

LED

ILLUMINATION
SOLUTION PROVIDER

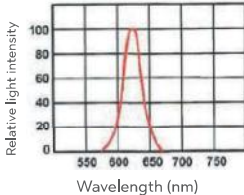
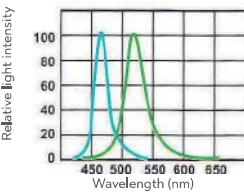
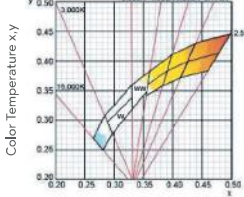
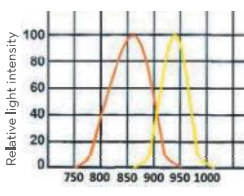
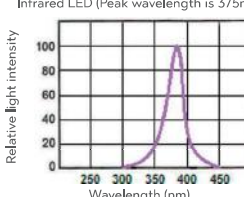
Machine Vision Industry



EDITION 2020 / 2021



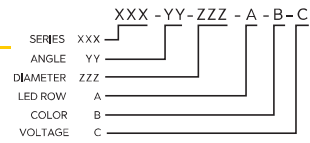
WAVELENGTH OF LIGHTING

<p>Red LED (Peak wavelength is 630nm)</p> 	<p>RED LED ~630nm</p> <p>Remark: Not to be used as reference for Osram range.</p>																																																								
<p>Blue / Green LED (Peak wavelength is 470/525nm)</p> 	<p>BLUE LED ~470nm GREEN LED ~525nm</p> <p>Remark: Not to be used as reference for Osram range.</p>																																																								
	<p>WHITE LED</p> <table><tr><th colspan="8">W=Cool White</th></tr><tr><td>X</td><td>0.296</td><td>0.287</td><td>0.307</td><td>0.311</td><td>X</td><td>0.311</td><td>0.307</td><td>0.33</td><td>0.33</td></tr><tr><td>Y</td><td>0.276</td><td>0.295</td><td>0.315</td><td>0.294</td><td>Y</td><td>0.294</td><td>0.315</td><td>0.339</td><td>0.318</td></tr></table> <table><tr><th colspan="8">WW = Yellowish White</th></tr><tr><td>X</td><td>0.33</td><td>0.33</td><td>0.361</td><td>0.357</td><td>X</td><td>0.33</td><td>0.33</td><td>0.357</td><td>0.356</td></tr><tr><td>Y</td><td>0.339</td><td>0.36</td><td>0.385</td><td>0.361</td><td>Y</td><td>0.318</td><td>0.339</td><td>0.361</td><td>0.351</td></tr></table>	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
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																																																
<p>Infrared LED (Peak wavelength is 850/940nm)</p> 	<p>INFRARED LED ~850nm ~940nm</p>																																																								
<p>Infrared LED (Peak wavelength is 375nm)</p> 	<p>UV LED ~365nm ~375nm</p>																																																								

2020/2021
LED Illumination

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) Direct Illumination Bar Series	LBRX, LBRQ, LBM, LBMQ, LBS, LBQ, MLBX2, MLBQ, HLBRX, HLBS2	○	○	○	○	○
B. Diffused Illumination						
1) Diffused Illumination Ring Series	DLR3, DFR4, HPD, HPD2	○		○		
2) Diffused Illumination Square / Angular Series	DLS2, DLW2, DLQ2, DLF2, DLC, BHLQ	○				
3) Diffused Illumination Light Tube Series	LBDQ					
C. Indirect Illumination						
1) Indirect Illumination Dome Series	IDS5	○	○	○	○	
2) Indirect Illumination Tunnel Series	IDT3	○	○			
3) Indirect Illumination Square Series	IDQ3	○	○			
D. Backlight Illumination						
1) Side Illumination Series	BHDS, BHD, BHDQ	○				
2) Line Illumination Series	LBL3	○				
2) High Illumination Series	BHS4, BHH, BHC2, BHLX3	○			○	
E. Coaxial Illumination						
1) Coaxial Illumination Series	CAS200 & 45, CAS3, HCAS2, CASC	○		○		
F. 4 Sectional Illumination						
1) 4 Sectional Illumination Series	HPD, IDS5, IDS4, IDSL, LBRQ, LLA-75, MLLA	○		○		
G. Modular Illumination						
1) Small Modular Illumination	PM	○		○		
2) Big Modular Illumination	MD	○		○		
H. Spotlight Illumination						
1) Spotlight Illumination Series	HBf, HBfS, FIBX2	○				
I. Ingress Protection Illumination (IP-65)						
1) IP Series	LBRP, HPDP, BHP	○				
J. Line Scan Illumination						
1) Line Scan Illumination Series	LSN6, LSNY	○				
K. 12V Illumination						
1) 12V Illumination Series	LSW, LLA, CAS2	○				
L. Microscope Illumination						
1) Microscope Illumination Series	MILX	○				
M. Customized Illumination						
1) Customized Illumination Series	ALL	○	○	○	○	


2020/2021
Direct Illumination

LSQ SERIES - 00°, 45°

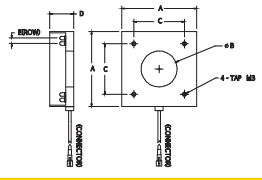
High Intensity, Concentrated Ring Illumination

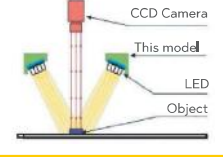
LSQ Series is with 00°, 45° square casing with LED arrays are arranged densely in ring shape for light arrays to be concentrated to a spot for extreme bright light. By using a flexible PCB board, the product quality and efficiency could be improved as flexible boards are able to achieve optimized angle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


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



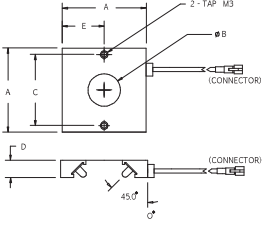
LSQ-00







LSQ-45



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	105mA	80
							24V / 2.88W	120mA	
LSQ-00-060-3-X	64.0	27.0	33.0	19.0	3.0		24V / 3.60W	150mA	110
							24V / 4.32W	180mA	

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

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


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

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

M12 Male Connector Pin Assignment



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

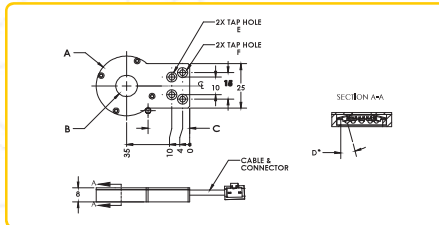
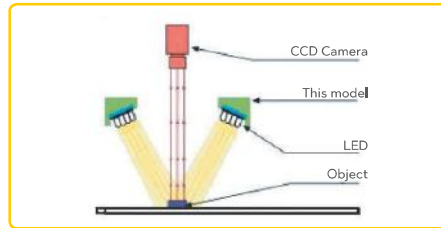
Product Part Numbering System:
LSQ-00-050-2-X=24V-M12

2020/2021
Direct Illumination

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-I-X	34	12	23	0	M4	Ø3.2	● ● ● ○	24V / 0.36W 24V / 0.72W	15mA 30mA	29
LSQ-00-045-I-X	46	24	15	0	M3	Ø3.2	● ● ● ○	24V / 0.72W 24V / 1.44W	30mA 60mA	32
LSQ-00-051-I-X	52	33.5	11	0	Ø3.2	M3	● ● ● ○	24V / 0.72W 24V / 1.44W	30mA 60mA	33
LSQ-15-033-I-X	34	12	23	15	M4	Ø3.2	● ● ● ○	24V / 0.36W 24V / 0.72W	15mA 30mA	29
LSQ-15-045-I-X	46	24	15	15	M3	Ø3.2	● ● ● ○	24V / 0.72W 24V / 1.08W	30mA 45mA	30
LSQ-15-051-I-X	52	33.5	11	15	Ø3.2	M3	● ● ● ○	24V / 0.72W 24V / 1.44W	30mA 60mA	31
LSQ-30-033-I-X	34	12	23	30	M4	Ø3.2	● ● ● ○	24V / 0.36W 24V / 0.72W	15mA 30mA	29
LSQ-30-045-I-X	46	24	15	30	M3	Ø3.2	● ● ● ○	24V / 0.72W 24V / 1.44W	30mA 60mA	31
LSQ-30-051-I-X	52	33.5	11	30	Ø3.2	M3	● ● ● ○	24V / 0.72W 24V / 1.44W	30mA 60mA	31
LSQ-45-033-I-X	34	12	23	45	M4	Ø3.2	● ● ● ○	24V / 0.36W 24V / 0.72W	15mA 30mA	29
LSQ-45-045-I-X	46	24	15	45	M3	Ø3.2	● ● ● ○	24V / 0.72W 24V / 1.08W	30mA 45mA	30
LSQ-45-051-I-X	52	33.5	11	45	Ø3.2	M3	● ● ● ○	24V / 1.08W 24V / 1.44W	45mA 60mA	31

2020/2021

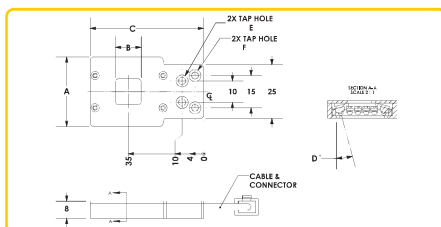
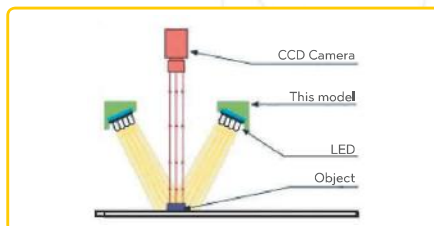
Direct Illumination



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-I-X	32.3	12	52.7	0	M4	Ø3.2	● ● ●	24V / 0.72W 24V / 1.08W	30mA 45mA	29
LSQF-00-045-I-X	44.3	24	58.7	0	M3	Ø3.2	● ● ●	24V / 1.08W 24V / 1.8W	45mA 75mA	32
LSQF-00-051-I-X	50.3	30	61	0	Ø3.2	M3	● ● ●	24V / 1.44W 24V / 2.16W	60mA 90mA	34
LSQF-15-033-I-X	32.3	12	52.7	15	M4	Ø3.2	● ● ●	24V / 1.44W 24V / 1.44W	60mA 60mA	29
LSQF-15-045-I-X	44.3	24	58.7	15	M3	Ø3.2	● ● ●	24V / 1.44W 24V / 1.44W	60mA 60mA	32
LSQF-15-051-I-X	50.3	30	61	15	Ø3.2	M3	● ● ●	24V / 1.44W 24V / 1.44W	60mA 60mA	34
LSQF-30-033-I-X	32.3	12	52.7	30	M4	Ø3.2	● ● ●	24V / 1.44W 24V / 1.44W	60mA 60mA	29
LSQF-30-045-I-X	44.3	24	58.7	30	M3	Ø3.2	● ● ●	24V / 1.44W 24V / 1.44W	60mA 60mA	32
LSQF-30-051-I-X	50.3	30	61	30	Ø3.2	M3	● ● ●	24V / 1.44W 24V / 2.88W	60mA 120mA	34
LSQF-45-033-I-X	32.3	12	52.7	45	M4	Ø3.2	● ● ●	24V / 1.44W 24V / 1.44W	60mA 60mA	28
LSQF-45-045-I-X	44.3	24	58.7	45	M3	Ø3.2	● ● ●	24V / 1.44W 24V / 1.44W	60mA 60mA	32
LSQF-45-051-I-X	50.3	30	61	45	Ø3.2	M3	● ● ●	24V / 1.44W 24V / 1.44W	60mA 60mA	34

2020/2021
Direct Illumination

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-I-DIFFUSER-A



LSQ-XX-045-I-DIFFUSER-A

LSQ-XX-051-I-DIFFUSER-A

LSQ-XX-033-I-DIFFUSER-F

LSQ-XX-045-I-DIFFUSER-F

LSQ-XX-051-I-DIFFUSER-F

LSQF-XX-033-I-DIFFUSER


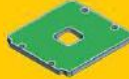
LSQF-XX-045-I-DIFFUSER

LSQF-XX-051-I-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-I-POLARIZER

LSQ-XX-045-I-POLARIZER

LSQ-XX-051-I-POLARIZER

LSQF-XX-033-I-POLARIZER


LSQF-XX-045-I-POLARIZER

LSQF-XX-051-I-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-I-X-24V-M8

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

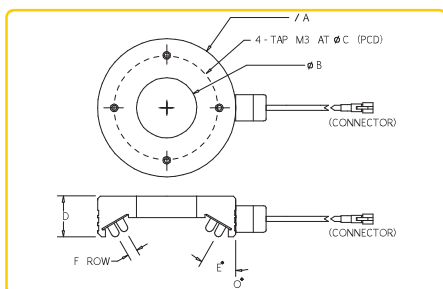
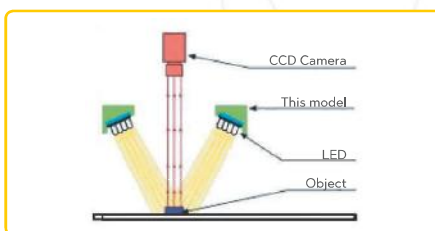
2020/2021

Direct Illumination

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)						Color	Voltage / Watt	Current	Weight (g)
	OA	OB	OC	D	E	F Row				
LSW-00-040-2-X	43.0	15.0	28.0	20.0	0	2.0	● ● ●	24V / 1.44W 24V / 1.80W 24V / 2.16W	60mA 75mA 90mA	40
LSW-00-050-2-X	54.0	23.5	41.0	20.0	0	2.0	● ● ●	24V / 2.88W 24V / 4.32W	120mA 180mA	60
LSW-00-070-3-X	70.0	26.0	56.0	20.0	0	3.0	● ● ●	24V / 5.40W 24V / 6.48W	225mA 270mA	120
LSW-00-090-4-X	92.0	40.0	70.0	20.0	0	4.0	● ● ●	24V / 8.28W 24V / 10.44W	345mA 435mA	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	3.0	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	180mA 240mA 120mA	100
LSW-15-090-4-X	92.0	47.0	70.0	20.5	15	4.0	● ● ●	24V / 2.88W 24V / 7.92W 24V / 10.08W	120mA 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

2020/2021
Direct Illumination

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	-

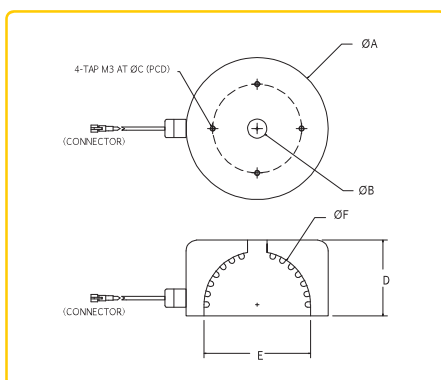
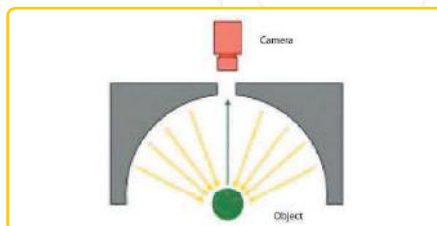
Product Part Numbering System:
LSW-00-040-2-X-24V-M12

2020/2021
Direct Illumination

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	ØA	ØB	ØC	D	E	ØF	Color	Voltage / Watt	Current	Weight (g)
IDD-00-045-4-X	55.0	12.0	40.0	23.5	40.0	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	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	W/WW

M8 Male Connector



M8 Pin Assignment

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

Product Part Numbering System:
IDD-00-045-4-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	-

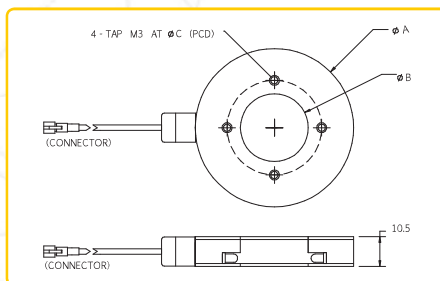
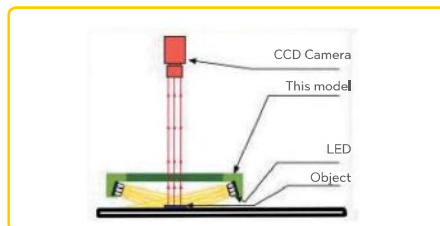
Product Part Numbering System:
IDD-00-045-4-X-24V-M12

2020/2021
Direct Illumination

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



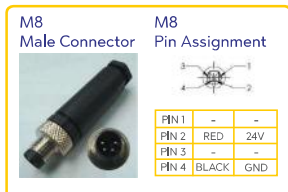
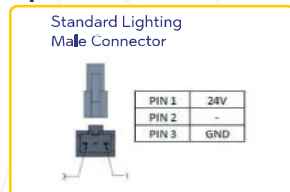
Technical Specification:

- 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-I-X	56	24	33.5	● ● ● ●	24V / 1.08W 24V / 1.44W	45mA 60mA	50
LLA-90-080-I-X	80	50	56.5	● ● ● ●	24V / 1.80W 24V / 2.52W	75mA 105mA	70
LLA-90-100-I-X	101	71	77.5	● ● ● ●	24V / 2.52W 24V / 3.24W	105mA 135mA	100
LLA-90-120-I-X	125	95	101.5	● ● ● ●	24V / 3.84W 24V / 3.84W	160mA 160mA	110
LLA-90-150-I-X	151	121	127.5	● ● ● ●	24V / 3.96W 24V / 5.04W	165mA 210mA	120
LLA-90-180-I-X	181	151	157.5	● ● ● ●	24V / 4.68W 24V / 6.12W	195mA 255mA	180
LLA-90-210-I-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



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



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

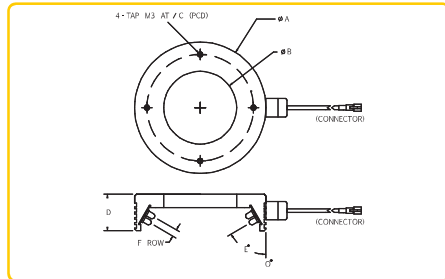
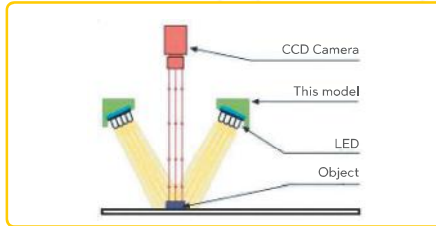
2020/2021

Direct Illumination

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 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	ØA	Dimensions (MM)					F Row	Color	Voltage / Watt	Current	Weight (g)
		ØB	ØC	D	E						
LLA-60-070-2-X	74.0	41.0	60.0	20.5	60.0	2.0	<div><div><div></div><div></div><div></div></div></div>	24V / 3.60W 24V / 4.68W	150mA 195mA	90	
LLA-60-090-2-X	90.0	57.0	75.0	20.5	60.0	2.0	<div><div><div></div><div></div><div></div></div></div>	24V / 4.32W	180mA	114	
							<div><div><div></div><div></div><div></div></div></div>	24V / 5.76W	240mA		
							IR850 IR940	24V / 2.88W 24V / 2.88W	120mA 120mA		
LLA-60-100-2-X	100	67	75	20.5	60.0	2.0	<div><div><div></div><div></div><div></div></div></div>	24V / 4.80W 24V / 4.80W	200mA 200mA	150	
LLA-60-150-3-X	151.0	114.0	136.0	23.5	60.0	3.0	<div><div><div></div><div></div><div></div></div></div>	24V / 11.88W	495mA	300	
							<div><div><div></div><div></div><div></div></div></div>	24V / 15.12W	630mA		
LLA-60-200-2-X	202.0	167.0	186.0	20.5	60.0	2.0	<div><div><div></div><div></div><div></div></div></div>	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	<div><div><div></div><div></div><div></div></div></div>	24V / 10.08W	420mA	260	
							<div><div><div></div><div></div><div></div></div></div>	24V / 12.96W	540mA		
LLA-75-170-3-X	175.0	136.0	159.0	24.5	75.0	3.0	<div><div><div></div><div></div><div></div></div></div>	24V / 13.68W	570mA	410	
							<div><div><div></div><div></div><div></div></div></div>	24V / 17.64W	735mA		

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

2020/2021
Direct Illumination

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

2020/2021

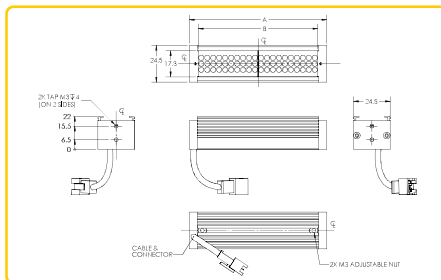
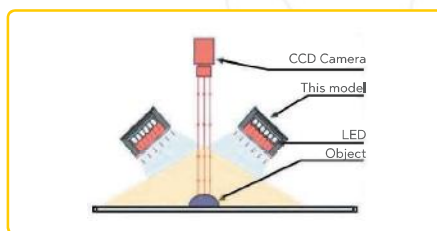
Direct Illumination

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 A (MM) B	Color	Voltage / Watt	Current	RGB Color	Voltage / Watt	Current	Weight (g)
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	

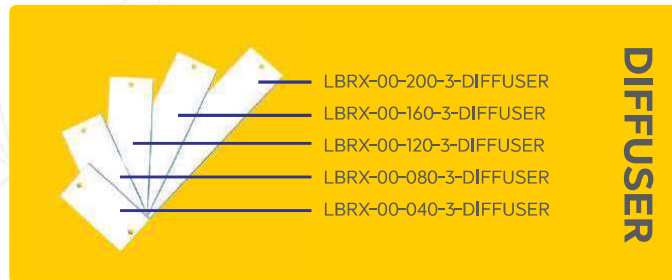
Remarks: LBRX 3 rows series can be cascaded (single colour / RGB) up to maximum length of 960mm

2020/2021
Direct Illumination

LBRX 3 ROWS SERIES – Available Accessories

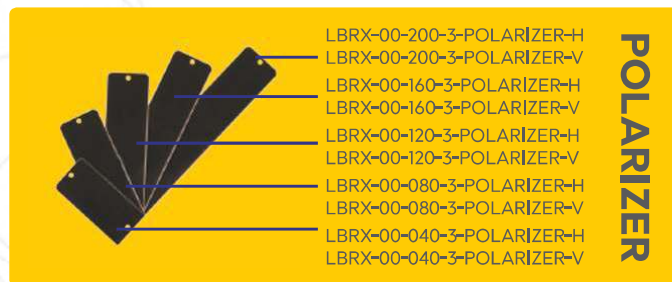
Optional Diffuser

Diffusers can be added to LBRX 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.



Optional Polarizer

Polarizers can be added to LBRX 3 rows 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.

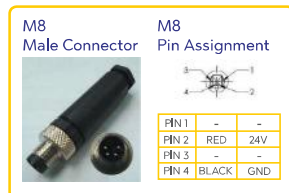
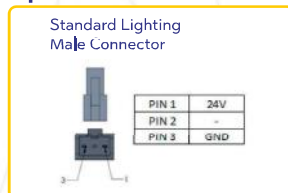


Optional Flexible Mounting Bracket

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



Optional Connector



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



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

2020/2021

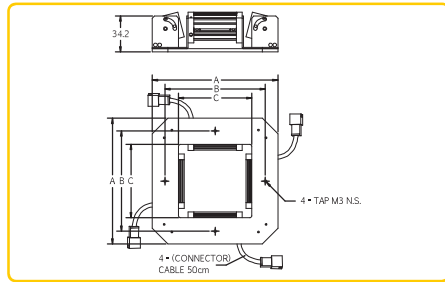
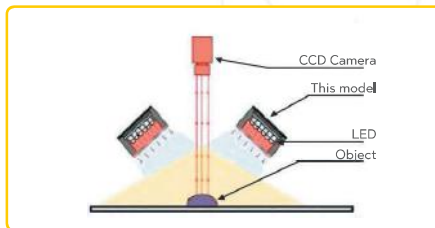
Direct Illumination

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	●	24V / 3.17W	132mA	● ● ●	24V / 7.20W	300mA	385
				● ● ●	24V / 4.03W	168mA		24V / 7.20W	300mA	
				IR850	24V / 4.32W	180mA		24V / 7.20W	300mA	
LBRQ-00-080-3-X	160.0	135.8	110.0	●	24V / 6.34W	264mA	● ● ●	24V / 14.40W	600mA	510
				● ● ●	24V / 8.06W	336mA		24V / 14.40W	600mA	
				IR850	24V / 8.64W	360mA		24V / 14.40W	600mA	
LBRQ-00-120-3-X	200.0	175.8	150.0	●	24V / 9.50W	396mA	● ● ●	24V / 21.60W	900mA	595
				● ● ●	24V / 12.10W	504mA		24V / 21.60W	900mA	
				IR850	24V / 12.96W	540mA		24V / 21.60W	900mA	
LBRQ-00-160-3-X	240.0	215.8	190.0	●	24V / 12.67W	528mA	● ● ●	24V / 28.80W	1200mA	740
				● ● ●	24V / 16.13W	672mA		24V / 28.80W	1200mA	
				IR850	24V / 17.28W	720mA		24V / 28.80W	1200mA	
LBRQ-00-200-3-X	280.0	255.8	230.0	●	24V / 15.84W	660mA	● ● ●	24V / 36.00W	1500mA	900
				● ● ●	24V / 20.16W	840mA		24V / 36.00W	1500mA	
				IR850	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.

2020/2021
Direct Illumination

LBRQ 3 ROWS SERIES – Available Accessories

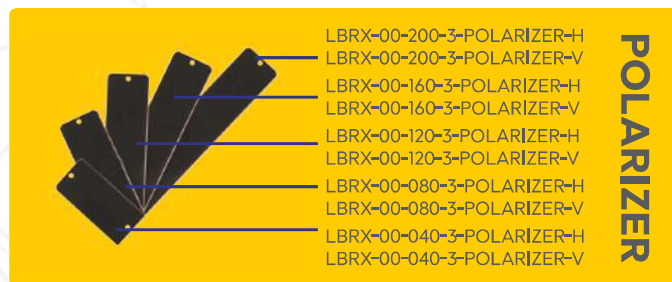
Optional Diffuser

Diffusers can be added to 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.

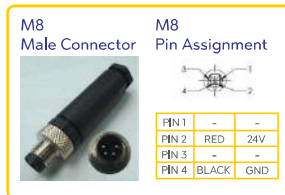
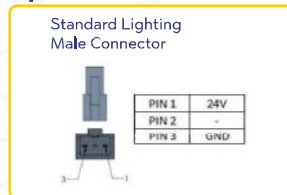


Optional Polarizer

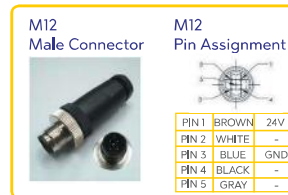
There are two models of polarizers available – vertical (V) and horizontal (H). Adding a polarizer ensures the maximum elimination of unwanted glare and helps to absorb harsh reflection to provide better performance. The thickness of a polarizer is 0.8mm.



Optional Connector



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



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

2020/2021

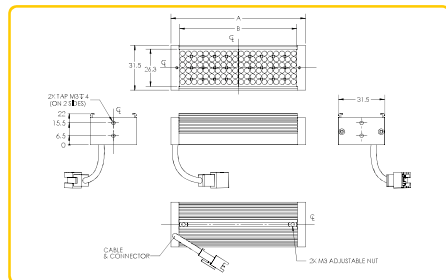
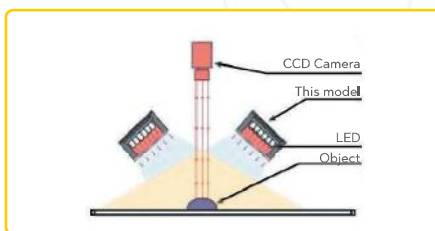
Direct Illumination

LBRX 6 ROWS SERIES – Direct, Multiple Rectangular 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	
			○	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	
			○	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	
			○	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	
			○	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	
			○	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.

2020/2021
Direct Illumination

LBRX 6 ROWS SERIES – Available Accessories

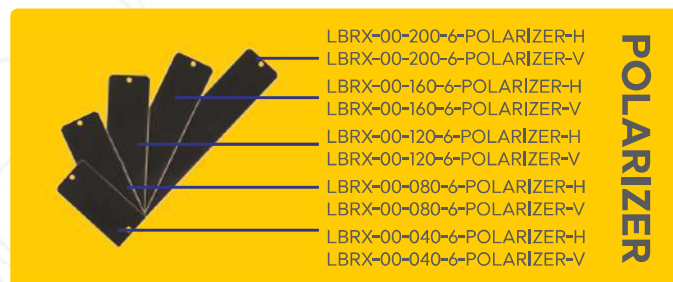
Optional Diffuser

Diffusers can be added to LBRX 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.



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.

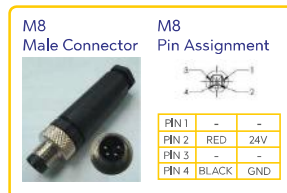
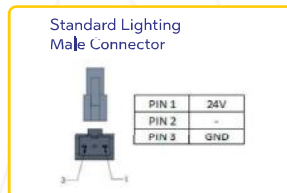


Optional Flexible Mounting Bracket

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



Optional Connector



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



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

2020/2021

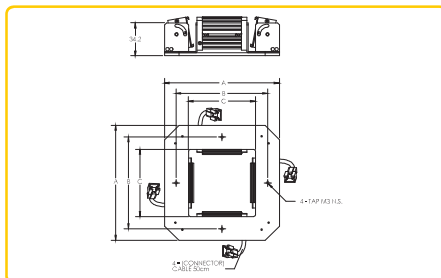
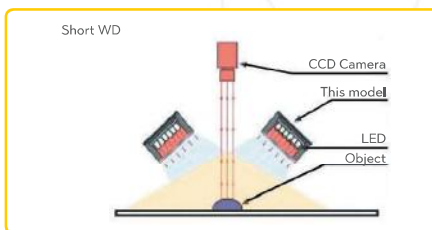
Direct Illumination

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	
				●	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	
				●	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	
				●	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	
				●	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	
				●	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.

2020/2021
Direct Illumination

LBRQ 6 ROWS SERIES – Available Accessories

Optional Diffuser

Diffusers can be added to LBRQ 6 rows series for uniform light distribution.

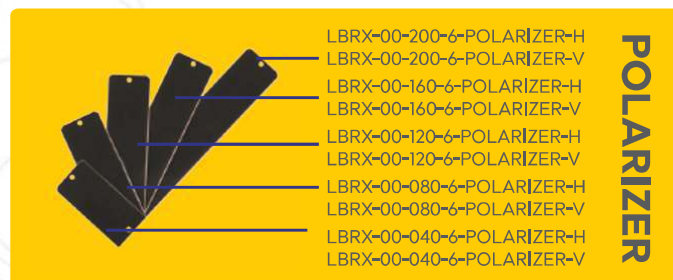
Adding a diffuser helps to reduce glare from glossy applications and produce lighting that is softer, more beautiful and more shadow-free. The thickness of a diffuser is 2mm.



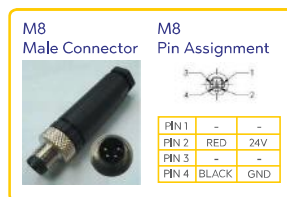
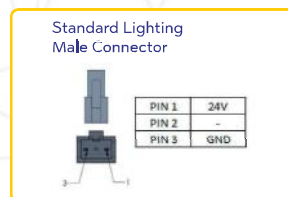
Optional Polarizer

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.



Optional Connector



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



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

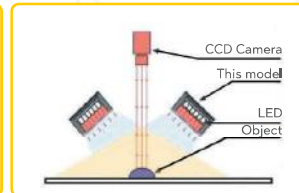
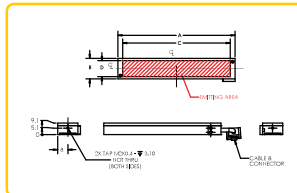
2020/2021

Direct Illumination

LBM SERIES – Compact Rectangular Illumination

Optional Diffuser

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

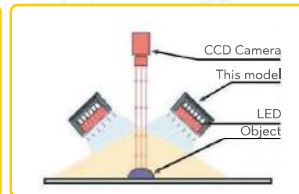
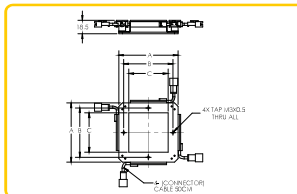


Model	Dimensions (MM)				Color	Voltage / Watt	Current	Weight (g)
	A	B	C	D				
LBM-00-040-1-X-24V	50	9	42.4	5.6	● ● ○	24V / 0.31W 24V / 0.62W	13mA 26mA	19
LBM-00-080-1-X-24V	92	9	84.4	5.6	● ● ○	24V / 0.62W 24V / 1.25W	26mA 52mA	24
LBM-00-040-2-X-24V	50	13	42.4	9.6	● ● ○	24V / 0.72W 24V / 1.44W	30mA 60mA	21
LBM-00-080-2-X-24V	92	13	84.4	9.6	● ● ○	24V / 1.25W 24V / 2.50W	52mA 104mA	27
LBM-00-040-3-X-24V	50	16	42.4	12.6	● ● ○	24V / 1.08W 24V / 2.16W	45mA 90mA	22
LBM-00-080-3-X-24V	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-24V	82	68	54	● ● ○	24V / 1.25W 24V / 2.49W	52mA 104mA	102
LBMQ-00-040-2-X-24V	86	68	54	● ● ○	24V / 2.88W 24V / 4.99W	120mA 208mA	116
LBMQ-00-040-3-X-24V	89	68	54	● ● ○	24V / 3.74W 24V / 8.64W	156mA 360mA	120

LED Wavelength

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

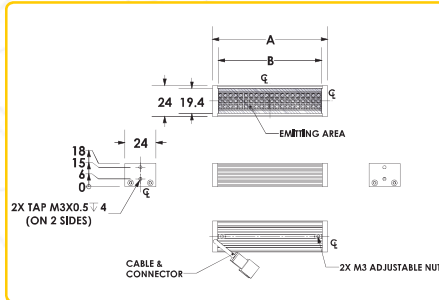
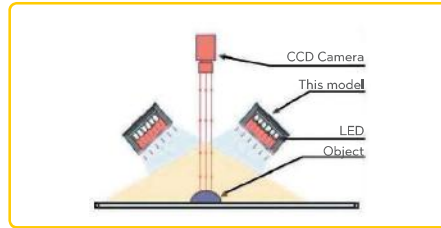
2020/2021
Direct Illumination



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	90mA 150mA	60
LBS45-00-135-3-X	144	135	● ● ●	24V/4.32W 24V/5.4W	180mA 225mA	95

2020/2021

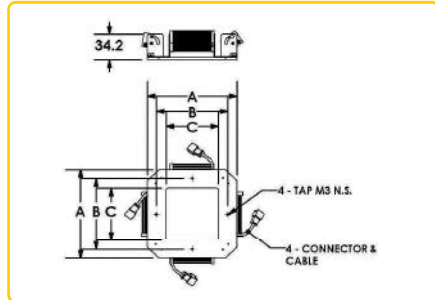
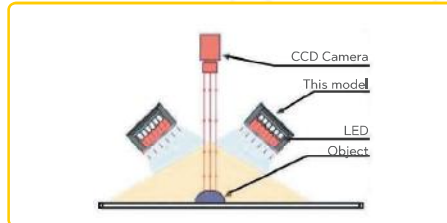
Direct Illumination



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

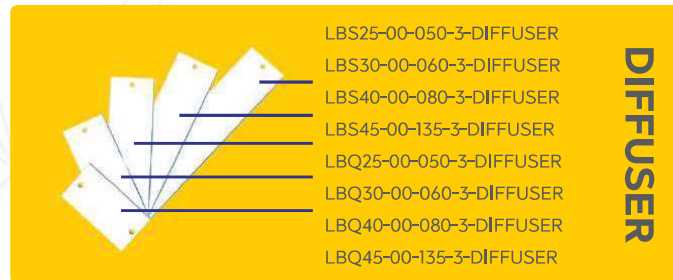
Model	Dimensions (MM)			Color	Voltage / Watt	Current	Weight (g)
	A	B	C				
LBQ25-00-050-3-X	120	95.8	70	● ● ●	24V/2.88W 24V/4.32W	120mA 180mA	375
LBQ30-00-060-3-X	130	105.8	80	● ● ●	24V/8.64W 24V/8.64W	360mA 360mA	425
LBQ40-00-080-3-X	150	125.8	100	● ● ●	24V/5.76W 24V/7.2W	240mA 300mA	505
LBQ45-00-090-3-X	160	135.8	110	● ● ●	24V/11.5W 24V/14.4W	480mA 600mA	595

2020/2021
Direct Illumination

LBS & LBQ SERIES – Available Accessories

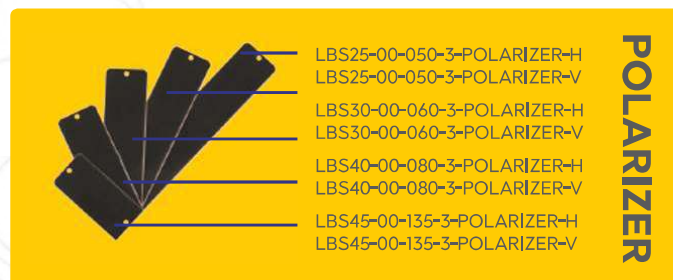
Optional Diffuser

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.








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.



Optional Connector

Standard Lighting Male Connector	M8 Male Connector	M8 Pin Assignment	M12 Male Connector	M12 Pin Assignment																																	
 <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	 <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		 <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: LBS45-00-135-3-X=24V-M8		Product Part Numbering System: LBS45-00-135-3-X=24V-M12																																		

2020/2021

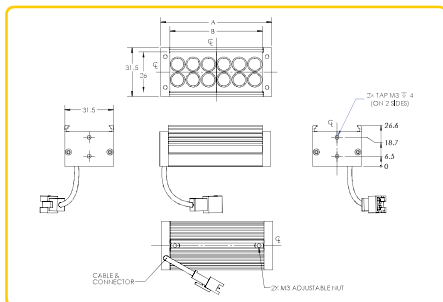
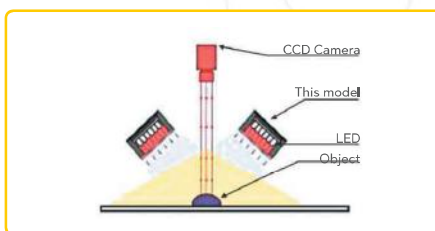
Direct Illumination

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 24V / 2.304W	96mA 96mA	75
*MLBX2-00-090-2-X	102.0	90.0	● ● ●	24V / 3.46W 24V / 3.46W	144mA 144mA	96
*MLBX2-00-120-2-X	132.0	120.0	● ● ●	24V / 4.61W 24V / 4.61W	192mA 192mA	118
*MLBX2-00-150-2-X	162.0	150.0	● ● ●	24V / 5.76W 24V / 5.76W	240mA 240mA	139

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

Remarks: MLBX part numbers are changed to MLBX2
MLBX2 series can cascade (Single colour / RGB) able to customize to maximum length 1170mm.

2020/2021
Direct Illumination

MLBX2 SERIES – Available Accessories

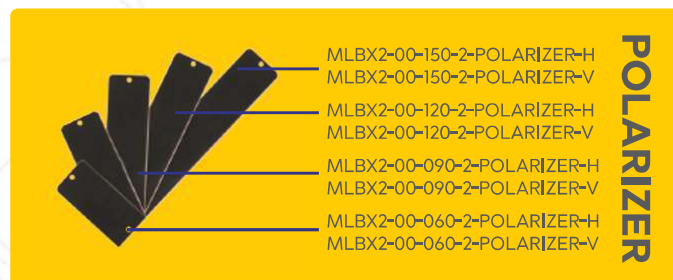
Optional Diffuser

Diffusers can be added to MLBX2 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.



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.

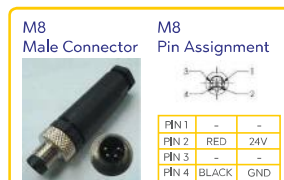
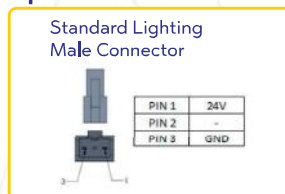


Optional Flexible Mounting Bracket

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



Optional Connector



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



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

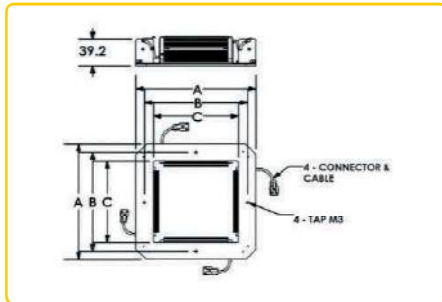
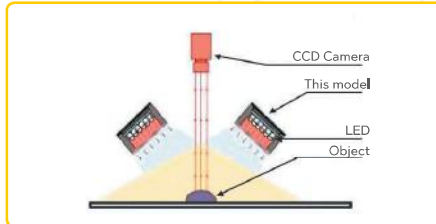
2020/2021
Direct Illumination



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

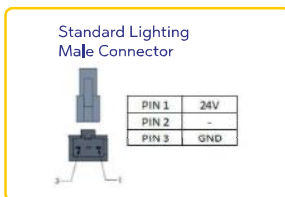
Red Led = 630nm

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	570

Optional 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:
MLBQ-00-090-X-X-24V-M8

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

2020/2021
Direct Illumination

MLBQ Series – Available Accessories

Optional Diffuser

Diffusers can be added to MLBQ 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.

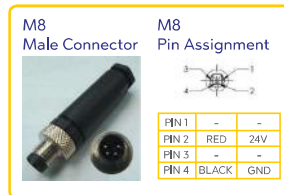
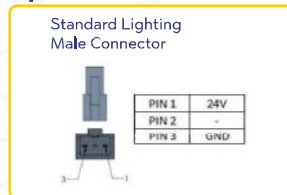


Optional Polarizer

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.



Optional Connector



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



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

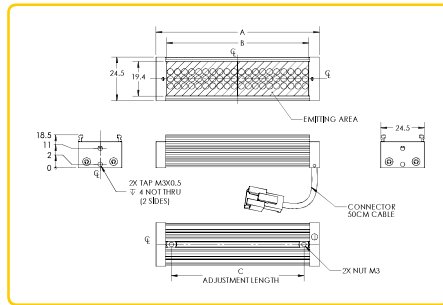
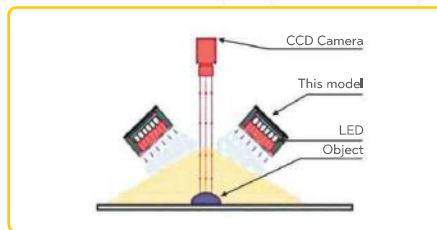
2020/2021

Direct Illumination

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:

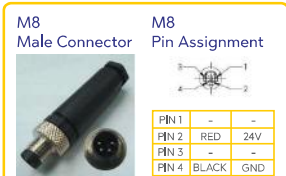
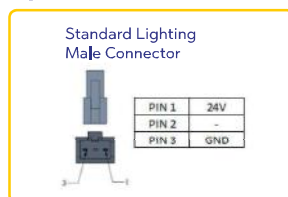
- Customize Sizes, Mounting Requirements
- Color and Voltage Available
- Consult Technical Sales for More Information

LED Wavelength (OSRAM LED Light Technology)

- Red Led is 620nm
- Blue Led is 460nm
- Green Led is 640nm

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



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



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

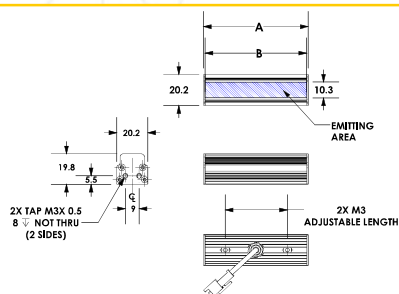
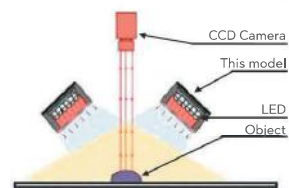
2020/2021
Direct Illumination

NEW

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.



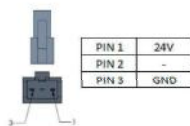
Technical Specification:

- 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	● ● ● ●	24V / 4.8W 24V / 4.8W	180mA 150mA	85

Optional Connector

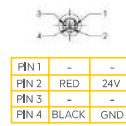
Standard Lighting Male Connector



M8 Male Connector



M8 Pin Assignment

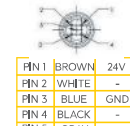


Product Part Numbering System:
HLBS2-00-065-1-X-24V-M8

M12 Male Connector



M12 Pin Assignment



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

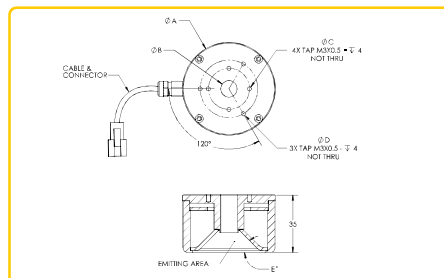
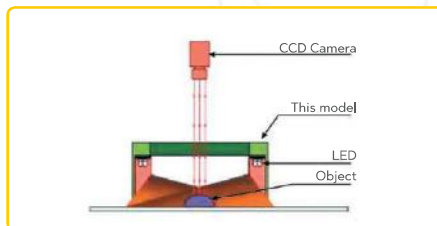
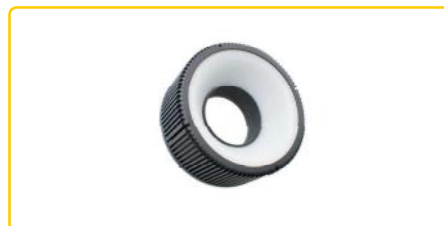
2020/2021

Diffused Illumination

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

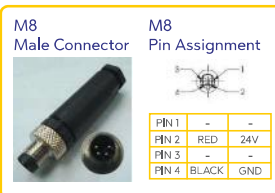
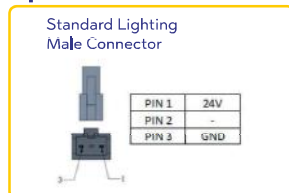
LED Wavelength (OSRAM LED Light Technology)

- 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	95	106	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	95	106	60	● ● ● ●	24V / 8.60W 24V / 8.60W	360mA 360mA	285

Remarks: DLR2 part numbers are changed to DLR3

Optional Connector



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



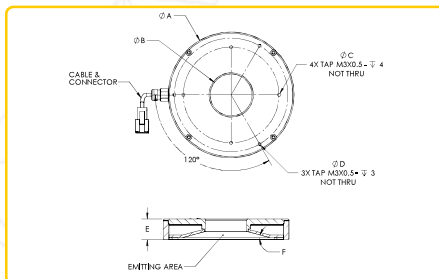
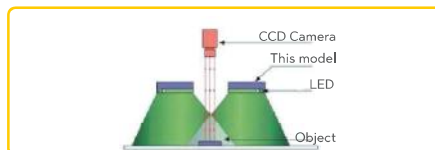
Product Part Numbering System:
DLR3-45-050-1-X-M12

2020/2021
Diffused Illumination

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



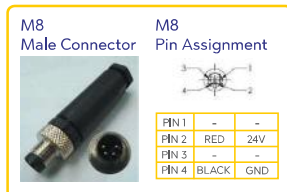
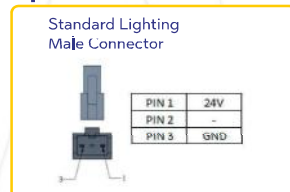
Technical Specification:

- 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-I-X	56	8	25	35	18	0	<div><div></div><div></div><div></div></div>	24V / 2.6W 24V / 2.6W	108mA 108mA	60
DFR4-00-080-I-X	81	21	54	56	18	0	<div><div></div><div></div><div></div></div>	24V / 4.70W 24V / 4.70W	196mA 196mA	110
DFR4-00-100-I-X	105.2	30	80	95	18	0	<div><div></div><div></div><div></div></div>	24V / 5.40W 24V / 5.40W	225mA 225mA	160
DFR4-00-130-I-X	131.5	45	95	106	18	0	<div><div></div><div></div><div></div></div>	24V / 7.20W 24V / 7.20W	300mA 300mA	230
DFR4-15-080-I-X	81	19	54	56	17.5	15	<div><div></div><div></div><div></div></div>	24V / 4.70W 24V / 4.70W	196mA 196mA	115
DFR4-15-100-I-X	105.2	35	80	95	17.5	15	<div><div></div><div></div><div></div></div>	24V / 5.40W 24V / 5.40W	225mA 225mA	170
DFR4-15-130-I-X	131.5	45.6	95	106	17.5	15	<div><div></div><div></div><div></div></div>	24V / 7.20W 24V / 7.20W	300mA 300mA	210
DFR4-30-050-I-X	56	12	25	35	17.5	30	<div><div></div><div></div><div></div></div>	24V / 2.6W 24V / 2.6W	108mA 108mA	80
DFR4-30-080-I-X	81	25	54	56	17.5	30	<div><div></div><div></div><div></div></div>	24V / 4.70W 24V / 4.70W	196mA 196mA	145
DFR4-30-100-I-X	105.2	44	80	95	17.5	30	<div><div></div><div></div><div></div></div>	24V / 5.40W 24V / 5.40W	225mA 225mA	230
DFR4-30-130-I-X	131.5	66	95	106	17.5	30	<div><div></div><div></div><div></div></div>	24V / 7.18W 24V / 7.18W	299mA 299mA	355

Remarks: DFR3 part numbers are changed to DFR4

Optional Connector



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

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

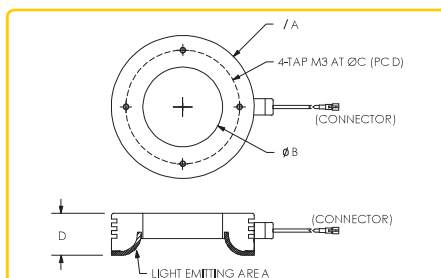
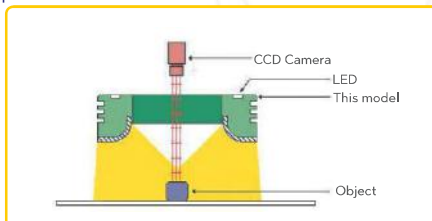
2020/2021

Diffused Illumination

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 (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	D				
HPD-00-170-I-X	176.6	111.0	150	29.6	• • • •	24V / 18.00W 24V / 18.00W	750mA 750mA	535
HPD-00-240-I-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)
	ØA	ØB	ØC	D				
HPD-00-240-3-RGB	245.0	158.5	200	38.0	• • • •	24V / 21.84W 24V / 15.12W 24V / 16.80W	910mA 630mA 700mA	1180

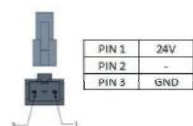
RGB

Model	Dimensions (MM)				Color	Voltage / Watt	Current	Weight (g)
	ØA	ØB	ØC	D				
HPD-00-070-I-RGBW	75.4	42	51	22	• • • •	24V / 1.44W	60mA	380
HPD-00-240-I-RGBW	245	158.5	200	38	• • • •	24V / 11.52W	480mA	1180

RGBW

Optional Connector

Standard Lighting Male Connector



M8 Male Connector



M8 Pin Assignment

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

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

M12 Male Connector



M12 Pin Assignment

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

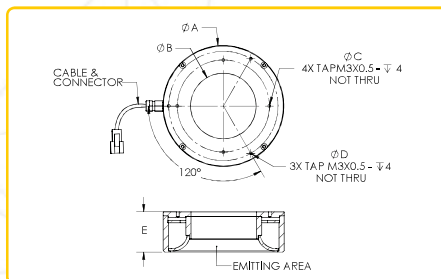
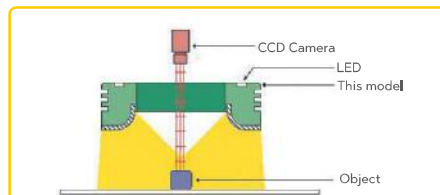
Product Part Numbering System:
HPD-00-070-I-X-24V-M12

2020/2021
Diffused Illumination

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



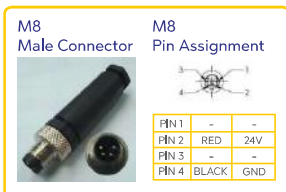
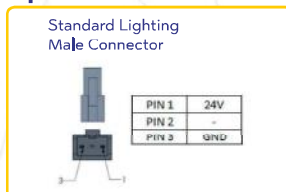
Technical Specification:
 - Color Red, Green, Blue and White
 - 24V DC Input Power
 - Continuous and Strobe Applications
 - Compact Size
 - Lighting Cable 500mm
 Customize Lighting:
 - Customize Sizes, Mounting Requirements
 - Color and Voltage Available
 - Consult Technical Sales for More Information
 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 24V / 2.88W	120mA 120mA	100
*HPD2-00-080-1-X	81	34.2	54	56	35	● ● ● ●	24V / 4.32W 24V / 4.32W	180mA 180mA	155
*HPD2-00-100-1-X	105.2	57	80	95	35	● ● ● ●	24V / 6.48W 24V / 6.48W	270mA 270mA	210
*HPD2-00-130-1-X	131.5	84	106	95	35	● ● ● ●	24V / 8.64W 24V / 8.64W	360mA 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

RGBW

Optional Connector



Product Part Numbering System:
HPD2-00-100-1-RGBW-MB



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

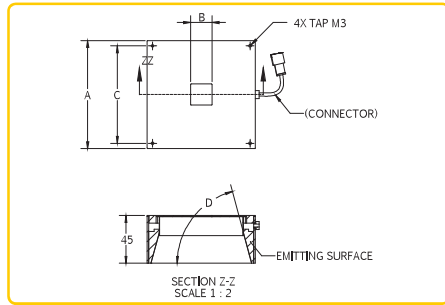
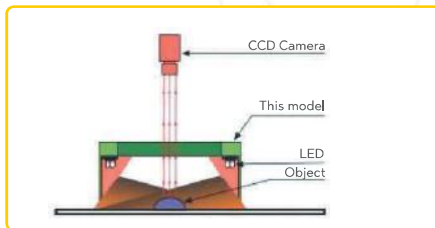
2020/2021

Diffused Illumination

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

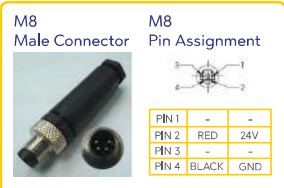
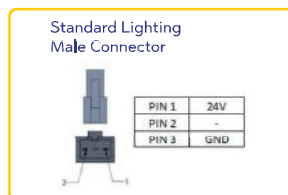


Technical Specification:

- 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°				
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



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

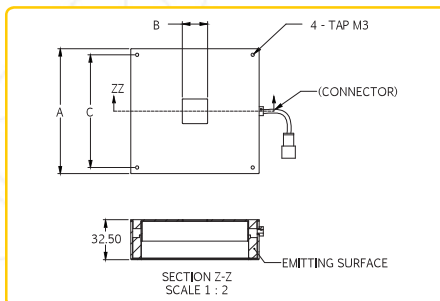
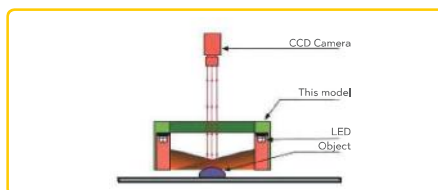
Product Part Numbering System:
DLS2-60-050-1-X-24V-M12

2020/2021
Diffused Illumination

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



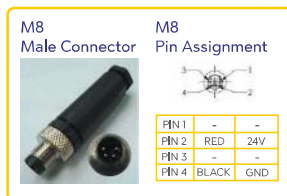
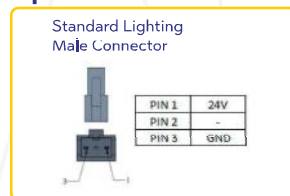
Technical Specification:
 - Color Red, Green, Blue and White
 - 24V DC Input Power
 - Continuous and Strobe Applications
 - Compact Size
 - Lighting Cable 500mm
Customize Lighting:
 - Customize Sizes, Mounting Requirements
 - Color and Voltage Available
 - Consult Technical Sales for More Information
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 / 2.88W 24V / 1.92W	120mA 80mA	100
DLQ2-90-070-1-X	76.2	20.0	66.0	● ● ● ○	24V / 2.88W 24V / 4.32W	120mA 180mA	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-24V	70	26	54	● ● ● ○	24V/2.16W	90mA	266
DLF3-90-100-1-RGBW-24V	100	56	84	● ● ● ○	24V/4.32W	180mA	530
DLF3-90-120-1-RGBW-24V	120	76	104	● ● ● ○	24V/5.4W	225mA	662



Optional Connector



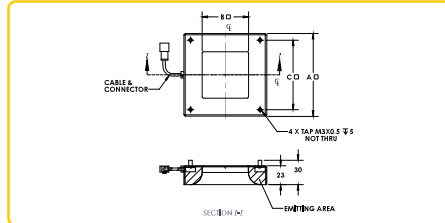
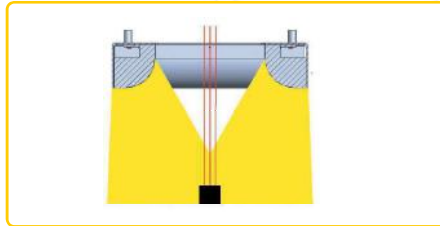
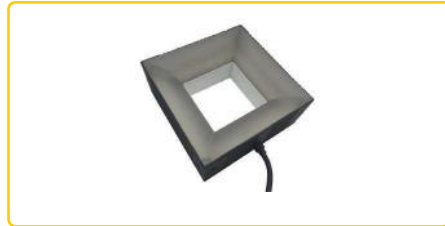
Product Part Numbering System:
DLQ2-90-030-1-X-24V-M8

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

2020/2021
Diffused Illumination

DLC SERIES – Diffused Angular Illumination

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



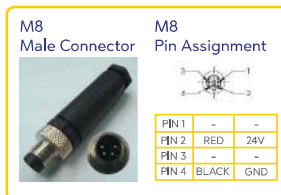
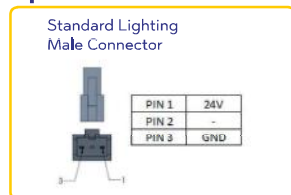
Technical Specification:
 - Color Red, Green, Blue and White
 - 24V DC input Power
 Customize Lighting:
 - Customize Sizes, Mounting Requirements
 - Color and Voltage Available
 - Contact Technical Sales for More Information
 LED Wavelength
 Red Led – 630nm
 Green Led – 525nm
 Blue Led – 470nm

Model	Dimensions (MM)			Color	Voltage / Watt	Current	Weight (g)
	A	B	C				
DLC-00-070-I-X-24V	70	26	54	●●●○	24V / 2.11W	88mA	264
DLC-00-100-I-X-24V	100	56	84	●●●○	24V / 4.22W	176mA	528
DLC-00-120-I-X-24V	120	76	104	●●●○	24V / 5.28W	220mA	660

Model	Dimensions (MM)			Color	Voltage / Watt	Current	Weight (g)
	A	B	C				
DLC-00-070-I-RGBW-24V	70	26	54	●●●○	24V/2.88W	120mA	264
DLC-00-100-I-RGBW-24V	100	56	84	●●●○	24V / 5.76W	240mA	528
DLC-00-120-I-RGBW-24V	120	76	104	●●●○	24V/5.76W	246mA	660

RGBW

Optional Connector



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



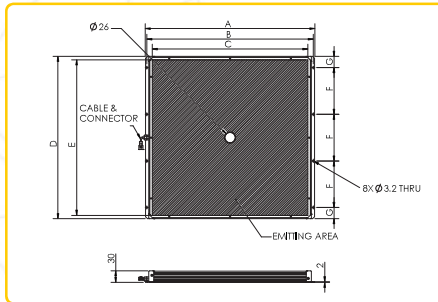
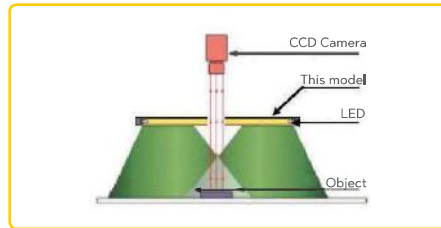
Product Part Numbering System:
DLC-00-100-I-X-24V-M12

2020/2021
Diffused Illumination

BHLQ SERIES – High Intensity Diffused Front Light

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

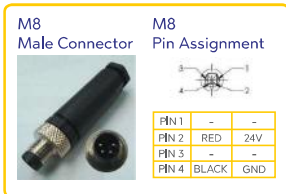
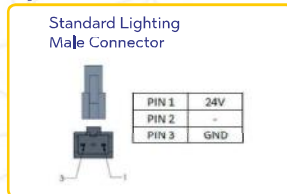
Applications: Robotic Picking, Identification of Missing Part, Dimensions Measurements, Shape Recognition



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 24V / 38.52W	1200mA 1605mA	1500
BHLQ-00-400X400-X-X	436.0	428.0	400.0	418.0	400.0	360.0	29.0	● ● ● ●	24V / 80.64W 24V / 107.64W	3360mA 4485mA	100

Optional Connector



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



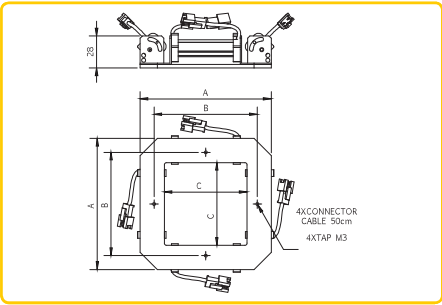
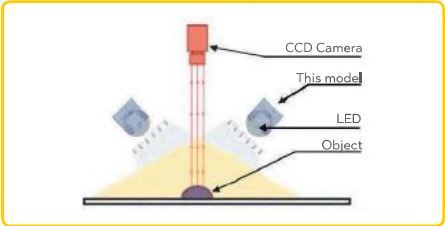
Product Part Numbering System:
BHLQ-00-240X240-X-X-24V-M12

2020/2021
Diffused Illumination

LBDQ SERIES – Diffused Multiple Rectangular Illumination

LBDQ series consists of a combination of 4 light tubes arranged in a rectangular structure to provide uniform lighting. Each light tube's angle can be adjusted for different height applications.

Applications: 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				
LBDQ-00-050-I-X	114.0	90.0	72.0		24V / 2.88W 24V / 2.88W	120mA 120mA	200
LBDQ-00-100-I-X	164.0	140.0	122.0		24V / 5.76W 24V / 5.76W	240mA 240mA	320

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:
LBDQ-00-050-I-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:
LBDQ-00-050-I-X-24V-M12

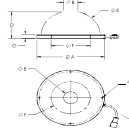
2020/2021 Indirect Illumination


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.

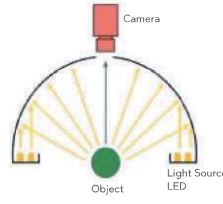
Applications: Cracks, Chips, Stains & Marks on Circular or Cylindrical Objects Inspection, Solder and Substrate Inspection







Bracket Part No.
IDS5-00-050-X-X-BRACKET
IDS5-00-070-X-X-BRACKET
IDS5-00-100-X-X-BRACKET
IDS5-00-150-X-X-BRACKET
IDS5-00-200-X-X-BRACKET
IDS5-00-250-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 **[OSRAM LED Light Technology]**

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


Model	ØA	ØB	ØC	D	ØE	ØF	G	Color	Voltage / Watt	Current	Weight (g)
*IDS5-00-050-I-X	68	10	60	33.8	53	37.4	9	● ● ● ● ● ● IR850	24V / 5.83W 24V / 7.56W 24V / 11.56W	243mA 315mA 64mA	78
*IDS5-00-070-I-X	95	20	85	44.5	78	61	9	● ● ● ● ● ● IR850	24V / 9.07W 24V / 11.76W 24V / 2.304W	378mA 490mA 96mA	115
*IDS5-00-100-I-X	118	25	110	56.8	103	85.4	9	● ● ● ● ● ● IR850	24V / 12.95W 24V / 16.8W 24V / 3.84W	540mA 700mA 160mA	152
*IDS5-00-150-I-X	185	40	172	89.8	165	138	12	● ● ● ● ● ● IR850	24V / 21.60W 24V / 22.32W 24V / 24.0W	900mA 930mA 1000mA	483
*IDS5-00-200-I-X	232	50	222	112.8	212	193	12	● ● ● ● ● ● IR850	24V / 31.92W 24V / 33.12W 24V / 30.0W	1330mA 1380mA 1250mA	520
*IDS5-00-250-I-X	284	50	272	139.4	261.6	240	12	● ● ● ● ● ● IR850	24V / 36.00W 24V / 38.4W 24V / 36.0W	1500mA 1600mA 1500mA	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	ØC	D	ØE	ØF	G	Color	Voltage / Watt	Current	Weight (g)
IDS4-00-150-I-RGB	185	40	172	89.8	165	113	12	● ● ● ● ● ● IR850	24V / 7.20W 24V / 6.72W 24V / 6.72W	300mA 280mA 280mA	1000
IDS4-00-200-I-RGB	232	50	222	112.8	212	160	12	● ● ● ● ● ● IR850	24V / 6.72W 24V / 6.72W 24V / 6.72W	280mA 280mA 280mA	1300

Model	ØA	ØB	ØC	D	ØE	ØF	G	Color	Voltage / Watt	Current	Weight (g)
IDS5-00-150-I-RGBW-24V	185	40	172	89.8	165	138	12	● ● ● ● ● ● ● ● IR850	24V/6.48W	270mA	483
IDS5-00-200-I-RGBW-24V	232	50	222	112.8	212	193	12	● ● ● ● ● ● ● ● IR850	24V/6.48W	270mA	520
IDS5-00-250-I-RGBW-24V	284	50	272	139.4	261.6	240	12	● ● ● ● ● ● ● ● IR850	24V/7.92W	330mA	780


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:
IDS5-00-250-I-X=24V-M8

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

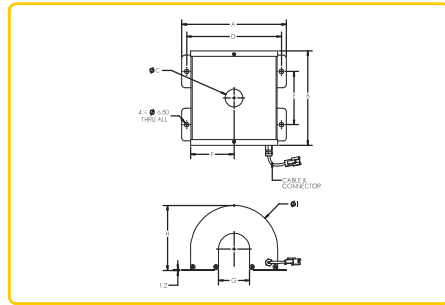
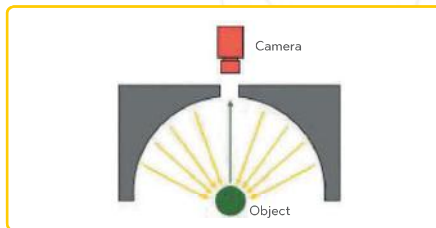
2020/2021

Indirect Illumination

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

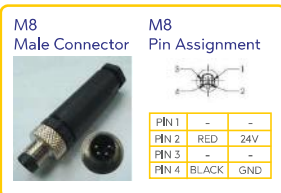
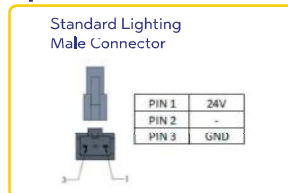
Red Led - 630nm
Green Led - 525nm
Blue Led - 470nm

Model	Dimensions (MM)										Color	Voltage / Watt	Current	Weight (g)
	A	B	ØC	D	E	F	G	H	ØI					
IDT3-00-120-I-X	148.0	133.0	25.0	133.6	75.0	61.3	44.0	91.5	122.5	<div><div></div><div></div><div></div></div>	24V / 8.64W 24V / 7.68W	360mA 320mA	710	
IDT3-00-150-I-X	177.8	163.0	25.0	163.8	103.9	76.3	74.0	106.5	152.5	<div><div></div><div></div><div></div></div>	24V / 10.80W 24V / 9.60W	450mA 400mA	530	
IDT3-00-200-I-X	227.2	163.0	25.0	213.2	105.0	101.3	124.0	131.5	202.5	<div><div></div><div></div><div></div></div>	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-I-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	200mA 160mA	710	
IDT3-00-150-I-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	530	
IDT3-00-200-I-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	

RGB

Optional Connector



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



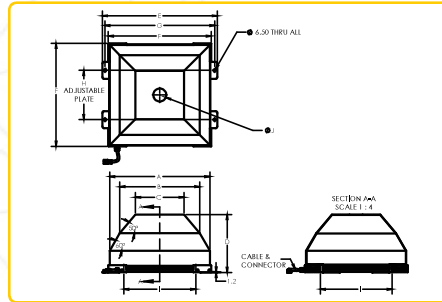
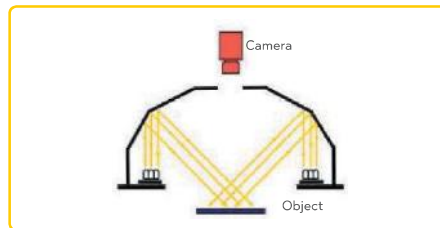
Product Part Numbering System:
IDT3-00-120-I-X-24V-M12

2020/2021
Indirect Illumination

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



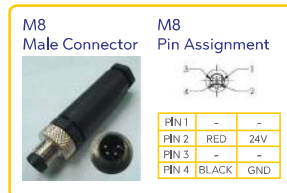
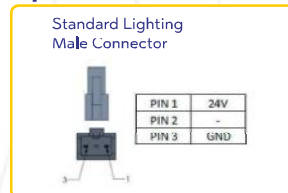
Technical Specification:
 - Color Red, Green, Blue, White & RGB
 - 24V DC Input Power
 - Continuous and Strobe Applications
 - Compact Size= Lighting Cable 500mm
 Customize Lighting:
 - Customize Sizes, Mounting Requirements
 - Color and Voltage Available
 - Consult Technical Sales for More Information
 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	ØJ					
IDQ3-00-120-X-X	210.0	169.6	110.9	126.2	240	218.0	226	74.0	138.2	35.0	<div><div></div><div></div><div></div></div>	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	<div><div></div><div></div><div></div></div>	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	<div><div></div><div></div><div></div></div>	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	ØJ					
IDQ3-00-120-X-RGB	210.0	169.6	110.9	126.2	240	218.0	226	74.0	138.2	35.0	<div><div></div><div></div><div></div></div>	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	<div><div></div><div></div><div></div></div>	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	<div><div></div><div></div><div></div></div>	24V / 24.00W 24V / 19.20W 24V / 19.20W	1000mA 800mA 800mA	3000	



Optional Connector



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


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

2020/2021
Backlight Illumination

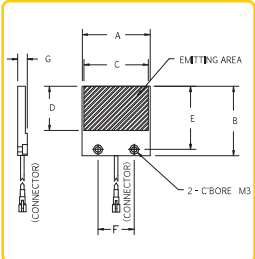
BHDS & BHD SERIES – Side Backlight Illumination

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

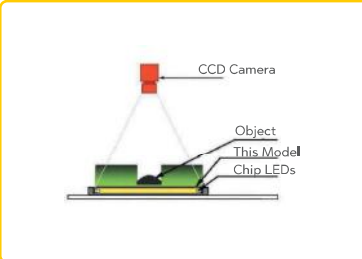
Applications: Lead Frame Inspection, Shape Recognition, Size Measurement




BHDS



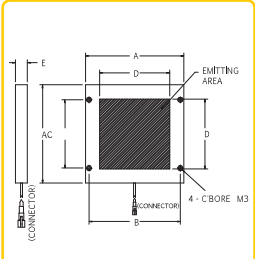
BHDS technical drawing showing dimensions A, B, C, D, E, F, G and labels for EMITTING AREA, 2 x C-BORE M3, and CONNECTOR.



BHDS application diagram showing a CCD Camera, Object, This Model, and Chip LEDs.



BHD



BHD technical drawing showing dimensions A, B, C, D, E, F, G and labels for EMITTING AREA, 4 x C-BORE M3, and CONNECTOR.

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)

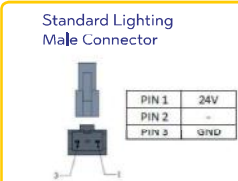
- Red Led is 620nm
- Blue Led is 460nm
- Green Led is 640nm

Model	Dimensions (MM)							Color	Voltage / Watt	Current	Weight (g)
	A	B	C	D	E	F	G				
BHDS-00-25X36-I-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-I-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-I-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-I-X	154.2	49.3	150.2	30	45.8	40	8.0	● ● ● ●	24V / 2.4W 24V / 2.4W	100mA 100mA	105

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

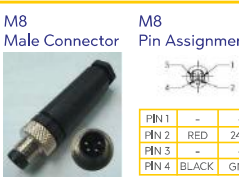
Optional Connector

Standard Lighting Male Connector



PIN 1	24V
PIN 2	-
PIN 3	GND


M8 Male Connector



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-I-X-24V-M8

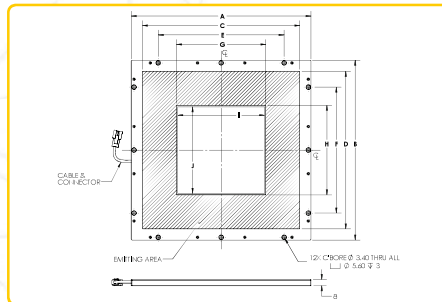
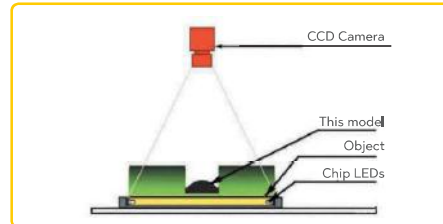
Product Part Numbering System:
BHDS-00-25X36-I-X-24V-M12

2020/2021
Backlight Illumination

BHDQ SERIES – Side Backlight Illumination

BHDQ series is a four-sided backlight with a diffuser that produces highly uniform light distribution. It is used in applications where the side or the corner of an object is inspected.

Applications: Lead Frame Inspection, Shape Recognition, Size Measurement

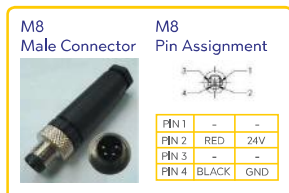
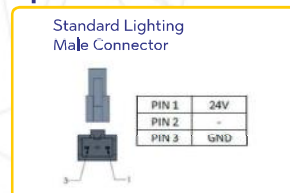


Technical Specification:

- 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 460nm
 - Green Led is 640nm

Model	Dimensions (MM)									Color	Voltage / Watt	Current	Weight (g)
	A	B	C	D	E	F	G	H	I				
BHDQ-00-200-I-X	228.5	228.5	200	200	160	160	113.6	110	110	<div><div></div><div></div><div></div></div>	24V / 14.4W 24V / 14.4W	600mA 600mA	409

Optional Connector



Product Part Numbering System:
BHDQ-00-200-I-X-MB



Product Part Numbering System:
BHDQ-00-200-I-X-24V-M12

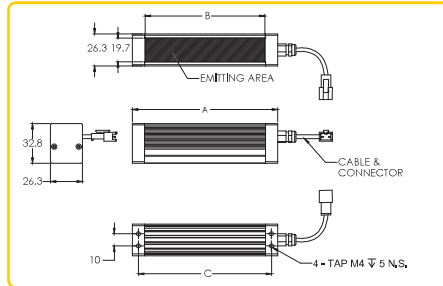
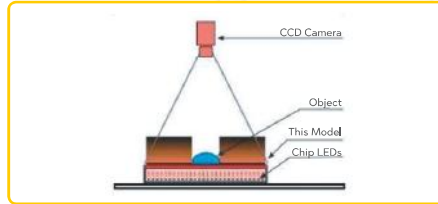
2020/2021

Backlight Illumination

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

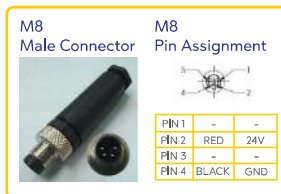
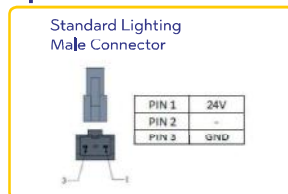


Technical Specification:

- 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



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



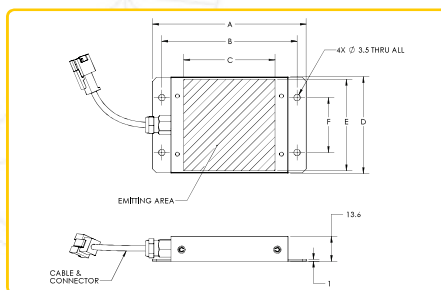
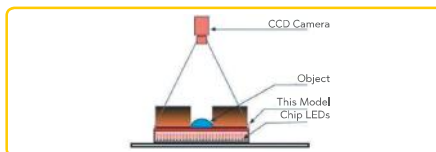
Product Part Numbering System:
LBL3-00-100-X-X=24V=M12

2020/2021 Backlight Illumination

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:

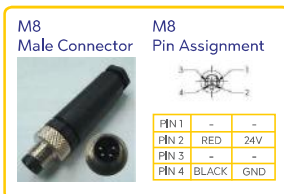
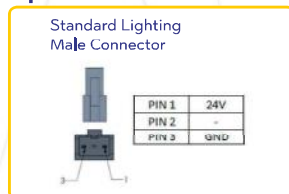
- Color Red, Green, Blue and White
- 24V DC Input Power
- Continuous and Strobe Applications
- Compact Size
- Lighting Cable 500mm
- Customize Lighting:
- Customize Sizes, Mounting Requirements
- Color and Voltage Available
- Consult Technical Sales for More Information
- LED Wavelength
- Red Led = 630nm
- 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	● ● ● ● IR850	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	● ● ● ● IR850	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	● ● ● ● IR850	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	● ● ● ● IR850	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	● ● ● ● IR850	24V / 1.44W 24V / 0.576W 24V / 0.432W 24V / 3.12W	60mA 24mA 18mA 130mA	50
BHS4-00-060-X-X	94.0	84.0	60.0	63.0	60.0	40	● ● ● ● IR850	24V / 2.304W 24V / 1.728W 24V / 2.304W	96mA 72mA 96mA	115
BHS4-00-090-X-X	124.0	114.0	90.0	93.0	90.0	70	● ● ● ● IR850	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	● ● ● ● IR850	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



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

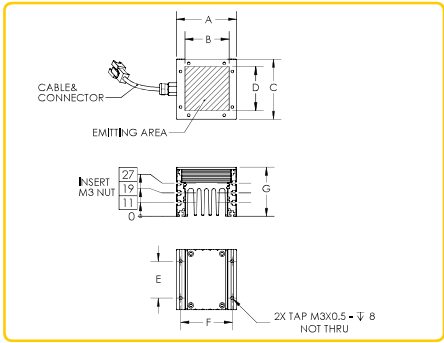
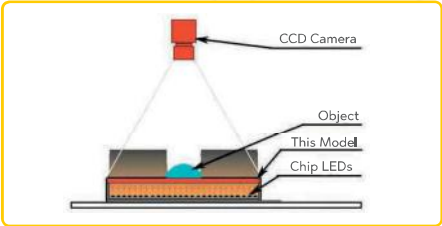
Product Part Numbering System:
BHS4-00-025-X-X=24V-M12

2020/2021
Backlight Illumination

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.

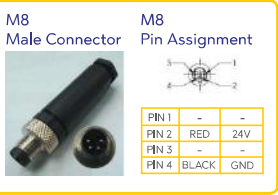
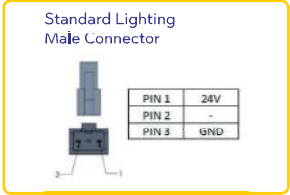
Applications: Lead Frame Inspection, Shape Recognition, Size Measurement, edge detection



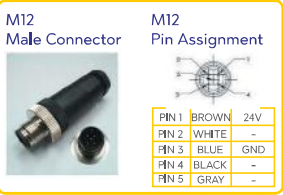
- Technical Specification:
- Color Red, Green, Blue and White
 - 24V DC Input Power
 - Continuous and Strobe Applications
 - Compact Size
 - Lighting Cable 500mm
- Customize Lighting:
- Customize Sizes, Mounting Requirements
 - Color and Voltage Available
 - Consult Technical Sales for More Information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



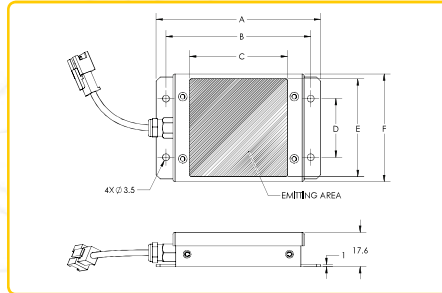
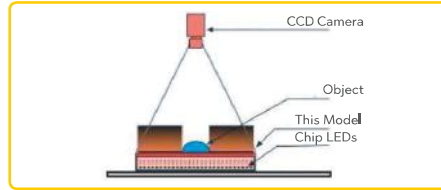
Product Part Numbering System:
BHH-00-035-X-X-24V-M12

2020/2021
Backlight Illumination

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

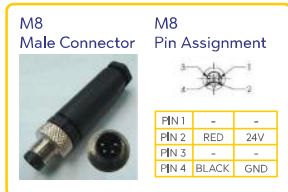
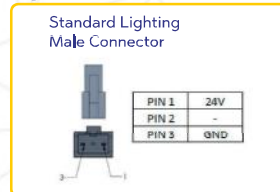


Technical Specification:

- 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



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



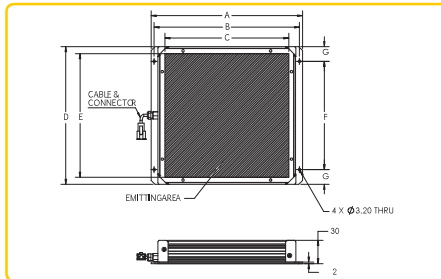
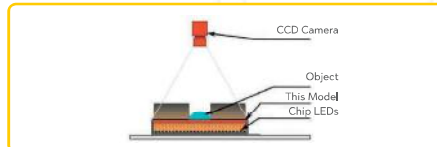
Product Part Numbering System:
BHC2-00-050-X-X-24V M12

2020/2021

Backlight Illumination

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.

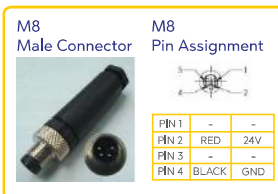
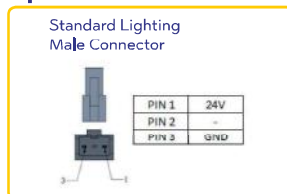


Technical Specification:

- 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	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	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	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	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	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	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	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	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	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	24V / 81.00W 24V / 108.00W 24V / 78.0W	3375mA 4500mA 3250mA	2800

Optional Connector



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




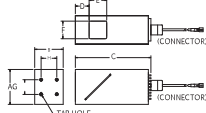
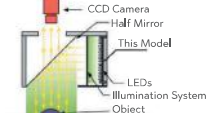
Product Part Numbering System:
BHLX3-00-160X160-X-X-24V-M12

2020/2021 Coaxial Illumination

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.

Outward Mounting



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

Inward Mounting



Bracket Part No. = CAS2-00-040-X-X-BRACKET

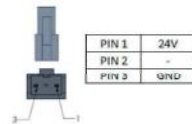
Model	Dimensions (MM)								TAP HOLE	Color	Voltage / Watt	Current	Weight (g)
	A	B	C	D	E	F	G	H					
CAS2-00-010-X-X	36.0	29.0	77.4	14.0	18.0	18.0	15.0	16.0	M3	● ● ●	24V/1.80W 24V/3.12W	75mA 130mA	120
CAS2-00-020-X-X	46.0	39.0	87.3	15.5	25.0	24.0	20.0	20.0	M4	● ● ●	24V/1.92W 24V/3.60W	80mA 150mA	200
CAS2-00-025-X-X	33.0	33.0	54.0	8.0	25.0	25.6	16.0	15.0	M3	● ● ●	24V/3.60W 24V/3.84W	150mA 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	175mA 350mA	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	525mA 560mA	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	450mA 456mA	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	450mA 781mA	1310

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-24V	66.0	60.0	107.5	14.0	48.0	48.0	25.0	25.0	M5	● ● ● ●	24V/2.16W	90mA	360
CAS2-00-070-X-RGBW-24V	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




PIN 1	24V
PIN 2	-
PIN 3	GND

M8 Male Connector



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

M12 Male Connector



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

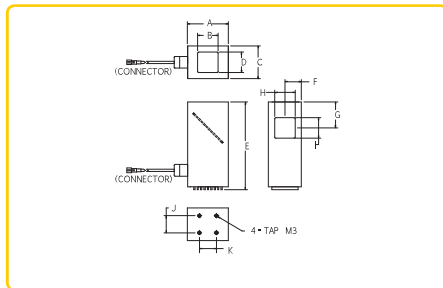
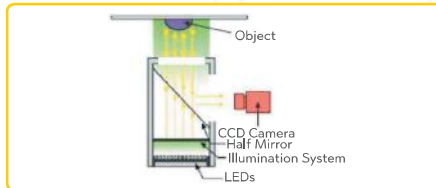
Product Part Numbering System:
CAS2-00-025-X-X-24V-M12

2020/2021

Coaxial Illumination



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.

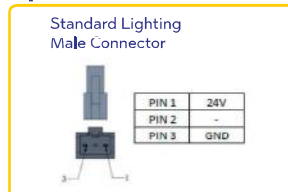


Technical Specification:

- 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)											ColorVoltage / 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		24V / 1.80W 24V / 3.12W	75mA 130mA	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	  	24V / 1.92W 24V / 3.60W	80mA 150mA	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	  	24V / 4.2W 24V / 8.40W	175mA 350mA	350

Optional Connector



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



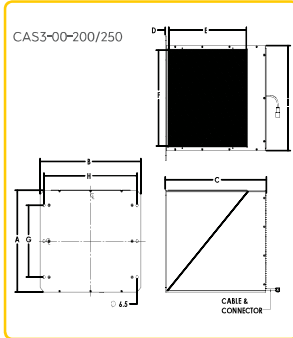
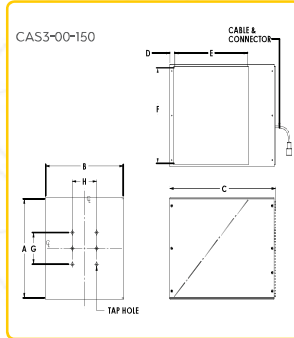
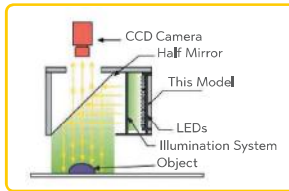
Product Part Numbering System:
CAS2-45-010-X-X-24V-M12

2020/2021
Coaxial Illumination






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. CAS3 is bigger in size compared to CAS2

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

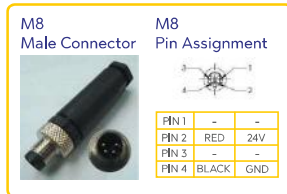
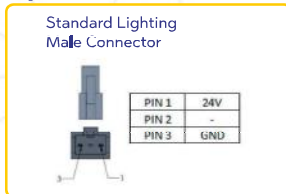


Technical Specification:
 - Color Red, Green, Blue and White
 - 24V DC Input Power
 - Continuous and Strobe Applications
 - Compact Size
 - Lighting Cable 500mm
 Customize Lighting:
 - Customize Sizes, Mounting Requirements
 - Color and Voltage Available
 - Consult Technical Sales for More Information
 LED Wavelength
 (OSRAM LED Light Technology)
 - Red Led is 620nm
 - Blue Led is 460nm
 - Green Led is 640nm

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



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

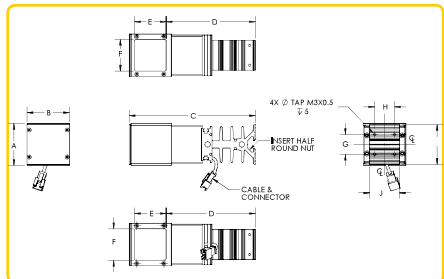
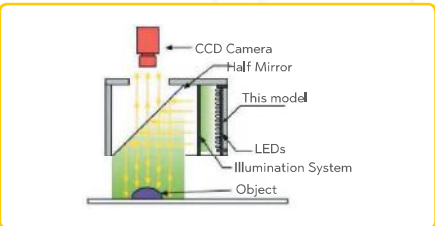


Product Part Numbering System:
CAS3-00-150-X-X=24V-M12

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 460nm
 - Green Led is 540nm

Model	Dimensions (MM)											Color	Voltage / Watt	Current	Weight (g)
	A	B	C	D	E	F	G	H	I	J					
HCAS2-00-035-X-X	46.6	47	140	99	35	35	22	22	44	33	<div><div></div><div></div><div></div></div>	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	<div><div></div><div></div><div></div></div>	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

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

M12 Male Connector

M12 Pin Assignment

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

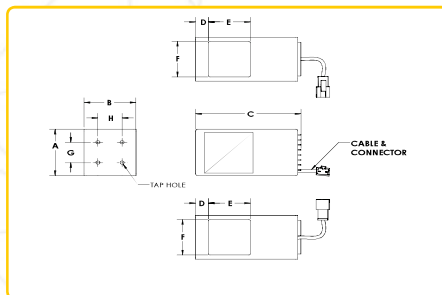
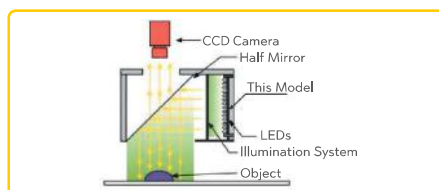
Product Part Numbering System:
HCAS2-00-035-X-X M12

2020/2021
Coaxial Illumination

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

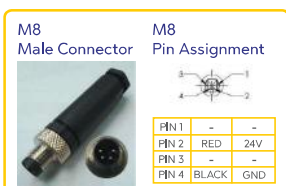
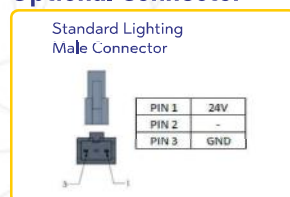


Technical Specification:

- 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



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



Product Part Numbering System:
CASC-00-015-X-X 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



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



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



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



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

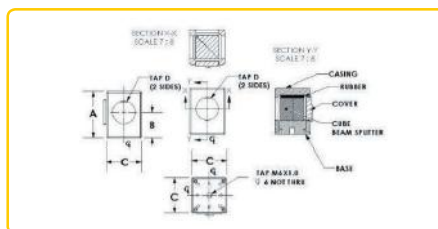
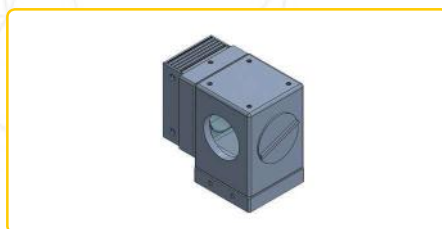


2020/2021
Modular Illumination

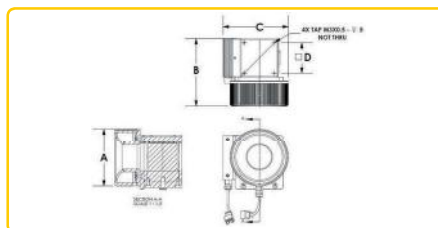
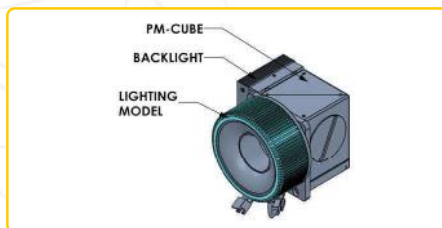


PM SERIES – Modular Illumination (Suitable for Small Field of View)

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



Model	Dimensions (MM)				Colour	Weight (g)
	A	B	C	D		
PM-025-CUBE	50	27.5	38	25	○	187
PM-040-CUBE	65	34.5	53	40	● ● ● ○	451



Model	Dimensions (MM)				Color	Voltage / Watt	Current	Weight (g)
	A	B	C	D				
PM-HPD2-00-050-1-X-24V	64	78	70.7	27	● ● ● ○	24V / 2.88W	120mA	445
PM-IDD-00-045-4-X-24V	63	69.5	66.5	27	● ● ● ○	24V / 2.88W	120mA	425
PM-LBMQ-00-040-3-X-24V	82	59.7	81.5	27	● ● ● ○	24V / 3.84W	160mA	465
PM-LSQ-15.30.45-051-3-X-24V	61.3	62	68.4	27	● ● ● ○	24V / 0.72W	30mA	376
	61.3	62	68.4	27	● ● ● ○	24V / 1.44W	60mA	376
	61.3	62	68.4	27	● ● ● ○	24V / 0.72W	30mA	376
	61.3	62	68.4	27	● ● ● ○	24V / 1.44W	60mA	376
	61.3	62	68.4	27	● ● ● ○	24V / 1.08W	45mA	376
PM-LSQF-15.30.45-051-3-X-24V	61.5	62	65	27	● ● ● ○	24V / 1.44W	60mA	376
	61.5	62	65	27	● ● ● ○	24V / 2.88W	120mA	376
	61.5	62	65	27	● ● ● ○	24V / 1.44W	60mA	376
	61.5	62	65	27	● ● ● ○	24V / 2.88W	120mA	376
	61.5	62	65	27	● ● ● ○	24V / 1.44W	60mA	376

Model	Dimensions (MM)				Color	Voltage / Watt	Current	Weight (g)
	A	B	C	D				
PM-HPD2-00-080-X-X-24V	83.5	93	90.5	42	● ● ● ○	24V / 4.32W	180mA	765
PM-IDD-00-080-X-X-24V	83.5	96	90.5	42	● ● ● ○	24V / 3.84W	160mA	805
PM-IDDQ-00-070-X-X-24V	81.1	90	88.1	42	● ● ● ○	24V / 4.32W	180mA	866
PM-HLBQ-00-065-X-X-24V	130	92.3	130	42	● ● ● ○	24V / 14.4W	600mA	906
PM-DLC-00-070-1-X-24V	78	81	85	42	● ● ● ○	24V / 2.16W	90mA	874

RGBW

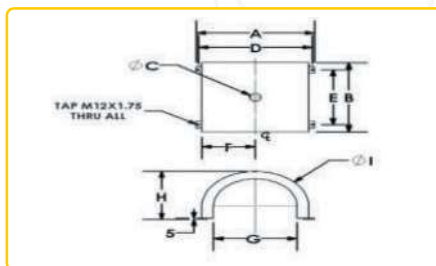
RGBW

2020/2021
Modular Illumination

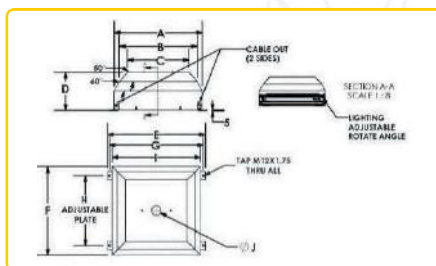
NEW

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

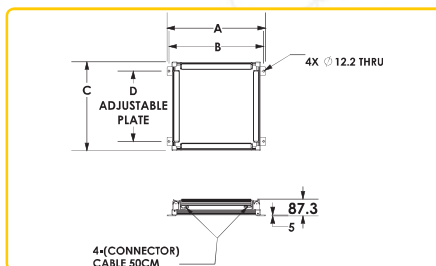
MD Series is a set of lighting that can be independently used or combined together for multi types of complex application. It's combines the advantages of standard lighting and customization lighting.



Model	Dimensions (MM)			Color	Voltage / Watt	Current	Weight (g)
	A	B	C				
MD-IDT3-00-360-I-X	512.2	462	50	• • • ○	24V / 13.44W 24V / 19.2W	560mA 800mA	4900



Model	Dimensions (MM)			Color	Voltage / Watt	Current	Weight (g)
	A	B	C				
MD-IDQ3-360-X-X	461	406.7	322.1	• • • ○	24V / 26.88W 24V / 38.4W	1120mA 1600mA	4800



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	• • • ○	24V/26.88W 24V/38.4W	1120mA 1600mA	3000

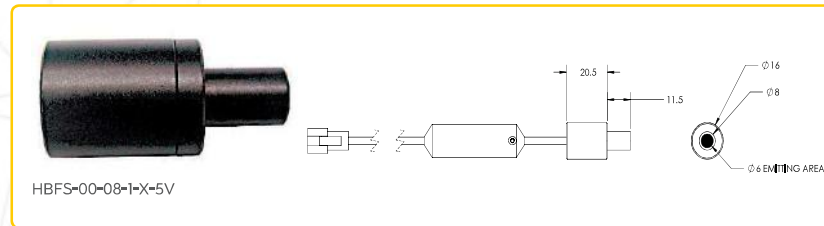
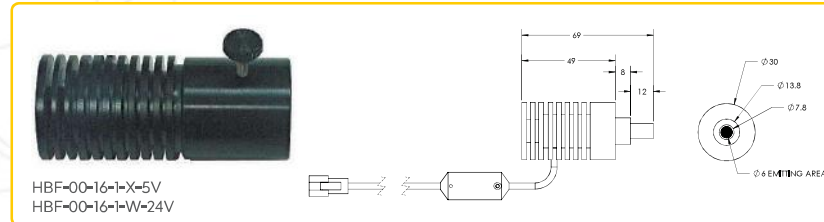
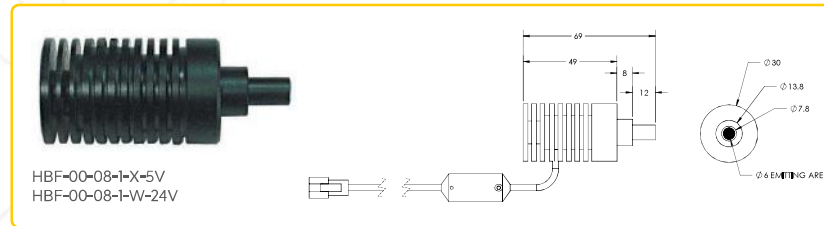
2020/2021
Spot Light Illumination

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

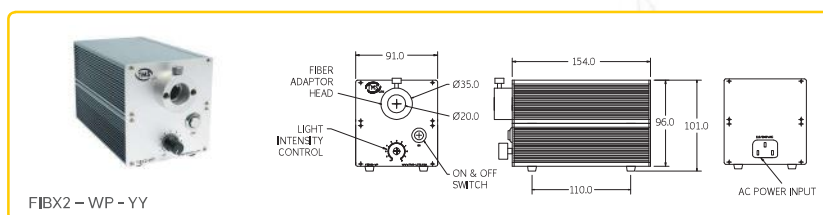


Model	Color	Power Consumption	Current	Weight (g)
HBF-00-08-1-X	● ● ●	5V / 3.0W	600mA	100
HBF-00-08-1-W	○	24V / 2.4W	100mA	100
HBF-00-16-1-X	● ● ●	5V / 3.0W	600mA	120
HBF-00-16-1-W	○	24V / 2.4W	100mA	120
HBFS-00-08-1-X	● ● ●	5V / 0.55W	110mA	45

2020/2021
Spot Light Illumination

FIBX2 SERIES – LED Fibre Light Module

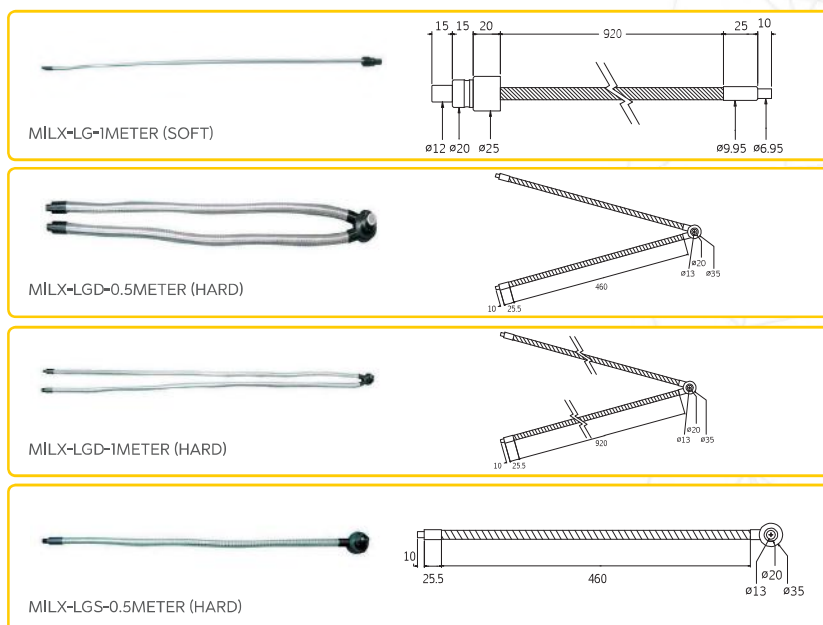
FIBX2 series is an integration of the HBF series illumination and a controller. This integrated form provides easy installation and is suitable for fibre optic illumination.



Model	Power Consumption	Input Voltage	Color	Weight (g)
FIBX2 – WP – YY	7WATT	110 ~ 240VAC	o	1100
Remarks: -YY stands for power cord		POWER CORD: - 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

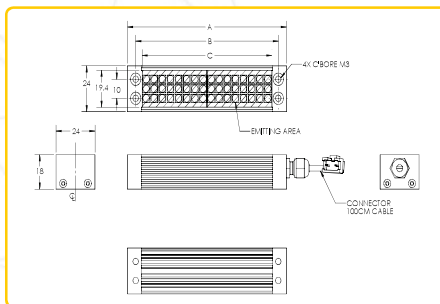
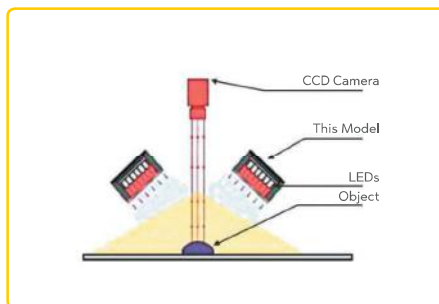
2020/2021

Ingress Protection Illumination (IP65)

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

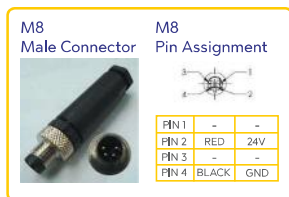
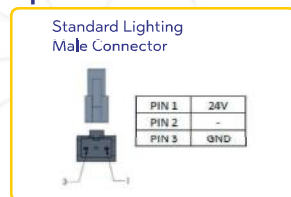


Technical Specification:

- 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



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



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

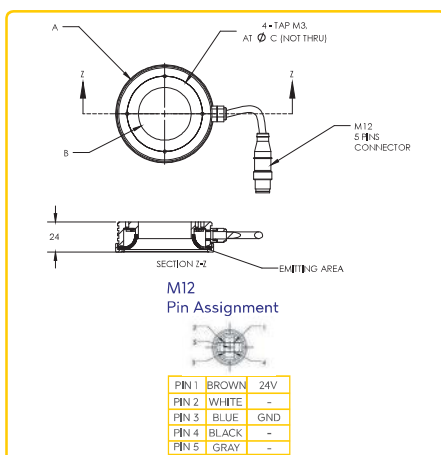
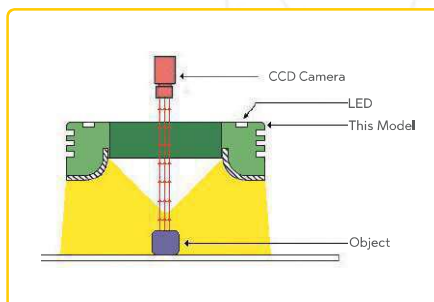
2020/2021

Ingress Protection Illumination (IP65)

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

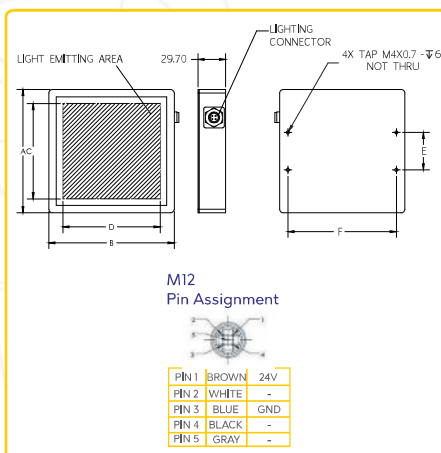
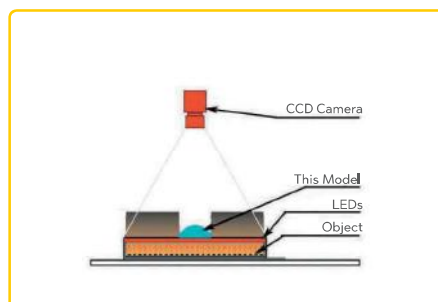
2020/2021

Ingress Protection Illumination (IP65)

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

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 / 20.16W	770mA 840mA	1000
BHP1520-X-X	180.0	230.0	150.0	200.0	75.0	213.0	● ● ○	24V / 23.04W 24V / 20.16W	960mA 840mA	1200

2020/2021

Line Scan Illumination


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).

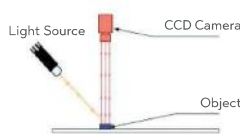
Application: Web and Print Applications, Packaging Inspection, Flat-panel Display Inspection, Electronics Components Inspection

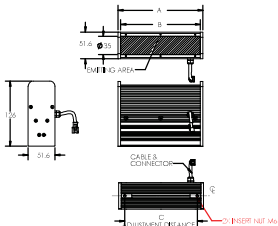


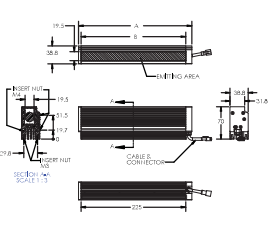
LSN6 SERIES



LSNY SERIES







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				
LSN6-00-075-I-X	89	79	65	● ● ● ●	24V / 11.76W	490mA	560
LSN6-00-150-I-X	164	154	140	● ● ● ●	24V / 23.52W	480mA	977
LSN6-00-225-I-X	239	229	215	● ● ● ●	24V / 35.28W	1470mA	1362
LSN6-00-300-I-X	314	304	290	● ● ● ●	24V / 47.04W	1960mA	1754

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


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:
LSN6-00-075-I-X-24V M8

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

2020/2021
12V Illumination

12V ILLUMINATION & 12V EXTENSION CABLE



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

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

2020/2021

IR Illumination

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.

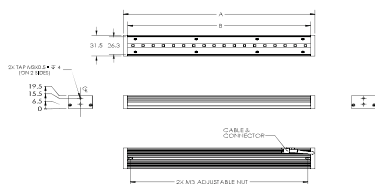
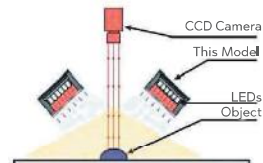


Model	Color	Voltage / Watt	Current	Dimension Refer To Page	Model	Color	Voltage / Watt	Current	Dimension Refer To Page
LLA-60-090-2-X	IR850	24V / 2.88W	120mA	11	LBRX-00-040-6-X	IR850	24V / 1.72W	72mA	18
LLA-60-090-2-X	IR940	24V / 2.88W	120mA	11	LBRX-00-080-6-X	IR850	24V / 3.46W	144mA	18
LSW-15-070-3-X	IR850	24V / 2.88W	120mA	8	LBRX-00-120-6-X	IR850	24V / 5.18W	216mA	18
LSW-15-070-3-X	IR940	24V / 2.88W	120mA	8	LBRX-00-160-6-X	IR850	24V / 6.91W	288mA	18
LBRX-00-040-3-X	IR850	24V / 1.08W	45mA	14	LBRX-00-200-6-X	IR850	24V / 8.64W	360mA	18
LBRX-00-080-3-X	IR850	24V / 2.16W	90mA	14					
LBRX-00-120-3-X	IR850	24V / 3.24W	135mA	14	LBRQ-00-040-6-X	IR850	24V / 6.91W	288mA	20
LBRX-00-160-3-X	IR850	24V / 4.32W	180mA	14	LBRQ-00-080-6-X	IR850	24V / 13.82W	576mA	20
LBRX-00-200-3-X	IR850	24V / 5.40W	255mA	14	LBRQ-00-120-6-X	IR850	24V / 20.74W	864mA	20
					LBRQ-00-160-6-X	IR850	24V / 27.65W	1152mA	20
LBRQ-00-040-3-X	IR850	24V / 4.32W	180mA	16	LBRQ-00-200-6-X	IR850	24V / 34.56W	1440mA	20
LBRQ-00-080-3-X	IR850	24V / 8.64W	360mA	16					
LBRQ-00-120-3-X	IR850	24V / 12.96W	540mA	16	IDS5-00-050-1-X	IR850	24V / 5.76W	240mA	41
LBRQ-00-160-3-X	IR850	24V / 17.28W	720mA	16	IDS5-00-070-1-X	IR850	24V / 8.64W	360mA	41
LBRQ-00-200-3-X	IR850	24V / 21.60W	900mA	16	IDS5-00-100-1-X	IR850	24V / 11.52W	480mA	41
					IDS5-00-150-1-X	IR850	24V / 20.16W	840mA	41
CAS2-00-025-X-X	IR850	24V / 3.84W	160mA	51	IDS5-00-200-1-X	IR850	24V / 25.92W	1080mA	41
CAS2-00-040-X-X	IR850	24V / 8.40W	350mA	51	IDS5-00-250-1-X	IR850	24V / 34.56W	1440mA	41
BHS4-00-025-X-X	IR850	24V / 3.12W	130mA	47	BHLX3-00-160X160-X-X	IR850	24V / 12.48W	520mA	50
BHS4-00-050-X-X	IR850	24V / 2.304W	96mA	47	BHLX3-00-160X240-X-X	IR850	24V / 18.72W	780mA	50
BHS4-00-075-X-X	IR850	24V / 5.184W	216mA	47	BHLX3-00-160X320-X-X	IR850	24V / 24.96W	1040mA	50
BHS4-00-100-X-X	IR850	24V / 9.216W	384mA	47	BHLX3-00-160X400-X-X	IR850	24V / 31.2W	1300mA	50
					BHLX3-00-240X240-X-X	IR850	24V / 28.08W	1170mA	50
BHS4-00-030-X-X	IR850	24V / 3.12W	130mA	47	BHLX3-00-240X320-X-X	IR850	24V / 37.44W	1560mA	50
BHS4-00-060-X-X	IR850	24V / 2.30W	96mA	47	BHLX3-00-240X400-X-X	IR850	24V / 46.8W	1950mA	50
BHS4-00-090-X-X	IR850	24V / 5.184W	216mA	47	BHLX3-00-320X320-X-X	IR850	24V / 49.92W	2080mA	50
BHS4-00-120-X-X	IR850	24V / 9.216W	384mA	47	BHLX3-00-320X400-X-X	IR850	24V / 62.4W	2600mA	50
					BHLX3-00-400X400-X-X	IR850	24V / 78W	3250mA	50

2020/2021
UV Illumination

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:
- UV360- 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) A B	Color	Voltage / Watt	Current	Weight (g)
LBRX-00-080-1-X	92 80	UV365	24V / 2.4W	100mA	95
LBRX-00-160-1-X	172 160	UV365	24V / 4.8W	200mA	155
LBRX-00-240-1-X	252 240	UV365	24V / 7.2W	300mA	230



Model	Color	Voltage / Watt	Current	Weight (g)	Dimension Refer To Page
LSW-15-070-2-X	UV375	24V / 4.32W	180mA	103	8
LSW-15-090-3-X	UV375	24V / 7.20W	300mA	160	8
LSW-30-040-1-X	UV375	24V / 1.08W	45mA	45	8
LLA-60-090-2-X	UV375	24V / 7.68W	320mA	109	12
LLA-60-150-2-X	UV375	24V / 11.52W	480mA	272	12
LLA-75-170-2-X	UV375	24V / 8.40W	350mA	342	12
CAS2-00-025-X-X	UV375	24V / 0.72W	30mA	83	51
CAS2-00-040-X-X	UV375	24V / 1.44W	60mA	324	51

2020/2021

Microscope Illumination

MILX SERIES - Microscope Illumination

Applications: LED Illumination on Stereo Microscope System



MILX-30-070-WP (PURE WHITE)



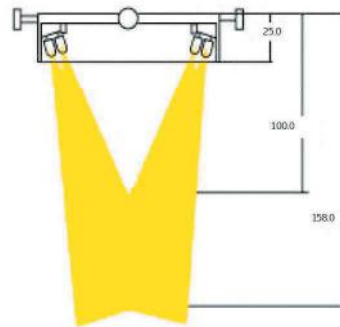
MILX-30-070-WD (WARM WHITE)



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
 - Aluminum with Powder Coat
- Intensity Control
- Weight (g)
 - 105

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

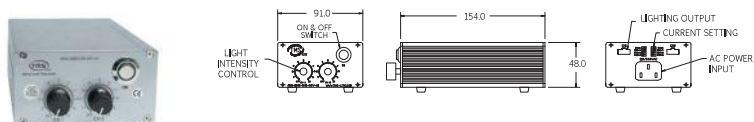
CONTROLLER SELECTION TABLE

Control	Control			
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)	Constant 2A Max Output Voltage 24V Panel Mount & Din Rail	Constant 1A Max Output Voltage 5V Panel Mount & Din Rail	Constant 3A Min Constant 5A Max Output Voltage 24V Panel Mount & Din Rail
No. Of Channel :				
1 Channel	ANG-1000-CH1-XX-A1	SD-1000-D1	SDH-1000-D1	SDX-CH1-1A
2 Channel	ANG-2000-CH2-XX-A1			
4 Channel	ANG-4000-CH4-XX-A1			
Remark: Please refer page 74 for ANG Controller, page 75 for SD & SDH Controller, page 76 for SDX Controller				
Control	Analogue			
Mode Operation	Constant & Strobe Mode			
Power Input	DC Input (24V)		DC Input (24V)	
External Control	NIL		NIL	
Specification	Constant 2A Max Trigger Input Panel Mount & Dindrail Output Voltage 24V		Constant 1A Max Trigger Input Panel Mount & Dindrail Output Voltage 5V	
No. Of Channel :				
1 Channel	ST-1000-D1		STH-1000-D1	
2 Channel				
4 Channel				
Remark: Please refer page 77 for ST & STH Controller				
Control	Digital			
Mode Operation	Constant & Strobe Mode		Constant, Strobe & Trigger Mode	
Power Input	DC Input (24V)		DC input 24V	
External Control	TCPIP		RS232/ TCPIP/ USB	
Specification	Constant 2A Max, Pulse 6A Max (Overdrive), Panel Mount & Din Rail (Option.) Output Voltage 24V, Current Sense, Temperature Sense, High Speed Pulse ,Width from 1uS (10ms-Step 1us)		Constant 1A Max per Chanel Strobe Mode (Overdrive) Panel Mount * Dindrail (Optional) High Speed Pulse Width from 1 us	
No. Of Channel :				
1 Channel	SDA-CHI-X2			
2 Channel				
16 Channel			LC-18	
Remark: Please refer page 78 for SDA Controller, page 79 for LC-18 Series Controller				
Control	Button			
Mode Operation	Constant & Strobe Mode			
Power Input	DC Input (24V)			
External Control	NIL			
Specification	Constant 1.5A Max, 4A Max (Strobe) Panel Mount & Din Rail		Current Sense High Speed Pulse Width from 1us	
No. Of Channel :				
1 Channel	SDP – CH1 – A1 – TB / SDP – CH1 – A1 – PS			
2 Channel				
4 Channel				

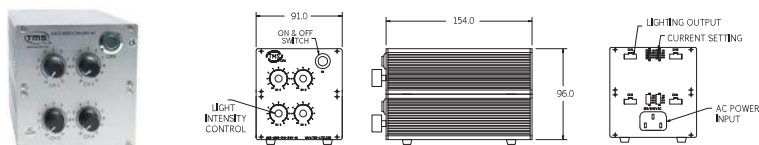
2020/2021
LED Light Source

ANG SERIES - Analog Power Supply

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



ANG-4000-CH4-XX-A1



CONTROL METHOD:

- VR ANALOG CONTROLLER
- INPUT VOLTAGE 110-240VAC

POWER CORD:

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

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

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

Control Method:

- VR Analog Controller
- Input Voltage 110 – 240VAC

Analog Controller

- VR adjustable Knob is used to control the Lighting Intensity

Light Output Current Selection (DIP Switch)

- To set current limit and prolong the lifespan of the lights.

2020/2021
LED Light Source

SD & SDH SERIES



MODEL NO: SD-1000-D1
DIMENSIONS: 90 X 24 X 75MM



MODEL NO: SDH-1000-D1
DIMENSIONS: 90 X 24 X 75MM

SPECIFICATIONS

-CONTROL METHOD

VR Analog Controller

-BOARD VOLTAGE/INPUT VOLTAGE

24VDC

-NUMBER OF CHANNEL

1 Channel

-OUTPUT VOLTAGE / CURRENT

24V / 2A

-INTENSITY

VR Control (Adjustable) 0-10

-MODE

Constant Mode

-WEIGHT (G)

140

SPECIFICATIONS

-CONTROL METHOD

VR Analog Controller

-BOARD VOLTAGE/INPUT VOLTAGE

24VDC

-NUMBER OF CHANNEL

1 Channel

-OUTPUT VOLTAGE / CURRENT

5V / 1A

-INTENSITY

VR Control (Adjustable) 0-10

-MODE

Constant Mode

-WEIGHT (G)

140

FEATURES

-The SD & SDH series Controller provides:

Single Channel Light Control

- Single channel output for lighting (identical features for both models)

Analog Controller

- VR adjustable Knob is used to control the Lighting Intensity

Light Output Current Selection (DIP Switch)

- To set current limit and prolong the lifespan of the lights.

SDP & SDX SERIES CONTROLLER



MODEL NO: SDP – CH1 – A1 – TB |
SDP – CH1 – A1 – PS
DIMENSIONS: 137 X 51 X 71MM

SPECIFICATIONS

-CONTROL METHOD

137 X 52 X 51 MM

-BOARD VOLTAGE/INPUT VOLTAGE

24VDC

-MINIMUM INPUT CURRENT

Minimum current of 2A-6A (based on lighting output current X 2.5)

-NUMBER OF CHANNEL

1 Channel

-OUTPUT VOLTAGE / CURRENT

Max 24V / 1.5A (Constant)
Max 50V / 4A (Strobe)

-MODE

Constant & Strobe Mode

-WEIGHT (G)

360

FEATURES

CURRENT SENSE

-Able to sense lighting current during start up. (Minimum 30mA lighting current)

OVERDRIVE

-Overdrive lighting to max 3x (Strobe mode only)



MODEL NO: SDX-CH1-A1
DIMENSIONS: 137 X 51 X 83MM

SPECIFICATIONS

HIGH SPEED TRIGGER

-Min trigger pulse width is 1 microseconds suitable for high speed application

-CONTROL METHOD

VR Analog Controller

-BOARD VOLTAGE/INPUT VOLTAGE

24VDC

-NUMBER OF CHANNEL

1 Channel

-OUTPUT VOLTAGE / SELECTABLE CURRENT

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

-MODE

Constant Mode

-INTENSITY

VR Control (Adjustable) 0-10

-WEIGHT (G)

380

FEATURES

Support High Power Application

2020/2021
LED Light Source

ST & STH SERIES – Strobe Controller



MODEL NO: ST-1000-D1
DIMENSIONS: 90 X 41 X 75MM



MODEL NO: STH-1000-D1
DIMENSIONS: 90 X 41 X 75MM

SPECIFICATIONS

-CONTROL METHOD

VR Analog Controller

-BOARD VOLTAGE/INPUT VOLTAGE

24VDC

-NUMBER OF CHANNEL

1 Channel

-OUTPUT VOLTAGE / CURRENT

24V / 2A

-INTENSITY

VR Control (Adjustable) 0-10

-MODE

Constant Mode & Strobe Mode

-WEIGHT (G)

190

SPECIFICATIONS

-CONTROL METHOD

VR Analog Controller

-BOARD VOLTAGE/INPUT VOLTAGE

24VDC

-NUMBER OF CHANNEL

1 Channel

-OUTPUT VOLTAGE / CURRENT

5V / 1A

-INTENSITY

VR Control (Adjustable) 0-10

-MODE

Constant Mode
Strobe Mode

-WEIGHT (G)

190

FEATURES

-The ST & STH series Controller provides:

Single Channel Light Control

-Single channel output for lighting (identical features for both models)

Analog Controller

-VR adjustable Knob is used to control the Lighting Intensity

Light Output Current Selection (DIP Switch)

-To set current limit and prolong the lifespan of the lights.

SDA SERIES



MODEL NO: SDA-CH1-X2
DIMENSIONS: 161 X 73 X 69MM



MODEL NO: SDA-M (MASTER)
DIMENSIONS: 161 X 30 X 69MM



MODEL NO: SDA-CH1-A2
DIMENSIONS: 161 X 43 X 69MM

SPECIFICATIONS

-SDA-CH1-X2

SDA-M (Master)
SDA-CH1-A2 (Channel Controller)

-SDA-M

Controls the rest of the controllers as the master

-SDA-CH1-A2

Optional can be purchased separately
(For user already have SDA-M)

-INTERFACE

TCPIP

-BOARD VOLTAGE

24VDC

-MINIMUM INPUT CURRENT

Minimum current of 2A-6A (based on
lighting output current X 2.5)

-EXTERNAL INPUT SIGNAL & CAMERA OUTPUT SIGNAL

3.3V – 24V Rising Edge / Falling Edge
Trigger

-OUTPUT POWER FOR LIGHTING

Max 24V / 2A (Constant mode)
Max 50V / 6A (Strobe Mode)

-INTENSITY

0 - 100% (Constant Mode)

-OVERDRIVE

VOLTAGE BOOST UP TO 50V
CURRENT BOOST UP TO 6A

-MINIMUM STROBE DURATION

1 microseconds

-CASCADE OPERATION

Able to cascade up to 32 controllers

-PROTECTION

Current Sense
Temperature Sense

-WEIGHT (G)

520

MODES:

- Constant Mode
- Pulse Mode

FEATURES:

Current Sense – Able to sense lighting current during start up (Minimum lighting current 30mA)



MODEL NO: LC-18-16CH-A1
DIMENSIONS: 120MM X 102MM X 92MM

SPECIFICATIONS

-NUMBER OF CHANNEL

16 channels per unit
May be customized up to 64 (in multiple of 4)

-INTERFACE

RS232/TCPIP

-BOARD INPUT VOLTAGE

12-24VDC

CONTROLLER LIGHTING INPUT LIGHTING

5V/12V/24V

Individual power input for each channel

- OUTPUT POWER FOR LIGHTING

1A PER CHANNEL

-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**

< 20US

-MINIMUM STROBE DURATION

1 microseconds

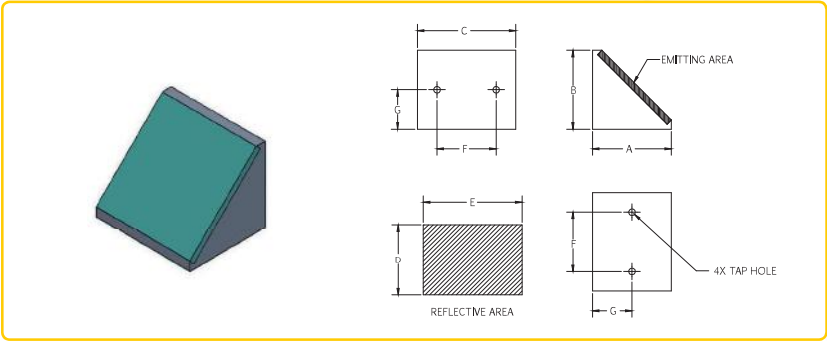
- OUTPUT MODE

- Constant
- Strobe
- Trigger

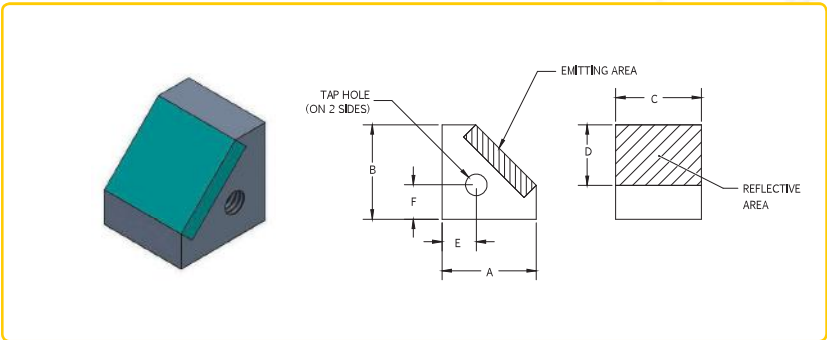
FEATURES:

- Small and compact size
- Overdrive – Support overdrive strobing application by supplying higher input voltage for lighting. Increasing the lighting brightness to higher than 100% for a short pulse duration while at the same time not damaging the LED lighting.
- Individual power input for each channel – providing flexibility in application requiring multiple lightings with different voltage ratings

PRISM BLOCK SERIES - First Surface Mirror Prism Block



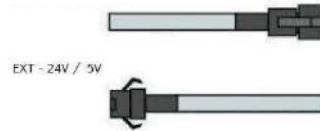
Model	Dimensions (MM)							TAP HOLE	Weight (g)
	A	B	C	D	E	F	G		
PM 14X20	18	18	20	14.1	20	10	9	M3	10
PM 35X50	40	40	50	35.4	50	30	20	M4	50
PM 53X50	58	58	50	53	50	30	29	M4	290



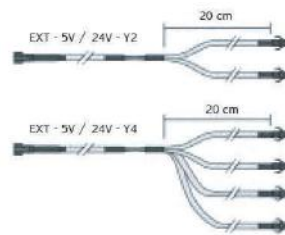
Model	Dimensions (MM)						TAP HOLE	Weight (g)
	A	B	C	D	E	F		
PM 7X10	11.0	11.0	10.0	7.1	4.0	4.0	M3	5

2020/2021

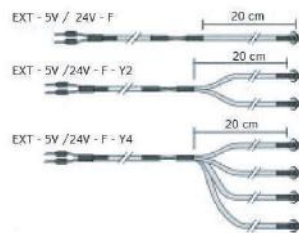
EXTENSION WIRE



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	3M/5M	- 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	3M/5M	- 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



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