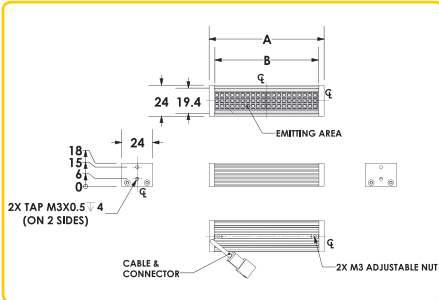
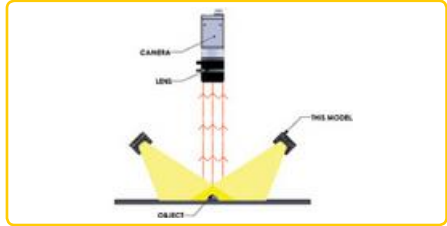
Red Led - 630nm, Green Led - 525nm, Blue Led - 470nm



### LBS SERIES-High Density, Rectangular Illumination

LED arrays are arranged in rectangular array to provide rectangular illumination and can be cascaded to different sizes. The rectangular illumination can be mounted with different angle to provide different illumination reflection for image processing. Optional diffuser can be added to all LBS series for more even light distribution.

Application: General Illumination, Label inspection, Character inspection, Code recognition



Technical Specification:

- Color Red, Green, Blue and White
- 24V DC Input Power
- Continuous and Strobe Applications
- Compact Size
- Lighting Cable 500mm

Customize Lighting:

- Customize Sizes, Mounting Requirements
- Color and Voltage Available
- Consult Technical Sales for More Information

LED Wavelength

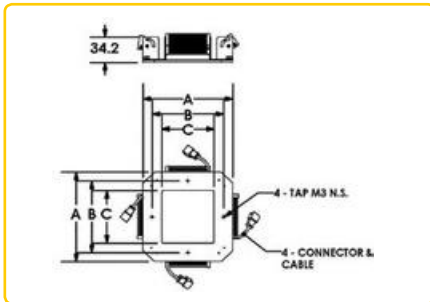
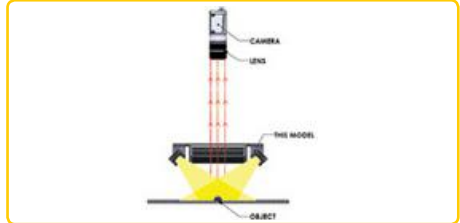
- Red LED - 630nm
- Green LED - 525nm
- Blue LED - 470nm

Model	Dimensions (MM)		Color	Voltage / Watt	Current	Weight (g)
	A	B				
LBS25-00-050-3-X	59	50	● ● ○	24V/1.44W 24V/2.16W	60mA 90mA	40
LBS30-00-060-3-X	69	60	● ● ○	24V/2.16W 24V/2.16W	90mA 90mA	55
LBS40-00-080-3-X	89	80	● ● ○	24V/2.16W 24V/3.6W	120mA 150mA	60
LBS45-00-135-3-X	144	135	● ● ○	24V/4.32W 24V/5.4W	180mA 225mA	90

## LBQ SERIES-High Density, Multiple Rectangular Illumination

LBQ series are a combination of 4 LBS LED arrays. Each array angle can be adjusted for different height application. This Illumination can be cascaded to different sizes.

Application: Label inspection, Character inspection, Code recognition



### Technical Specification:

- Color Red, Green, Blue and White
- 24V DC Input Power
- Continuous and Strobe Applications
- Compact Size
- Lighting Cable 500mm

### Customize Lighting:

- Customize Sizes, Mounting Requirements
- Color and Voltage Available
- Consult Technical Sales for More Information

### LED Wavelength

- Red LED - 630nm
- Green LED - 525nm
- Blue LED - 470nm

Model	Dimensions (MM)			Color	Voltage / Watt	Current	Weight (g)
	A	B	C				
LBQ25-00-050-3-X	120	95.8	70	● ● ○	24V/5.76W 24V/8.64W	240mA 360mA	375
LBQ30-00-060-3-X	130	105.8	80	● ● ○	24V/8.64W 24V/8.64W	360mA 360mA	425
LBQ40-00-080-3-X	150	125.8	100	● ● ○	24V/8.64W 24V/14.4W	360mA 600mA	505
LBQ45-00-090-3-X	160	135.8	110	● ● ○	24V/17.28W 24V/21.6W	720mA 900mA	595

## LBS & LBQ SERIES – Available Accessories

### Optional Diffuser

Diffusers can be added to LBS & LBQ Series rows series for uniform light distribution. Adding a diffuser helps to reduce glare from glossy applications and produce lighting that is softer, more beautiful and more shadow-free. The thickness of a diffuser is 2mm.



DIFFUSER

- LBS45-00-135-3-DIFFUSER
- LBS40-00-080-3-DIFFUSER
- LBS30-00-060-3-DIFFUSER
- LBS25-00-050-3-DIFFUSER
- LBQ45-00-135-3-DIFFUSER
- LBQ40-00-080-3-DIFFUSER
- LBQ30-00-060-3-DIFFUSER
- LBQ25-00-050-3-DIFFUSER

### Optional Polarizer

There are two models of polarizers available – vertical (V) and horizontal (H). Adding a polarizer ensures the maximum elimination of unwanted glare and helps to absorb harsh reflection to provide better performance. The thickness of a polarizer is 0.8mm.




POLARIZER

- LBS45-00-135-3-POLARIZER-H
- LBS45-00-135-3-POLARIZER-V
- LBS40-00-080-3-POLARIZER-H
- LBS40-00-080-3-POLARIZER-V
- LBS30-00-060-3-POLARIZER-H
- LBS30-00-060-3-POLARIZER-V
- LBS25-00-050-3-POLARIZER-H
- LBS25-00-050-3-POLARIZER-V


### Optional Connector

Standard Lighting  
Male Connector




PIN 1	24V
PIN 2	-
PIN 3	GND

M8  
Male Connector



M8  
Pin Assignment



PIN 1	-	-
PIN 2	RED	24V
PIN 3	-	-
PIN 4	BLACK	GND

M12  
Male Connector



M12  
Pin Assignment



PIN 1	BROWN	24V
PIN 2	WHITE	-
PIN 3	BLUE	GND
PIN 4	BLACK	-
PIN 5	GRAY	-

Product Part Numbering System:  
LBS45-00-135-3-X-24V-M8

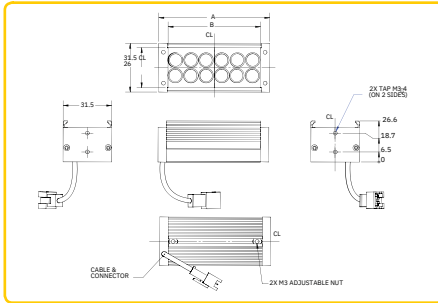
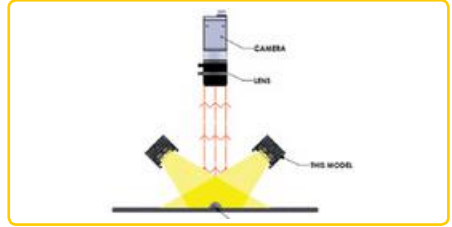
Product Part Numbering System:  
LBS45-00-135-3-X-24V-M12

## MLBX2 SERIES – Direct, High Intensity, Rectangular Illumination

(for short working distance)

2 rows of mid-power SMD LEDs with lens arrays are arranged in a rectangular array to provide rectangular illumination, which can be mounted with different angles to provide differences in illumination reflection for image processing.

Applications: General Illumination, Label Inspection, Character Inspection, Code Recognition



Technical Specification:

- Color Red, Green, Blue, White and RGB
- 24V DC Input Power
- Continuous and Strobe Applications
- Compact Size
- Lighting Cable 500mm

Customize Lighting:

- Customize Sizes, Mounting Requirements
- Color and Voltage Available
- Consult Technical Sales for More Information

LED Wavelength **[OSRAM LED Light Technology]**

- Red LED is 620nm
- Blue LED is 450nm
- Green LED is 540nm

Model	Dimensions (MM)		Color	Voltage / Watt	Current	Weight (g)
	A	B				
*MLBX2-00-060-2-X	72.0	60.0	●	24V / 2.304W	96mA	75
			● ● ○	24V / 2.304W	96mA	
*MLBX2-00-090-2-X	102.0	90.0	●	24V / 3.46W	144mA	96
			● ● ○	24V / 3.46W	144mA	
*MLBX2-00-120-2-X	132.0	120.0	●	24V / 4.61W	192mA	118
			● ● ○	24V / 4.61W	192mA	
*MLBX2-00-150-2-X	162.0	150.0	●	24V / 5.76W	240mA	139
			● ● ○	24V / 5.76W	240mA	

Model	Dimensions (MM)		Color	Voltage / Watt	Current	Weight (g)
	A	B				
MLBX2-00-060-2-RGB	72.0	60.0	● ● ●	24V / 1.20W	50mA	90
			● ● ●	24V / 0.96W	40mA	
			● ● ●	24V / 0.96W	40mA	
MLBX2-00-090-2-RGB	102.0	90.0	● ● ●	24V / 1.80W	75mA	120
			● ● ●	24V / 1.44W	60mA	
			● ● ●	24V / 1.44W	60mA	
MLBX2-00-120-2-RGB	132.0	120.0	● ● ●	24V / 2.40W	100mA	140
			● ● ●	24V / 1.92W	80mA	
			● ● ●	24V / 1.92W	80mA	
MLBX2-00-150-2-RGB	162.0	150.0	● ● ●	24V / 3.00W	125mA	170
			● ● ●	24V / 2.40W	100mA	
			● ● ●	24V / 2.40W	100mA	

Remarks: MLBX part numbers are changed to MLBX2

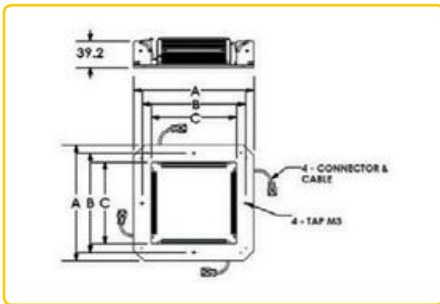
MLBX2 series can cascade (Single colour / RGB) able to customize to maximum length 1170mm.

\*\* It is not recommended to light on the RED, GREEN, BLUE (RGB) LEDs at the same time

## MLBQ SERIES-High Density, Multiple Rectangular Illumination

MLBQ series is a combination of 4 MLBX2 LED arrays. Each array angle can be adjusted for different height application.

Application: Label inspection, Character inspection, Code recognition



Technical Specification:

- Color Red, Green, Blue and White
- 24V DC Input Power
- Continuous and Strobe Applications
- Compact Size
- Lighting Cable 500mm

Customize Lighting:

- Customize Sizes, Mounting Requirements
- Color and Voltage Available
- Consult Technical Sales for More Information

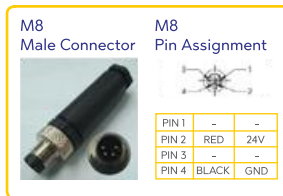
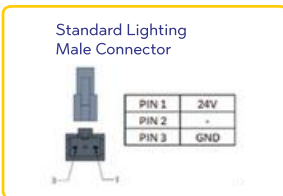
LED Wavelength

- Red LED - 630nm
- Green LED - 525nm
- Blue LED - 470nm

Model	Dimensions (MM)			Color	Voltage / Watt	Current	Weight (g)
	A	B	C				
MLBQ-00-090-2-RGBW	170	145.8	120		24V / 6.72W 24V / 9.6W	280mA 400mA	410



## Optional Connector



Product Part Numbering System:  
MLBQ-00-090-X-X-24V-M8

Product Part Numbering System:  
MLBQ-00-090-X-X-24V-M12

\*\* It is not recommended to light on the RED, GREEN, BLUE, WHITE (RGBW) LEDs at the same time

## MLBX2 & MLBQ2 SERIES – Available Accessories

### Optional Diffuser

Diffusers can be added to MLBX & MLBQ2 series for uniform light distribution. Adding a diffuser helps to reduce glare from glossy applications and produce lighting that is softer, more beautiful and more shadow-free. The thickness of a diffuser is 2mm.



DIFFUSER

- MLBX2-00-150-2-DIFFUSER
- MLBX2-00-120-2-DIFFUSER
- MLBX2-00-090-2-DIFFUSER
- MLBX2-00-060-2-DIFFUSER
- MLBQ-00-090-2-DIFFUSER

### Optional Polarizer

Polarizers can be added to MLBX2 series in the case in which polarised light is required to acquire ideal results. Adding a polarizer ensures the maximum elimination of unwanted glare and helps to absorb harsh reflection to provide better performance. The thickness of a polarizer is 0.8mm.



POLARIZER

- MLBX2-00-150-2-POLARIZER-H
- MLBX2-00-150-2-POLARIZER-V
- MLBX2-00-120-2-POLARIZER-H
- MLBX2-00-120-2-POLARIZER-V
- MLBX2-00-090-2-POLARIZER-H
- MLBX2-00-090-2-POLARIZER-V
- MLBX2-00-060-2-POLARIZER-H
- MLBX2-00-060-2-POLARIZER-V

### Optional Flexible Mounting Bracket

Optional mounting bracket is designed with flexible mounting purpose, either by inward mounting or outward mounting.



Mounting Bracket

Inward Mounting



Outward Mounting


Bracket Part No.  
**MLBX-2-ROW-BRACKET**

Available Lighting Model

MLBX2-00-060-3-X	MLBX2-00-120-3-X
MLBX2-00-090-3-X	MLBX2-00-150-3-X

### Optional Connector



**Standard Lighting Male Connector**



PIN 1	24V
PIN 2	-
PIN 3	GND

**M8 Male Connector**

**M8 Pin Assignment**

PIN 1	-	-
PIN 2	RED	24V
PIN 3	-	-
PIN 4	BLACK	GND

**M12 Male Connector**

**M12 Pin Assignment**




PIN 1	BROWN	24V
PIN 2	WHITE	-
PIN 3	BLUE	GND
PIN 4	BLACK	-
PIN 5	GRAY	-

Product Part Numbering System:  
MLBX2-00-060-2-X-24V-M8

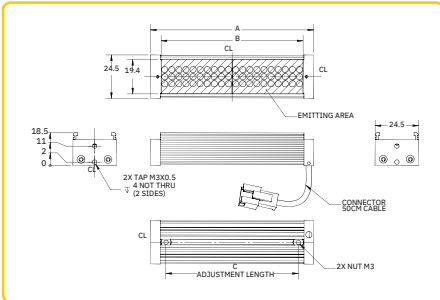
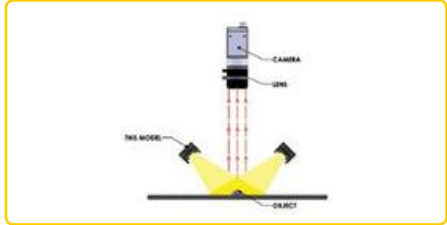
Product Part Numbering System:  
MLBX2-00-060-2-X-24V-M12

## HLBRX SERIES – Direct, High Intensity, Rectangular Illumination

(for short working distance)

3 rows of SMD LEDs are arranged in a rectangular array to provide rectangular illumination that can be mounted with different angles to provide differences in illumination reflection for image processing.

Applications: General Illumination, Label Inspection, Character Inspection, Code Recognition



Technical Specification:

- Color Red, Green, Blue and White
- 24V DC Input Power
- Continuous and Strobe Applications
- Compact Size
- Lighting Cable 500mm

Customize Lighting:

- Customize Sizes, Mounting Requirements
- Color and Voltage Available
- Consult Technical Sales for More Information

LED Wavelength **[OSRAM LED Light Technology]**

- Red LED is 620nm
- Blue LED is 450nm
- Green LED is 540nm

Model	Dimensions (MM)			Color	Voltage / Watt	Current	Weight (g)
	A	B	C				
HLBRX-00-040-3-X	52	40	34.6	● ● ●	24V / 2.88W 24V / 3.36W	120mA 140mA	46
HLBRX-00-080-3-X	92	80	74.6	● ● ●	24V / 5.76W 24V / 6.72W	240mA 280mA	65

### Optional Connector

Standard Lighting Male Connector

PIN 1	24V
PIN 2	-
PIN 3	GND

M8 Male Connector M8 Pin Assignment

PIN 1	-	-
PIN 2	RED	24V
PIN 3	-	-
PIN 4	BLACK	GND

M12 Male Connector M12 Pin Assignment

PIN 1	BROWN	24V
PIN 2	WHITE	-
PIN 3	BLUE	GND
PIN 4	BLACK	-
PIN 5	GRAY	-

Product Part Numbering System:  
HLBRX-00-040-3-X-24V-M8

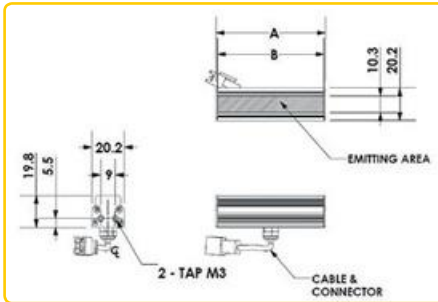
Product Part Numbering System:  
HLBRX-00-040-3-X-24V-M12



## HLBS2 SERIES - High Power Illumination Compact Bar Light

HLBS2 series is a high power bar spot illumination to prove application that requires high intensity illumination.

The illumination can be cascaded to achieve bigger coverage.



### Technical Specification:

- Color Red, Green, Blue and White
- 24V DC Input Power
- Continuous and Strobe Applications
- Compact Size
- Lighting Cable 500mm

### Customize Lighting:

- Customize Sizes, Mounting Requirements
- Color and Voltage Available
- Consult Technical Sales for More Information

### LED Wavelength

- Red LED - 630nm
- Green LED - 525nm
- Blue LED - 470nm

Model	Dimensions (MM)		Color	Voltage / Watt	Current	Weight (g)
	A	B				
HLBS2-00-065-1-X	68	66	<ul style="list-style-type: none"> <li>●</li> <li>●</li> <li>○</li> </ul>	24V / 3.6W 24V / 3.6W	150mA 150mA	52
HLBS2-00-130-1-X	131	133	<ul style="list-style-type: none"> <li>●</li> <li>●</li> <li>○</li> </ul>	24V / 3.84W 24V / 3.84W	160mA 160mA	89

## Optional Connector

Standard Lighting Male Connector

PIN 1	24V
PIN 2	-
PIN 3	GND

M8 Male Connector

M8 Pin Assignment

PIN 1	-	-
PIN 2	RED	24V
PIN 3	-	-
PIN 4	BLACK	GND

M12 Male Connector

M12 Pin Assignment

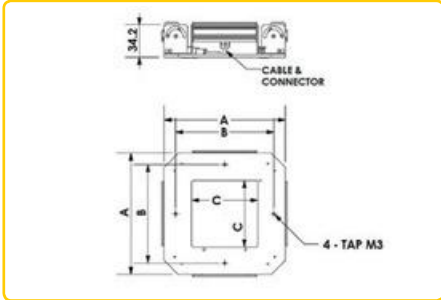
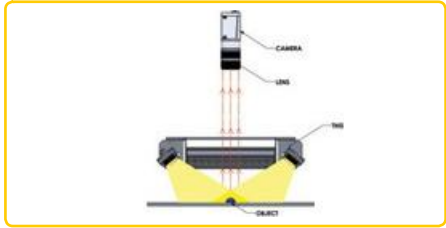
PIN 1	BROWN	24V
PIN 2	WHITE	-
PIN 3	BLUE	GND
PIN 4	BLACK	-
PIN 5	GRAY	-

Product Part Numbering System:  
HLBS2-00-065-1-X-24V-M8

Product Part Numbering System:  
HLBS2-00-065-1-X-24V-M12

## HLBQ2 SERIES – High Power Multiple Compact Bar Light

HLBQ2 series is a combination of 4 HLBS2 LED arrays. Each array can be adjusted for different height application.



Technical Specification:

- Color Red, Green, Blue and White
- 24V DC Input Power
- Continuous and Strobe Applications
- Compact Size
- Lighting Cable 500mm

Customize Lighting:

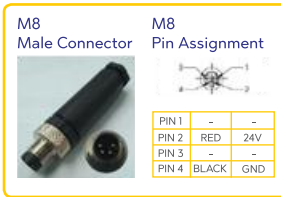
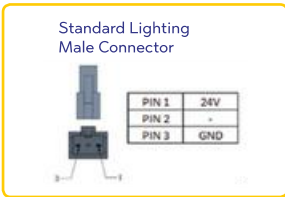
- Customize Sizes, Mounting Requirements
- Color and Voltage Available
- Consult Technical Sales for More Information

LED Wavelength

- Red LED - 630nm
- Green LED - 525nm
- Blue LED - 470nm

Model	Dimensions (MM)			Color	Voltage / Watt	Current	Weight (g)
	A	B	C				
HLBQ2-00-065-1-X	128.2	104	70.2	● ● ○	24V / 14.4W 24V / 14.4W	600mA 600mA	386
HLBQ2-00-130-1-X	136	170	194	● ● ○	24V / 15.36W 24V / 15.36W	640mA 640mA	587

## Optional Connector



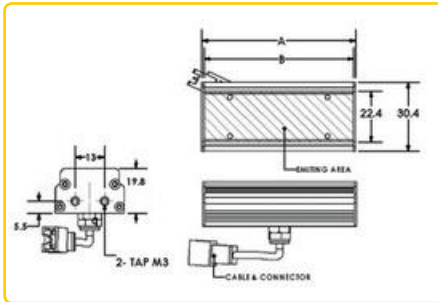
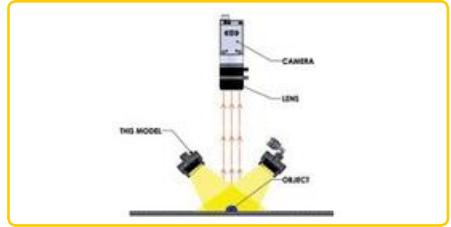
Product Part Numbering System:  
HLBQ2-00-065-1-X-24V-M8

Product Part Numbering System:  
HLBQ2-00-065-1-X-24V-M12

## HLBS2 – 2 ROWS SERIES - High Power Illumination Compact Bar Light

HLBS2 – 2 rows series is a high power bar spot illumination to prove application that requires high intensity illumination.

The illumination can be cascaded to achieve bigger coverage.



### Technical Specification:

- Color Red, Green, Blue and White
- 24V DC Input Power
- Continuous and Strobe Applications
- Compact Size
- Lighting Cable 500mm

### Customize Lighting:

- Customize Sizes, Mounting Requirements
- Color and Voltage Available
- Consult Technical Sales for More Information

### LED Wavelength

- Red LED - 630nm
- Green LED - 525nm
- Blue LED - 470nm

Model	Dimensions (MM)		Color	Voltage / Watt	Current	Weight (g)
	A	B				
HLBS2-00-065-2-X	68	66	<ul style="list-style-type: none"> <li>●</li> <li>●</li> <li>○</li> </ul>	24V / 3.84W 24V / 3.84W	160mA	73
HLBS2-00-130-2-X	133	131	<ul style="list-style-type: none"> <li>●</li> <li>●</li> <li>○</li> </ul>	24V / 7.68W 24V / 7.68W	320mA	118

## Optional Connector

Standard Lighting Male Connector

PIN 1	24V
PIN 2	-
PIN 3	GND

M8 Male Connector

M8 Pin Assignment

PIN 1	-	-
PIN 2	RED	24V
PIN 3	-	-
PIN 4	BLACK	GND

M12 Male Connector

M12 Pin Assignment

PIN 1	BROWN	24V
PIN 2	WHITE	-
PIN 3	BLUE	GND
PIN 4	BLACK	-
PIN 5	GRAY	-

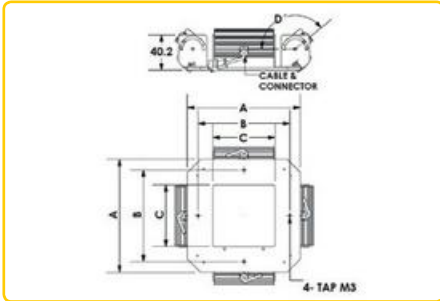
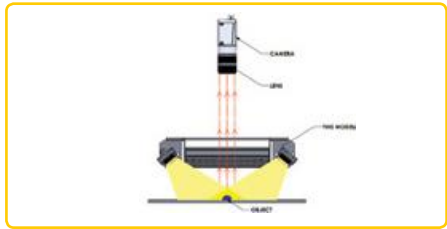
Product Part Numbering System:  
HLBS2-00-065-2-X-24V-M8

Product Part Numbering System:  
HLBS2-00-065-2-X-24V-M12



## HLBQ2 - 2 ROWS SERIES – High Power Multiple Compact Bar Light

HLBQ2 - 2 rows is a combination of 4 HLBS2 LED arrays. Each array can be adjusted for different height application.



### Technical Specification:

- Color Red, Green, Blue and White
- 24V DC Input Power
- Continuous and Strobe Applications
- Compact Size
- Lighting Cable 500mm

### Customize Lighting:

- Customize Sizes, Mounting Requirements
- Color and Voltage Available
- Consult Technical Sales for More Information

### LED Wavelength

Red LED - 630nm

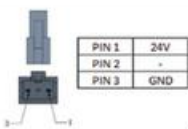
Green LED - 525nm

Blue LED - 470nm

Model	Dimensions (MM)				Color	Voltage / Watt	Current	Weight (g)
	A	B	C	D				
HLBQ2-00-065-2-X	128.2	104	70.2	0-180	<ul style="list-style-type: none"> <li>● ● ○</li> <li>● ● ○</li> </ul>	24V / 15.36W 24V / 15.36W	640mA 640mA	364
HLBQ2-00-130-2-X	193.2	169	135.2	0-180	<ul style="list-style-type: none"> <li>● ● ○</li> <li>● ● ○</li> </ul>	24V / 30.72W 24V / 30.72W	1280mA 1280mA	762

## Optional Connector

### Standard Lighting Male Connector



### M8 Male Connector



### M8 Pin Assignment

PIN 1	-	-
PIN 2	RED	24V
PIN 3	-	-
PIN 4	BLACK	GND

Product Part Numbering System:  
HLBQ2-00-065-2-X-24V-M8

### M12 Male Connector



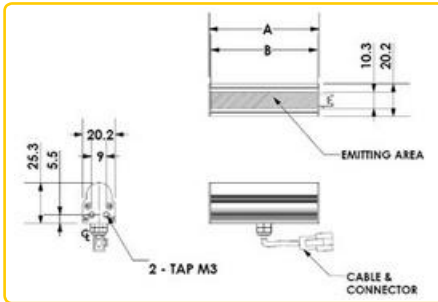
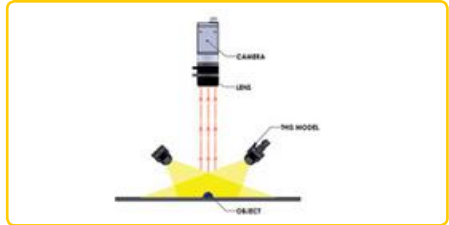
### M12 Pin Assignment

PIN 1	BROWN	24V
PIN 2	WHITE	-
PIN 3	BLUE	GND
PIN 4	BLACK	-
PIN 5	GRAY	-

Product Part Numbering System:  
HLBQ2-00-065-2-X-24V-M12

## HDLB SERIES – High Power Tube Barlight

HDLB series are high power tube diffuser provide an evenness inspection with high intensity illumination.



### Technical Specification:

- Color Red, Green, Blue and White
- 24V DC Input Power
- Continuous and Strobe Applications
- Compact Size
- Lighting Cable 500mm

### Customize Lighting:

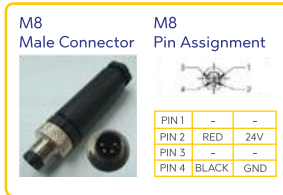
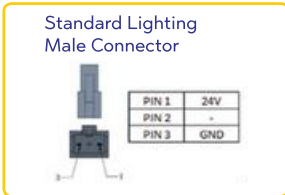
- Customize Sizes, Mounting Requirements
- Color and Voltage Available
- Consult Technical Sales for More Information

### LED Wavelength

- Red LED - 630nm
- Green LED - 525nm
- Blue LED - 470nm

Model	Dimensions (MM)		Color	Voltage / Watt	Current	Weight (g)
	A	B				
HDLB-00-065-1-X	68	66	● ● ○	24V / 3.6W 24V / 3.6W	150mA 150mA	52
HDLB-00-130-1-X	131	133	● ● ○	24V / 3.84W 24V / 3.84W	160mA 160mA	89

## Optional Connector



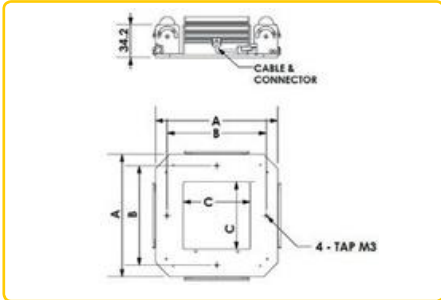
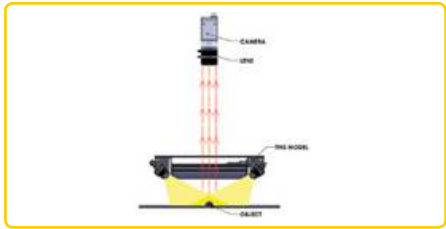
Product Part Numbering System:  
HDLB-00-065-1-X-24V-M8



Product Part Numbering System:  
HDLB-00-065-1-X-24V-M12

## HDLBQ SERIES – High Power Multiple Tube Bar Light

HDLBQ series is a combination of 4 HDLB LED arrays. Each array can be adjusted for different height application.



Technical Specification:  
 - Color Red, Green, Blue and White  
 - 24V DC Input Power  
 - Continuous and Strobe Applications  
 - Compact Size  
 - Lighting Cable 500mm  
 Customize Lighting:  
 - Customize Sizes, Mounting Requirements  
 - Color and Voltage Available  
 - Consult Technical Sales for More Information  
 LED Wavelength  
 Red LED - 630nm  
 Green LED - 525nm  
 Blue LED - 470nm

Model	Dimensions (MM)			Color	Voltage / Watt	Current	Weight (g)
	A	B	C				
HDLBQ-00-065-1-X	128.2	104	70.2	● ● ○	24V / 14.4W 24V / 14.4W	600mA 600mA	386
HDLBQ-00-130-1-X	136	170	194	● ● ○	24V / 15.36W 24V / 15.36W	640mA 640mA	587

## Optional Connector

Standard Lighting Male Connector

PIN 1	24V
PIN 2	-
PIN 3	GND

M8 Male Connector

M8 Pin Assignment

PIN 1	-	-
PIN 2	RED	24V
PIN 3	-	-
PIN 4	BLACK	GND

M12 Male Connector

M12 Pin Assignment

PIN 1	BROWN	24V
PIN 2	WHITE	-
PIN 3	BLUE	GND
PIN 4	BLACK	-
PIN 5	GRAY	-

Product Part Numbering System:  
HDLBQ-00-065-1-X-24V-M8

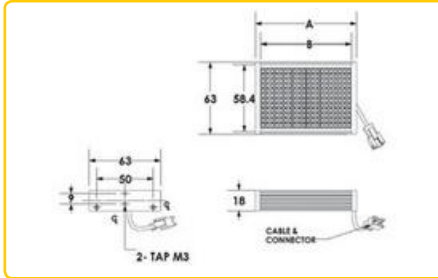
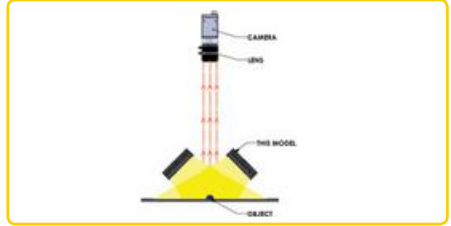
Product Part Numbering System:  
HDLBQ-00-065-1-X-24V-M12

## LBRX 12 ROWS SERIES – High Density, Rectangular Illumination

(for short working distance)

12 rows of SMD LEDs with lens arrays are arranged in a rectangular array to provide rectangular illumination, which can be mounted with different angle to provide differences in illumination reflection for image processing.

Applications: General Illumination, Label Inspection, Character Inspection, Code Recognition



### Technical Specification:

- Color Red, Green, Blue and White
  - 24V DC Input Power
  - Continuous and Strobe Applications
  - Compact Size
  - Lighting Cable 500mm
- Customize Lighting:
- Customize Sizes, Mounting Requirements
  - Color and Voltage Available
  - Consult Technical Sales for More Information
- LED Wavelength
- Red LED - 630nm
  - Green LED - 525nm
  - Blue LED - 470nm

Model	Dimensions (MM)		Color	Voltage / Watt	Current	Weight (g)
	A	B				
LBRX-00-080-12-X	89	80	● ● ○	24V / 7.2W 24V / 6.72W	300mA 280mA	121
LBRX-00-160-12-X	169	160	● ● ○	24V / 14.4W 24V / 13.44W	600mA 560mA	227

Remarks: LBRX 12 row series can be cascaded (single colour / RGB) up to maximum length of 960mm

## Optional Connector

Standard Lighting Male Connector

PIN 1	24V
PIN 2	-
PIN 3	GND

M8 Male Connector M8 Pin Assignment

PIN 1	-	-
PIN 2	RED	24V
PIN 3	-	-
PIN 4	BLACK	GND

Product Part Numbering System:  
LBRX-00-080-12-X-24V-M8

M12 Male Connector M12 Pin Assignment

PIN 1	BROWN	24V
PIN 2	WHITE	-
PIN 3	BLUE	GND
PIN 4	BLACK	-
PIN 5	GRAY	-

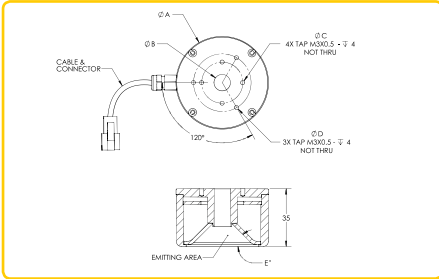
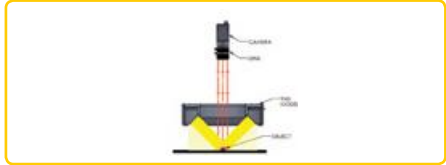
Product Part Numbering System:  
LBRX-00-080-12-X-24V-M12



## DLR3 SERIES – Diffused, Angular Ring Illumination

DLR3 series provides diffused uniform illumination covering a wide surface, which reduces glare for reflective surface inspections.

Applications: Character Recognition on Shining Surface, Lead Inspection



### Technical Specification:

- Color Red, Green, Blue and White
  - 24V DC Input Power
  - Continuous and Strobe Applications
  - Compact Size
  - Lighting Cable 500mm
- Customize Lighting:
- Customize Sizes, Mounting Requirements
  - Color and Voltage Available
  - Consult Technical Sales for More Information
- LED Wavelength **OSRAM LED Light Technology**
- Red LED is 620nm
  - Blue LED is 450nm
  - Green LED is 540nm

Model	Dimensions (MM)					Color	Voltage / Watt	Current	Weight (g)
	ØA	ØB	ØC	ØD	E°				
DLR3-45-050-1-X	56.4	10	25	35	45	● ● ● ○	24V / 2.90W 24V / 2.90W	120mA 120mA	110
DLR3-45-080-1-X	81	30.5	54	56	45	● ● ● ○	24V / 4.30W 24V / 4.30W	180mA 180mA	145
DLR3-45-100-1-X	105.2	45.6	80	95	45	● ● ● ○	24V / 6.50W 24V / 6.50W	270mA 270mA	225
DLR3-45-130-1-X	131.5	74	106	95	45	● ● ● ○	24V / 8.60W 24V / 8.60W	360mA 360mA	280
DLR3-60-050-1-X	56.4	10	25	35	60	● ● ● ○	24V / 2.90W 24V / 2.90W	120mA 120mA	100
DLR3-60-080-1-X	81	36.2	54	56	60	● ● ● ○	24V / 4.30W 24V / 4.30W	180mA 180mA	145
DLR3-60-100-1-X	105.2	57	80	95	60	● ● ● ○	24V / 6.50W 24V / 6.50W	270mA 270mA	205
DLR3-60-130-1-X	131.5	84	106	95	60	● ● ● ○	24V / 8.60W 24V / 8.60W	360mA 360mA	285
DLR3-45-100-1-RGBW	105.2	45.6	80	95	45	● ● ● ○	24V / 2.88W	120mA	225
DLR3-60-100-1-RGBW	105.2	57	80	95	60	● ● ● ○	24V / 2.88W	120mA	205

\*\* It is not recommended to light on the RED, GREEN, BLUE, WHITE (RGBW) LEDs at the same time

## Optional Connector

Standard Lighting Male Connector

PIN 1	24V
PIN 2	-
PIN 3	GND

M8 Male Connector M8 Pin Assignment

PIN 1	-	-
PIN 2	RED	24V
PIN 3	-	-
PIN 4	BLACK	GND

Product Part Numbering System:  
DLR3-45-050-1-X-24V-M8

M12 Male Connector M12 Pin Assignment

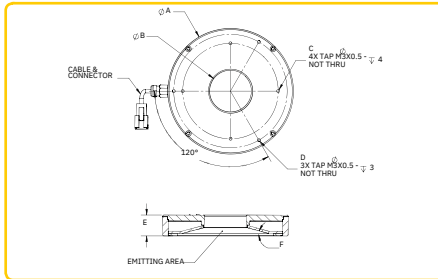
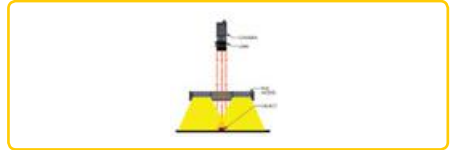
PIN 1	BROWN	24V
PIN 2	WHITE	-
PIN 3	BLUE	GND
PIN 4	BLACK	-
PIN 5	GRAY	-

Product Part Numbering System:  
DLR3-45-050-1-X-24V-M12

## DFR4 SERIES – Diffused, Angular Ring Illumination

DFR4 series provides diffused uniform illumination over a conical surface, which makes it possible to illuminate a work piece from almost any angle.

Applications: Printed Character on IC Chips, PCB Components Inspection, Printing on Caps and Wafer OCR Inspection



Technical Specification:  
 - Color Red, Green, Blue and White  
 - 24V DC Input Power  
 - Continuous and Strobe Applications  
 - Compact Size  
 - Lighting Cable 500mm  
 Customize Lighting:  
 - Customize Sizes, Mounting Requirements  
 - Color and Voltage Available  
 - Consult Technical Sales for More Information  
 LED Wavelength **[OSRAM LED Light Technology]**  
 - Red LED is 620nm  
 - Blue LED is 450nm  
 - Green LED is 540nm

Model	Dimensions (MM)						Color	Voltage / Watt	Current	Weight (g)
	ØA	ØB	ØC	ØD	E	F				
DFR4-00-050-1-X	56	8	25	35	18	0	●●○	24V / 2.6W 24V / 2.6W	108mA 108mA	60
DFR4-00-080-1-X	81	21	54	56	18	0	●●○	24V / 4.70W 24V / 4.70W	196mA 196mA	110
DFR4-00-100-1-X	105.2	30	80	95	18	0	●●○	24V / 5.40W 24V / 5.40W	225mA 225mA	160
DFR4-00-130-1-X	131.5	45	106	95	18	0	●●○	24V / 7.20W 24V / 7.20W	300mA 300mA	230
DFR4-15-080-1-X	81	19	54	56	17.5	15	●●○	24V / 4.70W 24V / 4.70W	196mA 196mA	115
DFR4-15-100-1-X	105.2	35	80	95	17.5	15	●●○	24V / 5.40W 24V / 5.40W	225mA 225mA	170
DFR4-15-130-1-X	131.5	45.6	106	95	17.5	15	●●○	24V / 7.20W 24V / 7.20W	300mA 300mA	210
DFR4-30-050-1-X	56	12	25	35	17.5	30	●●○	24V / 2.6W 24V / 2.6W	108mA 108mA	80
DFR4-30-080-1-X	81	25	54	56	17.5	30	●●○	24V / 4.70W 24V / 4.70W	196mA 196mA	145
DFR4-30-100-1-X	105.2	44	80	95	17.5	30	●●○	24V / 5.40W 24V / 5.40W	225mA 225mA	230
DFR4-30-130-1-X	131.5	66	106	95	17.5	30	●●○	24V / 7.18W 24V / 7.18W	299mA 299mA	355

Remarks: DFR3 part numbers are changed to DFR4

### Optional Connector

Standard Lighting Male Connector

PIN 1	24V
PIN 2	-
PIN 3	GND

M8 Male Connector M8 Pin Assignment

PIN 1	-	-
PIN 2	RED	24V
PIN 3	-	-
PIN 4	BLACK	GND

M12 Male Connector M12 Pin Assignment

PIN 1	BROWN	24V
PIN 2	WHITE	-
PIN 3	BLUE	GND
PIN 4	BLACK	-
PIN 5	GRAY	-

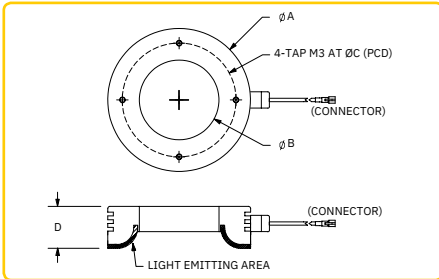
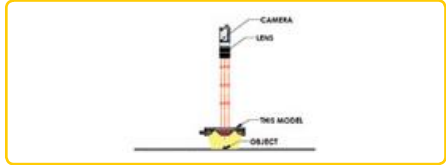
Product Part Numbering System:  
DFR4-00-050-1-X-24V-M8

Product Part Numbering System:  
DFR4-00-050-1-X-24V-M12

## HPD SERIES – Diffused Ring Illumination

Mid-power LEDs are arranged uniformly in a ring structure with a moulded diffuser to achieve uniform area illumination with higher flexibility.

Applications: Shining Surface and Food Packaging Inspection



Technical Specification:

- Color Red, Green, Blue and White
- 24V DC Input Power
- Continuous and Strobe Applications
- Compact Size
- Lighting Cable 500mm

Customize Lighting:

- Customize Sizes, Mounting Requirements
- Color and Voltage Available
- Consult Technical Sales for More Information

LED Wavelength

- Red LED is 630nm
- Green LED is 525nm
- Blue LED is 470nm

Model	Dimensions (MM)				Color	Voltage / Watt	Current	Weight (g)
	$\phi A$	$\phi B$	$\phi C$	D				
HPD-00-170-1-X	176.6	111.0	150	29.6	● ● ● ○	24V / 18.00W 24V / 18.00W	750mA 750mA	535
HPD-00-240-1-X	245.0	158.5	200	38.0	● ● ● ○	24V / 25.20W 24V / 26.88W	1050mA 1120mA	1180

Model	Dimensions (MM)				Color	Voltage / Watt	Current	Weight (g)
	$\phi A$	$\phi B$	$\phi C$	D				
HPD-00-240-3-RGB	245.0	158.5	200	38.0	● ● ●	24V / 21.84W	910mA	1180
						24V / 15.12W	630mA	
						24V / 16.80W	700mA	



Model	Dimensions (MM)				Color	Voltage / Watt	Current	Weight (g)
	$\phi A$	$\phi B$	$\phi C$	D				
HPD-00-070-1-RGBW	75.4	42	51	22	● ● ● ○	24V / 1.44W	60mA	380
HPD-00-240-1-RGBW	245	158.5	200	38	● ● ● ○	24V / 11.52W	480mA	1180



### Optional Connector

Standard Lighting Male Connector

PIN 1	24V
PIN 2	-
PIN 3	GND

M8 Male Connector M8 Pin Assignment

PIN 1	-	-
PIN 2	RED	24V
PIN 3	-	-
PIN 4	BLACK	GND

M12 Male Connector M12 Pin Assignment

PIN 1	BROWN	24V
PIN 2	WHITE	-
PIN 3	BLUE	GND
PIN 4	BLACK	GND
PIN 5	GRAY	-

Product Part Numbering System:  
HPD-00-070-1-X-24V-M8

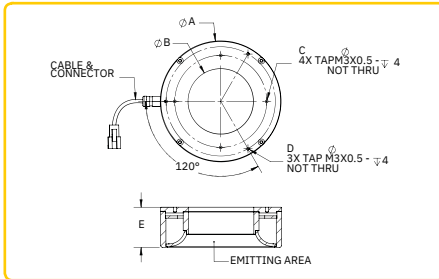
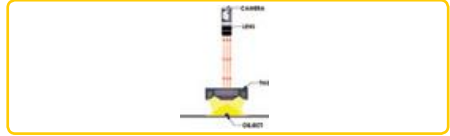
Product Part Numbering System:  
HPD-00-070-1-X-24V-M12

\*\* It is not recommended to light on the RED, GREEN, BLUE (RGB) LEDs at the same time.  
\*\* It is not recommended to light on the RED, GREEN, BLUE, WHITE (RGBW) LEDs at the same time.

## HPD2 SERIES – Diffused Ring Illumination

Mid-power LEDs are arranged uniformly in a ring structure with a moulded diffuser to achieve uniform area illumination with higher flexibility.

Applications: Shining Surface and Food Packaging Inspection



### Technical Specification:

- Color Red, Green, Blue and White
- 24V DC Input Power
- Continuous and Strobe Applications
- Compact Size
- Lighting Cable 500mm
- Customize Lighting:
  - Customize Sizes, Mounting Requirements
  - Color and Voltage Available
  - Consult Technical Sales for More Information
- LED Wavelength (OSRAM LED Light Technology)
  - Red LED is 620nm
  - Blue LED is 450nm
  - Green LED is 540nm

Model	Dimensions (MM)					Color	Voltage / Watt	Current	Weight (g)
	ØA	ØB	ØC	ØD	E				
*HPD2-00-050-1-X	56	15.5	25	35	35	● ● ● ○	24V / 2.88W	120mA	100
*HPD2-00-080-1-X	81	34.2	54	56	35	● ● ● ○	24V / 4.32W	180mA	155
*HPD2-00-100-1-X	105.2	57	80	95	35	● ● ● ○	24V / 6.48W	270mA	210
*HPD2-00-130-1-X	131.5	84	106	95	35	● ● ● ○	24V / 8.64W	360mA	275

Model	Dimensions (MM)					Color	Voltage / Watt	Current	Weight (g)
	ØA	ØB	ØC	ØD	E				
HPD2-00-050-1-RGBW	56	15.5	25	35	35	● ● ● ○	24V / 1.44W	60mA	100
HPD2-00-080-1-RGBW	81	34.2	54	56	35	● ● ● ○	24V / 2.16W	90mA	155
HPD2-00-100-1-RGBW	105.2	57	80	95	35	● ● ● ○	24V / 2.88W	120mA	210
HPD2-00-130-1-RGBW	131.5	84	106	95	35	● ● ● ○	24V / 4.32W	180mA	275

## Optional Connector

Standard Lighting Male Connector

PIN 1	24V
PIN 2	-
PIN 3	GND

M8 Male Connector M8 Pin Assignment

PIN 1	-	-
PIN 2	RED	24V
PIN 3	-	-
PIN 4	BLACK	GND

M12 Male Connector M12 Pin Assignment

PIN 1	BROWN	24V
PIN 2	WHITE	-
PIN 3	BLUE	GND
PIN 4	BLACK	-
PIN 5	GRAY	-

Product Part Numbering System:  
HPD2-00-100-1-RGBW-24V-M8

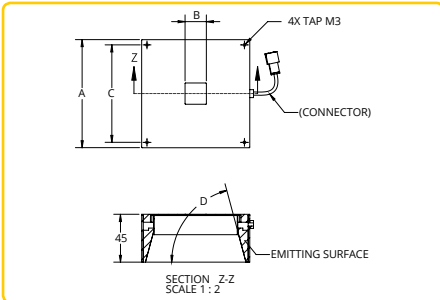
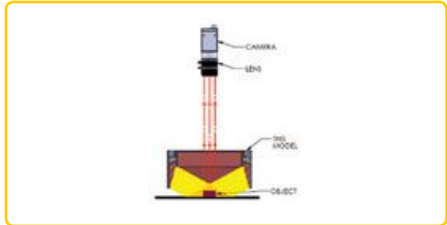
Product Part Numbering System:  
HPD2-00-100-1-RGBW-24V-M12

\*\* It is not recommended to light on the RED, GREEN, BLUE, WHITE (RGBW) LEDs at the same time.

## DLS2 & DLW2 SERIES – Diffused Square Illumination

DLS2 & DLW2 series provide diffused uniform illumination over a square surface, which prevents glare during reflective surface inspection. This illumination product is suitable for inspection of square or rectangular workpiece.

Applications: Character Recognition on Shining Surface, Lead Inspection



- Technical Specification:
- Color Red, Green, Blue and White
  - 24V DC Input Power
  - Continuous and Strobe Applications
  - Compact Size
  - Lighting Cable 500mm
- Customize Lighting:
- Customize Sizes, Mounting Requirements
  - Color and Voltage Available
  - Consult Technical Sales for More Information
- LED Wavelength
- Red LED - 630nm
  - Green LED - 525nm
  - Blue LED - 470nm

Model	Dimensions (MM)				Color	Voltage / Watt	Current	Weight (g)
	A	B	C	D <sup>o</sup>				
DLS2-60-050-1-X	50.8	16.0	40.0	60	● ● ○	24V / 2.88W 24V / 1.92W	120mA 80mA	120
DLS2-60-070-1-X	76.2	20.0	66.0	60	● ● ○	24V / 2.88W 24V / 4.32W	120mA 180mA	220
DLS2-60-100-1-X	101.6	20.0	91.5	60	● ● ○	24V / 4.32W 24V / 5.76W	180mA 240mA	300
DLW2-60-070-1-X	76.2	40.0	66.0	60	● ● ○	24V / 2.88W 24V / 4.32W	120mA 180mA	190
DLW2-60-100-1-X	101.6	66.0	91.5	60	● ● ○	24V / 4.32W 24V / 5.76W	180mA 240mA	280

## Optional Connector

Standard Lighting Male Connector

PIN 1	24V
PIN 2	-
PIN 3	GND

M8 Male Connector M8 Pin Assignment

PIN 1	-	-
PIN 2	RED	24V
PIN 3	-	-
PIN 4	BLACK	GND

M12 Male Connector M12 Pin Assignment

PIN 1	BROWN	24V
PIN 2	WHITE	-
PIN 3	BLUE	GND
PIN 4	BLACK	-
PIN 5	GRAY	-

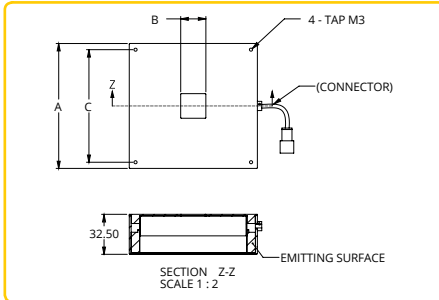
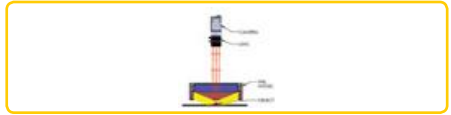
Product Part Numbering System:  
DLS2-60-050-1-X-24V-M8

Product Part Numbering System:  
DLS2-60-050-1-X-24V-M12

## DLQ2, DLF2 & DLF3 SERIES – Diffused Square Illumination

DLQ2, DLF2 & DLF3 series is a low angle diffused uniform illumination from 4 sides, highlighting the edges of the inspection object while not producing any unwanted shadows. These 2 illumination products are suitable for the inspection of square or rectangular workpiece.

Applications: SDA Ball Inspection, QFP Lead Inspection



Technical Specification:

- Color Red, Green, Blue and White
- 24V DC Input Power
- Continuous and Strobe Applications
- Compact Size
- Lighting Cable 500mm

Customize Lighting:

- Customize Sizes, Mounting Requirements
- Color and Voltage Available
- Consult Technical Sales for More Information

LED Wavelength

- Red LED - 630nm
- Green LED - 525nm
- Blue LED - 470nm

Model	Dimensions (MM)			Color	Voltage / Watt	Current	Weight (g)
	A	B	C				
DLQ2-90-030-1-X	31.6	10.0	21.0	● ● ○	24V / 1.44W 24V / 1.44W	60mA 60mA	50
DLQ2-90-050-1-X	50.8	10.0	40.0	● ● ○	24V / 1.92W 24V / 2.88W	80mA 120mA	100
DLQ2-90-070-1-X	76.2	20.0	66.0	● ● ○	24V / 1.92W 24V / 2.88W	80mA 120mA	150
DLQ2-90-100-1-X	101.6	20.0	91.5	● ● ○	24V / 4.32W 24V / 5.76W	180mA 240mA	220
DLF2-90-050-1-X	50.8	26.0	40.0	● ● ○	24V / 2.88W 24V / 1.92W	120mA 80mA	90
DLF2-90-070-1-X	76.2	55.0	66.0	● ● ○	24V / 2.88W 24V / 4.32W	120mA 180mA	160
DLF2-90-100-1-X	101.6	80.0	91.5	● ● ○	24V / 4.32W 24V / 5.76W	180mA 240mA	220

Model	Dimensions (MM)			Color	Voltage / Watt	Current	Weight (g)
	A	B	C				
DLF3-90-070-1-RGBW	70	26	54	● ● ● ○	24V / 2.88W	120mA	162
DLF3-90-100-1-RGBW	100	56	84	● ● ● ○	24V / 5.76W	240mA	261
DLF3-90-120-1-RGBW	120	76	104	● ● ● ○	24V / 5.76W	240mA	330



## Optional Connector

Standard Lighting  
Male Connector

PIN 1	24V
PIN 2	-
PIN 3	GND

M8  
Male Connector

M8  
Pin Assignment

PIN 1	-	-
PIN 2	RED	24V
PIN 3	-	-
PIN 4	BLACK	GND

M12  
Male Connector

M12  
Pin Assignment

PIN 1	BROWN	24V
PIN 2	WHITE	-
PIN 3	BLUE	GND
PIN 4	BLACK	-
PIN 5	GRAY	-

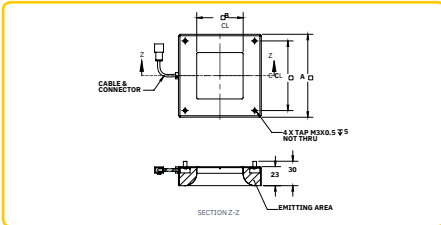
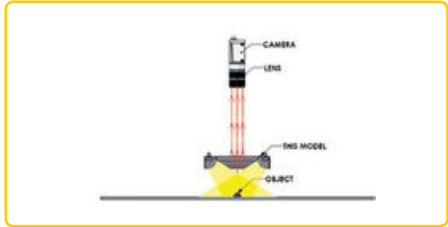
Product Part Numbering System:  
DLQ2-90-030-1-X-24V-M8

Product Part Numbering System:  
DLQ2-90-030-1-X-24V-M12

\*\* It is not recommended to light on the RED, GREEN, BLUE, WHITE (RGBW) LEDs at the same time.

## DLC SERIES – Diffused Angular Illumination

DLC series is an extension version of diffused illumination and low angle illumination which provides even multi angle illumination.



Technical Specification:  
 - Color Red, Green, Blue and White  
 - 24V DC input Power  
 Customize Lighting:  
 - Customize Sizes, Mounting Requirements  
 - Color and Voltage Available  
 - Contact Technical Sales for More Information  
 LED Wavelength  
 Red LED - 630nm  
 Green LED - 525nm  
 Blue LED - 470nm

Model	Dimensions (MM)			Color	Voltage / Watt	Current	Weight (g)
	A	B	C				
DLC-00-070-1-X	70	26	54	● ● ○	24V / 2.11W	88mA	171
DLC-00-100-1-X	100	56	84	● ● ○	24V / 4.22W	176mA	261
DLC-00-120-1-X	120	76	104	● ● ○	24V / 5.28W	220mA	330

Model	Dimensions (MM)			Color	Voltage / Watt	Current	Weight (g)
	A	B	C				
DLC-00-070-1-RGBW	70	26	54	● ● ● ○	24V / 2.88W	120mA	171
DLC-00-100-1-RGBW	100	56	84	● ● ● ○	24V / 5.76W	240mA	261
DLC-00-120-1-RGBW	120	76	104	● ● ● ○	24V / 5.76W	240mA	330



## Optional Connector

Standard Lighting Male Connector

PIN 1	24V
PIN 2	-
PIN 3	GND

M8 Male Connector Pin Assignment

PIN 1	-	-
PIN 2	RED	24V
PIN 3	-	-
PIN 4	BLACK	GND

M12 Male Connector Pin Assignment

PIN 1	BROWN	24V
PIN 2	WHITE	-
PIN 3	BLUE	GND
PIN 4	BLACK	-
PIN 5	GRAY	-

Product Part Numbering System:  
DLC-00-100-1-X-24V-M8

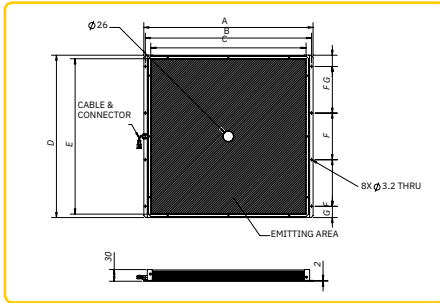
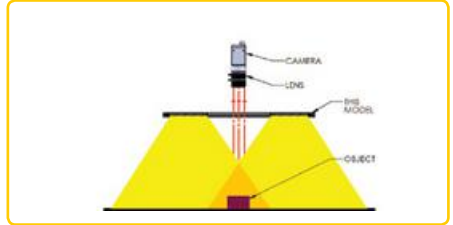
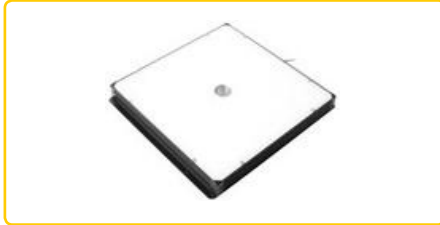
Product Part Numbering System:  
DLC-00-100-1-X-24V-M12

\*\* It is not recommended to light on the RED, GREEN, BLUE, WHITE (RGBW) LEDs at the same time.

## BHLQ SERIES – High Intensity Diffused Front Light

BHLQ series is a square shaped diffused illumination that provides even illumination that reduce glares and shadows.

Applications: Robotic Picking, Identification of Missing Part, Dimensions Measurements, Shape Recognition



### Technical Specification:

- Color Red, Green, Blue and White
- 24V DC Input Power
- Continuous and Strobe Applications
- Compact Size
- Lighting Cable 500mm

### Customize Lighting:

- Customize Sizes, Mounting Requirements
- Color and Voltage Available
- Consult Technical Sales for More Information

LED Wavelength  
Red LED - 630nm  
Green LED - 525nm  
Blue LED - 470nm

Model	Dimensions (MM)							Color	Voltage / Watt	Current	Weight (g)
	A	B	C	D	E	F	G				
BHLQ-00-240X240-X-X	276.0	268.0	240.0	258.0	240.0	140.0	59.0	● ● ● ○	24V / 28.80W	1200mA	1500
BHLQ-00-400X400-X-X	436.0	428.0	400.0	418.0	400.0	360.0	29.0	● ● ● ○	24V / 80.64W	3360mA	2650
								● ● ● ○	24V / 107.64W	4485mA	

## Optional Connector

Standard Lighting  
Male Connector

PIN 1	24V
PIN 2	-
PIN 3	GND

M8  
Male Connector

M8  
Pin Assignment

PIN 1	-	-
PIN 2	RED	24V
PIN 3	-	-
PIN 4	BLACK	GND

M12  
Male Connector

M12  
Pin Assignment

PIN 1	BROWN	24V
PIN 2	WHITE	-
PIN 3	BLUE	GND
PIN 4	BLACK	-
PIN 5	GRAY	-

Product Part Numbering System:  
BHLQ-00-240X240-X-X-24V-M8

Product Part Numbering System:  
BHLQ-00-240X240-X-X-24V-M12

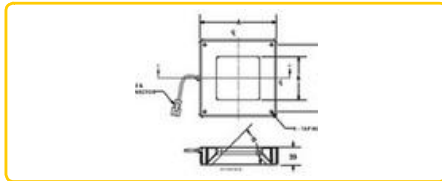
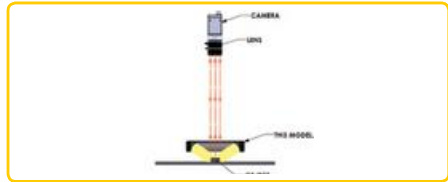
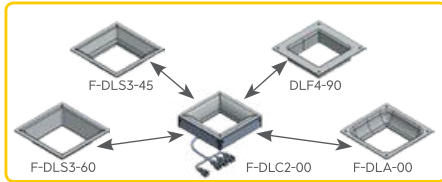




## F-DXX SERIES - Diffused Angular Illumination

provide diffused uniform illumination over a square surface, which prevents glare during reflective surface inspection. This illumination product is suitable for inspection of square or rectangular workpiece. The lightings are available in packages where 1 model comes with 5 types of diffusers as mentioned below.

Applications: Character Recognition on Shining Surface, Lead Inspection

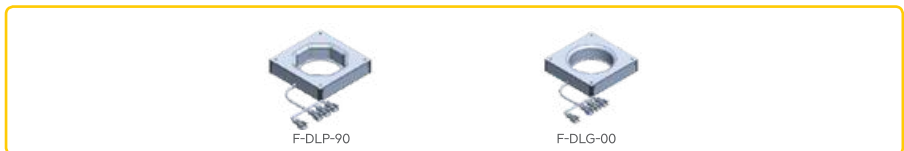


Technical Specification:

- Color Red, Green, Blue and White
- 24V DC Input Power
- Continuous and Strobe Applications
- Compact Size
- Lighting Cable 500mm
- Customize Lighting:
  - Customize Sizes, Mounting Requirements
  - Color and Voltage Available
  - Consult Technical Sales for More Information

LED Wavelength  
 Red LED - 630nm  
 Green LED - 525nm  
 Blue LED - 470nm

Model	Dimensions (MM)			D°	Color	Voltage / Watt	Current	Weight (g)
	A	B	C					
F-DXX-070-1-RGBW	71.2	26	56.9		●●●○	24V / 2.88W	120mA	110
(F-DLA-00-070-DIFFUSER)	ABLE SWAP DIFFUSER (5 IN 1)			ARC-INNER				
(F-DLC2-00-070-DIFFUSER)				ARC-OUTER				
(F-DLS3-45-070-DIFFUSER)				45				
(F-DLS3-60-070-DIFFUSER)				60				
(F-DLF4-90-070-DIFFUSER)				90				
F-DXX-100-1-RGBW	101.2	56	86.9		●●●○	24V / 5.76W	240mA	121
(F-DLA-00-100-DIFFUSER)	ABLE SWAP DIFFUSER (5 IN 1)			ARC-INNER				
(F-DLC2-00-100-DIFFUSER)				ARC-OUTER				
(F-DLS3-45-100-DIFFUSER)				45				
(F-DLS3-60-100-DIFFUSER)				60				
(F-DLF4-90-100-DIFFUSER)				90				
F-DXX-120-1-RGBW	121.2	76	106.9		●●●○	24V / 5.76W	240mA	142
(F-DLA-00-120-DIFFUSER)	ABLE SWAP DIFFUSER (5 IN 1)			ARC-INNER				
(F-DLC2-00-120-DIFFUSER)				ARC-OUTER				
(F-DLS3-45-120-DIFFUSER)				45				
(F-DLS3-60-120-DIFFUSER)				60				
(F-DLF4-90-120-DIFFUSER)				90				



Model	Dimensions (MM)			D°	Color	Voltage / Watt	Current	Weight (g)
	A	B	C					
F-DLP-90-100-1-RGBW	101.2	56	86.9	90	●●●○	24V / 5.76W	240mA	121
F-DLG-00-100-1-RGBW				00				

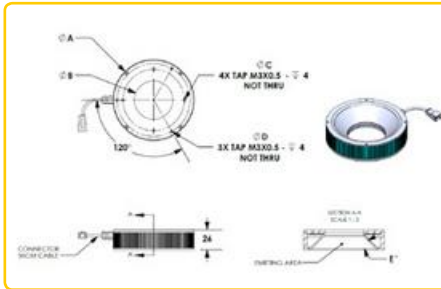
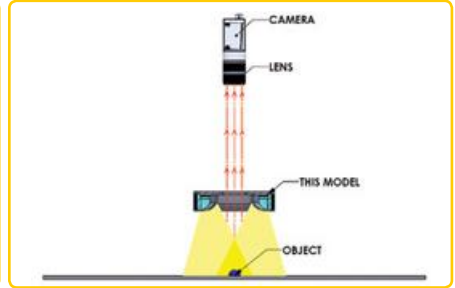


For further details please contact us.

## F-DXX-D SERIES – Diffused Ring Illumination

provide diffused uniform illumination over a round surface, which prevents glare during reflective surface inspection. This illumination product is suitable for inspection of round work piece. The lightings are available in packages where 1 model comes with 5 types of diffusers as mentioned below.

Applications: Character Recognition on Shining Surface, Lead Inspection



### Technical Specification:

- Color Red, Green, Blue and White
- 24V DC Input Power
- Continuous and Strobe Applications
- Compact Size
- Lighting Cable 500mm
- Customize Lighting:
  - Customize Sizes, Mounting Requirements
  - Color and Voltage Available
  - Consult Technical Sales for More Information

- LED Wavelength
- Red LED - 630nm
- Green LED - 525nm
- Blue LED - 470nm

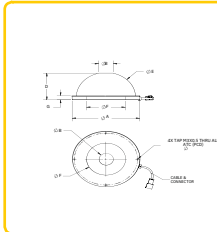
Model	Dimensions (MM)					Color	Voltage/ Watt	Current	Weight (g)
	A	B	C	D	E				
F-DXX-D080-1-RGBW	81	32.4	54	56		●●●○	24V/4.32W	180mA	158
(F-DLR4-45-080-DIFFUSER)					45				
(F-DLR4-60-080-DIFFUSER)					60				
(F-HPD3-00-080-DIFFUSER)					00				
F-DXX-D100-1-RGBW	105.2	50.2	80	95		●●●○	24V/6.48W	270mA	230
(F-DLR4-45-100-DIFFUSER)					45				
(F-DLR4-60-100-DIFFUSER)					60				
(F-HPD3-00-100-DIFFUSER)					00				
F-DXX-D130-1-RGBW	131.5	76	95	106		●●●○	24V/8.64W	360mA	291
(F-DLR4-45-130-DIFFUSER)					45				
(F-DLR4-60-130-DIFFUSER)					60				
(F-HPD3-00-130-DIFFUSER)					00				



## IDS5 SERIES – Indirect Dome Illumination

IDS5 series provides indirect illumination from an inner conical surface, which allow a work piece to be illuminated from all angles, resulting in excellent illumination of the inspection object without creating any unwanted glare, hotspots or shadows. This illumination is suitable for applications that involve inspection of reflective surfaces which contents are required to be highlighted and inspected.

Applications: Cracks, Chips, Stains & Marks on Circular or Cylindrical Objects Inspection, Solder and Substrate Inspection



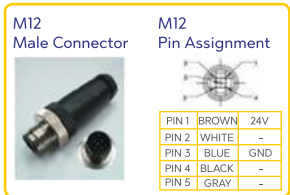
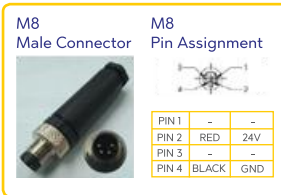
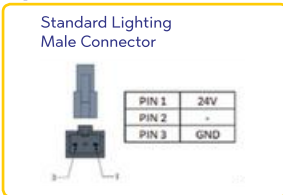
Technical Specification:  
 - Color Red, Green, Blue and White  
 - 24V DC Input Power  
 - Continuous and Strobe Applications  
 - Compact Size  
 - Lighting Cable 500mm  
 Customize Lighting:  
 - Customize Sizes, Mounting Requirements  
 - Color and Voltage Available  
 - Consult Technical Sales for More Information  
 LED Wavelength: **OSRAM LED Light Technology**  
 - Red LED is 620nm  
 - Blue LED is 450nm  
 - Green LED is 540nm

Model	ØA	ØB	Dimensions (MM)			G	Color	Voltage / Watt	Current	Weight (g)
			ØC	D	ØE	ØF				
IDS5-00-050-I-X	68	10	60	33.8	53	37.4	9 ● ● ● IR850	24V / 5.83W 24V / 7.56W 24V / 5.76W	243mA 315mA 240mA	78
IDS5-00-070-I-X	95	20	85	44.5	78	61	9 ● ● ● IR850	24V / 9.07W 24V / 11.76W 24V / 8.64W	378mA 490mA 360mA	115
IDS5-00-100-I-X	118	25	110	56.8	103	85.4	9 ● ● ● IR850	24V / 12.96W 24V / 16.80W 24V / 11.52W	540mA 700mA 480mA	152
IDS5-00-150-I-X	185	40	172	89.8	165	138	12 ● ● ● IR850	24V / 21.60W 24V / 22.32W 24V / 20.16W	900mA 930mA 840mA	483
IDS5-00-200-I-X	232	50	222	112.8	212	193	12 ● ● ● IR850	24V / 31.92W 24V / 33.12W 24V / 25.92W	1330mA 1380mA 1080mA	520
IDS5-00-250-I-X	284	50	272	139.4	261.6	240	12 ● ● ● IR850	24V / 36.0W 24V / 38.4W 24V / 34.56W	1500mA 1600mA 1640mA	780
IDS4-00-360-I-X	381	36.5	369	189	360	300	12 ● ● ● IR850	24V / 37.2W 24V / 37.2W	1550mA 1550mA	1800

Model	ØA	ØB	Dimensions (MM)			G	Color	Voltage / Watt	Current	Weight (g)
			ØC	D	ØE	ØF				
IDS4-00-150-I-RGB	185	40	172	89.8	165	113	12 ● ● ● RGB	24V / 7.20W 24V / 6.72W 24V / 6.72W	300mA 280mA 280mA	483
IDS4-00-200-I-RGB	232	50	222	112.8	212	160	12 ● ● ● RGB	24V / 6.72W 24V / 6.72W 24V / 6.72W	280mA 280mA 280mA	520

Model	ØA	ØB	Dimensions (MM)			G	Color	Voltage / Watt	Current	Weight (g)
			ØC	D	ØE	ØF				
IDS5-00-150-I-RGBW	185	40	172	89.8	165	138	12 ● ● ● ● RGBW	24V / 6.48W	270mA	483
IDS5-00-200-I-RGBW	232	50	222	112.8	212	193	12 ● ● ● ● RGBW	24V / 6.48W	270mA	520
IDS5-00-250-I-RGBW	284	50	272	139.4	261.6	240	12 ● ● ● ● RGBW	24V / 7.92W	330mA	780

## Optional Connector



Product Part Numbering System:  
IDS5-00-250-I-X-24V-M8

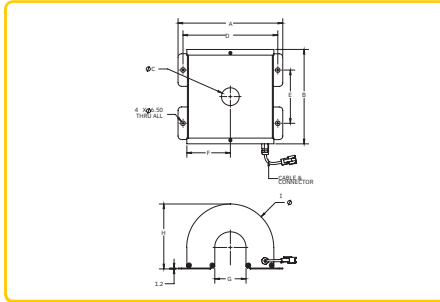
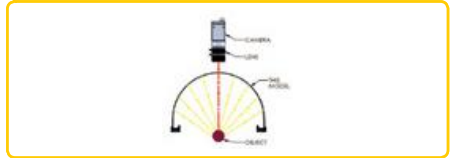
Product Part Numbering System:  
IDS5-00-250-I-X-24V-M12

\*\* It is not recommended to light on the RED, GREEN, BLUE (RGB) LEDs at the same time.  
 \*\* It is not recommended to light on the RED, GREEN, BLUE, WHITE (RGBW) LEDs at the same time.

## IDT3 SERIES – Indirect Tunnel Illumination

IDT3 series provides indirect illumination from an inner cylindrical surface providing uniform illumination for a work piece from all angles, resulting in excellent illumination of the inspection object without creating unwanted glare, hotspots or shadows.

Applications: Inspection of Cracks, Chips, Stains and Marks on Cylindrical Surfaces. Shafts Inspection



Technical Specification:  
 - Color Red, Green, Blue, White & RGB  
 - 24V DC Input Power  
 - Continuous and Strobe Applications  
 - Compact Size  
 - Lighting Cable 500mm  
 Customize Lighting:  
 - Customize Sizes, Mounting Requirements  
 - Color and Voltage Available  
 - Consult Technical Sales for More Information  
 LED Wavelength  
 Red LED - 630nm  
 Green LED - 525nm  
 Blue LED - 470nm

Model	Dimensions (MM)										Color Voltage / Watt Current Weight (g)		
	A	B	ØC	D	E	F	G	H	ØI				
IDT3-00-120-1-X	148.0	133.0	25.0	133.6	75.0	61.3	44.0	91.5	122.5	● ● ●	24V / 8.64W 24V / 7.68W	360mA 320mA	710
IDT3-00-150-1-X	177.8	163.0	25.0	163.8	103.9	76.3	74.0	106.5	152.5	● ● ●	24V / 10.80W 24V / 9.60W	450mA 400mA	730
IDT3-00-200-1-X	227.2	163.0	25.0	213.2	105.0	101.3	124.0	131.5	202.5	● ● ●	24V / 10.80W 24V / 9.60W	450mA 400mA	750

Model	Dimensions (MM)										Color Voltage / Watt Current Weight (g)		
	A	B	ØC	D	E	F	G	H	ØI				
IDT3-00-120-1-RGB	148.0	133.0	25.0	133.6	75.0	61.3	44.0	91.5	122.5	● ● ● ● ●	24V / 4.80W 24V / 3.84W 24V / 3.84W	200mA 160mA 160mA	710
IDT3-00-150-1-RGB	177.8	163.0	25.0	163.8	103.9	76.3	74.0	106.5	152.5	● ● ● ● ●	24V / 6.00W 24V / 4.80W 24V / 4.80W	250mA 200mA 200mA	730
IDT3-00-200-1-RGB	227.2	163.0	25.0	213.2	105.0	101.3	124.0	131.5	202.5	● ● ● ● ●	24V / 6.00W 24V / 4.80W 24V / 4.80W	250mA 200mA 200mA	750



## Optional Connector

Standard Lighting Male Connector

PIN 1	24V
PIN 2	-
PIN 3	GND

M8 Male Connector M8 Pin Assignment

PIN 1	-	-
PIN 2	RED	24V
PIN 3	-	-
PIN 4	BLACK	GND

M12 Male Connector M12 Pin Assignment

PIN 1	BROWN	24V
PIN 2	WHITE	-
PIN 3	BLUE	GND
PIN 4	BLACK	-
PIN 5	GRAY	-

Product Part Numbering System:  
IDT3-00-120-1-X-24V-M8

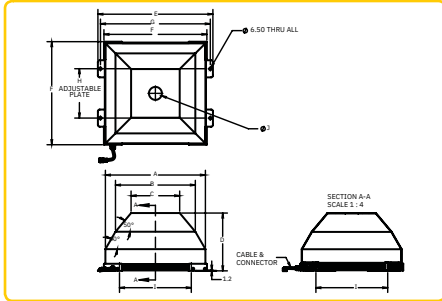
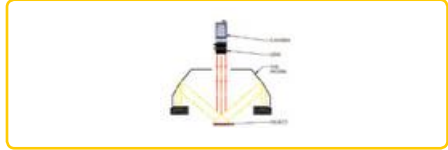
Product Part Numbering System:  
IDT3-00-120-1-X-24V-M12

\*\* It is not recommended to light on the RED, GREEN, BLUE (RGB) LEDs at the same time

## IDQ3 SERIES – Indirect Square Illumination

IDQ3 Series provides indirect illumination from an inner square surface providing uniform illumination for a work piece from all angles which is suitable for the inspection of square or rectangular objects that may have reflective surfaces.

Applications: Cracks, Chips, Stains and Marks on Square or Rectangular Objects



### Technical Specification:

- Color Red, Green, Blue, White & RGB
  - 24V DC Input Power
  - Continuous and Strobe Applications
  - Compact Size- Lighting Cable 500mm
- Customize Lighting:
- Customize Sizes, Mounting Requirements
  - Color and Voltage Available
  - Consult Technical Sales for More Information
- LED Wavelength  
 Red LED - 630nm  
 Green LED - 525nm  
 Blue LED - 470nm

Model	Dimensions (MM)										Color	Voltage / Watt	Current	Weight (g)
	A	B	C	D	E	F	G	H	I	QJ				
IDQ3-00-120-X-X	210.0	169.6	110.9	126.2	240	218.0	226	74.0	138.2	35.0	● ● ● ○ ● ● ● ○	24V / 17.28W 24V / 15.36W	720mA 640mA	1420
IDQ3-00-190-X-X	270.0	215.7	131.1	156.0	300.2	278.0	286.2	134	198.0	35.0	● ● ● ○ ● ● ● ○	24V / 25.92W 24V / 23.04W	1080mA 960mA	1980
IDQ3-00-300-X-X	390.0	335.5	251.3	156.0	419.4	398.0	405.4	254.0	318.2	35.0	● ● ● ○ ● ● ● ○	24V / 43.20W 24V / 38.40W	1800mA 1600mA	3000

Model	Dimensions (MM)										Color	Voltage / Watt	Current	Weight (g)
	A	B	C	D	E	F	G	H	I	QJ				
IDQ3-00-120-X-RGB	210.0	169.6	110.9	126.2	240	218.0	226	74.0	138.2	35.0	● ● ● ○ ● ● ● ○	24V / 9.60W 24V / 7.68W 24V / 7.68W	400mA 320mA 320mA	1420
IDQ3-00-190-X-RGB	270.0	215.7	131.1	156.0	300.2	278.0	286.2	134	198.0	35.0	● ● ● ○ ● ● ● ○	24V / 14.40W 24V / 11.52W 24V / 11.52W	600mA 480mA 480mA	1980
IDQ3-00-300-X-RGB	390.0	335.5	251.3	156.0	419.4	398.0	405.4	254.0	318.2	35.0	● ● ● ○ ● ● ● ○	24V / 24.00W 24V / 19.20W 24V / 19.20W	1000mA 800mA 800mA	3000



## Optional Connector

Standard Lighting Male Connector

PIN 1	24V
PIN 2	-
PIN 3	GND

M8 Male Connector M8 Pin Assignment

PIN 1	-	-
PIN 2	RED	24V
PIN 3	-	-
PIN 4	BLACK	GND

M12 Male Connector M12 Pin Assignment

PIN 1	BROWN	24V
PIN 2	WHITE	-
PIN 3	BLUE	GND
PIN 4	BLACK	-
PIN 5	GRAY	-

Product Part Numbering System:  
IDQ3-00-120-X-X-24V-M8

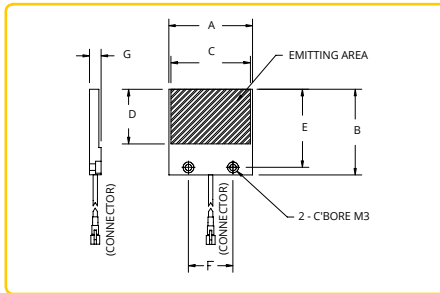
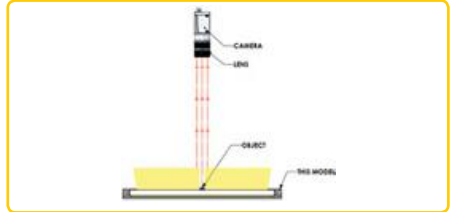
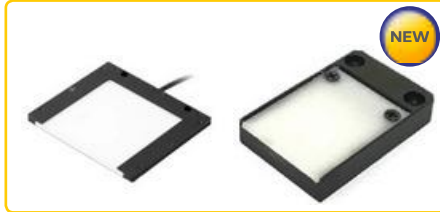
Product Part Numbering System:  
IDQ3-00-120-X-X-24V-M12

\*\* It is not recommended to light on the RED, GREEN, BLUE (RGB) LEDs at the same time

## BHDS SERIES – Side Backlight Illumination

BHDS series consist of a 4-sided lighting fit into a diffuser block where light shines from the flat surface of the block.

Applications: Lead Frame Inspection, Shape Recognition, Size Measurement



### Technical Specification:

- Color Red, Green, Blue and White
- 24V DC Input Power
- Continuous and Strobe Applications
- Compact Size
- Lighting Cable 500mm

### Customize Lighting:

- Customize Sizes, Mounting Requirements
- Color and Voltage Available

- Consult Technical Sales for More Information

LED Wavelength **[OSRAM LED Light Technology]**

- Red LED is 620nm
- Blue LED is 450nm
- Green LED is 540nm

Model	Dimensions (MM)							Color	Voltage / Watt	Current	Weight (g)
	A	B	C	D	E	F	G				
BHDS-00-20X20-X-X	23	35	20	20	31	17	6.5	● ● ● ●	24V / 0.576W 24V / 0.576W	24mA 24mA	4
BHDS-00-40X40-X-X	43	55	20	20	51	17	6.5	● ● ● ●	24V / 2.30W 24V / 2.30W	96mA 96mA	9

Model	Dimensions (MM)							Color	Voltage / Watt	Current	Weight (g)
	A	B	C	D	E	F	G				
BHDS-00-25X36-1-X	38.5	43.5	35.0	25	40.0	18.5	5.3	● ● ● ●	24V / 0.36W 24V / 0.48W	15mA 20mA	27
BHDS-00-31X58-1-X	60.2	43.5	56.3	31	40.0	40.0	5.4	● ● ● ●	24V / 0.72W 24V / 0.72W	30mA 30mA	38
BHDS-00-070-1-X	98.5	84.5	68.5	70	81.0	60.0	5.3	● ● ● ●	24V / 2.16W 24V / 2.16W	90mA 90mA	80
*BHDS-00-30X150-1-X	154.2	49.3	150.2	30	45.8	40	8.0	● ● ● ●	24V / 2.4W 24V / 2.4W	100mA 100mA	105

## Optional Connector

Standard Lighting Male Connector

PIN 1	24V
PIN 2	-
PIN 3	GND

M8 Male Connector M8 Pin Assignment

PIN 1	-	-
PIN 2	RED	24V
PIN 3	-	-
PIN 4	BLACK	GND

M12 Male Connector M12 Pin Assignment

PIN 1	BROWN	24V
PIN 2	WHITE	-
PIN 3	BLUE	GND
PIN 4	BLACK	-
PIN 5	GRAY	-

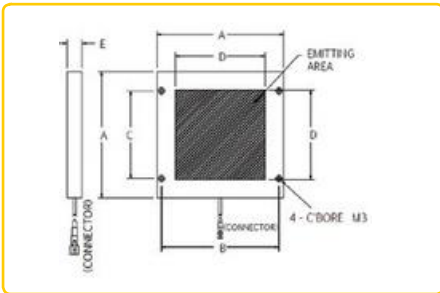
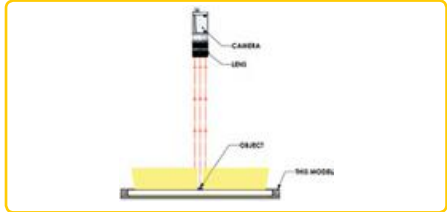
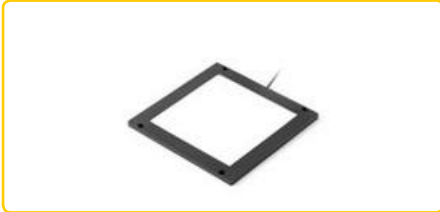
Product Part Numbering System:  
BHDS-00-25X36-1-X-24V-M8

Product Part Numbering System:  
BHDS-00-25X36-1-X-24V-M12

### BHD SERIES – Side Backlight Illumination

BHD series consist of a 4-sided lighting fit into a diffuser block where light shines from the flat surface of the block.

Applications: Lead Frame Inspection, Shape Recognition, Size Measurement



Technical Specification:  
 - Color Red, Green, Blue and White  
 - 24V DC Input Power  
 - Continuous and Strobe Applications  
 - Compact Size  
 - Lighting Cable 500mm  
 Customize Lighting:  
 - Customize Sizes, Mounting Requirements  
 - Color and Voltage Available  
 - Consult Technical Sales for More Information  
 LED Wavelength **(OSRAM LED Light Technology)**  
 - Red LED is 620nm  
 - Blue LED is 450nm  
 - Green LED is 540nm

Model	Dimensions (MM)					Color	Voltage / Watt	Current	Weight (g)
	A	B	C	D	E				
BHD-00-070-1-X	98.5	91.5	68.5	70	5.3	● ● ● ● ● ● ● ●	24V / 2.88W 24V / 2.88W	120mA 120mA	27
BHD-00-100-1-X	128.5	121.5	100.0	100.0	5.3	● ● ● ● ● ● ● ●	24V / 4.32W 24V / 3.84W	180mA 160mA	38
*BHD-00-100X80-1-X	113	105	80	100	9	● ● ● ● ● ● ● ●	24V / 6.72W 24V / 6.72W	280mA 280mA	80

### Optional Connector

Standard Lighting Male Connector

PIN 1	24V
PIN 2	-
PIN 3	GND

M8 Male Connector Pin Assignment

PIN 1	-	-
PIN 2	RED	24V
PIN 3	-	-
PIN 4	BLACK	GND

M12 Male Connector Pin Assignment

PIN 1	BROWN	24V
PIN 2	WHITE	-
PIN 3	BLUE	GND
PIN 4	BLACK	-
PIN 5	GRAY	-

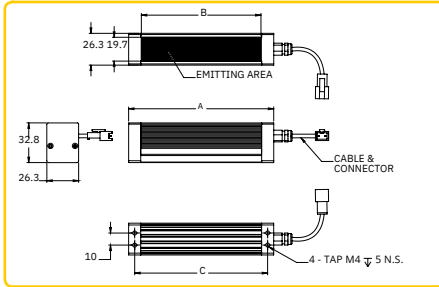
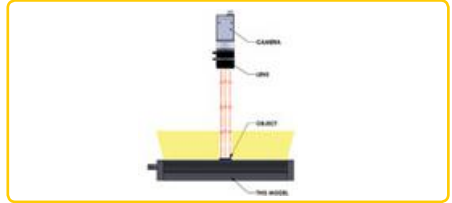
Product Part Numbering System:  
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Product Part Numbering System:  
BHD-00-070-1-X-24V-M12

## LBL3 SERIES – Backlight Line Illumination

LBL3 series is a bar-shaped backlight which LEDs are arranged in a dense array and shine into a diffuser.

Applications: Lead Frame Inspection, Shape Recognition, Size Measurement



### Technical Specification:

- Color Red, Green, Blue and White
- 24V DC Input Power
- Continuous and Strobe Applications
- Compact Size
- Lighting Cable 500mm

### Customize Lighting:

- Customize Sizes, Mounting Requirements
  - Color and Voltage Available
  - Consult Technical Sales for More Information
- LED Wavelength  
 Red LED - 630nm  
 Green LED - 525nm  
 Blue LED - 470nm

Model	Dimensions (MM)			Color	Voltage / Watt	Current	Weight (g)
	A	B	C				
LBL3-00-100-X-X	120.0	99.0	110.0	● ● ○	24V / 2.16W 24V / 3.60W	90mA 150mA	150
LBL3-00-200-X-X	220.0	200.0	210.0	● ● ○	24V / 4.32W 24V / 7.20W	180mA 300mA	240
LBL3-00-300-X-X	300.0	300.0	310.0	● ● ○	24V / 6.48W 24V / 10.80W	270mA 450mA	340
LBL3-00-400-X-X	420.0	400.0	410.0	● ● ○	24V / 8.64W 24V / 14.40W	360mA 600mA	450
LBL3-00-500-X-X	520.0	499.0	510.0	● ● ○	24V / 10.80W 24V / 18.00W	450mA 750mA	530
LBL3-00-600-X-X	620.0	599.0	610.0	● ● ○	24V / 12.96W 24V / 21.60W	540mA 900mA	580
LBL3-00-700-X-X	720.0	699.0	710.0	● ● ○	24V / 15.12W 24V / 25.20W	630mA 1050mA	720
LBL3-00-800-X-X	820.0	799.0	810.0	● ● ○	24V / 17.28W 24V / 28.80W	720mA 1200mA	780
LBL3-00-900-X-X	920.0	899.0	910.0	● ● ○	24V / 19.44W 24V / 32.40W	810mA 1350mA	810
LBL3-00-1000-X-X	1020.0	999.0	1010.0	● ● ○	24V / 21.60W 24V / 36.00W	900mA 1500mA	930

## Optional Connector

Standard Lighting Male Connector

PIN 1	24V
PIN 2	-
PIN 3	GND

M8 Male Connector M8 Pin Assignment

PIN 1	-	-
PIN 2	RED	24V
PIN 3	-	-
PIN 4	BLACK	GND

M12 Male Connector M12 Pin Assignment

PIN 1	BROWN	24V
PIN 2	WHITE	-
PIN 3	BLUE	GND
PIN 4	BLACK	-
PIN 5	GRAY	-

Product Part Numbering System:  
LBL3-00-100-X-X-24V-M8

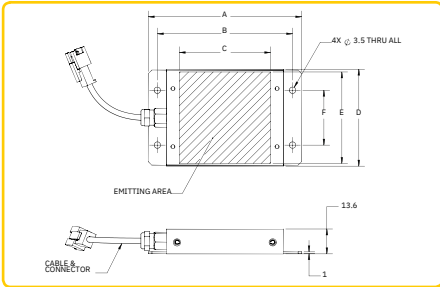
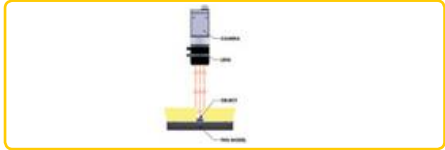
Product Part Numbering System:  
LBL3-00-100-X-X-24V-M12



### BHS4 SERIES –Backlight Illumination

BHS4 series' LEDs are arranged in a dense array and shine into a diffuser. The uniform light emitted provides area illumination creating a silhouette that highlights a work piece's shape and outline. The PCBs are in modular form and can be increased in size according to the requirement.

Applications: Lead Frame Inspection, Shape Recognition, Size Measurement, edge detection



Technical Specification:  
 - Color Red, Green, Blue and White  
 - 24V DC Input Power  
 - Continuous and Strobe Applications  
 - Compact Size  
 - Lighting Cable 500mm  
 Customize Lighting:  
 - Customize Sizes, Mounting Requirements  
 - Color and Voltage Available  
 - Consult Technical Sales for More Information  
 LED Wavelength  
 Red LED - 630nm  
 Green LED - 525nm  
 Blue LED - 470nm

Model	Dimensions (MM)						Color	Voltage / Watt	Current	Weight (g)
	A	B	C	D	E	F				
BHS4-00-025-X-X	59.0	49.0	25.0	28.0	25.0	17.0	● ○ ● ○ ● ○ ● ○	24V / 1.44W 24V / 0.576W 24V / 0.432W 24V / 3.12W	60mA 24mA 18mA 130mA	30
BHS4-00-050-X-X	84.0	74.0	50.0	53.0	50.0	30.0	● ○ ● ○ ● ○ ● ○	24V / 2.304W 24V / 1.728W 24V / 2.304W	96mA 72mA 96mA	80
BHS4-00-075-X-X	109.0	99.0	75.0	78.0	75.0	38.5	● ○ ● ○ ● ○ ● ○	24V / 5.184W 24V / 3.888W 24V / 5.184W	216mA 162mA 216mA	100
BHS4-00-100-X-X	134.0	124.0	100.0	103.0	100.0	60.0	● ○ ● ○ ● ○ ● ○	24V / 9.216W 24V / 6.912W 24V / 9.216W	384mA 288mA 384mA	220

Model	Dimensions (MM)						Color	Voltage / Watt	Current	Weight (g)
	A	B	C	D	E	F				
BHS4-00-030-X-X	64.0	54.0	30.0	33.0	30.0	22	● ○ ● ○ ● ○ ● ○	24V / 1.44W 24V / 0.576W 24V / 0.432W	60mA 24mA 18mA	50
BHS4-00-060-X-X	94.0	84.0	60.0	63.0	60.0	40	● ○ ● ○ ● ○ ● ○	24V / 3.12W 24V / 2.304W 24V / 1.728W 24V / 2.304W	130mA 96mA 72mA 96mA	115
BHS4-00-090-X-X	124.0	114.0	90.0	93.0	90.0	70	● ○ ● ○ ● ○ ● ○	24V / 5.184W 24V / 3.888W 24V / 5.184W	216mA 162mA 216mA	200
BHS4-00-120-X-X	154.0	144	120.0	123.0	120.0	100	● ○ ● ○ ● ○ ● ○	24V / 9.216W 24V / 6.912W 24V / 9.216W	384mA 288mA 384mA	325

Remark: BHS3 series are replaced by BHS4-25X25 series  
 BHL3 series are replaced by BHS4-30X30 series

### Optional Connector

Standard Lighting Male Connector

PIN 1	24V
PIN 2	-
PIN 3	GND

M8 Male Connector Pin Assignment

PIN 1	-	-
PIN 2	RED	24V
PIN 3	-	-
PIN 4	BLACK	GND

M12 Male Connector Pin Assignment

PIN 1	BROWN	24V
PIN 2	WHITE	-
PIN 3	BLUE	GND
PIN 4	BLACK	-
PIN 5	GRAY	-

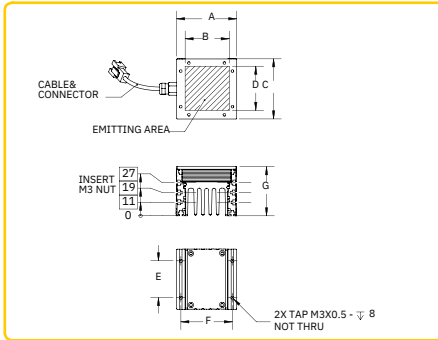
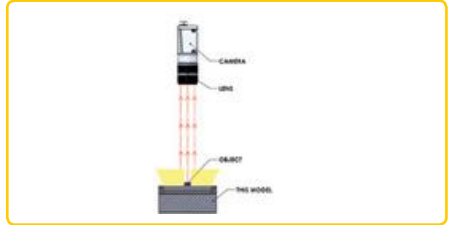
Product Part Numbering System:  
 BHS4-00-025-X-X-24V-M8

Product Part Numbering System:  
 BHS4-00-025-X-X-24V-M12

## BHH SERIES – High Power Backlight Illumination

BHH series is a high power backlight which LEDs are arranged in a dense array and shine into a diffuser. This product is suitable to be used in high speed applications.

Applications: Lead Frame Inspection, Shape Recognition, Size Measurement, edge detection



### Technical Specification:

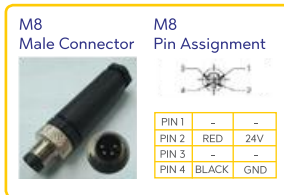
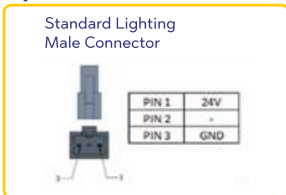
- Color Red, Green, Blue and White
- 24V DC Input Power
- Continuous and Strobe Applications
- Compact Size
- Lighting Cable 500mm

### Customize Lighting:

- Customize Sizes, Mounting Requirements
  - Color and Voltage Available
  - Consult Technical Sales for More Information
- LED Wavelength  
 Red LED - 630nm  
 Green LED - 525nm  
 Blue LED - 470nm

Model	Dimensions (MM)							Color	Voltage / Watt	Current	Weight (g)
	A	B	C	D	E	F	G				
BHH-00-035-X-X	49.0	35.0	49.0	35.0	30.0	42.0	40	●●●	24V / 3.60W 24V / 3.60W	150mA 150mA	135
BHH-00-070-X-X	84.0	70.0	84.0	70.0	65	77.0	40	●●●	24V / 14.40W 24V / 14.40W	600mA 600mA	380

## Optional Connector



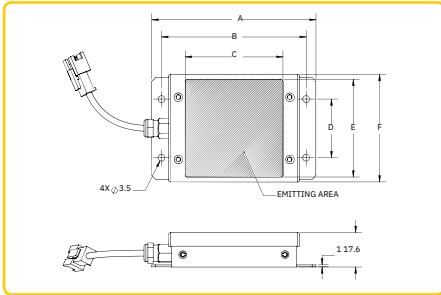
Product Part Numbering System:  
BHH-00-035-X-X-24V-M8

Product Part Numbering System:  
BHH-00-035-X-X-24V-M12

## BHC2 SERIES – High Intensity Collimated Backlight Illumination

BHC2 is a high intensity, uniform and collimated backlight that create a silhouette that highlights a work piece's shape and outline distinctly compare to the standard backlight.

Applications: Lead Frame Inspection, Shape Recognition, Size Measurement



### Technical Specification:

- Color Red, Green, Blue and White
  - 24V DC Input Power
  - Continuous and Strobe Applications
  - Compact Size
  - Lighting Cable 500mm
- Customize Lighting:
- Customize Sizes, Mounting Requirements
  - Color and Voltage Available
  - Consult Technical Sales for More Information
- LED Wavelength  
 Red LED - 630nm  
 Green LED - 525nm  
 Blue LED - 470nm

Model	Dimensions (MM)						Color	Voltage / Watt	Current	Weight (g)
	A	B	C	D	E	F				
BHC2-00-025-X-X	59	49	25	17	25	30	● ○ ●	24V / 1.44W 24V / 0.576W 24V / 0.432W	60mA 24mA 18mA	48
BHC2-00-050-X-X	84	74	50	30	50	55	●○ ●●	24V / 2.304W 24V / 1.728W	96mA 72mA	96
BHC2-00-075-X-X	109	99	75	38.5	75	80	●○ ●●	24V / 5.184W 24V / 3.888W	216mA 162mA	121
BHC2-00-100-X-X	134	124	100	60	100	105	●○ ●●	24V / 9.216W 24V / 6.912W	384mA 288mA	264

## Optional Connector

Standard Lighting Male Connector

PIN 1	24V
PIN 2	-
PIN 3	GND

M8 Male Connector Pin Assignment

PIN 1	-	-
PIN 2	RED	24V
PIN 3	-	-
PIN 4	BLACK	GND

M12 Male Connector Pin Assignment

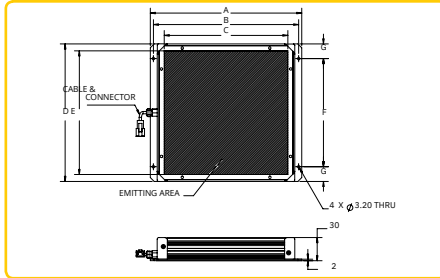
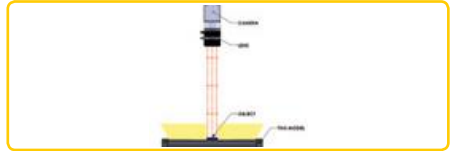
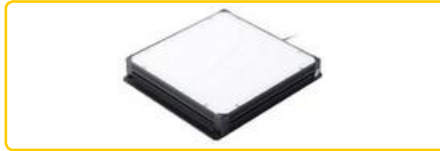
PIN 1	BROWN	24V
PIN 2	WHITE	-
PIN 3	BLUE	GND
PIN 4	BLACK	-
PIN 5	GRAY	-

Product Part Numbering System:  
BHC2-00-050-X-X-24V-M8

Product Part Numbering System:  
BHC2-00-050-X-X-24V-M12

## BHLX3 SERIES – Backlight Illumination

BHLX3 series is a bigger and thicker size of backlight which provides diffused backlighting over a wide area. This product is able to cascade PCB (80mm x 80mm). Maximum quantity of this product that could be cascaded is 28 pieces.



### Technical Specification:

- Color Red, Green, Blue and White
- 24V DC Input Power
- Continuous and Strobe Applications
- Compact Size
- Lighting Cable 500mm

### Customize Lighting:

- Customize Sizes, Mounting Requirements
  - Color and Voltage Available
  - Consult Technical Sales for More Information
- LED Wavelength  
 Red LED - 630nm  
 Green LED - 525nm  
 Blue LED - 470nm

Model	Dimensions (MM)							Color	Voltage / Watt	Current	Weight (g)
	A	B	C	D	E	F	G				
BHLX3-00-160X160-X-X	196	188	160	178	160	140	19	● IR850 ● LED	24V / 12.96W 24V / 17.28W 24V / 12.48W	540mA 720mA 520mA	665
BHLX3-00-160X240-X-X	276	268	240	178	160	140	19	● IR850 ● LED	24V / 19.44W 24V / 25.92W 24V / 18.72W	810mA 1080mA 780mA	860
BHLX3-00-160X320-X-X	356	348	320	178	160	140	19	● IR850 ● LED	24V / 25.92W 24V / 34.56W 24V / 24.96W	1080mA 1440mA 1040mA	1060
BHLX3-00-160X400-X-X	436	428	400	178	160	140	19	● IR850 ● LED	24V / 32.40W 24V / 43.20W 24V / 31.2W	1350mA 1800mA 1300mA	1265
BHLX3-00-240X240-X-X	276	268	240	258	240	140	59	● IR850 ● LED	24V / 29.16W 24V / 38.88W 24V / 28.08W	1215mA 1620mA 1170mA	1170
BHLX3-00-240X320-X-X	356	348	320	258	240	140	59	● IR850 ● LED	24V / 38.88W 24V / 51.84W 24V / 37.44W	1620mA 2160mA 1560mA	1410
BHLX3-00-240X400-X-X	436	428	400	258	240	140	59	● IR850 ● LED	24V / 48.60W 24V / 64.80W 24V / 46.8W	2025mA 2700mA 1950mA	1665
BHLX3-00-320X320-X-X	356	348	320	338	320	300	19	● IR850 ● LED	24V / 51.84W 24V / 69.12W 24V / 49.92W	2160mA 2880mA 2080mA	1900
BHLX3-00-320X400-X-X	436	428	400	338	320	300	19	● IR850 ● LED	24V / 64.80W 24V / 86.40W 24V / 62.4W	2700mA 3600mA 2600mA	2120
BHLX3-00-400X400-X-X	436	428	400	418	400	360	29	● IR850 ● LED	24V / 81.00W 24V / 108.00W 24V / 78.0W	3375mA 4500mA 3250mA	2800

## Optional Connector

Standard Lighting Male Connector

PIN 1	24V
PIN 2	-
PIN 3	GND

M8 Male Connector M8 Pin Assignment

PIN 1	-	-
PIN 2	RED	24V
PIN 3	-	-
PIN 4	BLACK	GND

M12 Male Connector M12 Pin Assignment

PIN 1	BROWN	24V
PIN 2	WHITE	-
PIN 3	BLUE	GND
PIN 4	BLACK	-
PIN 5	GRAY	-


Product Part Numbering System:  
BHLX3-00-160X160-X-X-24V-M8

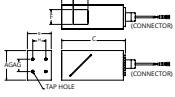
Product Part Numbering System:  
BHLX3-00-160X160-X-X-24V-M12

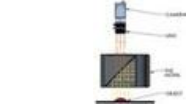
### CAS2 SERIES – Uniform Mid Power Coaxial Illumination

CAS2 series is a mid power coaxial illumination. The light projected from the light source is reflected by 45° half mirror to the object and provide light parallel with the camera. CAS2 is suitable to be used in applications that involve the inspection of objects with transparent, translucent and reflective surfaces, as only the desired specular reflected light from the object is captured by the camera, thus producing a clear and bright image without reflection or glare.


Applications: Surface Inspection and Alignment, Wafer and Metal Surface inspection, Film, LCD & Glass, Pattern on PCB Inspection








Flexible Mounting Bracket, apply to \* CAS2-00-040-X-X-24V only.



Inward Mounting



Outward Mounting

BRACKET PART NO: CAS2 – 00 – (025/ 040/ 070/ 100) – X – X – BRACKET

Technical Specification:

- Color Red, Green, Blue and White
- 24V DC Input Power
- Continuous and Strobe Applications
- Compact Size
- Lighting Cable 500mm
- Customize Lighting
- Customize Sizes, Mounting Requirements
- Color and Voltage Available
- Consult Technical Sales for More Information

LED Wavelength  
Red LED - 630nm  
Green LED - 525nm  
Blue LED - 470nm

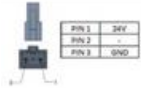
Model	Dimensions (MM)								TAP HOLE	Color	Voltage / Watt	Current	Weight (g)
	A	B	C	D	E	F	G	H					
CAS2-00-010-X-X	36.0	29.0	77.4	14.0	18.0	18.0	15.0	16.0	M3	● ● ● ○ ● ● ● ●	24V / 1.80W 24V / 3.12W 24V / 3.60W	75mA 130mA 150mA	120
CAS2-00-020-X-X	46.0	39.0	87.3	15.5	25.0	24.0	20.0	20.0	M4	● ● ● ● ● ●	24V / 1.92W 24V / 3.60W 24V / 4.80W	80mA 150mA 200mA	200
CAS2-00-025-X-X	33.0	33.0	54.0	8.0	25.0	25.6	16.0	15.0	M3	● ● ● ○ ● ●	24V / 3.60W 24V / 3.84W 24V / 3.84W	150mA 160mA 160mA	80
CAS2-00-040-X-X	66.0	60.0	107.5	14.0	48.0	48.0	25.0	25.0	M5	● ● ● ○ ● ● ● ●	24V / 4.2W 24V / 8.40W 24V / 10.08W	175mA 350mA 420mA	360
CAS2-00-070-X-X	95.0	89.0	139.6	21.2	70.0	70.0	50.0	50.0	M5	● ● ● ○ ● ● ● ●	24V / 12.60W 24V / 13.44W 24V / 14.4W	525mA 560mA 600mA	740
CAS2-00-080-X-X	81.0	104.0	125.5	12.2	65.0	84.0	45.0	50.0	M5	● ● ● ○ ● ●	24V / 10.80W 24V / 10.94W 24V / 12.48W	450mA 456mA 520mA	690
CAS2-00-100-X-X	123.8	120.0	166.5	18.2	100.0	100.0	50.0	50.0	M5	● ● ● ○ ● ●	24V / 10.80W 24V / 18.74W 24V / 22.8W	450mA 781mA 950mA	1310
CAS20-00-20X40-X-X	28.2	50.5	60	7	20	40	10	20	M3	● ● ● ● ● ●	24V / 1.44W 24V / 1.44W	60mA 60mA	150
CAS25-00-25X50-X-X	33.2	60.5	65	7	25	50	12.5	25	M3	● ● ● ● ● ●	24V / 2.88W 24V / 2.88W	120mA 120mA	200
CAS30-00-30X60-X-X	38.2	70.5	70	7	30	60	15	30	M3	● ● ● ● ● ●	24V / 3.6W 24V / 4.32W	180mA 150mA	250

Model	Dimensions (MM)								TAP HOLE	Color	Voltage / Watt	Current	Weight (g)
	A	B	C	D	E	F	G	H					
CAS2-00-025-X-RGB	33.0	33.0	54.0	8.0	25.0	25.6	16.0	15.0	M3	● ● ● ● ● ● ● ● ●	24V / 1.30W 24V / 1.30W 24V / 1.30W	54mA 54mA 54mA	90
*CAS2-00-040-X-RGB	66.0	60.0	107.5	14.0	48.0	48.0	25.0	25.0	M5	● ● ● ● ● ● ● ● ●	24V / 3.00W 24V / 2.40W 24V / 2.40W	125mA 100mA 100mA	400
CAS2-00-070-X-RGB	95.0	89.0	139.6	21.2	70.0	70.0	50.0	50.0	M5	● ● ● ● ● ● ● ● ●	24V / 6.24W 24V / 4.37W 24V / 4.37W	260mA 182mA 182mA	730
CAS2-00-100-X-RGB	123.8	120.0	166.5	18.2	100.0	100.0	50.0	50.0	M5	● ● ● ● ● ● ● ● ●	24V / 8.64W 24V / 7.68W 24V / 7.68W	360mA 320mA 320mA	1310


Model	Dimensions (MM)								TAP HOLE	Color	Voltage / Watt	Current	Weight (g)
	A	B	C	D	E	F	G	H					
CAS2-00-040-X-RGBW	66.0	60.0	107.5	14.0	48.0	48.0	25.0	25.0	M5	● ● ● ● ● ● ● ●	24V / 3.84W 24V / 5.28W	160mA 220mA	360
CAS2-00-070-X-RGBW	95.0	89.0	139.6	21.2	70.0	70.0	50.0	50.0	M5	● ● ● ● ● ● ● ● ● ● ● ●	24V / 7.68W 24V / 6.72W 24V / 5.76W	320mA 280mA 240mA	740

### Optional Connector

Standard Lighting Male Connector




M8 Male Connector    M8 Pin Assignment



PIN 1	-	-
PIN 2	RED	24V
PIN 3	-	-
PIN 4	BLACK	GND

M12 Male Connector    M12 Pin Assignment



PIN 1	BROWN	24V
PIN 2	WHITE	-
PIN 3	BLUE	GND
PIN 4	BLACK	-
PIN 5	GRAY	-

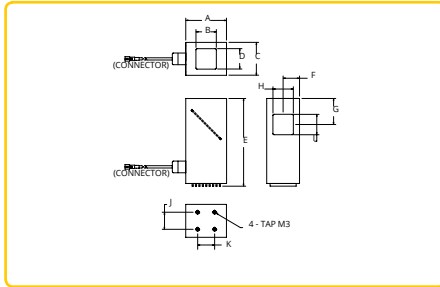
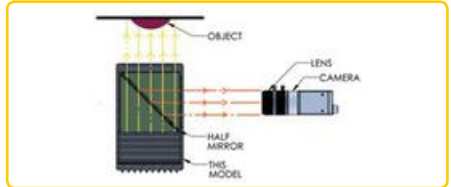
Product Part Numbering System:  
CAS2-00-025-X-X-24V-M8

Product Part Numbering System:  
CAS2-00-025-X-X-24V-M12

\*\* It is not recommended to light on the RED, GREEN, BLUE (RGB) LEDs at the same time.  
\*\* It is not recommended to light on the RED, GREEN, BLUE, WHITE (RGBW) LEDs at the same time.

## CAS2 SERIES – Uniform Mid Power Coaxial Illumination

CAS2 series is an extended version of coaxial light illumination which allow camera to be mounted at side of the object which object image is reflected to the camera. This illumination is suitable for limited camera mounting distances or bottom inspection. Compact in size.



### Technical Specification:

- Color Red, Green, Blue and White
  - 24V DC Input Power
  - Continuous and Strobe Applications
  - Compact Size
  - Lighting Cable 500mm
- Customize Lighting:
- Customize Sizes, Mounting Requirements
  - Color and Voltage Available
  - Consult Technical Sales for More Information
- LED Wavelength  
 Red LED - 630nm  
 Green LED - 525nm  
 Blue LED - 470nm

Model	Dimensions (MM)											Color	Voltage / Watt	Current	Weight (g)
	A	B	C	D	E	F	G	H	I	J	K				
CAS2-45-010-X-X	36.0	18.0	29.0	18.0	77.5	14.5	23.0	18.0	18.0	15.0	15.0	<ul style="list-style-type: none"> <li>● 24V / 1.80W</li> <li>● 24V / 3.12W</li> <li>● 24V / 3.60W</li> </ul>	75mA 130mA 150mA	120	
CAS2-45-020-X-X	46.0	25.0	39.0	24.0	87.3	19.5	28.0	24.0	25.0	20.0	20.0	<ul style="list-style-type: none"> <li>● 24V / 1.92W</li> <li>● 24V / 3.60W</li> <li>● 24V / 4.80W</li> </ul>	80mA 150mA 200mA	200	
CAS2-45-040-X-X	66.0	48.0	60.0	48.0	107.5	30.0	38.0	48.0	48.0	36.0	36.0	<ul style="list-style-type: none"> <li>● 24V / 3.60W</li> <li>● 24V / 3.84W</li> <li>● 24V / 10.08W</li> </ul>	175mA 350mA 420mA	350	

## Optional Connector

Standard Lighting  
Male Connector

PIN 1	24V
PIN 2	-
PIN 3	GND

M8  
Male Connector

M8  
Pin Assignment

PIN 1	-	-
PIN 2	RED	24V
PIN 3	-	-
PIN 4	BLACK	GND

M12  
Male Connector

M12  
Pin Assignment

PIN 1	BROWN	24V
PIN 2	WHITE	-
PIN 3	BLUE	GND
PIN 4	BLACK	-
PIN 5	GRAY	-

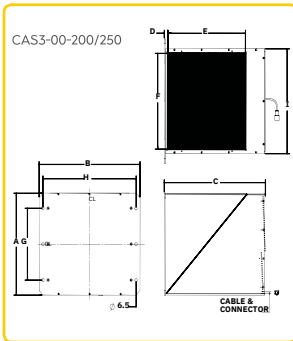
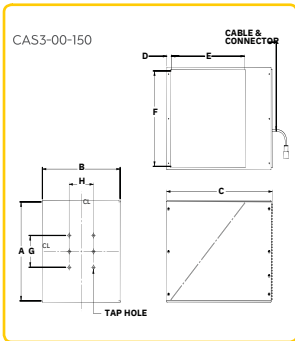
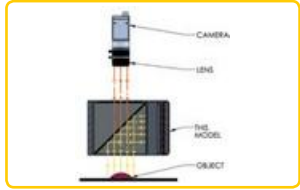
Product Part Numbering System:  
CAS2-45-010-X-X-24V-M8

Product Part Numbering System:  
CAS2-45-010-X-X-24V-M12

### CAS3 SERIES – Uniform High Power Coaxial Illumination

CAS3 series is a high power coaxial illumination. The light projected from the light source is reflected by 45° half mirror to the object and provide light parallel with the camera.

Applications: Surface Inspection and Alignment, Wafer and Metal Surface Inspection, Film, LCD and Glass, Pattern on PCB Inspection



- Technical Specification:
- Color Red, Green, Blue and White
  - 24V DC Input Power
  - Continuous and Strobe Applications
  - Compact Size
  - Lighting Cable 500mm
- Customize Lighting:
- Customize Sizes, Mounting Requirements
  - Color and Voltage Available
  - Consult Technical Sales for More Information
- LED Wavelength
- (OSRAM LED Light Technology)**
- Red LED is 620nm
  - Blue LED is 450nm
  - Green LED is 540nm

Model	Dimensions (MM)									TAP HOLE	Color	Voltage / Watt	Current	Weight (g)
	A	B	C	D	E	F	G	H	I					
CAS3-00-150-X-X	160.4	160	217.5	10	150	150	50	50	-	M6	●●○	24V / 25.34W 24V / 21.38W	1056mA 891mA	2000
CAS3-00-200-X-X	213	260	260.5	9	200	200	150	240	219	-	●●○	24V / 32.40W 24V / 38.02W	1350mA 1584mA	3200
CAS3-00-250-X-X	260.6	310	309.5	9	250	250	210	290	269	-	●●○	24V / 46.66W 24V / 54.00W	1944mA 2250mA	5000

Remarks: CAS2 part numbers are changed to CAS3

### Optional Connector

Standard Lighting Male Connector

PIN 1	24V
PIN 2	-
PIN 3	GND

M8 Male Connector M8 Pin Assignment

PIN 1	-	-
PIN 2	RED	24V
PIN 3	-	-
PIN 4	BLACK	GND

M12 Male Connector M12 Pin Assignment

PIN 1	BROWN	24V
PIN 2	WHITE	-
PIN 3	BLUE	GND
PIN 4	BLACK	-
PIN 5	GRAY	-

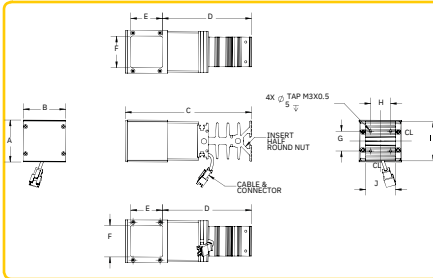
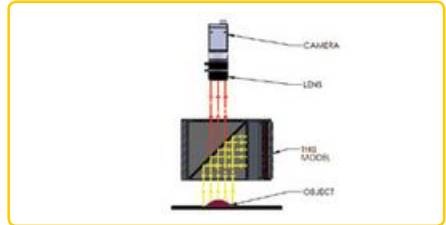
Product Part Numbering System:  
CAS3-00-150-X-X-24V-M8

Product Part Numbering System:  
CAS3-00-150-X-X-24V-M12

## HCAS2 SERIES – Uniform High Power Coaxial Illumination

HCAS2 series is a high power coaxial illumination with heat sink. The light projected from the light source is reflected by 45° half mirror to the object and provide light parallel with the camera.

Applications: Surface Inspection and Alignment, Wafer and Metal Surface inspection, Film, LCD & Glass, Pattern on PCB Inspection



### Technical Specification:

- Color Red, Green, Blue and White
- 24V DC Input Power
- Continuous and Strobe Applications
- Compact Size
- Lighting Cable 500mm

### Customize Lighting:

- Customize Sizes, Mounting Requirements
- Color and Voltage Available

- Consult Technical Sales for More Information

LED Wavelength **OSRAM LED Light Technology**

- Red LED is 620nm
- Blue LED is 450nm
- Green LED is 540nm

Model	Dimensions (MM)										Color Voltage / Watt Current Weight (g)			
	A	B	C	D	E	F	G	H	I	J	Color	Voltage / Watt	Current	Weight (g)
HCAS2-00-035-X-X	46.6	47	140	99	35	35	22	22	44	33	●●○	24V / 7.68W 24V / 9.12W	320mA 380mA	286
HCAS2-00-070-X-X	76.5	77.5	170	99	65	65	52	22	74	63.5	●●○	24V / 16.80W 24V / 18.0W	700mA 750mA	796

## Optional Connector

Standard Lighting Male Connector

PIN 1	24V
PIN 2	-
PIN 3	GND

M8 Male Connector M8 Pin Assignment

PIN 1	-	-
PIN 2	RED	24V
PIN 3	-	-
PIN 4	BLACK	GND

M12 Male Connector M12 Pin Assignment

PIN 1	BROWN	24V
PIN 2	WHITE	-
PIN 3	BLUE	GND
PIN 4	BLACK	-
PIN 5	GRAY	-

Product Part Numbering System:  
HCAS2-00-035-X-X-24V-M8

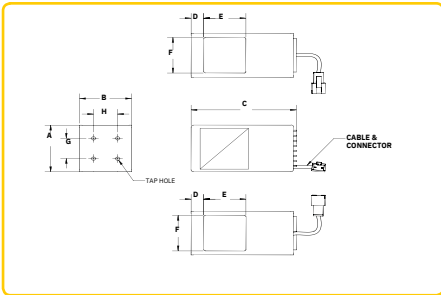
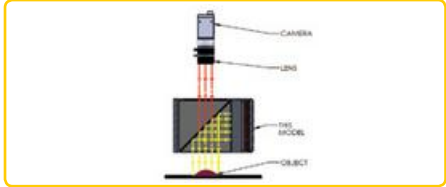
Product Part Numbering System:  
HCAS2-00-035-X-X-24V-M12



### CASC SERIES – Uniform Coaxial Illumination

CASC series provides coaxial illumination mostly for high magnification telecentric lenses. The light projected from the light source is reflected by a prism cube beam splitter to provide light parallel with the camera.

Applications: Surface Inspection and Alignment, Wafer and Metal Surface Inspection, Film, LCD and Glass, Pattern on PCB Inspection



Technical Specification:

- Color Red, Green, Blue and White
- 24V DC Input Power
- Continuous and Strobe Applications
- Compact Size
- Lighting Cable 500mm

Customize Lighting:

- Customize Sizes, Mounting Requirements
- Color and Voltage Available
- Consult Technical Sales for More Information

LED Wavelength  
 Red LED - 630nm  
 Green LED - 525nm  
 Blue LED - 470nm

Model	Dimensions (MM)								TAP HOLE	Color	Voltage / Watt	Current	Weight (g)
	A	B	C	D	E	F	G	H					
CASC-00-015-X-X	24	30	49.5	6.1	19	19	13	13	M3	● ● ● ○ ● ● ● ○	24V / 1.68W 24V / 2.16W	70mA 90mA	100
CASC-00-025-X-X	33.0	33.0	54.0	8.0	25.0	25.6	15.0	16.0	M3	● ● ● ○ ● ● ● ○	24V / 5.52W 24V / 5.76W	230mA 240mA	117
CASC-00-035-X-X	45.8	43	87.3	10.5	35	35	20	20	M4	● ● ● ○ ● ● ● ○	24V / 6.62W 24V / 6.91W	276mA 288mA	318

### Optional Connector

Standard Lighting Male Connector

PIN 1	24V
PIN 2	-
PIN 3	GND

M8 Male Connector

M8 Pin Assignment

PIN 1	-	-
PIN 2	RED	24V
PIN 3	-	-
PIN 4	BLACK	GND

M12 Male Connector

M12 Pin Assignment

PIN 1	BROWN	24V
PIN 2	WHITE	-
PIN 3	BLUE	GND
PIN 4	BLACK	-
PIN 5	GRAY	-

Product Part Numbering System:  
CASC-00-015-X-X-24V-M8


Product Part Numbering System:  
CASC-00-015-X-X-24V-M12

### 4 SECTION LED ILLUMINATION




HPD-00-170-1-X-24V-4CH  
HPD-00-240-1-X-24V-4CH  
HPD-00-070-1-RGBW-24V-4CH

This block displays three different models of circular ring illuminators. The first is a single ring, while the other two are shown as sets of four rings.



IDS5-00-050-1-X-24V-4CH  
IDS5-00-070-1-X-24V-4CH  
IDS5-00-100-1-X-24V-4CH  
IDS5-00-150-1-X-24V-4CH  
IDS5-00-200-1-X-24V-4CH  
IDS5-00-250-1-X-24V-4CH  
IDS4-00-360-1-X-24V-4CH  
IDSL-00-150-1-X-24V-4CH

This block shows a variety of ring illuminators, including a small black dome-shaped illuminator, a ring with a central lens, and several standard rings of different diameters.



LBRQ-00-080-3-X-24V-4CH

This block features square ring illuminators, with one shown in a perspective view and four others shown from a top-down perspective.



LLA-75-130-3-X-24V-4CH  
LLA-75-170-3-X-24V-4CH

This block displays four different models of ring illuminators, all shown from a top-down perspective.

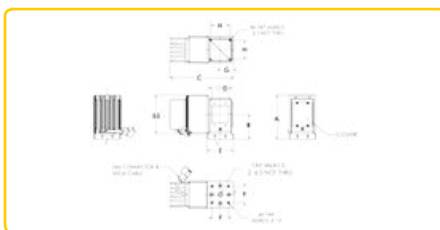
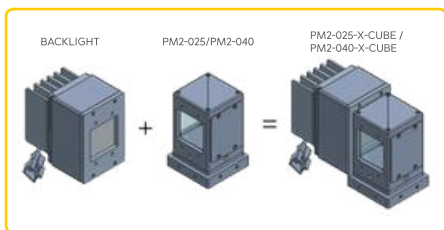


MLLA-90-200-1-X-24-4CH

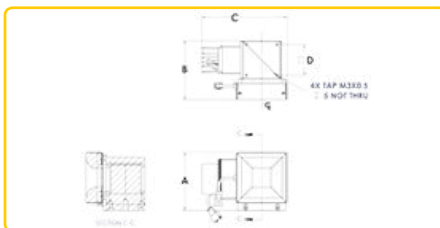
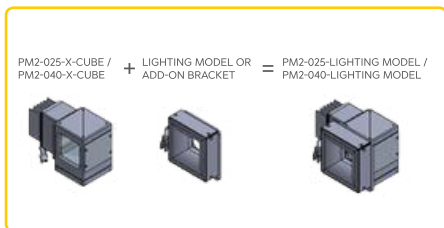
This block shows four different models of ring illuminators, all shown from a top-down perspective.

### PM2 SERIES – Modular Illumination (Suitable for Small Field of View)

PM2 Series is a set of lighting that can be independently used or combined together for multi types of complex application. It combines the advantages of standard lighting and customization lighting.



Model	Dimensions (MM)								Colour	Voltage / Watt	Current	Weight (g)
	A	B	C	D	E	F	G	H				
PM2-025-X-CUBE-MODULE	58	35.45	91	24.5	38	23.5	16	27	●●○ ●●○	24V / 4.8W 24V / 9.6W	200mA 400mA	280
PM2-040-X-CUBE-MODULE	72.9	42.9	109.5	39.5	53	38.5	22	42	●●○ ●●○	24V / 4.8W 24V / 9.6W	200mA 400mA	570

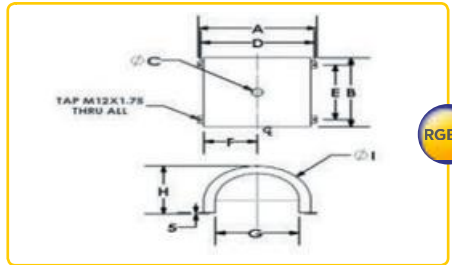


Model	Dimensions (MM)				Color	Voltage / Watt	Current	Weight (g)
	A	B	C	D				
PM2-025-X-HPD2-00-050-1-X-24V	63.7	78	100	27	●●○ ●●○	24V / 2.88W 24V / 2.88W	120mA 120mA	445
PM2-025-X-IDD-00-045-4-X-24V	63	69.5	99.5	27	●●○ ●●○	24V / 2.88W 24V / 3.6W	120mA 150mA	425
PM2-025-X-LBMQ-00-040-3-X-24V	90	57.5	117	27	●●○ ●●○	24V / 4.32W 24V / 8.64W	180mA 360mA	465
PM2-025-X-LSQ-15.30.45-051-3-X-24V	63	62	97.8	27	●●○ ●●○	24V / 0.72W 24V / 1.44W	30mA 60mA	376
PM2-025-X-LSQF-15.30.45-051-3-X-24V	63	62	97.2	27	●●○ ●●○	24V / 1.44W 24V / 2.88W	60mA 120mA	376

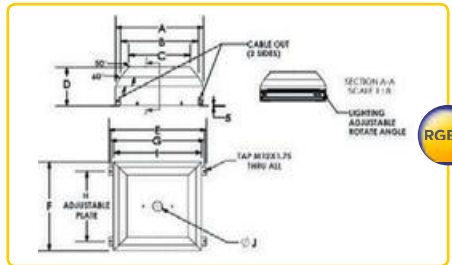
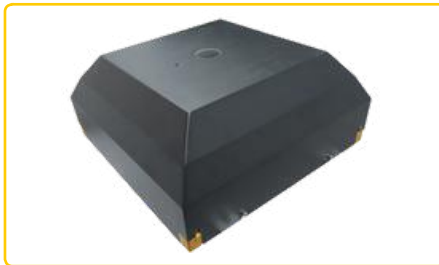
Model	Dimensions (MM)				Color	Voltage / Watt	Current	Weight (g)
	A	B	C	D				
PM2-040-X-IDD-00-080-3-X-24V	81	93	122	42	●●○ ●●○	24V / 4.32W	180mA	765
PM2-040-X-IDDQ-00-070-3-X-24V	82.8	90	120.1	42	●●○ ●●○	24V / 3.84W	160mA	805
PM2-040-X-HLBQ2-00-065-1-X-24V	128.2	89.5	146.1	42	●●○ ●●○	24V / 4.32W	180mA	866
PM2-040-X-DLC-00-070-1-X-24V	79.7	81	117	42	●●○ ●●○	24V / 2.1W	88mA	906
PM2-040-X-HPD2-00-080-1-X-24V	85.5	93	122.5	42	●●○ ●●○	24V / 2.16W	90mA	874

## MD SERIES – Modular Illumination (Suitable for Big Field of View)

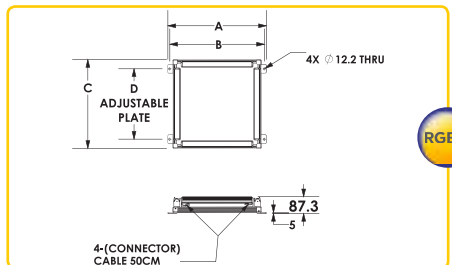
MD Series is a set of lighting that can be independently used or combined together for multi types of complex application. It combines the advantages of standard lighting and customization lighting.



Model	Dimensions (MM)			Color	Voltage / Watt	Current	Weight (g)
	A	B	C				
MD-IDT3-00-360-2-X	512.2	462	50	<ul style="list-style-type: none"> <li>● ● ● ●</li> <li>● ● ● ●</li> </ul>	24V / 13.44W	560mA	4900
					24V / 19.2W	800mA	



Model	Dimensions (MM)			Color	Voltage / Watt	Current	Weight (g)
	A	B	C				
MD-IDQ3-00-360-2-X	461	406.7	322.1	<ul style="list-style-type: none"> <li>● ● ● ●</li> <li>● ● ● ●</li> </ul>	24V / 26.88W	1120mA	4800
					24V / 38.4W	1600mA	



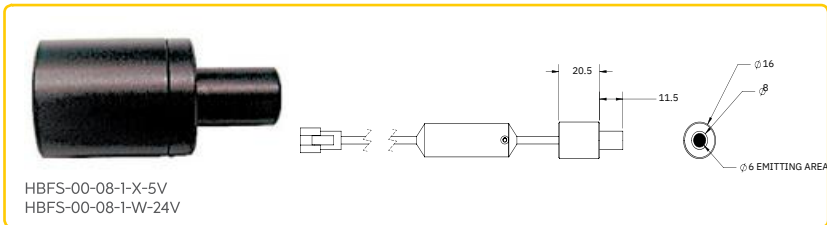
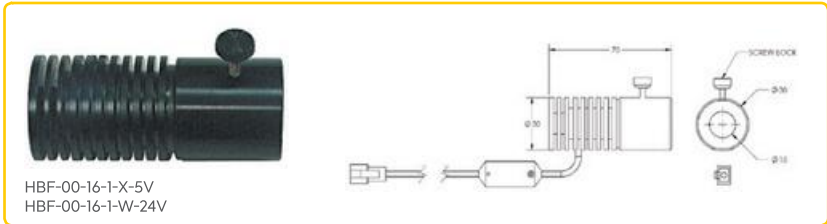
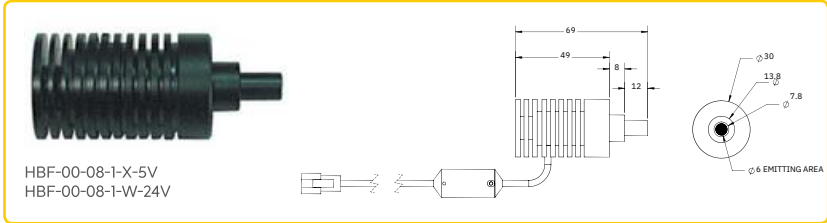
Model	Dimensions (MM)				Color	Voltage / Watt	Current	Weight (g)
	A	B	C	D				
MD-MLBQ-00-360-2-X	511.5	491.5	460.3	360	<ul style="list-style-type: none"> <li>● ● ● ●</li> <li>● ● ● ●</li> </ul>	24V / 26.88W	1120mA	3000
						24V / 38.4W	1600mA	

### HBF & HBFS SERIES – High Luminosity Spot Light

HBF series is designed to replace halogen light source which is low in power consumption but high in luminosity and has a longer life span

HBFS series is a compact version of HBF.

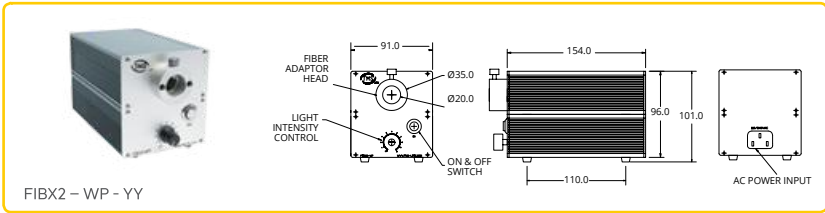
Applications: Macro Lenses Inspection



Model	Color	Power Consumption	Current	Weight (g)
HBF-00-08-1-X	● ● ○	5V / 3.0W	600mA	100
HBF-00-08-1-W	○	24V / 2.4W	100mA	100
HBF-00-16-1-X	● ● ○	5V / 3.0W	600mA	120
HBF-00-16-1-W	○	24V / 2.4W	100mA	120
HBFS-00-08-1-X	● ● ○	5V / 0.55W	110mA	45
HBFS-00-08-1-W	○	24V / 1.2W	50mA	45

## FIBX2 SERIES – LED Fibre Light Module

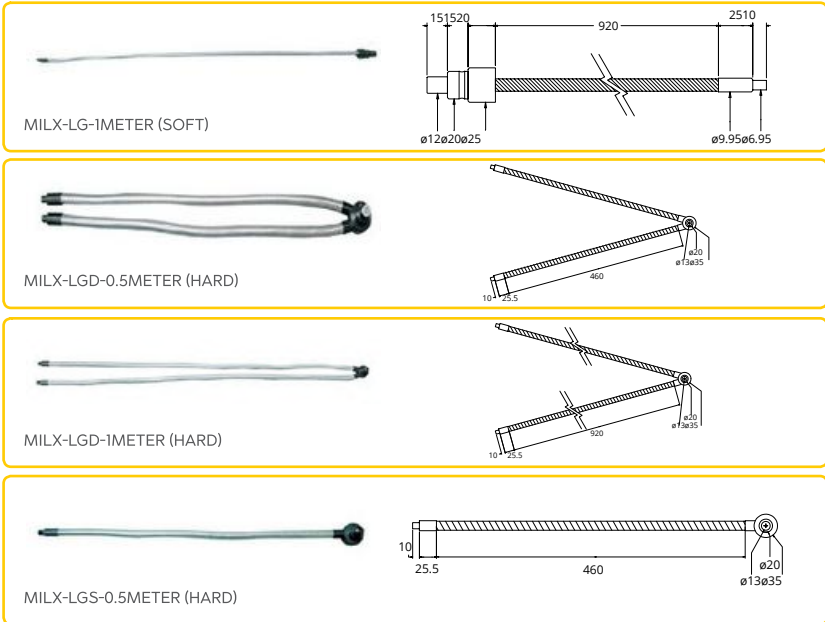
FIBX2 series is an integration of the HBF series illumination and a controller. This integrated form provides easy installation and is suitable for fibre optic illumination.



Model	Power Consumption	Input Voltage	Color	Weight (g)
FIBX2 – WP – YY	7WATT	110 ~ 240VAC	6500K	1100
FIBX2 – WP/ WW- YY	28.8WATT	110 ~ 240VAC	2700K & 5000K	1000
<b>Remarks:</b> -YY stands for power cord -Build in power supply		<b>POWER CORD:</b> - UK (240VAC) - EU (220VAC) - US (110VAC)		

## LIGHT GUIDE

Light guide is fiber optic for LED Fiber light module (FIBX2).

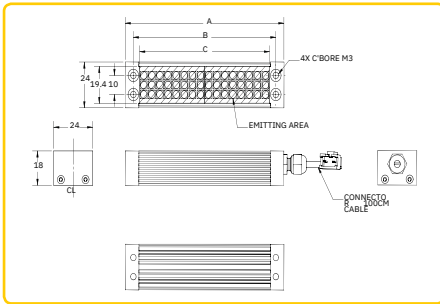
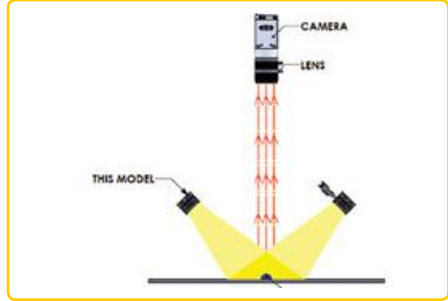


Model	Length (Meter)	Flexibility
MILX-LG-X	1.0	SOFT
MILX-LGD-X	0.5	HARD
MILX-LGD-X	1.0	HARD
MILX-LGS-X	0.5	HARD

### LBRP SERIES – Large Uniform Bar Illumination

LBRP is 3 rows of SMD LED with lens array arranged in a rectangular array to provide rectangular illumination, which can be mounted with different angle to provide differences in illumination reflection for image processing. This illumination is dust tight and protected from low pressure water jets from any direction.

Applications: General Illumination, Label inspection, character Inspection, Code Recognition



Technical Specification:

- Color Red, Green, Blue and White
- 24V DC Input Power
- Continuous and Strobe Applications
- Compact Size
- Lighting Cable 1000mm

Customize Lighting:

- Customize Sizes, Mounting Requirements
- Color and Voltage Available
- Consult Technical Sales for More Information

LED Wavelength

- Red LED - 630nm
- Green LED - 525nm
- Blue LED - 470nm

Model	Dimensions (MM)			Color	Voltage / Watt	Current	Weight (g)
	A	B	C				
LBRP-00-040-3-X	57.8	47.8	40	● ● ● ○	24V / 1.44W 24V / 1.92W	60mA 80mA	61
LBRP-00-080-3-X	97.8	87.8	80	● ● ● ○	24V / 2.88W 24V / 3.84W	120mA 160mA	80

### Optional Connector

Standard Lighting Male Connector

PIN 1	24V
PIN 2	-
PIN 3	GND

M8 Male Connector Pin Assignment

PIN 1	-	-
PIN 2	RED	24V
PIN 3	-	-
PIN 4	BLACK	GND

M12 Male Connector Pin Assignment

PIN 1	BROWN	24V
PIN 2	WHITE	-
PIN 3	BLUE	GND
PIN 4	BLACK	-
PIN 5	GRAY	-

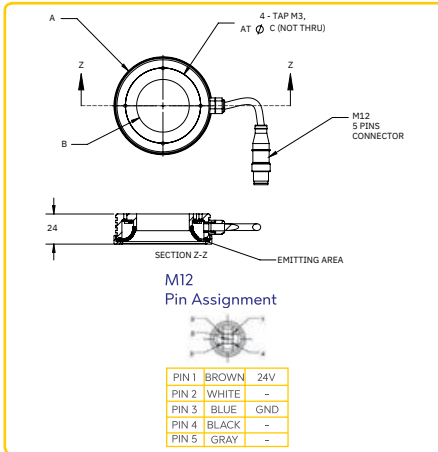
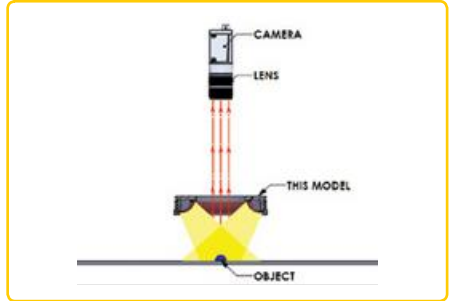
Product Part Numbering System:  
LBRP-00-080-3-X-24V-M8

Product Part Numbering System:  
LBRP-00-080-3-X-24V-M12

### HPDP SERIES – Large Uniform Ring Illumination

HPDP series consists of mid-power LEDs arranged in a circular structure with molded diffuser on the surface, which allows the emission of uniform, direct, diffused illumination with high flexibility and stability. This illumination is dust tight and protected from low pressure water jets from any direction.

Applications: Shining Surface & Food Packaging Inspection



**Technical Specification:**

- Color Red, Green, Blue and White
- 24V DC Input Power
- Continuous and Strobe Applications
- Compact Size
- Lighting Cable 500mm

**Customize Lighting:**

- Customize Sizes, Mounting Requirements
- Color and Voltage Available
- Consult Technical Sales for More Information

**LED Wavelength**

- Red LED - 630nm
- Green LED - 525nm
- Blue LED - 470nm

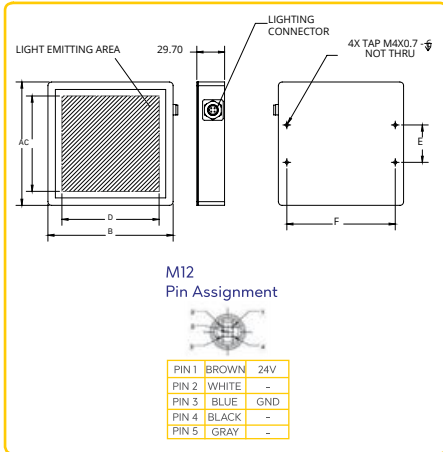
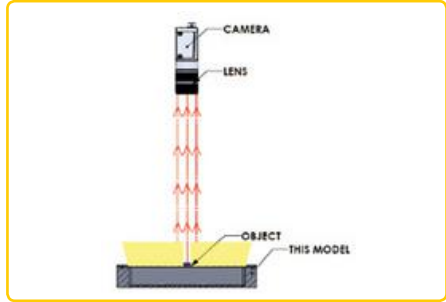
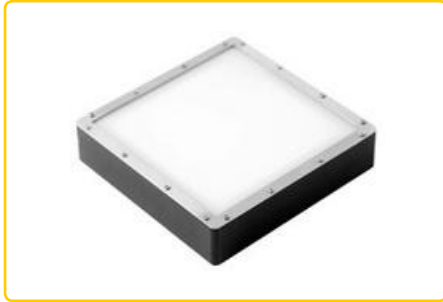
Model	Dimensions (MM)			Color	Voltage / Watt	Current	Weight (g)
	ØA	ØB	ØC				
HPDP-00-070-1-X	78.0	42	60.0	● ● ○	24V / 1.80W 24V / 2.16W	75mA 90mA	130
HPDP-00-110-2-X	116.4	68	90.0	● ● ○	24V / 3.96W 24V / 4.37W	165mA 182mA	200



### BHP SERIES – Ingress Protection, High Intensity Backlight Illumination

BHP series is an ingress protected illuminator which LEDs are arranged in a dense array and shine into a diffuser. The uniform light emitted provides even area illumination. This illumination is dust tight and protected from low pressure water jets from any direction.

Applications: Lead Frame Inspection, Shape Recognition, Dimensions Measurement



**Technical Specification:**

- Color Red, Green, Blue and White
- 24V DC Input Power
- Continuous and Strobe Applications
- Compact Size
- Lighting Cable 500mm

**Customize Lighting:**

- Customize Sizes, Mounting Requirements
- Color and Voltage Available
- Consult Technical Sales for More Information

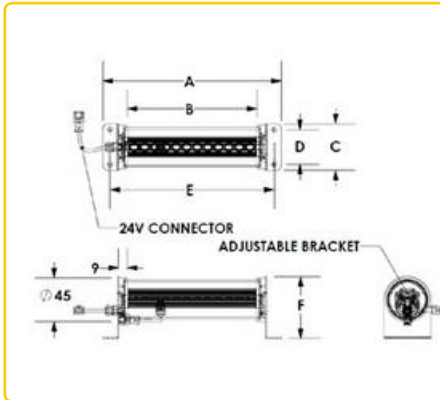
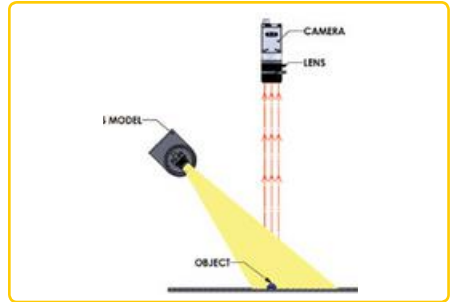
**LED Wavelength**

- \*Red LED - 630nm
- \*Green LED - 525nm
- \*Blue LED - 470nm

Model	Dimensions (MM)						Color	Voltage / Watt	Current	Weight (g)
	A	B	C	D	E	F				
BHP1010-X-X	132.0	134.0	102.0	104.0	40.0	116.0	● ● ● ●	24V / 9.12W 24V / 6.84W	380mA 285mA	650
BHP1515-X-X	180.0	180.0	150.0	150.0	75.0	163.0	● ● ● ●	24V / 18.48W 24V / 22.68W	770mA 945mA	1000
BHP1520-X-X	180.0	230.0	150.0	200.0	75.0	213.0	● ● ● ●	24V / 23.04W 24V / 30.24W	960mA 1260mA	1200

## IP-HLBS2 SERIES – Enclosure Illumination

IP HLBS2 series is a high power spot bar illuminator with enclosure protection beneficial when applied in certain conditions and scenarios. It is dust tight and protected from low pressure water jets from any direction.



### Technical Specification:

- Color Red, Green, Blue and White
  - 24V DC Input Power
  - Continuous and Strobe Applications
  - Compact Size
  - Lighting Cable 500mm
- Customize Lighting:
- Customize Sizes, Mounting Requirements
  - Color and Voltage Available
  - Consult Technical Sales for More Information

LED Wavelength  
Red LED - 630nm  
Green LED - 525nm  
Blue LED - 470nm

Model	Dimensions (MM)						Color	Voltage / Watt	Current	Weight (g)
	A	B	C	D	E	F				
IP-HLBS2-00-130-1-X	183.4	133.0	48.0	36.0	168.9	64.0	● ● ● ● ● ●	24V / 3.84W 24V / 3.84W	160mA 160mA	106

## Optional Connector

Standard Lighting  
Male Connector

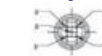


PIN 1	24V
PIN 2	-
PIN 3	GND

M12  
Male Connector



M12  
Pin Assignment



PIN 1	BROWN	24V
PIN 2	WHITE	-
PIN 3	BLUE	GND
PIN 4	BLACK	-
PIN 5	GRAY	-

Product Part Numbering System:  
IP-HLBS2-130-1-X-24V-M12



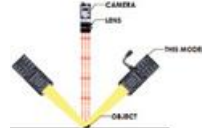
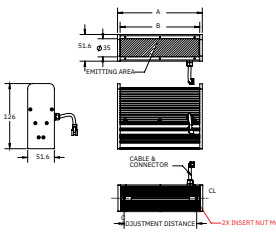
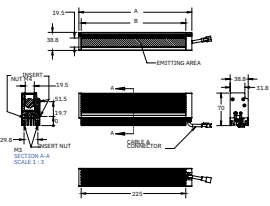
### LSN6 SERIES – Line Scan Illumination

LSN6 series is a compact and low cost line scan illumination which consists of a lens that converges the light into an intense illumination. This product is 35mm in diameter and has higher intensity than LSNY series.

### LSNY SERIES – Line Scan Illumination

LSNY series consists of a 20mm diameter rod lens that converges the light to be used in 5cm line scan applications (short working distance).



Application: Web and Print Applications, Packaging Inspection, Flat-panel Display Inspection, Electronics Components Inspection

 <p>LSN6 SERIES</p>	 <p>LSNY SERIES</p>	
		<p>Technical Specification:</p> <ul style="list-style-type: none"> <li>- Color Red, Green, Blue and White</li> <li>- 24V DC Input Power</li> <li>- Continuous and Strobe Applications</li> <li>- Compact Size</li> <li>- Lighting Cable 500mm</li> </ul> <p>Customize Lighting:</p> <ul style="list-style-type: none"> <li>- Customize Sizes, Mounting Requirements</li> <li>- Color and Voltage Available</li> <li>- Consult Technical Sales for More Information</li> </ul> <p>LED Wavelength</p> <ul style="list-style-type: none"> <li>Red LED - 630nm</li> <li>Green LED - 525nm</li> <li>Blue LED - 470nm</li> </ul>

Model	Dimensions (MM)			Color	Voltage / Watt	Current	Weight (g)
	A	B	C				
LSN6-00-075-1-X	89	79	65	● ● ○	24V / 11.76W	490mA	560
LSN6-00-150-1-X	164	154	140	● ● ○	24V / 23.52W	980mA	977
LSN6-00-225-1-X	239	229	215	● ● ○	24V / 35.28W	1470mA	1362
LSN6-00-300-1-X	314	304	290	● ● ○	24V / 47.04W	1960mA	1754

Model	Dimensions (MM)		Color	Voltage / Watt	Current	Weight (g)
	A	B				
LSNY-00-075-1-X	93	75	● ● ○	24V / 6.48W	270mA	383
LSNY-00-150-1-X	168	150	● ● ○	24V / 12.96W	540mA	642
LSNY-00-225-1-X	243	225	● ● ○	24V / 19.44W	810mA	911
LSNY-00-300-1-X	318	300	● ● ○	24V / 25.92W	1080mA	1184

### Optional Connector

<p>Standard Lighting Male Connector</p>  <table border="1"> <tr><td>PIN 1</td><td>24V</td></tr> <tr><td>PIN 2</td><td>-</td></tr> <tr><td>PIN 3</td><td>GND</td></tr> </table>	PIN 1	24V	PIN 2	-	PIN 3	GND	<p>M8 Male Connector Pin Assignment</p>  <table border="1"> <tr><td>PIN 1</td><td>-</td><td>-</td></tr> <tr><td>PIN 2</td><td>RED</td><td>24V</td></tr> <tr><td>PIN 3</td><td>-</td><td>-</td></tr> <tr><td>PIN 4</td><td>BLACK</td><td>GND</td></tr> </table>	PIN 1	-	-	PIN 2	RED	24V	PIN 3	-	-	PIN 4	BLACK	GND	<p>M12 Male Connector Pin Assignment</p>  <table border="1"> <tr><td>PIN 1</td><td>BROWN</td><td>24V</td></tr> <tr><td>PIN 2</td><td>WHITE</td><td>-</td></tr> <tr><td>PIN 3</td><td>BLUE</td><td>GND</td></tr> <tr><td>PIN 4</td><td>BLACK</td><td>-</td></tr> <tr><td>PIN 5</td><td>GRAY</td><td>-</td></tr> </table>	PIN 1	BROWN	24V	PIN 2	WHITE	-	PIN 3	BLUE	GND	PIN 4	BLACK	-	PIN 5	GRAY	-
PIN 1	24V																																		
PIN 2	-																																		
PIN 3	GND																																		
PIN 1	-	-																																	
PIN 2	RED	24V																																	
PIN 3	-	-																																	
PIN 4	BLACK	GND																																	
PIN 1	BROWN	24V																																	
PIN 2	WHITE	-																																	
PIN 3	BLUE	GND																																	
PIN 4	BLACK	-																																	
PIN 5	GRAY	-																																	

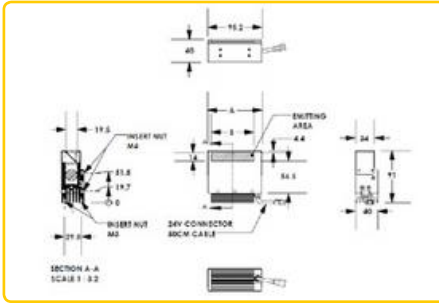
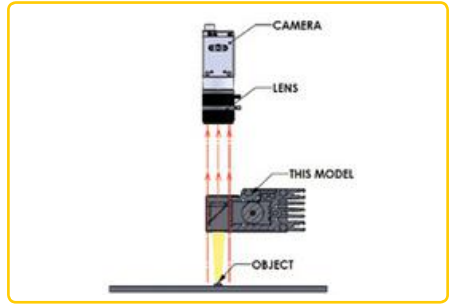
Product Part Numbering System:  
LSN6-00-075-1-X-24V-M8

Product Part Numbering System:  
LSN6-00-075-1-X-24V-M12



## CAL SERIES – Line Scan Illumination

CAL series is a combination of line scan with coaxial illumination to achieve high intensity inspection.



### Technical Specification:

- Color Red, Green, Blue and White
- 24V DC Input Power
- Continuous and Strobe Applications
- Compact Size
- Lighting Cable 500mm

### Customize Lighting:

- Customize Sizes, Mounting Requirements
- Color and Voltage Available
- Consult Technical Sales for More Information

### LED Wavelength

- Red LED - 630nm
- Green LED - 525nm
- Blue LED - 470nm

Model	Dimensions (MM)		Color	Voltage / Watt	Current	Weight (g)
	A	B				
CAL-00-075-1-X	97.2	75	●●○	24V / 6.48W 24V / 6.48W	270mA 270mA	172.6
CAL-00-150-1-X	175.2	150	●●○	24V / 12.96W 24V / 12.96W	540mA 540mA	301.9
CAL-00-225-1-X	250.2	225	●●○	24V / 19.44W 24V / 19.44W	810mA 810mA	434.5
CAL-00-300-1-X	325.2	300	●●○	24V / 25.92W 24V / 25.92W	1080mA 1080mA	565.4

## Optional Connector

### Standard Lighting Male Connector

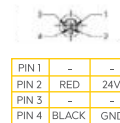


PIN 1	24V
PIN 2	-
PIN 3	GND

### M8 Male Connector



### M8 Pin Assignment

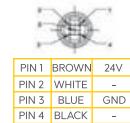


Product Part Numbering System:  
CAL-00-075-1-X-24V-M8

### M12 Male Connector



### M12 Pin Assignment



Product Part Numbering System:  
CAL-00-075-1-X-24V-M12

## 12V ILLUMINATION & 12V EXTENSION CABLE



Model	Color	Voltage / Watt	Current	Weight (g)	Model	Color	Voltage / Watt	Current	Weight (g)
LSW-00-050-2-X	● ● ● ○	12V / 1.98W	165mA	60	IDS4-00-070-1-X	● ● ● ○	12V / 3.36W	280mA	160
		12V / 2.16W	180mA				12V / 4.20W	350mA	
LSW-15-050-2-X	● ● ● ○	12V / 1.98W	165mA	40	IDS4-00-100-1-X	● ● ● ○	12V / 5.28W	440mA	220
		12V / 2.16W	180mA				12V / 5.88W	490mA	
LSW-15-070-3-X	● ● ● ○	12V / 4.14W	345mA	100	LBRX-00-040-3-X	● ● ● ○	12V / 0.72W	60mA	50
		12V / 4.44W	370mA				12V / 1.20W	100mA	
LSW-15-090-4-X	● ● ● ○	12V / 4.80W	400mA	180	LBRX-00-080-3-X	● ● ● ○	12V / 1.44W	120mA	70
		12V / 5.54W	462mA				12V / 2.40W	200mA	
LSW-30-050-2-X	● ● ● ○	12V / 1.98W	165mA	60	LBRX-00-120-3-X	● ● ● ○	12V / 2.16W	180mA	95
		12V / 2.16W	180mA				12V / 3.60W	300mA	
LSW-30-070-3-X	● ● ● ○	12V / 3.78W	315mA	120	LBRX-00-160-3-X	● ● ● ○	12V / 2.88W	240mA	115
		12V / 4.20W	350mA				12V / 4.80W	400mA	
LSW-30-090-4-X	● ● ● ○	12V / 4.92W	410mA	200	LBRX-00-200-3-X	● ● ● ○	12V / 3.60W	300mA	140
		12V / 5.63W	469mA				12V / 6.00W	500mA	
LSW-45-050-2-X	● ● ● ○	12V / 1.98W	165mA	70	LBRX-00-040-6-X	● ● ● ○	12V / 1.44W	120mA	70
		12V / 2.28W	190mA				12V / 1.44W	120mA	
LSW-45-070-3-X	● ● ● ○	12V / 2.88W	240mA	120	LBRX-00-080-6-X	● ● ● ○	12V / 2.88W	240mA	100
		12V / 3.11W	259mA				12V / 2.88W	240mA	
LLA-60-070-2-X	● ● ● ○	12V / 3.24W	270mA	90	LBRX-00-120-6-X	● ● ● ○	12V / 4.32W	360mA	130
		12V / 5.40W	450mA				12V / 4.32W	360mA	
LLA-60-090-2-X	● ● ● ○	12V / 3.96W	330mA	114	LBRX-00-160-6-X	● ● ● ○	12V / 5.76W	480mA	170
		12V / 4.44W	370mA				12V / 5.76W	480mA	
CAS2-00-020-X-X	● ● ● ○	12V / 3.24W	270mA	200	LBRX-00-200-6-X	● ● ● ○	12V / 7.20W	600mA	210
		12V / 3.36W	280mA				12V / 7.20W	600mA	
CAS2-00-040-X-X	● ● ● ○	12V / 6.48W	540mA	360					
		12V / 7.20W	600mA						

Remark: 12V Illumination must only use 12V cable.  
12V cable will only be provided upon request.

## INFRARED ILLUMINATION

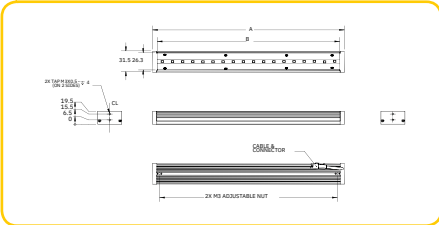
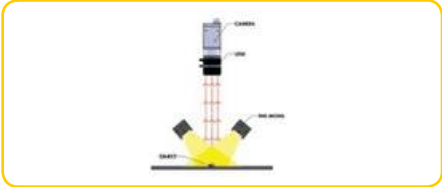
Infrared Illumination (IR) is invisible to the human eye and has longer wavelengths than the visible light with the range from 750nm to 1000nm. Infrared Illumination can be used to look through colored prints and penetrate within the inspection object for more in-depth imaging.



Model	Color	Voltage / Watt	Current	Dimension Refer To Page	Model	Color	Voltage / Watt	Current	Dimensions Refer To Page
LLA-60-090-2-X	IR850	24V / 2.88W	120mA	13	LBRX-00-040-6-X	IR850	24V / 1.72W	72mA	20
LLA-60-090-2-X	IR940	24V / 2.88W	120mA	13	LBRX-00-080-6-X	IR850	24V / 3.46W	144mA	20
LSW-15-070-3-X	IR850	24V / 2.88W	120mA	9	LBRX-00-120-6-X	IR850	24V / 5.18W	216mA	20
LSW-15-070-3-X	IR940	24V / 2.88W	120mA	9	LBRX-00-160-6-X	IR850	24V / 6.91W	288mA	20
LBRX-00-040-3-X	IR850	24V / 1.08W	45mA	17	LBRX-00-200-6-X	IR850	24V / 8.64W	360mA	20
LBRX-00-080-3-X	IR850	24V / 2.16W	90mA	17					
LBRX-00-120-3-X	IR850	24V / 3.24W	135mA	17	LBRQ-00-040-6-X	IR850	24V / 6.91W	288mA	21
LBRX-00-160-3-X	IR850	24V / 4.32W	180mA	17	LBRQ-00-080-6-X	IR850	24V / 13.82W	576mA	21
LBRX-00-200-3-X	IR850	24V / 5.40W	255mA	17	LBRQ-00-120-6-X	IR850	24V / 20.74W	864mA	21
					LBRQ-00-160-6-X	IR850	24V / 27.65W	1152mA	21
LBRQ-00-040-3-X	IR850	24V / 4.32W	180mA	18	LBRQ-00-200-6-X	IR850	24V / 34.56W	1440mA	21
LBRQ-00-080-3-X	IR850	24V / 8.64W	360mA	18					
LBRQ-00-120-3-X	IR850	24V / 12.96W	540mA	18	IDS5-00-050-1-X	IR850	24V / 5.76W	240mA	48
LBRQ-00-160-3-X	IR850	24V / 17.28W	720mA	18	IDS5-00-070-1-X	IR850	24V / 8.64W	360mA	48
LBRQ-00-200-3-X	IR850	24V / 21.60W	900mA	18	IDS5-00-100-1-X	IR850	24V / 11.52W	480mA	48
					IDS5-00-150-1-X	IR850	24V / 20.16W	840mA	48
CAS2-00-025-X-X	IR850	24V / 3.84W	160mA	58	IDS5-00-200-1-X	IR850	24V / 25.92W	1080mA	48
CAS2-00-040-X-X	IR850	24V / 8.40W	350mA	58	IDS5-00-250-1-X	IR850	24V / 34.56W	1440mA	48
BHS4-00-025-X-X	IR850	24V / 3.12W	130mA	54	BHLX3-00-160X160-X-X	IR850	24V / 12.48W	520mA	57
BHS4-00-050-X-X	IR850	24V / 2.304W	96mA	54	BHLX3-00-160X240-X-X	IR850	24V / 18.72W	780mA	57
BHS4-00-075-X-X	IR850	24V / 5.184W	216mA	54	BHLX3-00-160X320-X-X	IR850	24V / 24.96W	1040mA	57
BHS4-00-100-X-X	IR850	24V / 9.216W	384mA	54	BHLX3-00-160X400-X-X	IR850	24V / 31.2W	1300mA	57
					BHLX3-00-240X240-X-X	IR850	24V / 28.08W	1170mA	57
BHS4-00-030-X-X	IR850	24V / 3.12W	130mA	54	BHLX3-00-240X320-X-X	IR850	24V / 37.44W	1560mA	57
BHS4-00-060-X-X	IR850	24V / 2.30W	96mA	54	BHLX3-00-240X400-X-X	IR850	24V / 46.8W	1950mA	57
BHS4-00-090-X-X	IR850	24V / 5.184W	216mA	54	BHLX3-00-320X320-X-X	IR850	24V / 49.92W	2080mA	57
BHS4-00-120-X-X	IR850	24V / 9.216W	384mA	54	BHLX3-00-320X400-X-X	IR850	24V / 62.4W	2600mA	57
					BHLX3-00-400X400-X-X	IR850	24V / 78W	3250mA	57

### UV ILLUMINATION

UV Illumination has shorter wavelengths compared to the visible illumination. Ultraviolet Illumination with wavelengths shorter than the visible light, has electromagnetic radiation in the range between 300nm and 450nm, which allows chemicals that has UV lighting interaction to be visible under the blue light.



Technical Specification:  
 - UV365 / UV385 / UV395 / UV405  
 - 24V DC Input Power  
 - Continuous and Strobe Applications  
 - Compact Size  
 - Lighting Cable 500mm  
 Customize Lighting:  
 - Customize Sizes, Mounting Requirements  
 - Consult Technical Sales for More Information

Model	Dimensions (MM)		Color	Voltage / Watt	Current	Weight (g)
	A	B				
LBRX-00-080-1-X	92	80	UV365 / UV385 / UV395 / UV405	24V / 2.4W	100mA	95
LBRX-00-160-1-X	175	160	UV365 / UV385 / UV395 / UV405	24V / 4.8W	200mA	155
LBRX-00-240-1-X	252	240	UV365 / UV385 / UV395 / UV405	24V / 7.2W	300mA	230

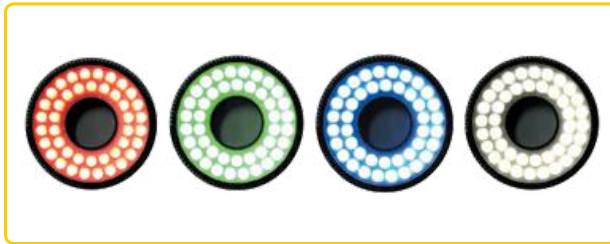


Model	Color	Voltage / Watt	Current	Weight (g)	Dimensions Refer To Page
LSW-15-070-2-X	UV375	24V / 4.32W	180mA	103	9
LSW-15-090-3-X	UV375	24V / 7.20W	300mA	160	9
LSW-30-040-1-X	UV375	24V / 1.08W	45mA	45	9
LLA-60-090-2-X	UV375	24V / 7.68W	320mA	109	13
LLA-60-150-2-X	UV375	24V / 11.52W	480mA	272	13
LLA-75-170-2-X	UV375	24V / 8.40W	350mA	342	13
CAS2-00-025-X-X	UV365	24V / 0.72W	30mA	83	58
CAS2-00-040-X-X	UV365	24V / 1.44W	60mA	324	58
LSW-15-070-1-X	UV365 / UV385 / UV395 / UV405	24V / 2.88W	120mA	103	9
LLA-60-070-1-X	UV365 / UV385 / UV395 / UV405	24V / 2.88W	120mA	90	13
LBRQ-00-080-1-X	UV365 / UV385 / UV395 / UV405	24V / 9.6W	400mA	500	



## RGBW ILLUMINATION

RGBW Illumination is a lighting which contain of 4 colour wavelength-Red, Green, Blue, White. Suitable for multiples application especially colour application.



Model	Color	Voltage / Watt	Current	Dimensions Refer To Page
LSW2-00-100-2-RGBW-24V	●	24V / 7.68W	320mA	
	●	24V / 6.96W	290mA	
	●	24V / 6.48W	270mA	
	○	24V / 6.00W	250mA	
MLBQ-00-090-2-RGBW	●	24V / 6.72W	280mA	28
	●●○	24V / 9.6W	400mA	
HPD-00-070-1-RGBW	●●●○	24V / 1.44W	60mA	40
HPD-00-240-1-RGBW	●●●○	24V / 11.52W	480mA	40
HPD2-00-050-1-RGBW	●●●○	24V / 1.44W	60mA	41
HPD2-00-080-1-RGBW	●●●○	24V / 2.16W	90mA	41
HPD2-00-100-1-RGBW	●●●○	24V / 2.88W	120mA	41
HPD2-00-130-1-RGBW	●●●○	24V / 4.32W	180mA	41
DLF3-90-070-1-RGBW	●●●○	24V / 2.88W	120mA	43
DLF3-90-100-1-RGBW	●●●○	24V / 5.76W	240mA	43
DLF3-90-120-1-RGBW	●●●○	24V / 5.76W	240mA	43
DLC2-00-070-1-RGBW	●●●○	24V / 2.88W	120mA	44
DLC2-00-100-1-RGBW	●●●○	24V / 5.76W	240mA	44
DLC2-00-120-1-RGBW	●●●○	24V / 5.76W	240mA	44
IDS5-00-150-1-RGBW	●●●○	24V / 6.48W	270mA	48
IDS5-00-200-1-RGBW	●●●○	24V / 6.48W	270mA	48
IDS5-00-250-1-RGBW	●●●○	24V / 7.92W	330mA	48
CAS2-00-040-X-RGBW-24V	●	24V / 3.84W	160mA	58
	●●○	24V / 5.28W	220mA	
	●●	24V / 7.68W	320mA	
CAS2-00-070-X-RGBW	●	24V / 6.72W	280mA	58
	●●	24V / 5.76W	240mA	
	○	24V / 5.76W	240mA	
PM2-040-X-HPD2-00-080-1-RGBW	●●●○	24V / 2.16W	90mA	64
PM2-040-X-DLC2-00-070-1-RGBW	●●●○	24V / 2.88W	120mA	64
DLC2-00-100-1-RGBW-24V	●●●○	24V / 2.88W	240mA	46
DLA-00-100-1-RGBW-24V	●●●○	24V / 5.76W	240mA	46
DLS3-45-100-1-RGBW-24V	●●●○	24V / 5.76W	240mA	46
DLS3-60-100-1-RGBW-24V	●●●○	24V / 5.76W	240mA	46
DLF4-90-100-1-RGBW-24V	●●●○	24V / 5.76W	240mA	46

\*\* It is not recommended to light on the RED, GREEN, BLUE, WHITE (RGBW) LEDs at the same time



### MILX SERIES - Microscope Illumination

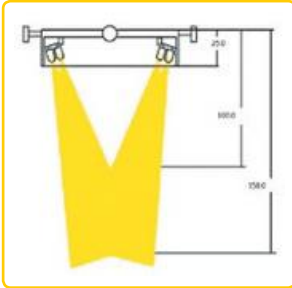
Applications: LED Illumination on Stereo Microscope System



MILX-30-070-WP (PURE WHITE)



MILX-30-070-WD (WARM WHITE)



MILX-30-070-WE (WARM WHITE)



MILX-30-070-WF (WARM WHITE)

#### Features/Technical Specification:

- Electrical Input
  - 100VAC-240VAC
- Power Consumption
  - 2.4W max
- Life rating
  - 50,000 hours
- Housing
  - Aluminium with Powder Coat
- Intensity Control
- Weight (g)
  - 105

Model	Color	Voltage / Watt	Life Rating	Weight (g)	Housing	Control
MILX-30-070-WP-PS2.5A-YY	PURE WHITE	24V / 2.4W	50,000 hours	105	Aluminium with Powder Coat	Intensity Control
MILX-30-070-WD-PS2.5A-YY	WARM WHITE					
MILX-30-070-WE-PS2.5A-YY	WARM WHITE					
MILX-30-070-WF-PS2.5A-YY	WARM WHITE					

**Remarks:**

- YY stands for power cord
- Power Supply 24V (2.5A) Include

**POWER CORD:**

- UK (240VAC)
- EU (220VAC)
- US (110VAC)

## CUSTOMIZE ILLUMINATION



MULTI ANGLE RGB  
TUNNEL LIGHT



HUGE SIZE DOME ILLUMINATION  
(800MM DIAMETER)



SHOWER ILLUMINATION  
WITH DIAMETER 200MM



CUSTOM SIZE CO-AXIAL  
200X400MM



IDT2-MULTI ANGLE ILLUMINATION



HIGH POWER LED CO-AXIAL  
COMBINE DUAL ANGLE  
ILLUMINATION

For Online Customization refer page: 101

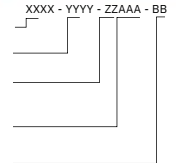
**LENSES & OPTICS**

 <p><b>OPTO ENGINEERING</b> BI-TELECENTRIC LENS</p>		<p>TC Series / TC Core Series TCSM Series (3D Bi-Telecentric) TCLWD Series TCCQX Series TCZR Series TCBENCH / TCBENCH CORE Series TC2MHR-TC4MHR / CORE Series</p>
 <p><b>OPTO ENGINEERING</b> SPECIAL LENS &amp; PROJECTORS</p>		<p>PC Series (360° Top &amp; lateral view) PCCD Series (360° Top &amp; lateral view) PCHI Series (360° inside view) PCPW Series (Polyview) PCMP Series (Micro-polyview) LTPRSMHP3W Series (3D LED Projector) LTPRXP Series (10W LED Projector) LTPRUP Series (90W LED Projector)</p>
 <p><b>OPTART</b> TELECENTRIC LENS &amp; NON TELECENTRIC LENS</p>		<p>MP Series HR Series TV Series TV-X Series TV-XE Series TCL/TCLF Series MDF Series TN Series HR/HR-D Series TV-D/LTV Series</p>
 <p><b>OPTART</b> CCTV</p>		<p>VMK Series (Up to 1" sensor) MK-5MP Series (Up to 2/3" sensor) MK-C Series (Up to 2/3") MK Series (Up to 2/3") HF/LM (Up to 2/3") MK-SWIR (Up to 2/3")</p>
<p>FILTERS</p>		<p>Bandpass Long/short pass Polarizing Protective</p>

### LENS RETROFIT

- Allow lens & lighting to be mounted simply into a vision module
- Space efficient
- Cost efficient

LENS MODEL XXXX  
CLAMP INNER YYYY  
DIAMETER  
CLAMP MIN MOUNTING ZZ  
DIAMETER  
CLAMP MAX MOUNTING AAA  
DIAMETER  
VERSION



#### RETROFIT MK SERIES



#### LENS MODEL

MK1214

MK1614

MK2514  
MK3520  
MK5028

#### CLAMP & PLATE



#### OPTO ENGINEERING



DLR3 SERIES



DFR4 SERIES



HPD2 SERIES

#### RETROFIT MC&MC3-03X SERIES



#### LENS MODEL

MC 033X  
MC 050X  
MC 075X  
MC 100X  
MC 150X  
MC 200X  
MC 300X

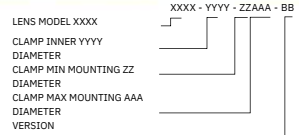
#### CLAMP & PLATE



MC3-03XSPACER

### LENS RETROFIT

- Allow lens & lighting to be mounted simply into a vision module
- Space efficient
- Cost efficient



#### RETROFIT MP SERIES

#### LENS MODEL

#### CLAMP & PLATE



- MP-1.5M-65
- MP-05M-65
- MP-2M-65
- MP-07M-65
- MP-4M-65
- MP-1M-65
- MP-0.5M-110-2M
- MP-1.5M-110-2M
- MP-07M-110-5M
- MP-05M-110-5M
- MP-1M-110-2M
- MP-2M-110-2M
- MP-1M-110-5M



#### RETROFIT HR SERIES



- HR-2M-65
- HR-4M-65
- HR-6M-65
- HR-04M-78
- HR-05S2-71
- HR-05M-110
- HR-08M-110
- HR-08M-65
- HR-1M-65
- HR-07M-71
- HR-1M-71
- HR-2M-71
- HR-4M-71
- HR-6M-71
- HR-1M-110
- HR-2M-110
- HR-4M-110
- HR-6M-110



#### LIGHTING

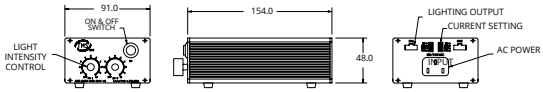


## CONTROLLER SELECTION TABLE

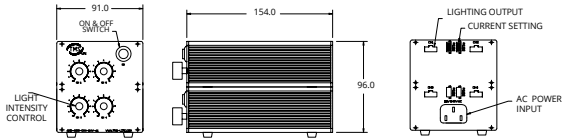
Control	Analogue			
Mode Operation	Constant Mode			
Power Input	AC Input (100-240V)	DC Input (24V)	DC Input (24V)	DC Input (24V)
External Control	NIL	NIL	NIL	NIL
Specification	Constant 1A Max Output Voltage Selection Optional – (5V OR 24V)	SD-1000-D1: Constant 2A Max SD-1000-D1-LCO: Constant 130mA Max Output Voltage 24V Panel Mount & Din Rail	Constant 1A Max Output Voltage 5V Panel Mount & Din Rail	A1 = Constant Min 3A / Max 5A A2 = Constant Min 5A / Max 9A Output Voltage 24V Panel Mount & Din Rail
No. Of Channel :				
1 Channel	ANG-1000-CHI-XX-A1	SD-1000-D1, SD-1000-D1 LCO	SDH-1000-D1	SDX-CHI-A1, SDX-CHI-A2
2 Channel	ANG-2000-CH2-XX-A1			
4 Channel	ANG-4000-CH4-XX-A1			
Remark: Please refer page 84 ANG Controller, page 85 for SD & SDH Controller, page 86 for SDX Controller, page 88 for SD-LCO Controller				
Control	Analogue			
Mode Operation	Constant & Strobe Mode			
Power Input	DC Input (24V)	DC Input (24V)	DC Input (24V)	DC Input (24V)
External Control	NIL	NIL	NIL	NIL
Specification	Constant 2A Max Trigger Input Output Voltage 24V	Constant 130mA Max Trigger Input Output Voltage 24V		Constant 1A Max Trigger Input Output Voltage 5V
No. Of Channel :				
1 Channel	ST-1000-D1	ST-1000-D1-LCO		STH-1000-D1
2 Channel				
4 Channel				
Remark: Please refer page 87 ST & STH Controller, page 88 for ST-LCO Controller				
Control	Digital			
Mode Operation	Constant & Strobe Mode		Constant, Strobe & Trigger	
Power Input	DC Input (24V)		5V, 12V, 24V	
External Control	TCPIP		RS232 / TCPIP / USB (KPI ONLY)	
Specification	Constant : 2A, 24V / Pulse : 6A up to 50V (Boot Up Voltage) Panel Mount & Din Rail Output Voltage 24V, Current Sense, Temperature Sense, High Speed Pulse .Width from 1uS (10ms-Step 1us)		Constant : 1A (A1), 2A (OD), 5A (X5) & 10A (X10) Strobe Model (Normal & Overdrive up to 50V) Panel Mount & Din rail Minimum pulse width = 10us	
No. Of Channel :				
1 Channel	SDA-CHI-X2		LC-18-1CH-X10	
2 Channel			LC-18-2CH-X5	
4 Channel			LC-18-OD-4CH-X2-48V, LC-18-4CH-X1, LC-18-4CH-RGBW-A1, LC-18-4CH-A1, LC-18-SQ-4CH-A1, LC-18-4CH-KPI	
16 Channel			LC-20-SQ-16CH-A1	
Remark: Please refer page 89 SDA Controller, page 90 for LC-18 Series Controller, page 93 for LC-20 Series Controller				
Control	Button			
Mode Operation	Constant & Strobe Mode			
Power Input	DC Input (24V)			
External Control	NIL			
Specification	Constant : 1.5A, 24V / Pulse : 4A up to 50V (Boot Up Voltage) Cannot adjust Intensity Strobe width depend input signal width		Current Sense	
No. Of Channel :				
1 Channel	SDP – CHI – AI –TB / SDP – CHI – AI – PS			
2 Channel				
4 Channel				
Remark: Please refer page 86 for SDP Controller				

## ANG SERIES - Analogue Power Supply

ANG-1000-CH1-XX-A1 / ANG-2000-CH2-XX-A1



ANG-4000-CH4-XX-A1



### CONTROL METHOD:

- VR ANALOGUE CONTROLLER
- INPUT VOLTAGE 110-240VAC

### POWER CORD:

- UK (240VAC)
- EU (220VAC)
- US (110VAC)

Model	POWER OUTPUT					DESCRIPTION	Weight (g)
	V	Current/Watt					
		CH1	CH2	CH3	CH4		
ANG-1000-CH1-XX-A1-YY	5	1A / 5W	-	-	-	1 channel LED light source for analogue	475
	24	1A / 24W	-	-	-		
ANG-2000-CH2-XX-A1-YY	5	1A / 5W	1A / 5W	-	-	2 channel LED light source for analogue	495
	24	1A / 24W	1A / 24W	-	-		
ANG-4000-CH4-XX-A1-YY	5	1A / 5W	1A / 5W	1A / 5W	1A / 5W	4 channel LED light source for analogue	945
	24	1A / 24W	1A / 24W	1A / 24W	1A / 24W		

Notes : 1. XX = Voltages Selection 5V & 24V  
2. YY = UK / EU / US

### FEATURES

- Analogue Controller - VR adjustable Knob is used to control the Lighting Intensity
- Controller Output Current Selection (Dipswitch) to set current limit and prolong the lifespan of the lights.
- Power Input 110 ~ 240VAC

## SD & SDH SERIES



**MODEL NO: SD-1000-D1**  
Dimension: 97.9 X 24 X 73.6 (mm)



**MODEL NO: SDH-1000-D1**  
Dimension: 97.9 X 24 X 73.6 (mm)

### SPECIFICATIONS

#### INTENSITY CONTROL

VR Adjustable  
1 – 10 Step Intensity Range

#### CONTROLLER POWER INPUT

24VDC, Min 2.2A

#### CONTROLLER LIGHT OUTPUT

24VDC / Max 2.0A

#### CURRENT OUTPUT SELECTION

200mA to 2000mA

#### WEIGHT

140g

### SPECIFICATIONS

#### INTENSITY CONTROL

VR Adjustable  
1 – 10 Step Intensity Range

#### CONTROLLER POWER INPUT

24VDC, Min 1.2A

#### CONTROLLER LIGHT OUTPUT

5VDC / Max 1.0A

#### CURRENT OUTPUT SELECTION

100mA to 1000mA

#### WEIGHT

140g

### FEATURES

- Small and Compact Size
- Single Channel Light Controller
- Analog Controller - VR adjustable Knob is used to control the Lighting Intensity
- Controller Output Current Selection (Dipswitch) to set current limit and prolong the lifespan of the lights.



## SDP & SDX SERIES CONTROLLER



### SDP-CH1-A1-PS / SDP-CH1-A1-TB

Weight : 360g  
Dimension : 143 X 50.5 X 72.2 (mm)

#### CONTROL

- Button

#### INPUT VOLTAGES

- 24VDC

#### INPUT MINIMUM CURRENT

- 2.5X LED Light Current

#### OUTPUT POWER RATING

- Constant Mode : 24V, 1.5A  
- Strobe Mode : up to Max 50V / 4A  
- Pulse Width : 1ms – 10ms  
(Pulse width depends on Input signal, Eg. Input 1ms = Pulse width 1ms)

#### FEATURES

- Small and Compact Size  
- Current Sense – Able to sense lighting current during start up. (Minimum 30mA lighting current requirement)  
- Overdriving up to 3x current



### SDX-CH1-A1

Weight : 310g  
Dimension : 135.7 X 50.5 X 83.7 (mm)

#### INTENSITY CONTROL

- VR Adjustable  
1 – 10 Step Intensity

#### INPUT VOLTAGES

- 24VDC

#### INPUT MINIMUM CURRENT

- Min 5.2A

#### LIGHT OUTPUT POWER RATING

- Min 24V / 3A  
- Max 24V / 5A

#### FEATURES

- Small and Compact Size  
- Support High Power Application



### SDX-CH1-A2

Weight : 495g  
Dimension : 154 X 91.5 X 48 (mm)

#### INTENSITY CONTROL

- VR Adjustable  
1 – 10 Step Intensity

#### INPUT VOLTAGES

- 24VDC

#### INPUT MINIMUM CURRENT

- Min 9.2A

#### LIGHT OUTPUT POWER RATING

- Min 24V / 5A  
- Max 24V / 9A

#### FEATURES

- Support High Power Application

## ST & STH SERIES – Strobe Controller



**MODEL NO: ST-1000-D1**  
Dimensions: 95.8 X 40.5 X 74.4 (mm)



**MODEL NO: STH-1000-D1**  
Dimensions: 95.8 X 40.5 X 74.4 (mm)

### SPECIFICATIONS

#### INTENSITY CONTROL

VR Adjustable  
1 – 10 Step Intensity Range

#### CONTROLLER POWER INPUT

24VDC, Min 2.2A

#### CONTROLLER LIGHT OUTPUT

24VDC / Max 2.0A

#### CURRENT OUTPUT SELECTION

200mA to 2000mA

#### MODE

Constant & Strobe

#### WEIGHT (G)

190g

### SPECIFICATIONS

#### INTENSITY CONTROL

VR Adjustable  
1 – 10 Step Intensity Range

#### CONTROLLER POWER INPUT

24VDC, Min 1.2A

#### CONTROLLER LIGHT OUTPUT

5VDC / Max 1.0A

#### CURRENT OUTPUT SELECTION

100mA to 1000mA

#### MODE

Constant & Strobe

#### WEIGHT (G)

190g

### FEATURES

- Small and Compact Size
- Single Channel Light Controller
- Analog Controller - VR adjustable Knob is used to control the Lighting Intensity
- Controller Output Current Selection (Dipswitch) to set current limit and prolong the lifespan of the lights

## SD & ST - LCO Series



**MODEL NO: SD-1000-D1-LCO**  
Dimensions: 97.9 X 24 X 73.6 (mm)



**MODEL NO: ST-1000-D1-LCO**  
Dimensions: 95.8 X 40.5 X 74.4 (mm)

### SPECIFICATIONS

#### INTENSITY CONTROL

VR Adjustable  
1 – 10 Step Intensity Range

#### CONTROLLER POWER INPUT

24VDC, Min 500mA

#### CONTROLLER LIGHT OUTPUT

24VDC / Max 130mA

#### CURRENT OUTPUT SELECTION

15mA to 130mA

#### WEIGHT (G)

140g

### SPECIFICATIONS

#### INTENSITY CONTROL

VR Adjustable  
1 – 10 Step Intensity Range

#### CONTROLLER POWER INPUT

24VDC, Min 500mA

#### CONTROLLER LIGHT OUTPUT

24VDC / Max 130mA

#### CURRENT OUTPUT SELECTION

15mA to 130mA

#### MODE

Constant & Strobe

#### WEIGHT (G)

190g

### FEATURES

- Small and Compact Size
- Single Channel Light Controller
- Analog Controller - VR adjustable Knob is used to control the Lighting Intensity
- Controller Output Current Selection (Dipswitch) to set current limit and prolong the lifespan of the lights

## SDA SERIES



**MODEL NO: SDA-CH1-X2**  
Dimension: 161 X 73 X 100 (mm)  
Weight: 560g



**MODEL NO: SDA-M (Master)**  
Dimension: 161 X 30 X 100 (mm)  
Weight: 220g



**MODEL NO: SDA-CH1-A2 (SLAVE)**  
Dimension: 161 X 43 X 100 (mm)  
Weight: 340g

### SPECIFICATIONS

#### CONSIST OF

- SDA-M (Master Controller)
- SDA-CH1-A1 (Slave Controller)
- SDA-CH1-X2 (Master & Slave Controller)

#### INTERFACE

- TCPIP

#### BOARD VOLTAGE

- 24VDC

#### MINIMUM INPUT CURRENT

- 2.5 X LED LIGHT CURRENT

#### EXTERNAL INPUT SIGNAL & CAMERA OUTPUT SIGNAL

- 33V~24V RISING EDGE / FALLING EDGE TRIGGER

#### PROTECTION

- Current Sense
- Temperature sense (cut off at 70 °C)
- Note : Need to Install External 10K Thermistor

#### OPERATION MODE

- Continuous Mode
- 24V / 2A Max (PWM Technique)
- Calibration : Current resolution 1mA

#### PULSE MODE (OVERDRIVE)

- 50V / 6A Max(Boots Up Voltage)
- Pulse width : 1us – 10ms (1us resolution)
- Pulse trigger delay : 0us – 1,000,000us (1us resolution)

#### INPUT RESPONSE TIMES

- < 1us

#### OUTPUT RESPONSE TIMES

- ≤ 3us

#### CASCADE CHANNELS

- Up to 32 Channels

#### FEATURES:

- Current Sense – Able to sense lighting current during start up. (Minimum 30mA lighting current requirement)
- Overdriving up to 6x current (depend on lighting model) without changing the Voltages Input 24VDC. (Internal Boots up Voltages up to 50V)
- Min Trigger pulse width is 1microseconds suitable for high speed application.

## LC SERIES-18



**MODEL NO: LC-18-M**  
Dimension 103X93X28 (mm)  
Master Unit  
Weight: 249g



**MODEL NO: LC-18-4CH-X1**  
Dimension 103X93X33 (mm)  
No. of Channel: 4  
Weight: 342g



**MODEL NO: LC-18-4CH-A1**  
Dimension 103X93X43 (mm)  
No. of Channel: 4  
Weight: 441g

### SPECIFICATIONS

#### INTERFACE

- TCP/IP / RS232

#### BOARD INPUT VOLTAGE

- 24VDC

#### LIGHTING INPUT VOLTAGE

-5V / 12V / 24V

#### MODE

- Constant
- Trigger
- Strobe

#### STROBE/ OUTPUT TIMING

- Adjustable Strobe Delay, Strobe Width, Output Delay, Output Width 0-99.99ms (10us/step)

#### INPUT TRIGGER SIGNAL

- 3.3-24V Rising / Falling Edge Trigger

#### OUTPUT TRIGGER SIGNAL

- Support Rising/ Falling Edge Trigger for external device such as camera

#### EXTERNAL TRIGGER RESPONSE TIME

- <25us

#### MINIMUM STROBE DURATION

- 10 microsecond

## LC SERIES-18



**LC-18-SQ-4CH-A1** provides sequence switching of lighting output up to 4 channels. Upon receiving external trigger signal, the LC-SQ executes a pre-set sequence of lighting output and also a camera triggering output. Suitable for photometry applications.

Power Input : 24VDC	Channel Mode : Constant, Strobe, Trigger
Weight : 410g	Strobe Timing : 0 - 99.99ms (10us / step)
Dimension : 103 X 93 X 43 (mm)	Trigger Delay : $\leq 25\mu\text{s}$
Interface: RS232 / TCPIP	Sequencing up to 10 frames
No. of Channel : 4	
Output Current : Max 1A / channel	
Lighting Input : 5V / 12V / 24V	
Lighting Output : 5V / 12V / 24V	



**LC-18-4CH-RGBW-A1** provides better output control for RGBW lightings. Output current will be controlled/limit internally in order to preserve the lifespan of RGBW lightings. The controller consists of 4 channels with individual settings for each channel. There are 3 modes of operation provided to support different types of application.

Power Input : 24VDC	Channel Mode : Constant, Strobe, Trigger
Weight : 417g	Strobe Timing : 0 - 99.99ms (10us / step)
Dimension : 103 X 93 X 43 (mm)	Trigger Delay : $\leq 25\mu\text{s}$
Interface: RS232 / TCPIP	Support RGBW lighting
No. of Channel : 4	
Output Current : Max 1A / channel	
Lighting Input : 5V / 12V / 24V	
Lighting Output : 5V / 12V / 24V	



**LC-18-4CH-KP1** provides intensity control of LED lightings for machine vision applications. The controller consists of 4 channels with individual settings for each channel. There are 3 modes of operation provided to support different types of application. This controller has built in display and keypads for manual control.

Power Input : 24VDC	Channel Mode : Constant, Strobe, Trigger
Weight : 566g	Strobe Timing : 0 - 99.99ms (10us / step)
Dimension : 175 X 103 X 37.9 (mm)	Trigger Delay : $\leq 25\mu\text{s}$
Interface: RS232 / TCPIP / USB	Installed with display and keypad
No. of Channel : 4	
Output Current : Max 1A / channel	
Lighting Input : 5V / 12V / 24V	
Lighting Output : 5V / 12V / 24V	

## LC SERIES-18



**LC-18-OD-4CH-X2-48V** provides high current short interval strobing for applications that require high intensity and high precision. The controller consists of 4 channels with individual settings for each channel. Only Strobe mode is available for this controller.

Power Input : 48VDC	Strobe Timing
Weight : 506g	Strobe Delay : 0 - 99.99ms (10us / step)
Dimension : 103 X 93 X 43 (mm)	Output Delay : 0 - 99.99ms (10us / step)
Interface: RS232 / TCPIP	Output Width : 0 - 99.99ms (10us / step)
Slave Unit (Use with LC-18-M)	Strobe Width : 0 - 10.00ms (10us / step)
No. of Channel : 4	Trigger Delay : ≤ 25us
Output Current : Max 2A / channel	Current Overdriving
Lighting Input : 48V	
Lighting Output : 48V	
Channel Mode : Strobe Only	



**LC-18-2CH-X5** provides intensity control of high current LED lightings for machine vision applications. The controller consists of 2 channels with output up to 5A. There are 3 modes of operation provided to support different types of application.

Power Input : 24VDC	Channel Mode : Constant, Strobe, Trigger
Weight : 655g	Strobe Timing : 0 - 99.99ms (10us / step)
Dimension : 103 X 93 X 83.6 (mm)	Trigger Delay : ≤ 25us
Slave Unit (Use with LC-18-M)	Support high current lighting
No. of Channel : 2	
Output Current : Max 5A / channel	
Lighting Input : 5V / 12V / 24V	
Lighting Output : 5V / 12V / 24V	



**LC-18-1CH-X10** provides intensity control of high current LED lightings for machine vision applications. The controller consists of 1 channel with output up to 10A. There are 3 modes of operation provided to support different types of application.

Power Input : 24VDC	Channel Mode : Constant, Strobe, Trigger
Weight : 688g	Strobe Timing : 0 - 99.99ms (10us / step)
Dimension : 103 X 93 X 83.6 (mm)	Trigger Delay : ≤ 25us
Slave Unit (Use with LC-18-M)	Support high current lighting
No. of Channel : 1	
Output Current : Max 10A / channel	
Lighting Input : 5V / 12V / 24V	
Lighting Output : 5V / 12V / 24V	

## LC-20 Series



**LC-20-SQ-16CH-A1** provides sequence switching of lighting output up to 16 channels. Upon receiving external trigger signal, the lighting controller executes a pre-set sequence of lighting output and also a camera triggering output. Suitable for photometry applications

**Power Input :** 24VDC  
**Weight :** 1065g  
**Dimension :** 169 X 112.1 X 119.6 (mm)  
**Interface :** RS232 / TCPIP

**Mode :** Constant, Strobe  
**Strobe Timing :** 0 - 99.99ms  
(10us / step)  
**Trigger Delay :** <= 25us  
Sequencing up to 16 frames

**No. of Channel :** 16  
**Output Current :** 480mA (Constant) /  
1.9A (Strobe)  
**Lighting Output :** 24VDC Channel

## LC-11 Series



**LC-11-4CH-RGBW-A1** provides better output control for RGBW lightings. Output current will be controlled/limit internally in order to preserve the lifespan of RGBW lightings. The controller consists of 4 channels with individuals settings for each channel. There are 3 modes of operation provided to support different types of application.

**Power Input :** 24VDC  
**Weight :** 566g  
**Dimension :** 152 X 93 X 42 (mm)  
**Interface :** RS232

**Channel Mode :** Constant,  
Strobe, Trigger  
**Strobe Timing :** 0 - 999.9MS  
(0.1ms / step)

**No. of Channel :** 4  
**Output Current :** Max 1A/channel  
**Lighting Input :** 5V / 12V / 24V  
**Lighting Output :** 5V / 12V / 24V

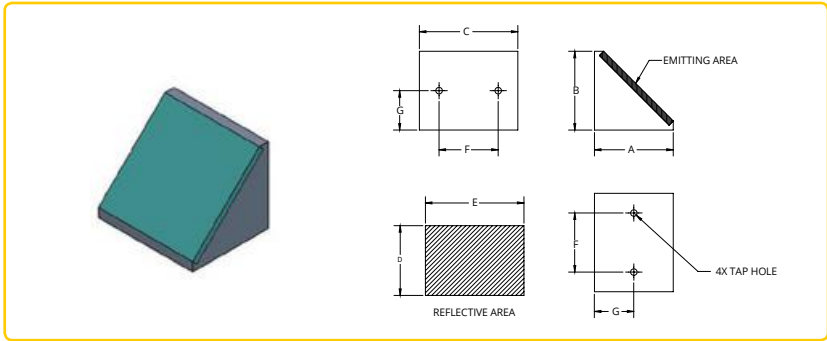
**Trigger Delay :** ≤ 50us  
Support RGBW lighting

Installed with display and keypad

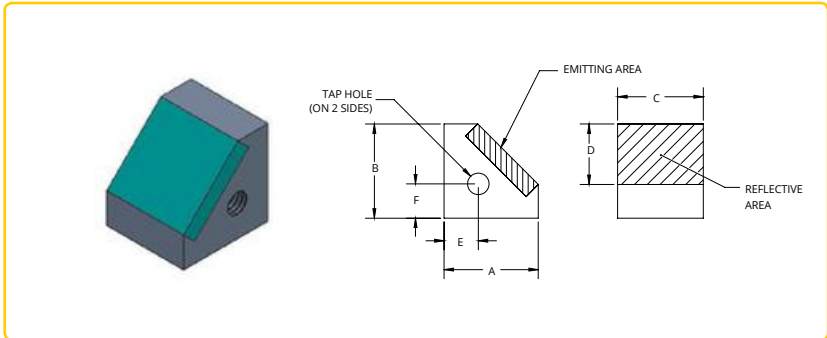




**PRISM BLOCK SERIES - First Surface Mirror Prism Block**

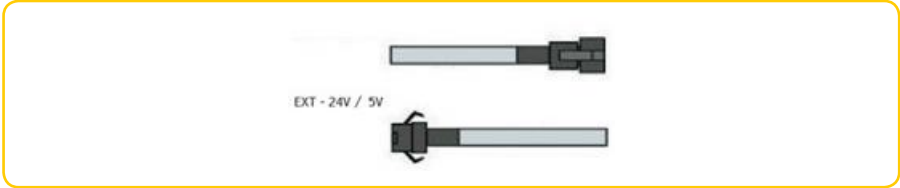


Model	Dimensions (MM)							TAP HOLE	Weight (g)
	A	B	C	D	E	F	G		
PM 14X20	18	18	20	14.1	20	10	9	M3	10
PM 35X50	40	40	50	35.4	50	30	20	M4	50
PM 53X50	58	58	50	53	50	30	29	M4	290

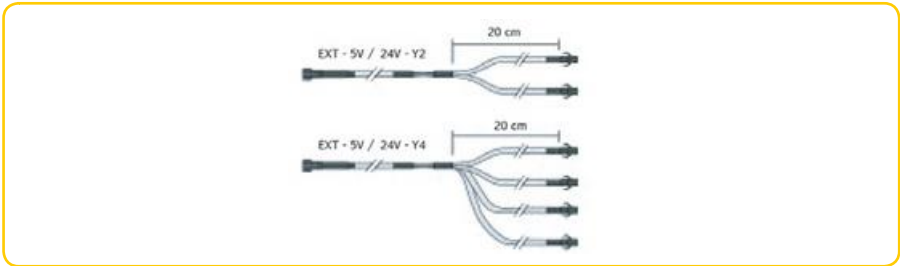


Model	Dimensions (MM)						TAP HOLE	Weight (g)
	A	B	C	D	E	F		
PM 7X10	11.0	11.0	10.0	7.1	4.0	4.0	M3	5

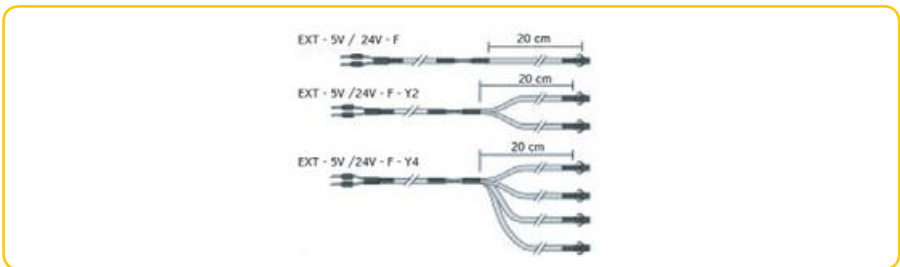
## EXTENSION WIRE



Model	Power	Length	Applications
EXT-24V	24V	3M/5M	- Used to connect a 24V light to ANG Series
EXTX-24V	24V	3M/5M	- Used to connect a 24V light to ANGX Series
EXT-5V	5V	3M/5M	- Used to connect a 5V light to ANG Series



Model	Branches	Power	Length	Applications
EXT-24V-Y2	(2 BRANCHES)	24V	3M/5M	- One channel for power unit and 2 for lightings
EXT-5V-Y2	Y2	5V		- Branches ends: 200MM X 2
EXT-24V-Y4	(4 BRANCHES)	24V	3M/5M	- One channel for power unit and 4 for lightings
EXT-5V-Y4	Y4	5V		- Branches ends: 200MM X 4

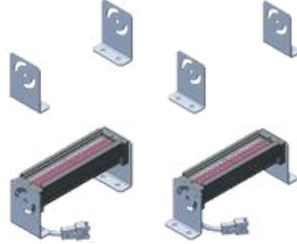


Model	Power	Length	Applications
EXT-24V-F	24V	3M/5M	- Used to connect a 24V lighting to controller SD, ST & SDA
EXT-5V-F	5V	3M/5M	- Used to connect a 5V lighting to controller SDH & STH

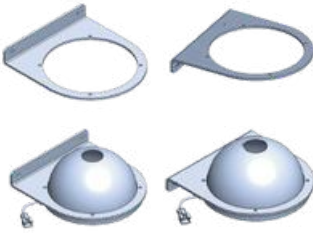
**LIGHTING BRACKET**



ROTATE BRACKET BARLIGHT

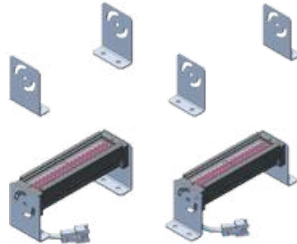


Bar Light Bracket  
MLBX2-2-ROW-BRACKET



IDS Dome Light Bracket

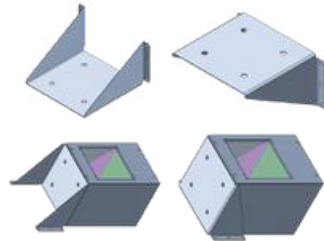
- IDS5-00-050-BRACKET
- IDS5-00-070-BRACKET
- IDS5-00-100-BRACKET
- IDS5-00-150-BRACKET
- IDS5-00-200-BRACKET
- IDS5-00-250-BRACKET
- IDS5-00-360-BRACKET



Bar Light Bracket  
LBRX-3-ROW-BRACKET  
LBRX-6-ROW-BRACKET  
LBS25.30.40.45-BRACKET



BHLX3 - Backlight Bracket



- CAS2-00-010-BRACKET
- CAS2-00-020-BRACKET
- CAS2-00-025-BRACKET
- CAS2-00-040-BRACKET
- CAS2-00-070-BRACKET
- CAS2-00-080-BRACKET
- CAS2-00-100-BRACKET
- CAS2-00-150-BRACKET

## ILLUMINATOR DEMO KIT



**IN-HOUSE ILLUMINATOR ADVANCE  
DEMO KIT - V2**  
DK-AD-LIGHTING-V2



**MULTI-ANGLE STACKABLE DEMO KIT**  
DK-AD-LIGHTING-LSQ-V1



**UV/IR ILLUMINATOR DEMO KIT**  
DK-AD-LIGHTING-IRUV-V1



**MULTI-SPECTRUM RGBW DEMO KIT**  
DK-AD-LIGHTING-RGBW-V1



**POLARIZED ILLUMINATOR DEMO KIT**  
DK-AD-LIGHTING-POLARIZED-V1



**MULTI-SPECTRUM RGB DEMO KIT**  
DK-AD-LIGHTING-RGB-V1

### ILLUMINATOR DEMO KIT



**CAMERA & SOFTWARE START-UP KIT**  
DK-CRE-CAM-5MP-LC-V1



**ILLUMINATOR START-UP DEMO KIT-V1**  
DK-ST-LIGHTING-V1



**SURFACE-FX ILLUMINATOR DEMO KIT**  
DK-AD-LIGHTING-LCSQ-V1



**IN-HOUSE CAMERA & ILLUMINATOR MOUNTING SOLUTION KIT**  
DK-CM-XXX-XX



**OPTART 2MP CCTV LENS WITH COVERTOR KIT**  
DK-MK-LENS-V1



**FUJIFILM 5MP LENS KIT WITH FILTER & PRISM**  
DK-FJ-FA-5MP-V1

### PORTABLE TESTING STATION 3

Simple set up to perform many types of application anywhere, anytime.

 <p><b>PORTABLE TESTING STATION</b> PTS3-V-U-AJM-UCM</p>	 <p><b>SD 1000 CONTROLLER PORTABLE TESTING STATION</b> PTS3-V-U-AJM-UCM-SD-1000</p>	 <p><b>SD 4000 CONTROLLER PORTABLE TESTING STATION</b> PTS3-V-U-AJM-UCM-SD-4000</p>
 <p><b>RING LIGHT PORTABLE TESTING STATION</b> PTS3-V-U-AJM-UCM-LSW2-RGBW-LC-18</p>	 <p><b>BAR LIGHT PORTABLE TESTING STATION</b> PTS3-V-U-AJM-UCM-MLBX2-RGBW-LC-18</p>	 <p><b>DIFFUSED RING LIGHT PORTABLE TESTING STATION</b> PTS3-V-U-AJM-UCM-HPD2-RGBW-LC-18</p>
 <p><b>FULL PORTABLE TESTING STATION</b> PTS3-V-U-AJM-UCM-LW-HP-ML-RGBW-LC-18</p>	 <p><b>4 SECTION DIFFUSED RING LIGHT PORTABLE TESTING STATION</b> PTS3-V-U-AJM-UCM-HPD-RGBW-16CH-LC-20</p>	 <p><b>COMBINE SET PORTABLE TESTING STATION</b> PTS3-V-U-AJM-UCM-SD-1000-XY-TB</p>