Chipsmall

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

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OMRON

Vision Accessory Catalog

realizing
つくることの、すべてに。

Best Solutions for Quality Inspection and Control

With a complete line-up of Lights and Lenses, advanced Vision Sensors, and 30 years of vision solutions knowhow, OMRON provides solutions to maintain your quality, increase the precision of your machines, and reduce your implementation costs.

LED Lights Constant voltage type FL Series

OMRON's unique Camera-mount Lighting Controller helps reduce your implementation costs by reducing wiring work, saving space in the control panel, and easily setting luminance control without programming.
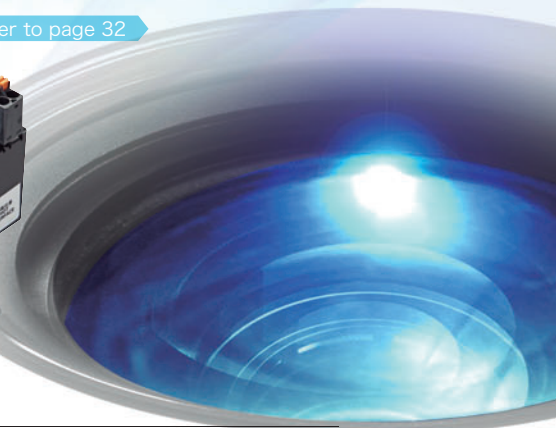
LED Lights Constant current type FL Series

Lenses

■Options

Standard Models
FLV Series

High-brightness Models
FL Series

LED Characteristics

Lenses

Bar Light
FLV-BR Series

**Many color and size variations are available
to uniformly illuminate wide surfaces.**
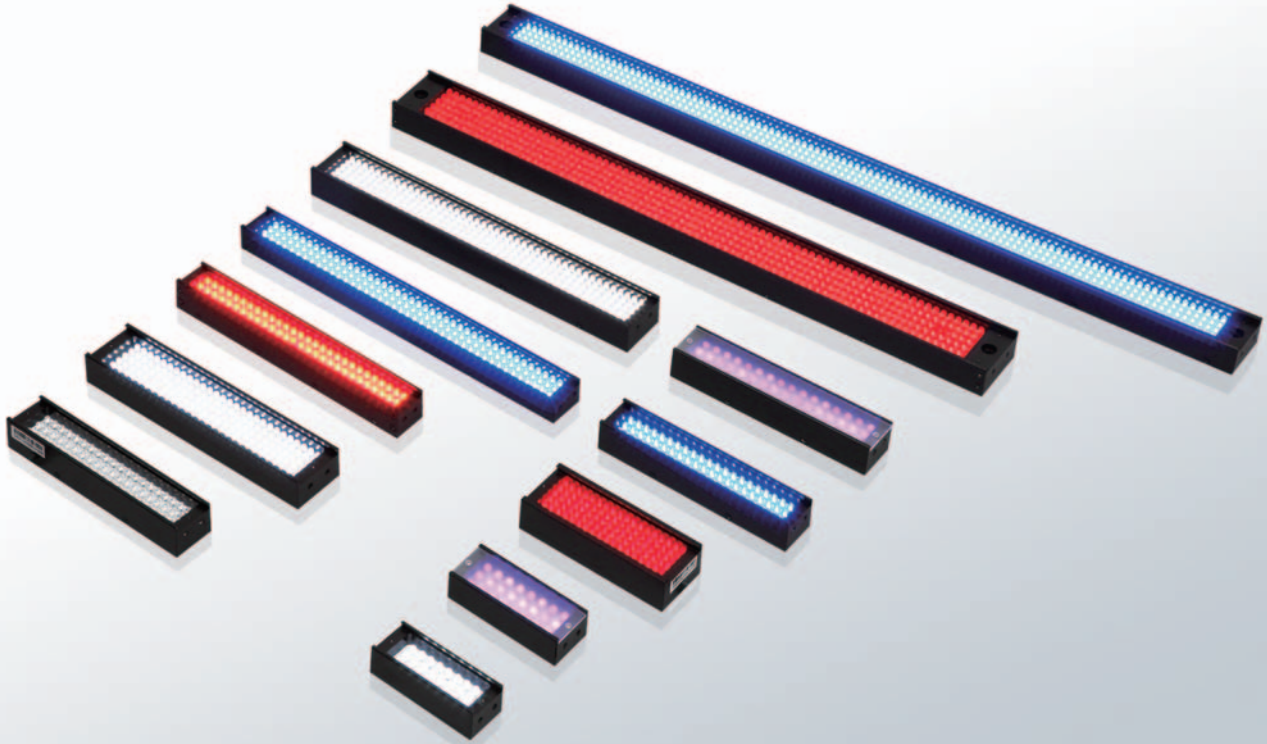
Product Features

- Ideal for illumination of wide, rectangular surfaces.
- Many color and size variations.

Cross-sectional Diagram

Thermal conductor
PCB
LED
Aluminum alloy case

* This figure is a conceptual illustration and may vary from the actual structure.

Diffusion Plate (optional)

Illustration of Illumination
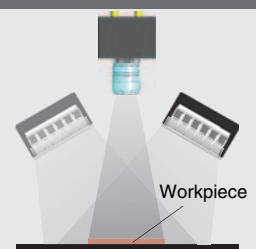
Workpiece

Applications

Detection of metal surfaces

Detection of cracks on surfaces

Detection of LCD panels

Positioning of LED Packages

Detection of Faulty LGA Electrodes
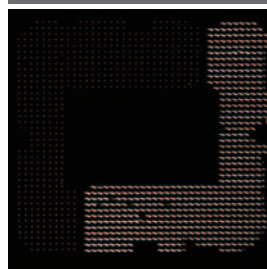
Detection of Printed Logo Marks and Characters on Long Workpieces

Ordering Information

Model	Color	Power consumption (W)	Dimensions				Controller *		Weight (g)	Options	
			Lighting Area Dimension (mm)	Outside Dimension (mm)	Height (mm)	Drawing	FLV-TCC□	FLV-ATC□		Diffusion Plate	Polarization Plate
FLV-BR6022W	WHITE	1.4	48×18	60×22	17	A	○	○	60	○	○
FLV-BR6022R	RED	1.3					○	○			
FLV-BR6022B	BLUE	1.4					○	○			
FLV-BR6022IR	IR	0.9					○	○			
FLV-BR6424UV	UV	1.8	53×20	64×24	17	J	○	○	70	○	✕
FLV-BR8532W	WHITE	3.5	73×25	85×32	20	B	○	○	130	○	○
FLV-BR8532R	RED	3.1					○	○			
FLV-BR8532B	BLUE	3.5					○	○			
FLV-BR11222W	WHITE	4.2	100×18	112×22	19	C	○	○	100	○	○
FLV-BR11222R	RED	2.6					○	○			
FLV-BR11222B	BLUE	4.2					○	○			
FLV-BR11222IR	IR	1.8					○	○			
FLV-BR11624UV	UV	3.6	105×20	116×24	19	K	○	○	120	○	−
FLV-BR14030W	WHITE	6.1	126×25	140×30	19	D	○	○	140	○	○
FLV-BR14030R	RED	4.8					○	○			
FLV-BR14030B	BLUE	6.1					○	○			
FLV-BR15020W	WHITE	5.5	138×16	150×20	19	E	○	○	120	○	○
FLV-BR15020R	RED	3.1					○	○			
FLV-BR15020B	BLUE	5.5					○	○			
FLV-BR21222W	WHITE	8.7	199×18	212×22	16	F	○	○	140	○	○
FLV-BR21222R	RED	5.0					○	○			
FLV-BR21222B	BLUE	8.7					○	○			
FLV-BR21230W	WHITE	8.8	200×25	212×30	19	G	○	○	220	○	○
FLV-BR21230R	RED	7.0					○	○			
FLV-BR21230B	BLUE	8.8					○	○			
FLV-BR21230IR	IR	6.1					○	○			
FLV-BR21230UV	UV	7.8	200×25	212×30	19	L	○	○	230	○	✕
FLV-BR38037W	WHITE	15.9	350×33.2	380×37.2	19	H	✕	○	430	○	○
FLV-BR38037R	RED	11.3					○	○			
FLV-BR38037B	BLUE	15.9					✕	○			
FLV-BR48031W	WHITE	21.9	450×25	480×31	18	I	✕	○	460	○	○
FLV-BR48031R	RED	18.0					✕	○			
FLV-BR48031B	BLUE	21.9					✕	○			

* For the connectable Lighting Controller models and conditions, refer to the Specifications pages of each Lighting Controller.
 FLV-TCC□: page 32
 FLV-ATC□: page 38
Note: Refer to page 66 for LED Characteristics.
 ○: Applicable ✕: Not applicable

Bar Light FLV-BR Series

Dimensions

A FLV-BR6022□

(AN OPTIONAL EXTRA MOUNTING SCREW HOLES)
2-M1.4

(MOUNTING SCREW HOLES)
2-M3 Insert Limit 2.5

EMITTING SURFACE

LENGTH0.8M

54
48
18
22
60
17
10±0.2
8±0.2
10±0.2
54±0.2
8±0.2

(MOUNTING SCREW HOLES)
2-M3 DEPTH2.5

(MOUNTING SCREW HOLES)
2-3.5Dia. DEPTH 3
2-M3 Insert Limit 5

Tightening torque: 0.54N · m

B FLV-BR8532□

EMITTING SURFACE

LENGTH0.8M

(AN OPTIONAL EXTRA MOUNTING SCREW HOLES)
2-M1.4

80
73
25
32
85
20
50±0.2

(MOUNTING SCREW HOLES)
2-M3 Insert Limit 3

Tightening torque: 0.54N · m

C FLV-BR11222□

(AN OPTIONAL EXTRA MOUNTING SCREW HOLES)
2-M1.4

EMITTING SURFACE

(MOUNTING SCREW HOLES)
2-M3 Insert Limit 4

LENGTH0.8M

(MOUNTING SCREW HOLES)
2-M3 DEPTH3

106
100
18
22
112
19
11±0.2
10±0.2
11±0.2
106 ±0.2
10±0.2

(MOUNTING SCREW HOLES)
2-3.5Dia. DEPTH4
2-M3 Insert Limit 7

Tightening torque: 0.54N · m

D FLV-BR14030□

(AN OPTIONAL EXTRA MOUNTING SCREW HOLES)
2-M1.4

EMITTING SURFACE

(MOUNTING SCREW HOLES)
2-M3 Insert Limit 3

LENGTH0.8M

133
126
25
30
140
19
9.5±0.2
12±0.2
12 ±0.2
9.5±0.2

(MOUNTING SCREW HOLES)
2-M3 Insert Limit 3

Tightening torque: 0.54N · m

E FLV-BR15020□

EMITTING SURFACE

(MOUNTING SCREW HOLES)
2-M3 Insert Limit 3

LENGTH0.8M

(AN OPTIONAL EXTRA MOUNTING SCREW HOLES)
2-M1.4

144
138
16
20
150
19
8±0.2
9.5±0.2
8±0.2
9.5±0.2

(MOUNTING SCREW HOLES)
2-M3 DEPTH3

Tightening torque: 0.54N · m

F FLV-BR21222□

(AN OPTIONAL EXTRA MOUNTING SCREW HOLES)
2-M1.4

(MOUNTING SCREW HOLES)
2-M3 Insert Limit 3

LENGTH0.8M

EMITTING SURFACE

206
199
18
22
212
16
12 ±0.2
8.5 ±0.2
8.5±0.2
12 ±0.2

(MOUNTING SCREW HOLES)
2-M3 DEPTH3

Tightening torque: 0.54N · m

G FLV-BR21230□

EMITTING SURFACE

(MOUNTING SCREW HOLES)
2-M3 Insert Limit 3

LENGTH0.8M

206
200
25
30
212
19
12 ±0.2
11.5 ±0.2
12 ±0.2
11.5 ±0.2

(MOUNTING SCREW HOLES)
2-M3 Insert Limit 3

Tightening torque: 0.54N · m

H FLV-BR38037□

(MOUNTING HOLES)
2-4.3Dia. PENETRATION
2-8Dia. DEPTH4

(AN OPTIONAL EXTRA MOUNTING SCREW HOLES)
4-M1.4

EMITTING SURFACE

(MOUNTING HOLES)
2-M3 Insert Limit 4

LENGTH0.8M

365
350
24
33.2
37.2
380
19
10±0.2
16 ±0.2
10 ±0.2
16 ±0.2

(MOUNTING SCREW HOLES)
2-M3 Insert Limit 4

Tightening torque: 0.54N · m

I FLV-BR48031□

(MOUNTING HOLES)
2-4.5Dia. PENETRATION
2-8Dia. DEPTH4

(MOUNTING SCREW HOLES)
2-M3 Insert Limit 4

LENGTH0.8M

EMITTING SURFACE

(AN OPTIONAL EXTRA MOUNTING SCREW HOLES)
4-M1.4

465
450
20
25
31
480
18
9 ±0.2
16 ±0.2
16 ±0.2
9 ±0.2

(MOUNTING SCREW HOLES)
2-M3 Insert Limit 4

Tightening torque: 0.54N · m

J FLV-BR6424UV

EMITTING SURFACE

LENGTH0.8M

Diffusion Plate

(MOUNTING SCREW HOLES)
2-M3 Insert Limit 2.5

53
20
24
64
17
8±0.2
10 ±0.2
10 ±0.2
8±0.2
59 ±0.2

(MOUNTING SCREW HOLES)
2-3.5Dia. DEPTH2
2-M3 Insert Limit 5 (2+3)

(MOUNTING SCREW HOLES)
2-M3 Insert Limit 2.5

Tightening torque: 0.54N · m

K FLV-BR11624UV

EMITTING SURFACE

LENGTH0.8M

Diffusion Plate

(MOUNTING SCREW HOLES)
2-M3 Insert Limit 2.5

105
20
24
116
19
11±0.2
10 ±0.2
11±0.2
10 ±0.2
111 ±0.2

(MOUNTING SCREW HOLES)
2-M3 Insert Limit 2.5

(MOUNTING SCREW HOLES)
2-3.5dia. DEPTH4
2-M3 Insert Limit 7 (4+3)

Tightening torque: 0.54N · m

L FLV-BR21230UV

EMITTING SURFACE

(MOUNTING SCREW HOLES)
2-M3 Insert Limit 3

LENGTH0.8M

200
25
30
212
19
11.5 ±0.2
12 ±0.2
12 ±0.2
11.5 ±0.2

(MOUNTING SCREW HOLES)
2-M3 Insert Limit 3

Tightening torque: 0.54N · m

OMRON

Direct Ring Light
FLV-DR Series

Standard Models
FLV Series

High-brightness Models
FL Series

LED Characteristics

Lenses

Many shape and size variations are available to detect appearance of various workpieces.

Product Features

- Bright illumination with high-density LED arrays.
- Compact designs that save installation space.
- Optional Diffusion Plates for uniform illumination.

Cross-sectional Diagram

Aluminum alloy case
Thermal conductor
PCB
LED
Diffusion Plate (optional)

Illustration of Illumination

Workpiece
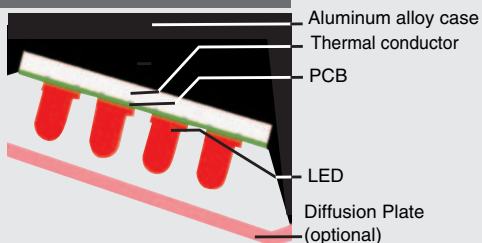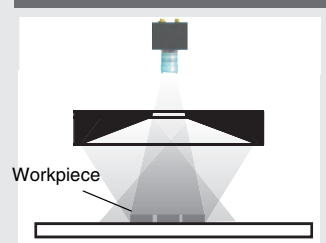
* This figure is a conceptual illustration and may vary from the actual structure.

Applications

Detection of parts on PCBs

Detection of parts and printing on automotive components

Inspection of defects on mouth tops of PET bottles

Standard character recognition and code reading

Detection of parts on PCBs
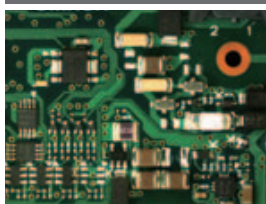
Detection of printing

0187RAE
D2F-L-D

OMRON

Direct Ring Light FLV-DR Series

Ordering Information

Model	Color	Power consumption (W)	Dimensions				Controller *		Weight (g)	Options	
			External Ring Diameter (mm)	Internal Ring Diameter (mm)	Lighting Angle (Deg)	Drawing	FLV-TCC☐	FLV-ATC☐		Diffusion Plate	Polarization Plate
FLV-DR3220W	WHITE	1.4	32 dia.	10 dia.	20 deg.	A	◯	◯	60	◯	◯
FLV-DR3220R	RED	1.3									
FLV-DR3220B	BLUE	1.4									
FLV-DR4415W	WHITE	2.7	44 dia.	17 dia.	15 deg.	B	◯	◯	70	◯	◯
FLV-DR4415R	RED	1.7					◯	◯			
FLV-DR4415B	BLUE	2.7					◯	◯			
FLV-DR5030W	WHITE	3.1	50 dia.	26.5 dia.	30 deg.	C	◯	◯	60	◯	◯
FLV-DR5030R	RED	1.8					◯	◯			
FLV-DR5030B	BLUE	3.1					◯	◯			
FLV-DR5030IR	IR	1.3					◯	◯			
FLV-DR6030UV	UV	3.2	64 dia.	26.5 dia.	30 deg.	O	◯	◯	90	◯	✕
FLV-DR6615W	WHITE	5.0	66 dia.	31 dia.	15 deg.	D	◯	◯	120	◯	◯
FLV-DR6615R	RED	3.9					◯	◯			
FLV-DR6615B	BLUE	5.0					◯	◯			
FLV-DR7000W	WHITE	5.0	70 dia.	33 dia.	0 deg.	E	◯	◯	110	◯	◯
FLV-DR7000R	RED	3.7					◯	◯			
FLV-DR7000B	BLUE	5.0					◯	◯			
FLV-DR7030W	WHITE	5.0	70 dia.	30 dia.	30 deg.	F	◯	◯	120	◯	◯
FLV-DR7030R	RED	3.7					◯	◯			
FLV-DR7030B	BLUE	5.0					◯	◯			
FLV-DR7030IR	IR	2.6					◯	◯			
FLV-DR7530UV	UV	5.4	79 dia.	30 dia.	30 deg.	P	◯	◯	150	◯	✕
FLV-DR9000W	WHITE	8.8	90 dia.	30 dia.	0 deg.	G	◯	◯	230	◯	◯
FLV-DR9000R	RED	7.0					◯	◯			
FLV-DR9000B	BLUE	8.8					◯	◯			
FLV-DR9030W	WHITE	8.1	90 dia.	40 dia.	30 deg.	H	◯	◯	200	◯	◯
FLV-DR9030R	RED	6.6					◯	◯			
FLV-DR9030B	BLUE	8.1					◯	◯			
FLV-DR9030IR	IR	4.3					◯	◯			
FLV-DR9030UV	UV	6.8	94 dia.	40 dia.	30 deg.	Q	◯	◯	220	◯	✕
FLV-DR9215W	WHITE	7.4	92 dia.	47 dia.	15 deg.	I	◯	◯	200	◯	◯
FLV-DR9215R	RED	5.4					◯	◯			
FLV-DR9215B	BLUE	7.4					◯	◯			
FLV-DR12030W	WHITE	11.9	120 dia.	60 dia.	30 deg.	J	◯	◯	360	◯	◯
FLV-DR12030R	RED	9.8					◯	◯			
FLV-DR12030B	BLUE	11.9					◯	◯			

* For the connectable Lighting Controller models and conditions, refer to the Specifications pages of each Lighting Controller.
  FLV-TCC☐: page 32
  FLV-ATC☐: page 38
Note: Refer to page 66 for LED Characteristics.
  ◯: Applicable ✕: Not applicable

Dimensions

(Unit: mm)
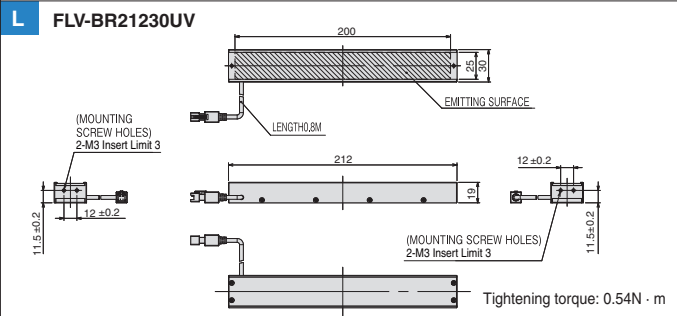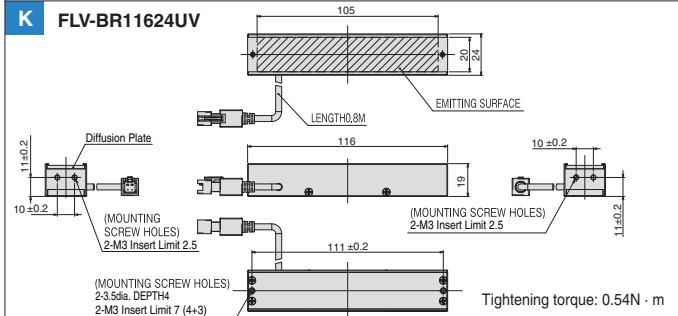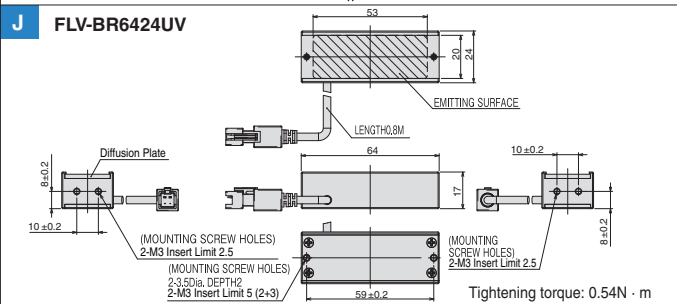
A FLV-DR3220☐

0.8M
32Dia.
10Dia.
P.C.D.28±0.2
(MOUNTING SCREW HOLES) 4-M3 Insert Limit 2
(AN OPTIONAL EXTRA MOUNTING PART) M32
3.5
20Deg.
16
11.6Dia.
28.6Dia.
EMITTING SURFACE
Tightening torque: 0.54N · m

B FLV-DR4415☐

LENGTH0.8M
P.C.D.24 ±0.2
44Dia.
17Dia.
(MOUNTING SCREW HOLES) 4-M3 Insert Limit 2
15Deg.
20
4
(AN OPTIONAL EXTRA MOUNTING PART) M44
17Dia.
39Dia.
EMITTING SURFACE
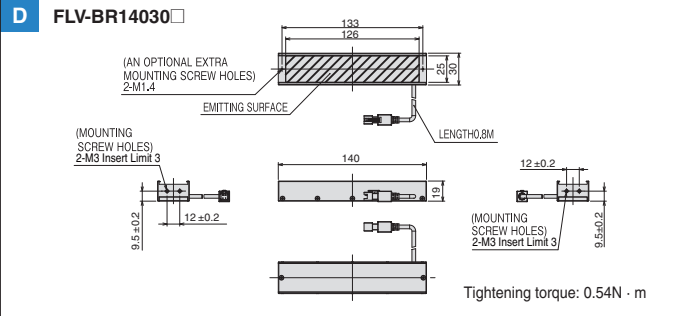Tightening torque: 0.54N · m

OMRON

Dimensions

(Unit: mm)

Standard Models
FLV Series

High-brightness Models
FL Series

LED Characteristics

Lenses

C **FLV-DR5030□**

LENGTH0.8M
50Dia.
P.C.D.38 ±0.2
26.5Dia.
3.5
(AN OPTIONAL EXTRA MOUNTING PART) M50
27.1Dia.
46Dia.
EMITTING SURFACE
(MOUNTING SCREW HOLES) 4-M3 Insert Limit 2
30Deg. 13
Tightening torque: 0.54N · m

D **FLV-DR6615□**

LENGTH0.8M
66Dia.
P.C.D.50±0.2
31Dia.
3.5
(AN OPTIONAL EXTRA MOUNTING PART) M66
33Dia.
61Dia.
EMITTING SURFACE
(MOUNTING SCREW HOLES) 4-M3 Insert Limit 2.5
15Deg.
17
Tightening torque: 0.54N · m

E **FLV-DR7000□**

LENGTH0.8M
770Dia.
P.C.D.54 ±0.2
33Dia.
62Dia.
34.5Dia.
EMITTING SURFACE
(AN OPTIONAL MOUNTING PART) M70
(MOUNTING SCREW HOLES) 4-M3 Insert Limit 3
17
3.5
Tightening torque: 0.54N · m

F **FLV-DR7030□**

LENGTH0.8M
770Dia.
P.C.D.54 ±0.2
30Dia.
3.5
31.8Dia.
64Dia.
(AN OPTIONAL EXTRA MOUNTING PART) M70
EMITTING SURFACE
(MOUNTING SCREW HOLES) 4-M3 Insert Limit 3
20
30Deg.
Tightening torque: 0.54N · m

G **FLV-DR9000□**

LENGTH0.8M
90Dia.
P.C.D.70 ±0.2
30Dia.
EMITTING SURFACE
84Dia.
31.6Dia.
(AN OPTIONAL EXTRA MOUNTING PART) M90
(MOUNTING SCREW HOLES) 4-M3 Insert Limit 3
18
3.5
Tightening torque: 0.54N · m

H **FLV-DR9030□**

LENGTH0.8M
90Dia.
P.C.D.74 ±0.2
40Dia.
3.5
41.7Dia.
84Dia.
(AN OPTIONAL EXTRA MOUNTING PART) M90
EMITTING SURFACE
(MOUNTING SCREW HOLES) 4-M3 Insert Limit 3 EQUAL LAYOUT
20
30Deg.
Tightening torque: 0.54N · m

I **FLV-DR9215□**

LENGTH0.8M
92Dia.
P.C.D.70 ±0.2
47Dia.
3.5
48.8Dia.
86Dia.
(AN OPTIONAL EXTRA MOUNTING PART) M82
EMITTING SURFACE
(MOUNTING SCREW HOLES) 4-M3 Insert Limit 3
21
15Deg.
Tightening torque: 0.54N · m

J **FLV-DR12030□**

LENGTH0.8M
120Dia.
P.C.D.100 ±0.2
60Dia.
EMITTING SURFACE
112Dia.
61.86Dia.
P.C.D.115
(MOUNTING SCREW HOLES) 4-M3 Insert Limit 3
30Deg.
25
(AN OPTIONAL EXTRA MOUNTING SCREW HOLES) 4-M1.4
Tightening torque: 0.54N · m

O **FLV-DR6030UV**

DIFFUSION BOARD MOUNTING FRAME
LENGTH0.8M
P.C.D.50 ±0.2
26.5Dia.
60Dia.
64Dia.
56Dia.
EMITTING SURFACE
(MOUNTING SCREW HOLES) 4-M3 Insert Limit 3
(MOUNTING SCREW HOLES) 4-M3 Insert Limit 3
19
30Deg.
Tightening torque: 0.54N · m

P **FLV-DR7530UV**

DIFFUSION BOARD MOUNTING FRAME
LENGTH0.8M
(MOUNTING SCREW HOLES) 4-M3 Insert Limit 3
P.C.D.54 ±0.2
30Dia.
75Dia.
79Dia.
69Dia.
EMITTING SURFACE
23
30Deg.
Tightening torque: 0.54N · m

Q **FLV-DR9030UV**

DIFFUSION BOARD MOUNTING FRAME
LENGTH0.8M
P.C.D.74±0.2
40Dia.
90Dia.
94Dia.
84Dia.
EMITTING SURFACE
(MOUNTING SCREW HOLES) 4-M3 Insert Limit 3
23
30Deg.
Tightening torque: 0.54N · m

Standard Models
FLV Series

High-brightness Models
FL Series

LED Characteristics

Lenses

Low Angle Ring Light
FLV-DL Series

Angled or horizontal illumination emphasizes defects and profiles of workpieces.

Product Features

- Bright illumination with high-density LED arrays.
- Compact designs that save installation space.
- Optional Diffusion Plates for uniform illumination.

Cross-sectional Diagram

Aluminum alloy case
Thermal conductor
PCB
LED
Diffusion Plate (optional)
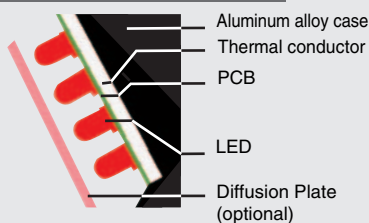
Illustration of Illumination
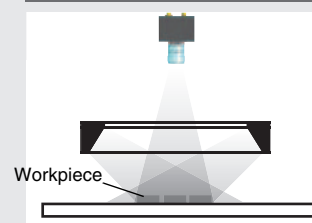
Workpiece

* This figure is a conceptual illustration and may vary from the actual structure.

Applications

Detection of marking and defects on surfaces of metal workpieces

Detection of foreign matter in medicines

Detection of chips on circumference of O rings

Surface and profile inspection of metal workpieces

Ring Light   Low Angle Ring Light

OMRON

Ordering Information

Model	Color	Power consumption (W)	Dimensions				Controller *		Weight (g)	Options	
			External Ring Diameter (mm)	Internal Ring Diameter (mm)	Lighting Angle (Deg)	Drawing	FLV-TCC□	FLV-ATC□		Diffusion Plate	Polarization Plate
FLV-DL5890W	WHITE	1.9	58 dia.	27 dia.	90 deg.	J	○	○	90	○	✕
FLV-DL5890R	RED	1.3					○	○			
FLV-DL5890B	BLUE	1.9					○	○			
FLV-DL7260W	WHITE	5.7	72 dia.	44 dia.	60 deg.	K	○	○	120	○	○
FLV-DL7260R	RED	3.9					○	○			
FLV-DL7260B	BLUE	5.7					○	○			
FLV-DL9090W	WHITE	2.8	90 dia.	50 dia.	90 deg.	L	○	○	100	✕	✕
FLV-DL9090R	RED	1.8					○	○			
FLV-DL9090B	BLUE	2.8					○	○			
FLV-DL12060W	WHITE	12.7	120 dia.	67 dia.	60 deg.	M	○	○	310	○	○
FLV-DL12060R	RED	10.5					○	○			
FLV-DL12060B	BLUE	12.7					○	○			
FLV-DL15060W	WHITE	13.6	150 dia.	108 dia.	60 deg.	N	○	○	260	○	○
FLV-DL15060R	RED	11.2					○	○			
FLV-DL15060B	BLUE	13.6					○	○			

* For the connectable Lighting Controller models and conditions, refer to the Specifications pages of each Lighting Controller.
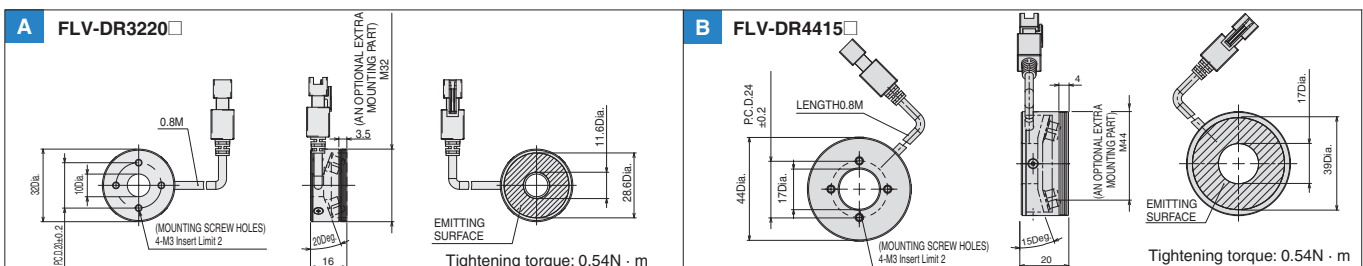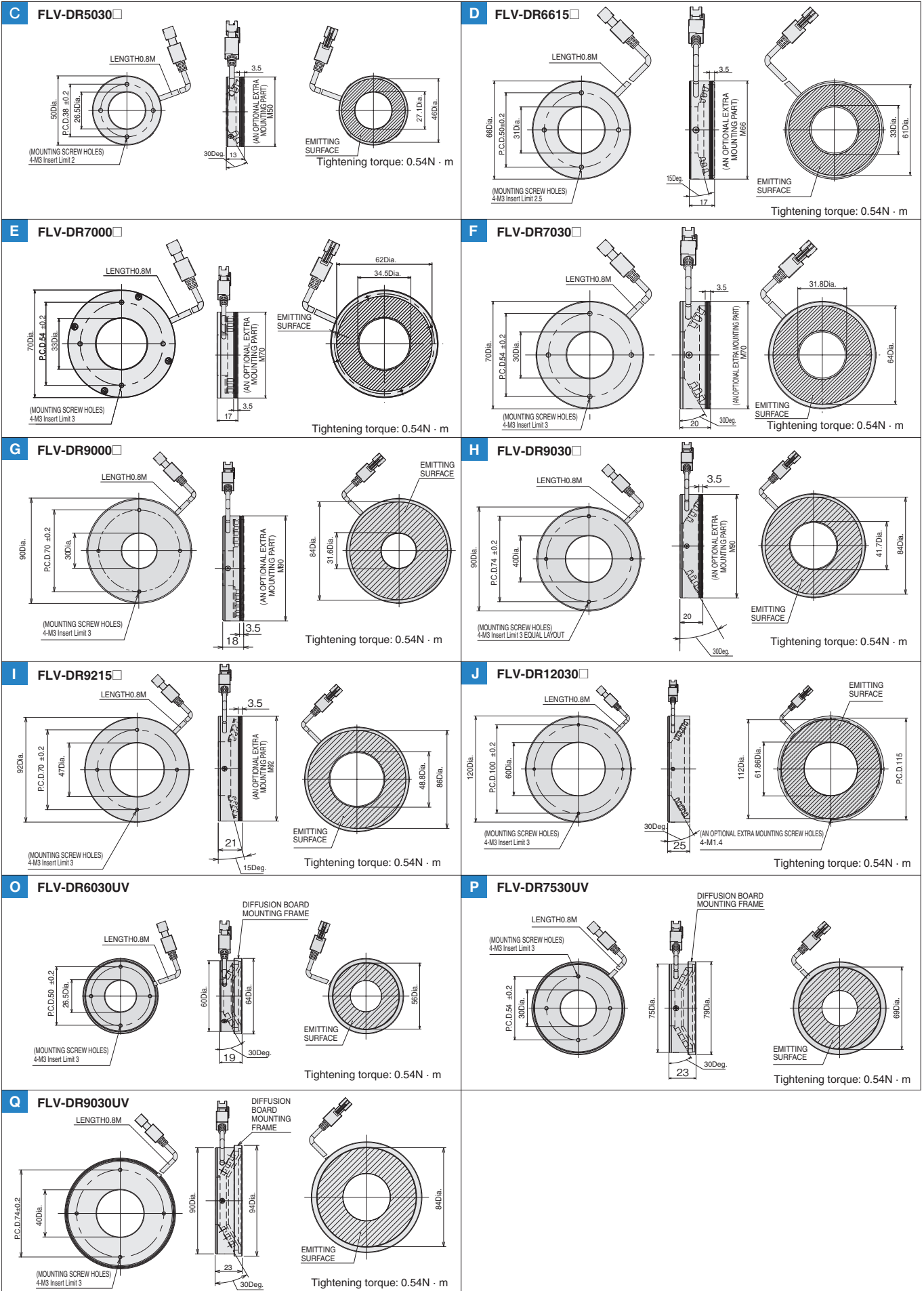Note: Refer to page 66 for LED Characteristics.
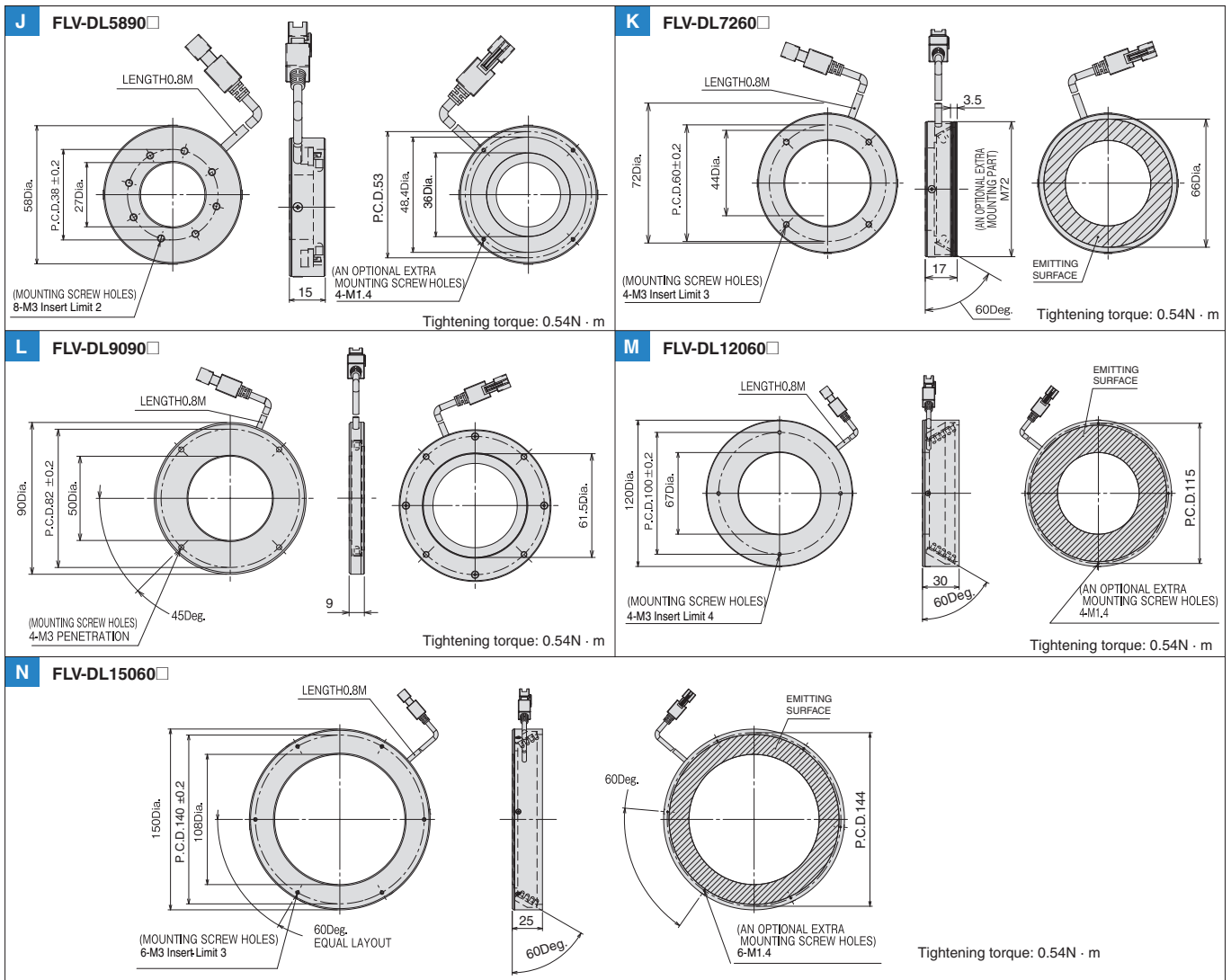○: Applicable ✕: Not applicable

Dimensions

(Unit: mm)

J FLV-DL5890□

K FLV-DL7260□

L FLV-DL9090□

M FLV-DL12060□

N FLV-DL15060□

Standard Models
FLV Series

High-brightness Models
FL Series

LED Characteristics

Lenses

Coaxial Light
FLV-CL Series

Coaxial illumination with the Lens helps prevent interference from reflected light. This series is ideal for surface damage and character inspections on highly reflective workpieces with mirror-like surfaces.
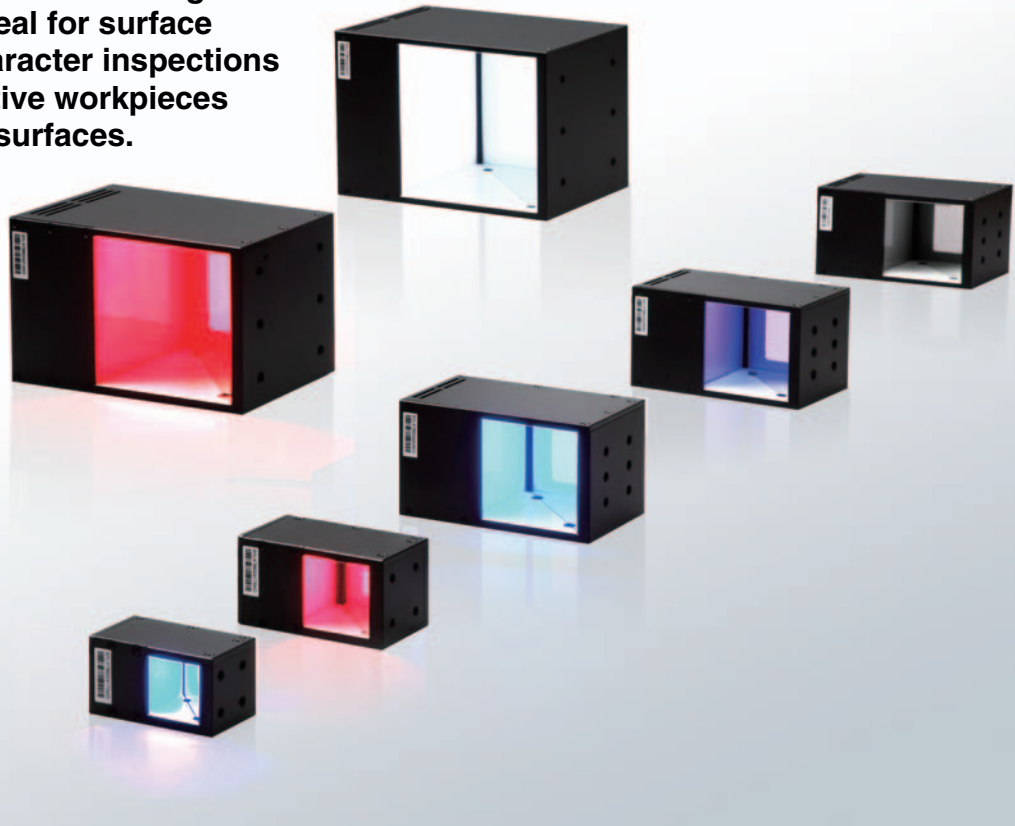
Product Features

- Long life and stability result from a structure with optimum heat dissipation.
- Uniform illumination for clear images.
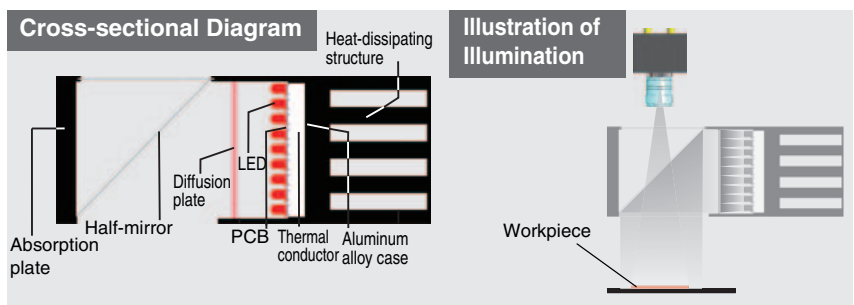
Cross-sectional Diagram

Heat-dissipating structure

Diffusion plate

LED

Absorption plate

Half-mirror

PCB Thermal conductor

Aluminum alloy case

Illustration of Illumination

Workpiece

* This figure is a conceptual illustration and may vary from the actual structure.

Applications

Inspection for scratches on highly reflective surfaces

Inspection for damages on chips and silicon wafers

Detection of positioning marks

Recognition of bar codes on packages

Recognition of laser-marked characters and 2D DMP codes

General exterior detection

BGA Inspection

P=1.5 BGA169P

Recognition of 2D DPM Code

Positioning for Metal Welding
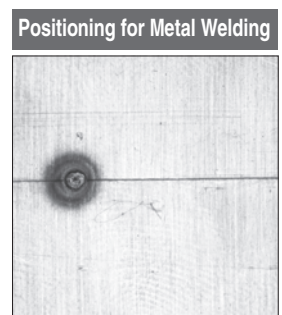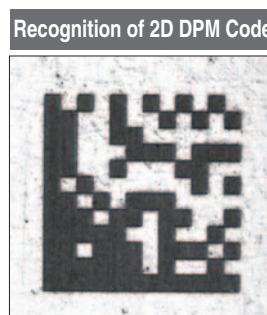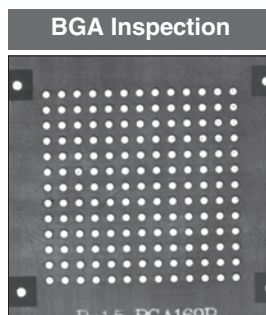
Ordering Information

Model	Color	Power consumption (W)	Dimension				Controller *		Weight (g)
			Lighting Area Dimension (mm)	Outside Dimension (mm)	Height (mm)	Drawing	FLV-TCC□	FLV-ATC□	
FLV-CL30W	WHITE	2.4	24×25	32×59.5	31	A	○	○	110
FLV-CL30R	RED	1.4					○	○	
FLV-CL30B	BLUE	2.4					○	○	
FLV-CL40W	WHITE	3.9	34×34	40×74	40	B	○	○	170
FLV-CL40R	RED	2.3					○	○	
FLV-CL40B	BLUE	3.9					○	○	
FLV-CL60W	WHITE	10.4	51×52	58×104	60.5	C	○	○	380
FLV-CL60R	RED	5.7					○	○	
FLV-CL60B	BLUE	10.4					○	○	
FLV-CL60IR	IR	3.9					○	○	
FLV-CL60UV	UV	3.0					○	○	
FLV-CL80W	WHITE	10.8	72×72	78×124	77.5	D	○	○	580
FLV-CL80R	RED	7.2					○	○	
FLV-CL80B	BLUE	10.8					○	○	
FLV-CL100W	WHITE	22.7	92×92	98×141	99.5	E	×	○	820
FLV-CL100R	RED	15.2					×	○	
FLV-CL100B	BLUE	22.7					×	○	

* For the connectable Lighting Controller models and conditions, refer to the Specifications pages of each Lighting Controller.
FLV-TCC□: page 32 FLV-ATC□: page 38
Note: Refer to page 66 for LED Characteristics.
○: Connectable ×: Not connectable

Dimensions

(Unit: mm)

A FLV-CL30□
(MOUNTING SCREW HOLES) 4-M4 Insert Limit 3
25 EMITTING SURFACE
24 EMITTING SURFACE
LENGTH0.8M
Tightening torque: 1.2 N · m

B FLV-CL40□
(MOUNTING SCREW HOLES) 4-M4 Insert Limit 3
34 EMITTING SURFACE
LENGTH0.8M
Tightening torque: 1.2 N · m

C FLV-CL60□
(MOUNTING SCREW HOLES) 6-M5 Insert Limit 4
52 EMITTING SURFACE
51 EMITTING SURFACE
LENGTH0.8M
Tightening torque: 2.3 N · m

D FLV-CL80□
(MOUNTING SCREW HOLES) 6-M5 Insert Limit 4
72 EMITTING SURFACE
LENGTH0.8M
Tightening torque: 2.3 N · m

E FLV-CL100□
(MOUNTING SCREW HOLES) 6-M5 Insert Limit 4
92 EMITTING SURFACE
LENGTH0.8M
Tightening torque: 2.3 N · m

Standard Models
FLV Series

High-brightness Models
FL Series

LED Characteristics

Lenses

Shadowless Ring Light
FLV-FR Series

This series effectively eliminates the influences of localized reflections for the surfaces of small workpieces.

Product Features

• Special diffusion plates create greater uniformity in lighting than normal ring lighting.

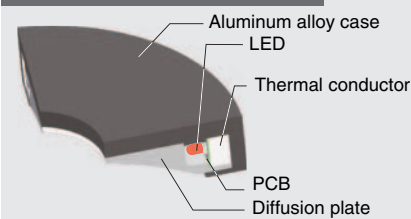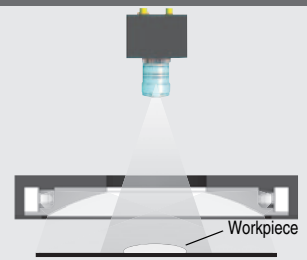| **Cross-sectional Diagram**	**Illustration of Illumination**

Aluminum alloy case
LED
Thermal conductor
PCB
Diffusion plate

Workpiece

* This figure is a conceptual illustration and may vary from the actual structure.

Applications

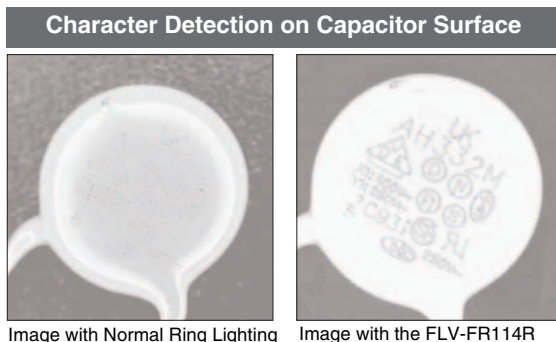Character inspections on electronic components or formed plastic parts

Character Detection on Capacitor Surface

Image with Normal Ring Lighting   Image with the FLV-FR114R

OMRON

Shadowless Ring Light FLV-FR Series

Ordering Information

Model	Color	Power consumption (W)	External Ring Diameter (mm)	Internal Ring Diameter (mm)	Lighting Area Diameter (mm)	Drawing	FLV-TCC□	FLV-ATC□	Weight (g)
FLV-FR114W	WHITE	3.9	114 dia.	40 dia.	92 dia.	A	○	○	270
FLV-FR114R	RED	3.1					○	○	
FLV-FR114B	BLUE	3.9					○	○	
FLV-FR150W	WHITE	6.1	150 dia.	40 dia.	123 dia.	B	○	○	500
FLV-FR150R	RED	3.5					○	○	
FLV-FR150B	BLUE	6.1					○	○	

* For the connectable Lighting Controller models and conditions, refer to the Specifications pages of each Lighting Controller.
○: Connectable

Dimensions

(Unit: mm)

A FLV-FR114□

B FLV-FR150□

Tightening torque: 0.54N · m

OMRON 15

Standard Models
FLV Series

High-brightness Models
FL Series

LED Characteristics

Lenses

Shadowless Low Angle Ring Light
FLV-FP Series

This series achieves highly uniform illumination across a wide field of view.
Excellent symmetry eliminates diagonal shadows.

Product Features

- Shadowless Ring Lighting
- Achieve highly uniform illumination and obtain different images at different installation distances for a much wider range of application compared to normal ring lighting.

Cross-sectional Diagram

Aluminum alloy case
Thermal conductor
PCB
LED
Diffusion plate

Illustration of Illumination

Workpiece

* This figure is a conceptual illustration and may vary from the actual structure.

Ordering Information

Model	Light Color	Power consumption (W)	Dimensions				Controller *		Weight (g)
			External Ring Diameter (mm)	Internal Ring Diameter (mm)	Lighting Area Diameter (mm)	Drawing	FLV-TCC□	FLV-ATC□	
FLV-FP130W	WHITE	8.1	130 dia.	100 dia.	120 dia.	A	〇	〇	320
FLV-FP130R	RED	5.8					〇	〇	
FLV-FP130B	BLUE	8.1					〇	〇	

* For the connectable Lighting Controller models and conditions, refer to the Specifications pages of each Lighting Controller.
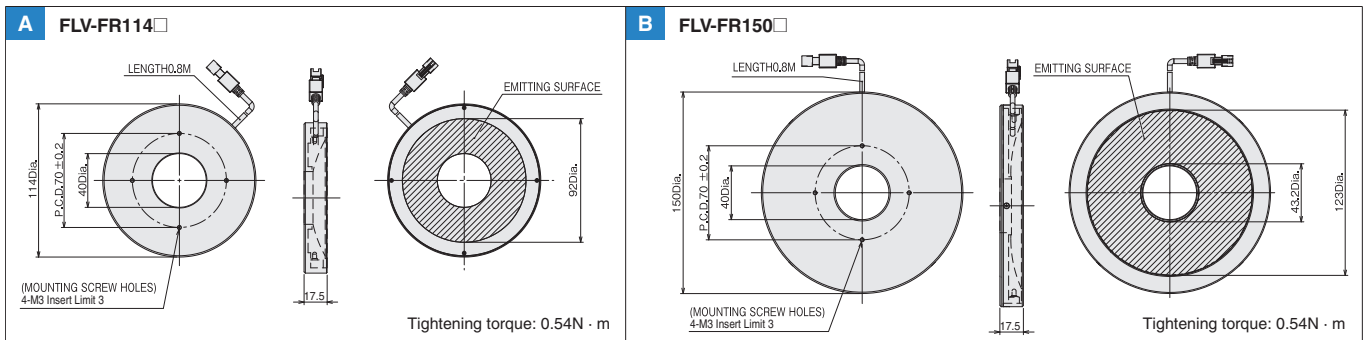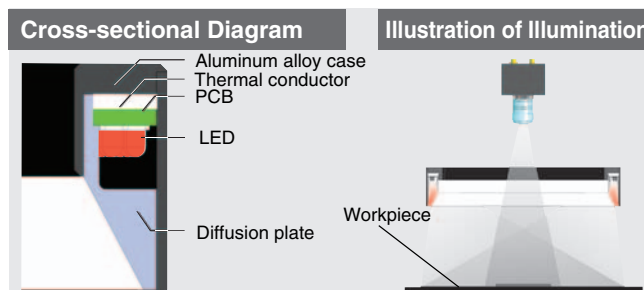 FLV-TCC□: page 32 FLV-ATC□: page 38
Note: Refer to page 66 for LED Characteristics.
  〇: Connectable

Applications

Detection of bumps, scratches, and other defects on surfaces

Recognition of marks

Recognition of printed characters

Recognition of barcodes

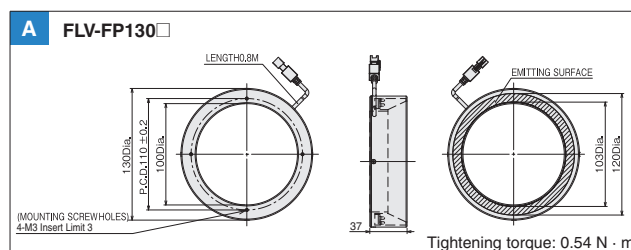**Recognition of Marked Characters**

Dimensions

(Unit: mm)

A FLV-FP130□

LENGTH 0.8M

130 Dia.
P.C.D.110 ± 0.2
100 Dia.

(MOUNTING SCREW HOLES)
4-M3 Insert Limit 3

37

EMITTING SURFACE

103 Dia.
120 Dia.

Tightening torque: 0.54 N·m

OMRON

Shadowless Dome Ring Light
FLV-FS Series

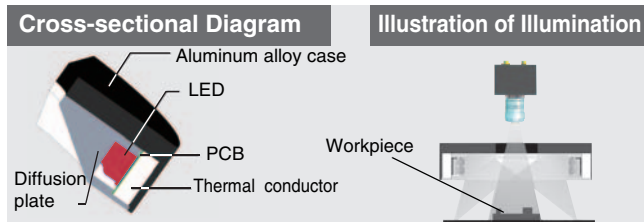Standard Models
FLV Series

High-brightness Models
FL Series

LED Characteristics

Lenses

Highly uniform illumination eliminates the influences of small surface irregularities to highlight features through changes in inclination.

Product Features

- Uniquely designed diffusion plate achieve highly uniform illumination through reflection and diffusion.
- Eliminates the influences of small surface irregularities to highlight features through large differences in inclination.
- Saves space for small workpieces while achieving the benefits of dome lighting.

Cross-sectional Diagram

Aluminum alloy case
LED
PCB
Diffusion plate
Thermal conductor

Illustration of Illumination

Workpiece

* This figure is a conceptual illustration and may vary from the actual structure.

Ordering Information

Model	Color	Power consumption (W)	Dimensions				Controller *		Weight (g)
			External Ring Diameter (mm)	Internal Ring Diameter (mm)	Lighting Area Diameter (mm)	Drawing	FLV-TCC□	FLV-ATC□	
FLV-FS74W	WHITE	5.2	74 dia.	20 dia.	64 dia.	A	○	○	140
FLV-FS74R	RED	3.5					○	○	
FLV-FS74B	BLUE	5.2					○	○	

* For the connectable Lighting Controller models and conditions, refer to the Specifications pages of each Lighting Controller.
  FLV-TCC□: page 32 FLV-ATC□: page 38
Note: Refer to page 66 for LED Characteristics.
  ○: Connectable

Applications
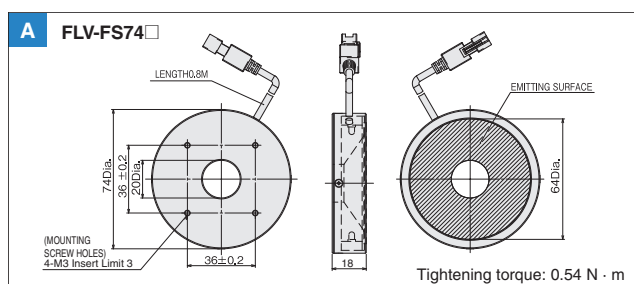
Edge positioning and size measurement for metal parts	**Gap Position Detection on Multilayered Shafts**
Detection of bumps in metal parts	

Dimensions

(Unit: mm)

A **FLV-FS74□**

LENGTH0.8M

EMITTING SURFACE

74Dia.
36±0.2
20Dia.
(MOUNTING SCREW HOLES)
4-M3 Insert Limit 3
36±0.2
18
64Dia.

Tightening torque: 0.54 N·m

Standard Models
FLV Series

High-brightness Models
FL Series

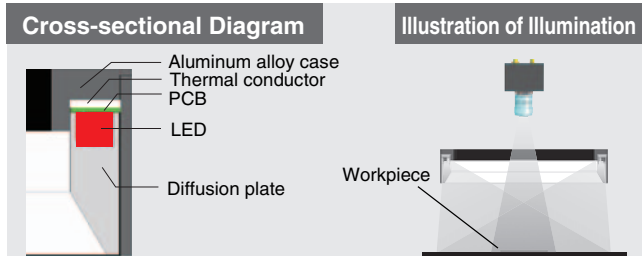LED Characteristics

Lenses

Shadowless Square Light
FLV-FQ Series

This series achieves wide highly uniform illumination across a square field of view.

Product Features

- Shadowless Square Lighting
- Achieves highly uniform illumination and obtains different images at different installation distances for a much wider range of applications compared to normal ring lighting.

Cross-sectional Diagram

- Aluminum alloy case
- Thermal conductor
- PCB
- LED
- Diffusion plate

Illustration of Illumination

Workpiece

* This figure is a conceptual illustration and may vary from the actual structure.

Ordering Information

Model	Color	Power consumption (W)	Dimensions				Controller *		Weight (g)
			Lighting Area Dimension (mm)	Outside Dimension (mm)	Height (mm)	Drawing	FLV-TCC☐	FLV-ATC☐	
FLV-FQ48W	WHITE	2.0	41×41	48 × 48	30	A	◯	◯	100
FLV-FQ48R	RED	1.2					◯	◯	
FLV-FQ48B	BLUE	2.0					◯	◯	

* For the connectable Lighting Controller models and conditions, refer to the Specifications pages of each Lighting Controller.
   FLV-TCC☐: page 32 FLV-ATC☐: page 38
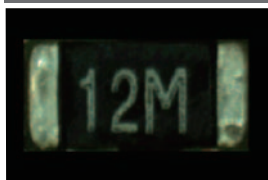Note: Refer to page 66 for LED Characteristics.
   ◯: Connectable

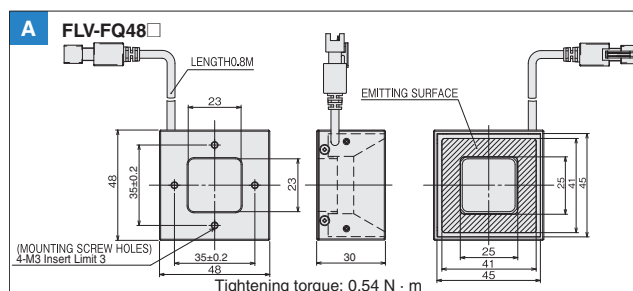## Applications

Detection of defects on workpiece surfaces

Recognition of printed characters and bar codes

Appearance Inspections of Chip Components

Dimensions   (Unit: mm)

A FLV-FQ48☐

LENGTH 0.8M

EMITTING SURFACE

23

48

35±0.2

23

30

(MOUNTING SCREW HOLES)
4-M3 Insert Limit 3

35±0.2
48

25
41
45

25
41
45

Tightening torque: 0.54 N · m

OMRON

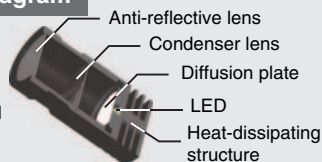# Spot Light
FLV-EP50 Series

Long-distance Spot Lighting
This series achieves uniform, parallel light.

Product Features
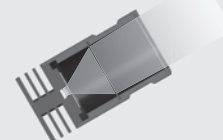
- Superior directional characteristic, essentially parallel light, and long-distance illumination.

Cross-sectional Diagram

Anti-reflective lens
Condenser lens
Diffusion plate
LED
Heat-dissipating structure

*This figure is a conceptual illustration and may vary from the actual structure.

Illustration of Illumination

Ordering Information

Model	Color	Power consumption (W)	Dimensions				Controller *		Weight (g)
			Lighting Area Dimension (mm)	Outside Dimension (mm)	Height (mm)	Drawing	FLV-TCC□	FLV-ATC□	
FLV-EP50W	WHITE	1.6	40 dia.	50 dia.	94.5	A	○	○	200
FLV-EP50R	RED	1.1					○	○	

* For the connectable Lighting Controller models and conditions, refer to the Specifications pages of each Lighting Controller.
  FLV-TCC□: page 32 FLV-ATC□: page 38
Note: Refer to page 66 for LED Characteristics.
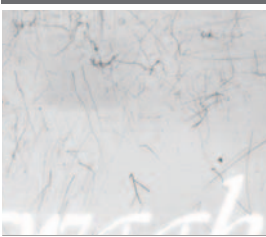   ○: Connectable

Applications

Size measurements of small workpieces

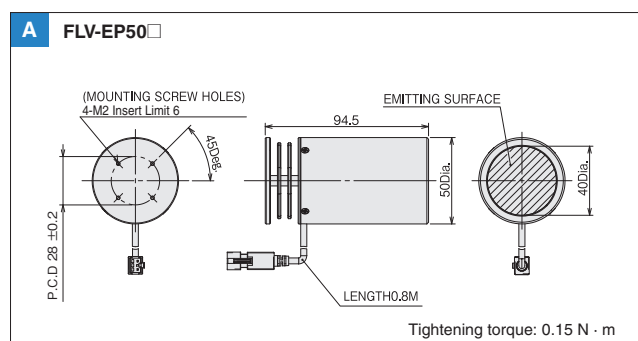Detection of defects on surfaces

Detection of Gaps in Small Parts

Detection of Scratches on Card Surfaces

Dimensions

(Unit: mm)

A   FLV-EP50□

(MOUNTING SCREW HOLES)
4-M2 Insert Limit 6

45D8G

P.C.D 28 ±0.2

EMITTING SURFACE

94.5

50Dia.

40Dia.

LENGTH0.8M

Tightening torque: 0.15 N · m

Standard Models
FLV Series

High-brightness Models
FL Series

LED Characteristics

Lenses

High-power Spot Light
FLV-EP08 Series

High-power, Compact Spot Light Sources.

Product Features

- High-power LEDs generate strong light with a compact design.
- Ideal for applications in combination with a Coaxial Lens.
- Highly efficient heat-dissipating structure ensures a long life.
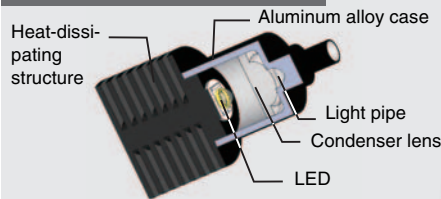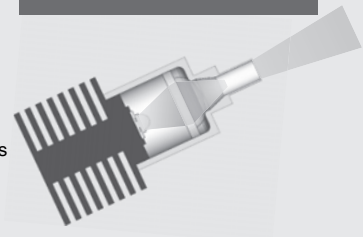
Cross-sectional Diagram

Heat-dissi-pating structure
Aluminum alloy case
Light pipe
Condenser lens
LED

Illustration of Illumination

* This figure is a conceptual illustration and may vary from the actual structure.
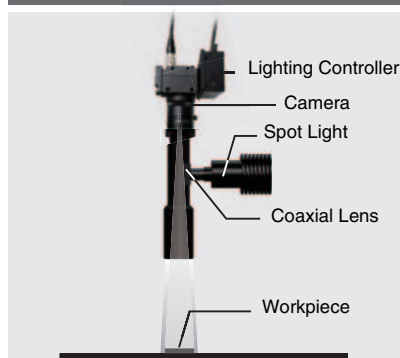
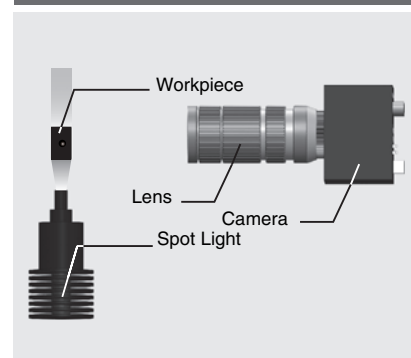## Applications

Detection of alignment marks

Detection of chips

Detection of defects on workpiece surfaces

Illustration of Illumination in Combination with a Coaxial Lens

Lighting Controller
Camera
Spot Light
Coaxial Lens
Workpiece

Simplified Illustration of Detection of Bubbles in Transparent Material

Workpiece
Lens
Camera
Spot Light

High-power Spot Light FLV-EP08 Series

Standard Models
FLV Series

High-brightness Models
FL Series

LED Characteristics

Lenses

Recognition of Alignment Marks	Inspection for Defects	Detection of Air Bubbles and Impurities
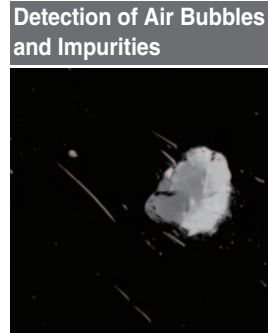
Ordering Information

Model	Color	Power consumption (W)	Dimensions				Controller *		Weight (g)
			Lighting Area Dimension (mm)	Outside Dimension (mm)	Height (mm)	Drawing	FLV-TCC□	FLV-ATC□	
FLV-EP0803W	WHITE	1.6	6.8 dia.	28 dia.	60	A	○	○	80
FLV-EP0803R	RED	1.1					○	○	
FLV-EP0803B	BLUE	1.6					○	○	

* For the connectable Lighting Controller models and conditions, refer to the Specifications pages of each Lighting Controller.
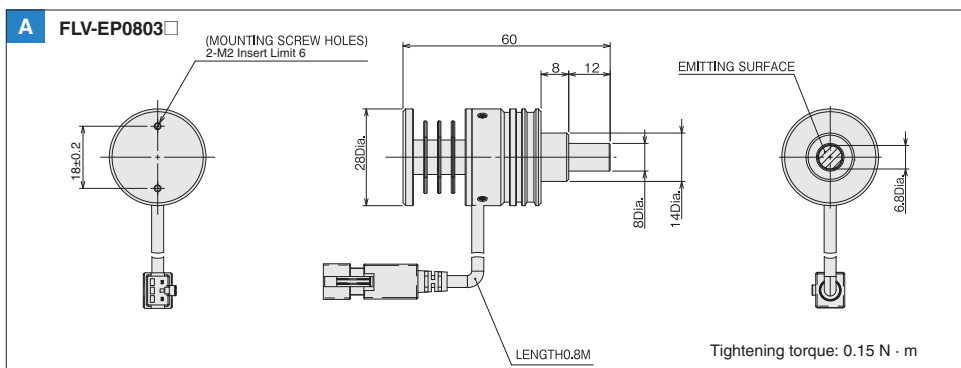   FLV-TCC□: page 32
   FLV-ATC□: page 38
Note: Refer to page 66 for LED Characteristics.
   ○: Connectable

Dimensions

(Unit: mm)

A	FLV-EP0803□

(MOUNTING SCREW HOLES)
2-M2 Insert Limit 6

18±0.2

60

8   12

EMITTING SURFACE

28Dia.

8Dia.

14Dia.

6.8Dia.

LENGTH 0.8M

Tightening torque: 0.15 N · m

Standard Models
FLV Series

High-brightness Models
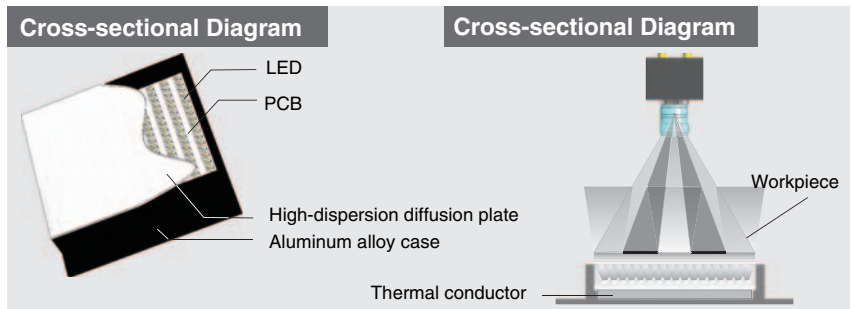FL Series

LED Characteristics

Lenses

Direct Back Light
FLV-DB Series

**Uniform Illumination from a Flat Emitting Surface
Illumination from the back of the workpiece produces
a high-contrast silhouette.**
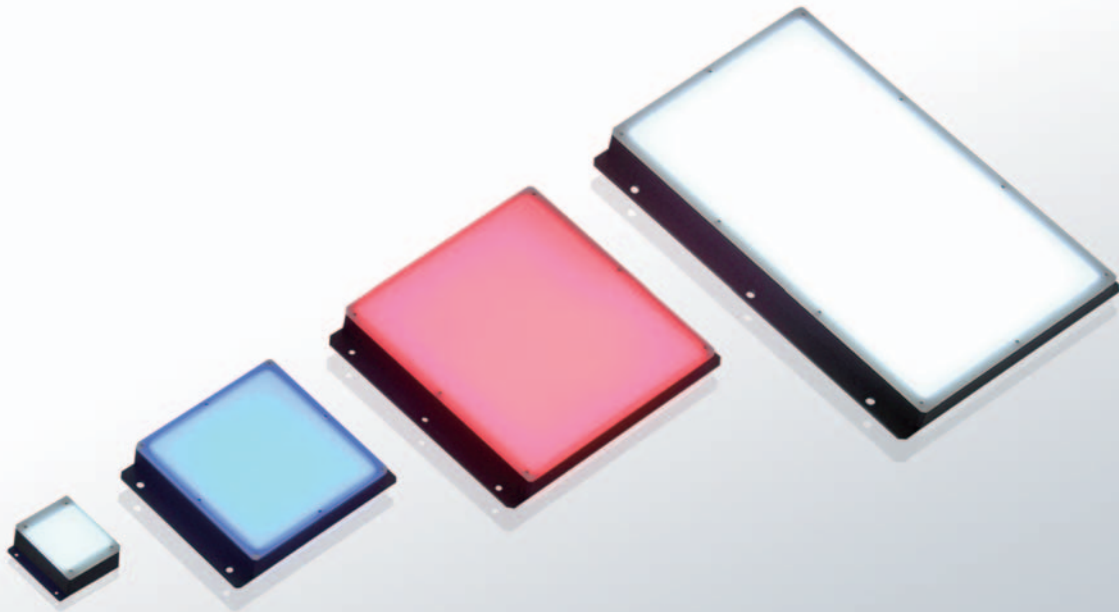
Product Features

• Highly uniform backlighting with high-density LED arrays. Emphasizes the outline features of workpieces.

Cross-sectional Diagram

LED
PCB

High-dispersion diffusion plate
Aluminum alloy case

Cross-sectional Diagram

Workpiece

Thermal conductor

* This figure is a conceptual illustration and may vary from the actual structure.

Applications

Size measurements of machine parts

Shape detections for electronic components and ICs

Dirt detection on films
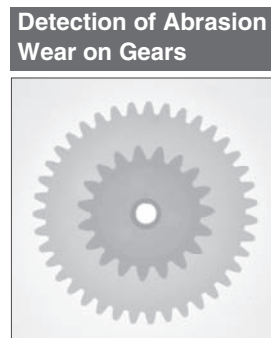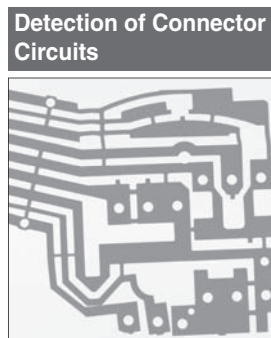
Detection of Connector Circuits

Detection of Abrasion Wear on Gears

Inspection of Bottles

Ordering Information

Model	Color	Power consumption (W)	Dimensions				Controller *		Weight (g)
			Lighting Area Dimension (mm)	Outside Dimension (mm)	Height (mm)	Drawing	FLV-TCC□	FLV-ATC□	
FLV-DB3729W	WHITE	0.9	27×27	37×37	15	A	○	○	50
FLV-DB3729R	RED	0.9					○	○	
FLV-DB3729B	BLUE	0.9					○	○	
FLV-DB10181W	WHITE	8.1	73×73	101×81	17	B	○	○	160
FLV-DB10181R	RED	4.7					○	○	
FLV-DB10181B	BLUE	8.1					○	○	
FLV-DB130130W	WHITE	13.0	114×120	144×126	17	C	○	○	270
FLV-DB130130R	RED	11.5					○	○	
FLV-DB130130B	BLUE	13.0					○	○	
FLV-DB212152W	WHITE	29.4	200×120	212×152	17	D	×	○	510
FLV-DB212152R	RED	20.2					×	○	
FLV-DB212152B	BLUE	29.4					×	○	

* For the connectable Lighting Controller models and conditions, refer to the Specifications pages of each Lighting Controller
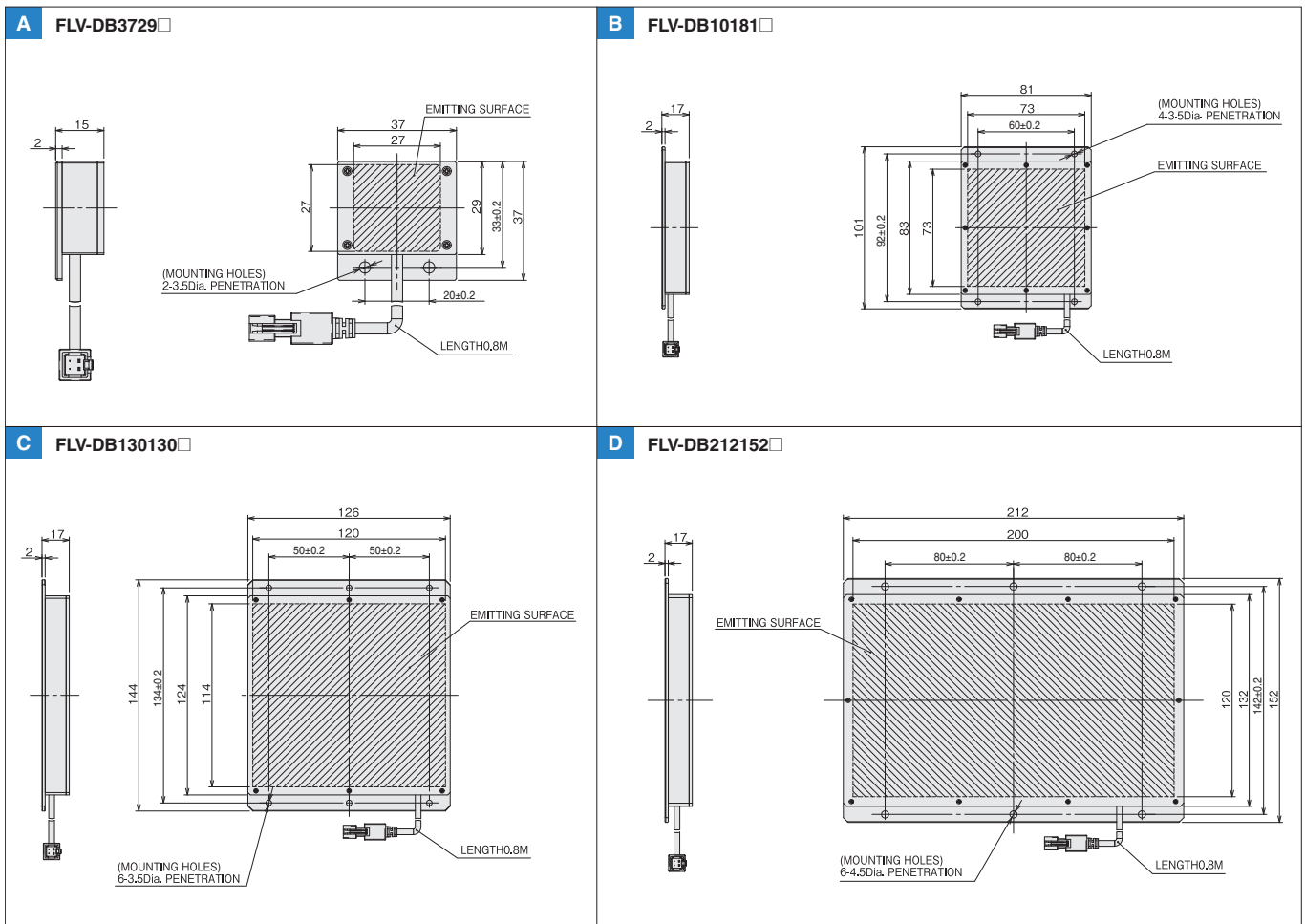FLV-TCC□: page 32
FLV-ATC□: page 38
Note: Refer to page 66 for LED Characteristics.
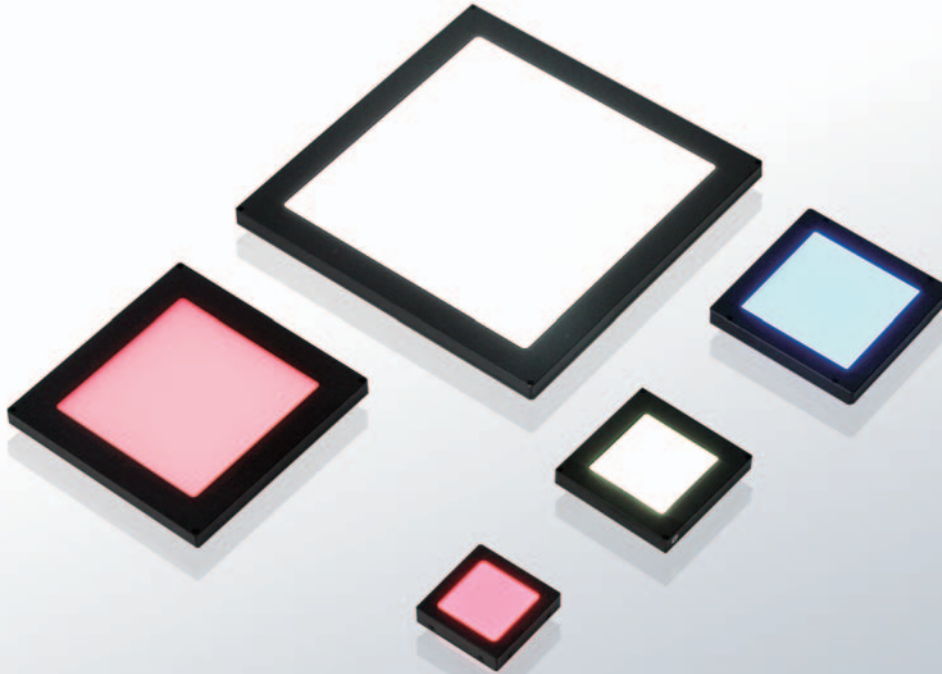○: Connectable ×: Not connectable

Dimensions

(Unit: mm)

A FLV-DB3729□

B FLV-DB10181□

C FLV-DB130130□

D FLV-DB212152□

Standard Models
FLV Series

High-brightness Models
FL Series

LED Characteristics

Lenses

OMRON

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Edge Type Light
FLV-FB Series

Ultrathin, Highly Uniform Backlights
Thin enough to conveniently fit into narrow spaces.

Product Features

- Five size variations with emitting surfaces from 35 mm square to 164 mm square.
- As thin as 8 mm (FLV-FB7070).
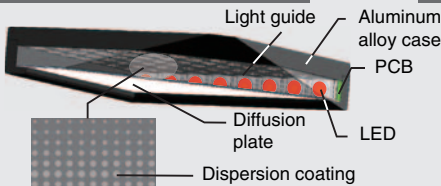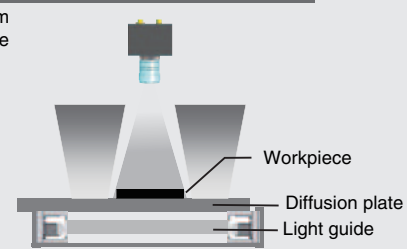
Cross-sectional Diagram

Light guide
Aluminum alloy case
PCB
Diffusion plate
LED
Dispersion coating

Illustration of Illumination

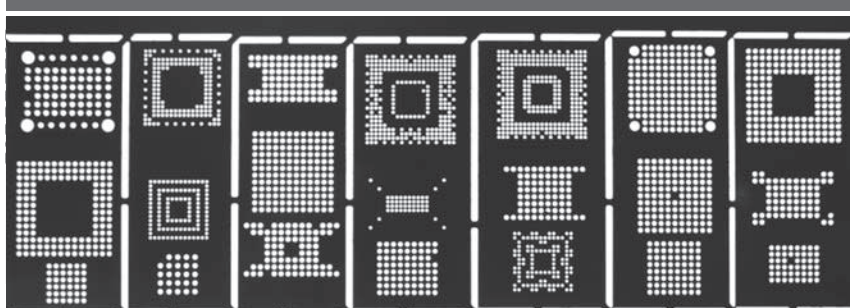Workpiece
Diffusion plate
Light guide

* This figure is a conceptual illustration and may vary from the actual structure.

Applications

Detection and size measurements of electronic devices

Detection of LCD dead pixels

Detection of Silkscreen Patterns on Cell Phone PCBs

Ordering Information

Model	Color	Power consumption (W)	Dimensions				Controller *		Weight (g)
			Lighting Area Dimension (mm)	Outside Dimension (mm)	Height (mm)	Drawing	FLV-TCC☐	FLV-ATC☐	
FLV-FB5050W	WHITE	1.9	35×35	50×50	11	A	◯	◯	75
FLV-FB5050R	RED	0.9					◯	◯	
FLV-FB5050B	BLUE	1.9					◯	◯	
FLV-FB7070W	WHITE	1.9	46×46	70×70	8	B	◯	◯	85
FLV-FB7070R	RED	1.4					◯	◯	
FLV-FB7070B	BLUE	1.9					◯	◯	
FLV-FB9090W	WHITE	3.7	66×66	90×90	10	C	◯	◯	155
FLV-FB9090R	RED	1.9					◯	◯	
FLV-FB9090B	BLUE	3.7					◯	◯	
FLV-FB130130W	WHITE	5.5	94×94	130×130	10	D	◯	◯	230
FLV-FB130130R	RED	3.7					◯	◯	
FLV-FB130130B	BLUE	5.5					◯	◯	
FLV-FB200200W	WHITE	7.3	164×164	200×200	11	E	◯	◯	710
FLV-FB200200R	RED	5.5					◯	◯	
FLV-FB200200B	BLUE	7.3					◯	◯	

* For the connectable Lighting Controller models and conditions, refer to the Specifications pages of each Lighting Controller.
◯: Connectable

Dimensions

(Unit: mm)

A FLV-FB5050☐

B FLV-FB7070☐

C FLV-FB9090☐

D FLV-FB130130☐

E FLV-FB200200☐

Standard Models FLV Series

High-brightness Models FL Series

LED Characteristics

Lenses