# Direct Ring Lighting/Low Angle Ring Lighting
# FLV-DR Series/-DL Series

## Order Information

| | Model | Light Color | Electricity (W) | Weight (g) | Connectable Option Diffusion Plates | Connectable Lighting Controller ∗ Camera-mount Lighting Controller FLV-TCC Series | Analog Lighting Controller FLV-ATC Series | Dimensions |
|---|---|---|---|---|---|---|---|---|
| Direct Ring Lighting | FLV-DR3220W | White | 1.2 | 60 | FLV-DR3220DF | ◎ | ◎ | A |
| | FLV-DR3220R | Red | 1.2 | 60 | FLV-DR3220DF | ◎ | ◎ | A |
| | FLV-DR3220B | Blue | 1.2 | 60 | FLV-DR3220DF | ◎ | ◎ | A |
| | FLV-DR5030W | White | 2.4 | 60 | FLV-DR5030DF | ◎ | ◎ | B |
| | FLV-DR5030R | Red | 1.6 | 60 | FLV-DR5030DF | ◎ | ◎ | B |
| | FLV-DR5030B | Blue | 2.4 | 60 | FLV-DR5030DF | ◎ | ◎ | B |
| | FLV-DR5030IR | Infrared Light | 1.5 | 60 | FLV-DR5030DF | ◎ | ◎ | B |
| | FLV-DR5030UV | Ultraviolet Light | 2.9 | 60 | FLV-DR5030DF | ◎ | ◎ | B |
| | FLV-DR6615W | White | 3.4 | 120 | FLV-DR6615DF | ◎ | ◎ | C |
| | FLV-DR6615R | Red | 2.4 | 120 | FLV-DR6615DF | ◎ | ◎ | C |
| | FLV-DR6615B | Blue | 3.4 | 120 | FLV-DR6615DF | ◎ | ◎ | C |
| | FLV-DR7000W | White | 3.6 | 110 | FLV-DR7000DF | ◎ | ◎ | D |
| | FLV-DR7000R | Red | 2.4 | 110 | FLV-DR7000DF | ◎ | ◎ | D |
| | FLV-DR7000B | Blue | 3.6 | 110 | FLV-DR7000DF | ◎ | ◎ | D |
| | FLV-DR7030W | White | 3.6 | 120 | FLV-DR7030DF | ◎ | ◎ | E |
| | FLV-DR7030R | Red | 2.4 | 120 | FLV-DR7030DF | ◎ | ◎ | E |
| | FLV-DR7030B | Blue | 3.6 | 120 | FLV-DR7030DF | ◎ | ◎ | E |
| | FLV-DR7030IR | Infrared Light | 2.4 | 120 | FLV-DR7030DF | ◎ | ◎ | E |
| | FLV-DR7030UV | Ultraviolet Light | 5.3 | 120 | FLV-DR7030DF | ◎ | ◎ | E |
| | FLV-DR9000W | White | 6.3 | 230 | FLV-DR9000DF | ◎ | ◎ | F |
| | FLV-DR9000R | Red | 4.4 | 230 | FLV-DR9000DF | ◎ | ◎ | F |
| | FLV-DR9000B | Blue | 6.3 | 230 | FLV-DR9000DF | ◎ | ◎ | F |
| | FLV-DR9030W | White | 5.8 | 200 | FLV-DR9030DF | ◎ | ◎ | G |
| | FLV-DR9030R | Red | 4.4 | 200 | FLV-DR9030DF | ◎ | ◎ | G |
| | FLV-DR9030B | Blue | 5.8 | 200 | FLV-DR9030DF | ◎ | ◎ | G |
| | FLV-DR9030IR | Infrared Light | 3.9 | 200 | FLV-DR9030DF | ◎ | ◎ | G |
| | FLV-DR9030UV | Ultraviolet Light | 6.8 | 200 | FLV-DR9030DF | ◎ | ◎ | G |
| | FLV-DR9215W | White | 5.3 | 200 | FLV-DR9215DF | ◎ | ◎ | H |
| | FLV-DR9215R | Red | 4.6 | 200 | FLV-DR9215DF | ◎ | ◎ | H |
| | FLV-DR9215B | Blue | 5.3 | 200 | FLV-DR9215DF | ◎ | ◎ | H |
| | FLV-DR12030W | White | 8.7 | 360 | FLV-DR12030DF | ○ | ◎ | I |
| | FLV-DR12030R | Red | 6.5 | 360 | FLV-DR12030DF | ◎ | ◎ | I |
| | FLV-DR12030B | Blue | 8.7 | 360 | FLV-DR12030DF | ○ | ◎ | I |
| Low Angle Ring Lighting | FLV-DL5890W | White | 1.6 | 90 | FLV-DL5890DF | ◎ | ◎ | J |
| | FLV-DL5890R | Red | 1.2 | 90 | FLV-DL5890DF | ◎ | ◎ | J |
| | FLV-DL5890B | Blue | 1.6 | 90 | FLV-DL5890DF | ◎ | ◎ | J |
| | FLV-DL7260W | White | 4.4 | 120 | FLV-DL7260DF | ◎ | ◎ | K |
| | FLV-DL7260R | Red | 3.5 | 120 | FLV-DL7260DF | ◎ | ◎ | K |
| | FLV-DL7260B | Blue | 4.4 | 120 | FLV-DL7260DF | ◎ | ◎ | K |
| | FLV-DL9090W | White | 2.4 | 100 | - | ◎ | ◎ | L |
| | FLV-DL9090R | Red | 1.6 | 100 | - | ◎ | ◎ | L |
| | FLV-DL9090B | Blue | 2.4 | 100 | - | ◎ | ◎ | L |
| | FLV-DL12060W | White | 11.6 | 310 | FLV-DL12060DF | ○ | ◎ | M |
| | FLV-DL12060R | Red | 7.7 | 310 | FLV-DL12060DF | ○ | ◎ | M |
| | FLV-DL12060B | Blue | 11.6 | 310 | FLV-DL12060DF | ○ | ◎ | M |
| | FLV-DL15060W | White | 13.5 | 260 | FLV-DL15060DF | ○ | ◎ | N |
| | FLV-DL15060R | Red | 10.1 | 260 | FLV-DL15060DF | ○ | ◎ | N |
| | FLV-DL15060B | Blue | 13.5 | 260 | FLV-DL15060DF | ○ | ◎ | N |

∗: The table shows whether each Lighting can be connected to Lighting Controllers. When multiple Lightings are connected to a Lighting Controller, make sure that the total electricity of all connected Lightings does not exceed the electricity of connectable lighting of each Lighting Controller.
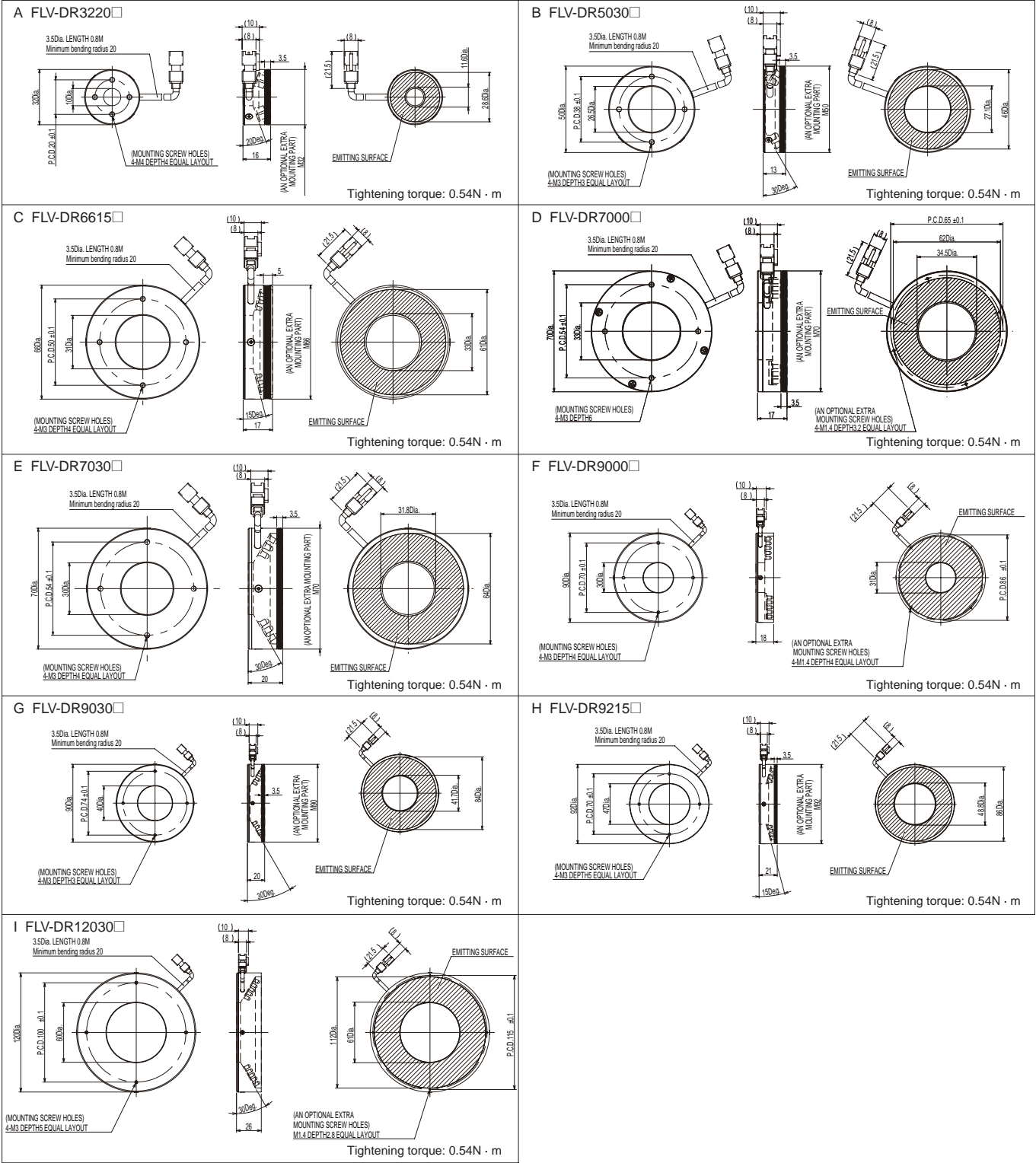　◎: Connectable. Light can be continuously emitted.
　○: Connectable. Light can be emitted only while the trigger is input.
　✕: Not connectable

# Direct Ring Lighting/Low Angle Ring Lighting FLV-DR Series/-DL Series
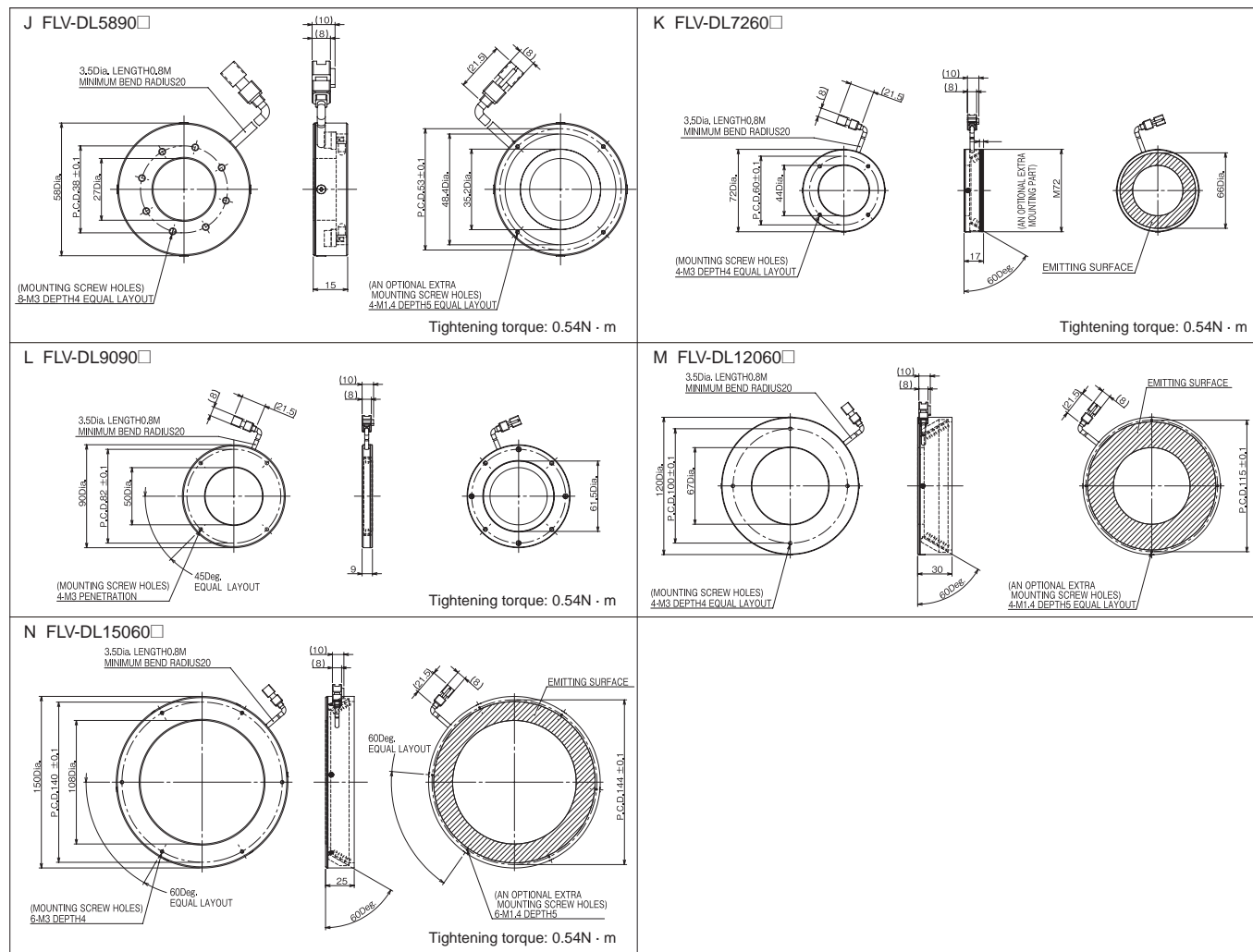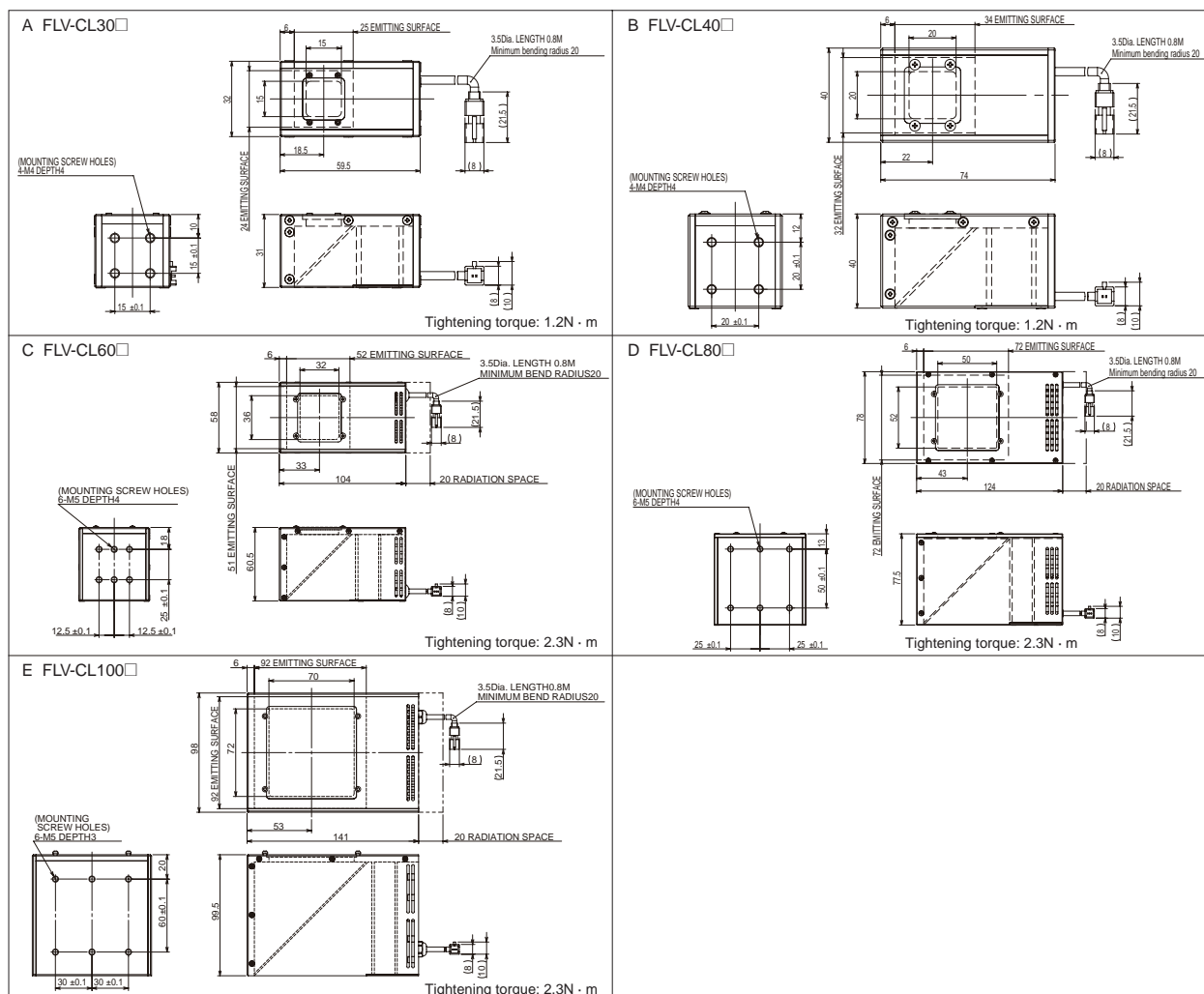
## Dimensions

### ●Direct Ring Lighting

A  FLV-DR3220□

3.5Dia. LENGTH 0.8M
Minimum bending radius 20

(MOUNTING SCREW HOLES)
4-M4 DEPTH4 EQUAL LAYOUT

(AN OPTIONAL EXTRA MOUNTING PART) M32

EMITTING SURFACE

Tightening torque: 0.54N · m

B  FLV-DR5030□

3.5Dia. LENGTH 0.8M
Minimum bending radius 20

(MOUNTING SCREW HOLES)
4-M3 DEPTH3 EQUAL LAYOUT

(AN OPTIONAL EXTRA MOUNTING PART) M50

EMITTING SURFACE

Tightening torque: 0.54N · m

C  FLV-DR6615□

3.5Dia. LENGTH 0.8M
Minimum bending radius 20

(MOUNTING SCREW HOLES)
4-M3 DEPTH4 EQUAL LAYOUT

(AN OPTIONAL EXTRA MOUNTING PART) M66

EMITTING SURFACE

Tightening torque: 0.54N · m

D  FLV-DR7000□

3.5Dia. LENGTH 0.8M
Minimum bending radius 20

(MOUNTING SCREW HOLES)
4-M3 DEPTH6

(AN OPTIONAL EXTRA MOUNTING PART) M70

EMITTING SURFACE

(AN OPTIONAL EXTRA MOUNTING SCREW HOLES)
4-M1.4 DEPTH3.2 EQUAL LAYOUT

Tightening torque: 0.54N · m

E  FLV-DR7030□

3.5Dia. LENGTH 0.8M
Minimum bending radius 20

(MOUNTING SCREW HOLES)
4-M3 DEPTH4 EQUAL LAYOUT

(AN OPTIONAL EXTRA MOUNTING PART) M70

EMITTING SURFACE

Tightening torque: 0.54N · m

F  FLV-DR9000□

3.5Dia. LENGTH 0.8M
Minimum bending radius 20

(MOUNTING SCREW HOLES)
4-M3 DEPTH4 EQUAL LAYOUT

EMITTING SURFACE

(AN OPTIONAL EXTRA MOUNTING SCREW HOLES)
4-M1.4 DEPTH4 EQUAL LAYOUT

Tightening torque: 0.54N · m

G  FLV-DR9030□

3.5Dia. LENGTH 0.8M
Minimum bending radius 20

(MOUNTING SCREW HOLES)
4-M3 DEPTH3 EQUAL LAYOUT

(AN OPTIONAL EXTRA MOUNTING PART) M90

EMITTING SURFACE

Tightening torque: 0.54N · m

H  FLV-DR9215□

3.5Dia. LENGTH 0.8M
Minimum bending radius 20

(MOUNTING SCREW HOLES)
4-M3 DEPTH5 EQUAL LAYOUT

(AN OPTIONAL EXTRA MOUNTING PART) M92

EMITTING SURFACE

Tightening torque: 0.54N · m

I  FLV-DR12030□

3.5Dia. LENGTH 0.8M
Minimum bending radius 20

EMITTING SURFACE

(MOUNTING SCREW HOLES)
4-M3 DEPTH5 EQUAL LAYOUT

(AN OPTIONAL EXTRA MOUNTING SCREW HOLES)
M1.4 DEPTH2.8 EQUAL LAYOUT

Tightening torque: 0.54N · m

**OMRON**

# Direct Ring Lighting/Low Angle Ring Lighting FLV-DR Series/-DL Series

## ●Low Angle Ring Lighting

### J  FLV-DL5890□

3.5Dia. LENGTH0.8M
MINIMUM BEND RADIUS20

(10)
(8)
(21.5)
(8)

58Dia.
P.C.D.38 ±0.1
27Dia.
48.4Dia.
35.2Dia.
P.C.D.53 ±0.1

(MOUNTING SCREW HOLES)
8-M3 DEPTH4 EQUAL LAYOUT

15

(AN OPTIONAL EXTRA
MOUNTING SCREW HOLES)
4-M1.4 DEPTH5 EQUAL LAYOUT

Tightening torque: 0.54N · m

### K  FLV-DL7260□

3.5Dia. LENGTH0.8M

(8)
(21.5)
(10)
(8)

72Dia.
P.C.D.60 ±0.1
44Dia.
M72
66Dia.

(AN OPTIONAL EXTRA
MOUNTING PART)

(MOUNTING SCREW HOLES)
4-M3 DEPTH4 EQUAL LAYOUT

17

60Deg.

EMITTING SURFACE

Tightening torque: 0.54N · m

### L  FLV-DL9090□

3.5Dia. LENGTH0.8M
MINIMUM BEND RADIUS20

(8)
(21.5)
(10)
(8)

90Dia.
P.C.D.82 ±0.1
50Dia.
61.5Dia.

(MOUNTING SCREW HOLES)
4-M3 PENETRATION

45Deg.
EQUAL LAYOUT

9

Tightening torque: 0.54N · m

### M  FLV-DL12060□

3.5Dia. LENGTH0.8M
MINIMUM BEND RADIUS20

(10)
(8)

EMITTING SURFACE

(21.5)
(8)

120Dia.
P.C.D.100 ±0.1
67Dia.
P.C.D.115 ±0.1

(MOUNTING SCREW HOLES)
4-M3 DEPTH4 EQUAL LAYOUT

30

60Deg.

(AN OPTIONAL EXTRA
MOUNTING SCREW HOLES)
4-M1.4 DEPTH5 EQUAL LAYOUT

### N  FLV-DL15060□

3.5Dia. LENGTH0.8M
MINIMUM BEND RADIUS20

(10)
(8)

(21.5)
(8)

EMITTING SURFACE

150Dia.
P.C.D.140 ±0.1
108Dia.
P.C.D.144 ±0.1

60Deg.
EQUAL LAYOUT

(MOUNTING SCREW HOLES)
6-M3 DEPTH4

60Deg.
EQUAL LAYOUT

25

60Deg.

(AN OPTIONAL EXTRA
MOUNTING SCREW HOLES)
6-M1.4 DEPTH5

Tightening torque: 0.54N · m

OMRON

3

# Bar Lighting
# FLV-BR Series

## Order Information

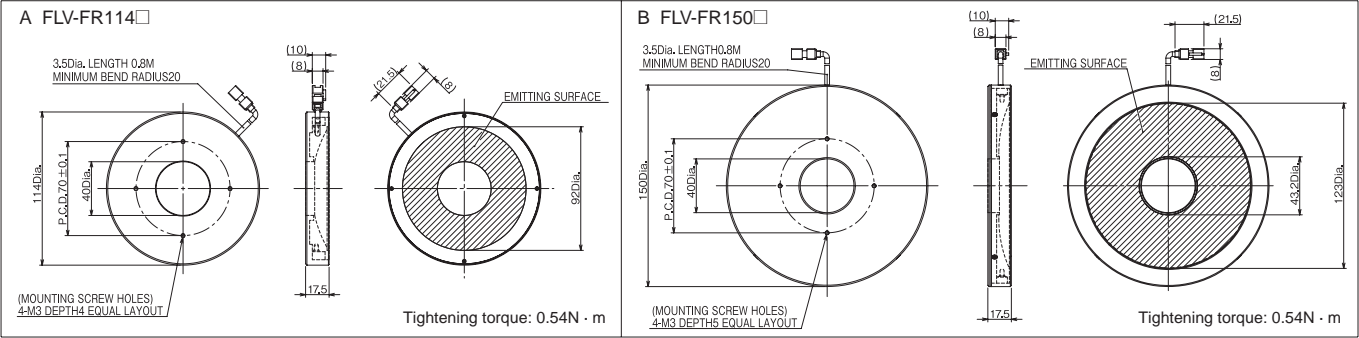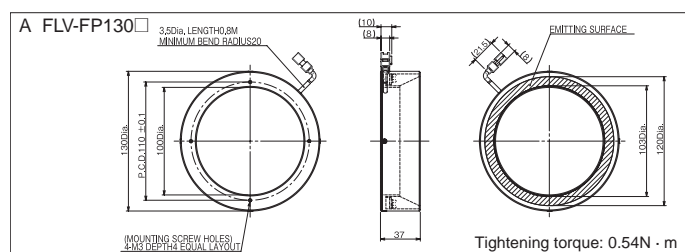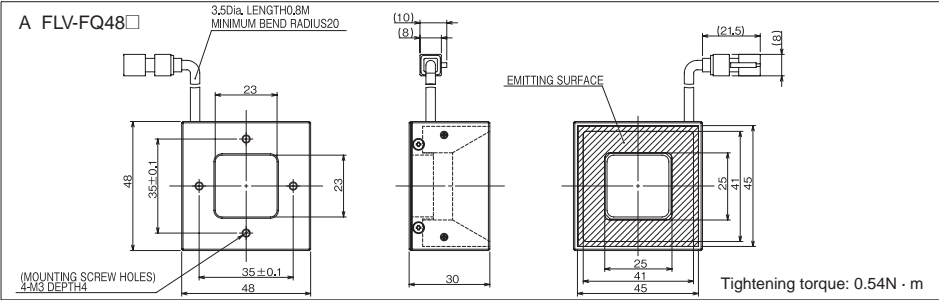| Model | Light Color | Electricity (W) | Weight (g) | Connectable Option Diffusion Plates | Camera-mount Lighting Controller FLV-TCC Series | Analog Lighting Controller FLV-ATC Series | Dimensions |
|---|---|---|---|---|---|---|---|
| FLV-BR6022W | White | 1.2 | 60 | FLV-BR6022DF | ◎ | ◎ | A |
| FLV-BR6022R | Red | 1.2 | 60 | FLV-BR6022DF | ◎ | ◎ | A |
| FLV-BR6022B | Blue | 1.2 | 60 | FLV-BR6022DF | ◎ | ◎ | A |
| FLV-BR6022IR | Infrared Light | 0.9 | 60 | FLV-BR6022DF | ◎ | ◎ | A |
| FLV-BR6022UV | Ultraviolet Light | 1.7 | 60 | FLV-BR6022DF | ◎ | ◎ | A |
| FLV-BR8532W | White | 3.9 | 130 | FLV-BR8532DF | ◎ | ◎ | B |
| FLV-BR8532R | Red | 2.9 | 130 | FLV-BR8532DF | ◎ | ◎ | B |
| FLV-BR8532B | Blue | 3.9 | 130 | FLV-BR8532DF | ◎ | ◎ | B |
| FLV-BR11222W | White | 2.4 | 100 | FLV-BR11222DF | ◎ | ◎ | C |
| FLV-BR11222R | Red | 2 | 100 | FLV-BR11222DF | ◎ | ◎ | C |
| FLV-BR11222B | Blue | 2.4 | 100 | FLV-BR11222DF | ◎ | ◎ | C |
| FLV-BR11222IR | Infrared Light | 1.7 | 100 | FLV-BR11222DF | ◎ | ◎ | C |
| FLV-BR11222UV | Ultraviolet Light | 3.9 | 100 | FLV-BR11222DF | ◎ | ◎ | C |
| FLV-BR14030W | White | 6 | 140 | FLV-BR14030DF | ◎ | ◎ | D |
| FLV-BR14030R | Red | 4.1 | 140 | FLV-BR14030DF | ◎ | ◎ | D |
| FLV-BR14030B | Blue | 6 | 140 | FLV-BR14030DF | ◎ | ◎ | D |
| FLV-BR15020W | White | 2.9 | 120 | FLV-BR15020DF | ◎ | ◎ | E |
| FLV-BR15020R | Red | 2.4 | 120 | FLV-BR15020DF | ◎ | ◎ | E |
| FLV-BR15020B | Blue | 2.9 | 120 | FLV-BR15020DF | ◎ | ◎ | E |
| FLV-BR21222W | White | 6 | 140 | FLV-BR21222DF | ◎ | ◎ | F |
| FLV-BR21222R | Red | 4.4 | 140 | FLV-BR21222DF | ◎ | ◎ | F |
| FLV-BR21222B | Blue | 6 | 140 | FLV-BR21222DF | ◎ | ◎ | F |
| FLV-BR21230W | White | 8.4 | 220 | FLV-BR21230DF | ○ | ◎ | G |
| FLV-BR21230R | Red | 6.8 | 220 | FLV-BR21230DF | ◎ | ◎ | G |
| FLV-BR21230B | Blue | 8.4 | 220 | FLV-BR21230DF | ○ | ◎ | G |
| FLV-BR21230IR | Infrared Light | 6 | 220 | FLV-BR21230DF | ◎ | ◎ | G |
| FLV-BR21230UV | Ultraviolet Light | 13 | 220 | FLV-BR21230DF | ○ | ◎ | G |
| FLV-BR38037W | White | 14.9 | 430 | FLV-BR48031DF | ○ | ◎ | H |
| FLV-BR38037R | Red | 11.6 | 430 | FLV-BR48031DF | ○ | ◎ | H |
| FLV-BR38037B | Blue | 14.9 | 430 | FLV-BR48031DF | ○ | ◎ | H |
| FLV-BR48031W | White | 17.6 | 460 | FLV-BR48031DF | × | ◎ | I |
| FLV-BR48031R | Red | 15.9 | 460 | FLV-BR48031DF | × | ◎ | I |
| FLV-BR48031B | Blue | 17.6 | 460 | FLV-BR48031DF | × | ◎ | I |

✽: The table shows whether each Lighting can be connected to Lighting Controllers. When multiple Lightings are connected to a Lighting Controller, make sure that the total electricity of all connected Lightings does not exceed the electricity of connectable lighting of each Lighting Controller.
◎: Connectable. Light can be continuously emitted.
○: Connectable. Light can be emitted only while the trigger is input.
×: Not connectable

OMRON

# Bar Lighting FLV-BR Series

## Dimensions

### A FLV-BR6022□

Tightening torque: 0.54N · m

### B FLV-BR8532□

Tightening torque: 0.54N · m

### C FLV-BR11222□

Tightening torque: 0.54N · m

### D FLV-BR14030□

Tightening torque: 0.54N · m

### E FLV-BR15020□

Tightening torque: 0.54N · m

### F FLV-BR21222□

Tightening torque: 0.54N · m

### G FLV-BR21230□

Tightening torque: 0.54N · m

### H FLV-BR38037□

Tightening torque: 0.54N · m

### I FLV-BR48031□

Tightening torque: 0.54N · m
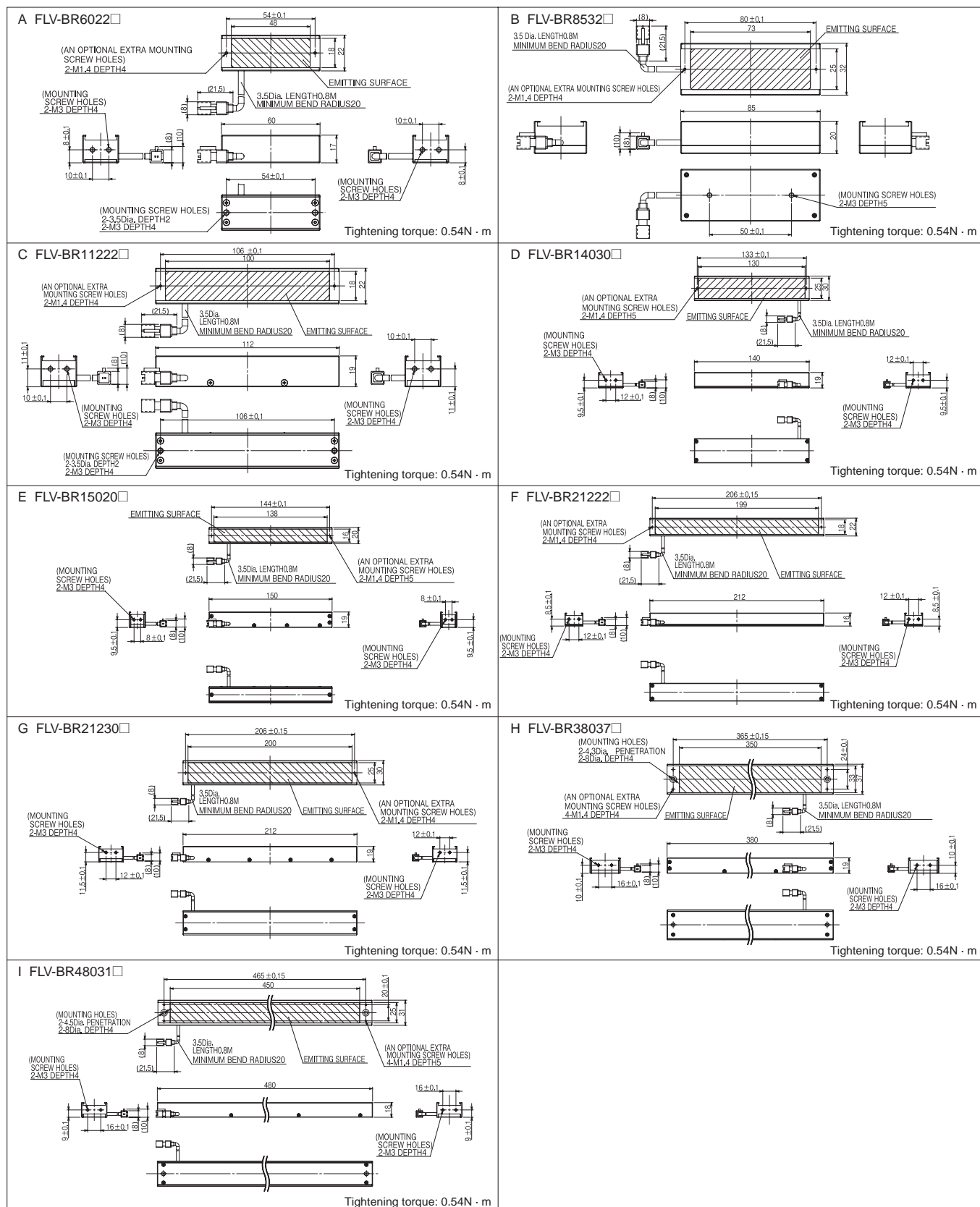
# Coaxial Lighting
# FLV-CL Series

## Order Information

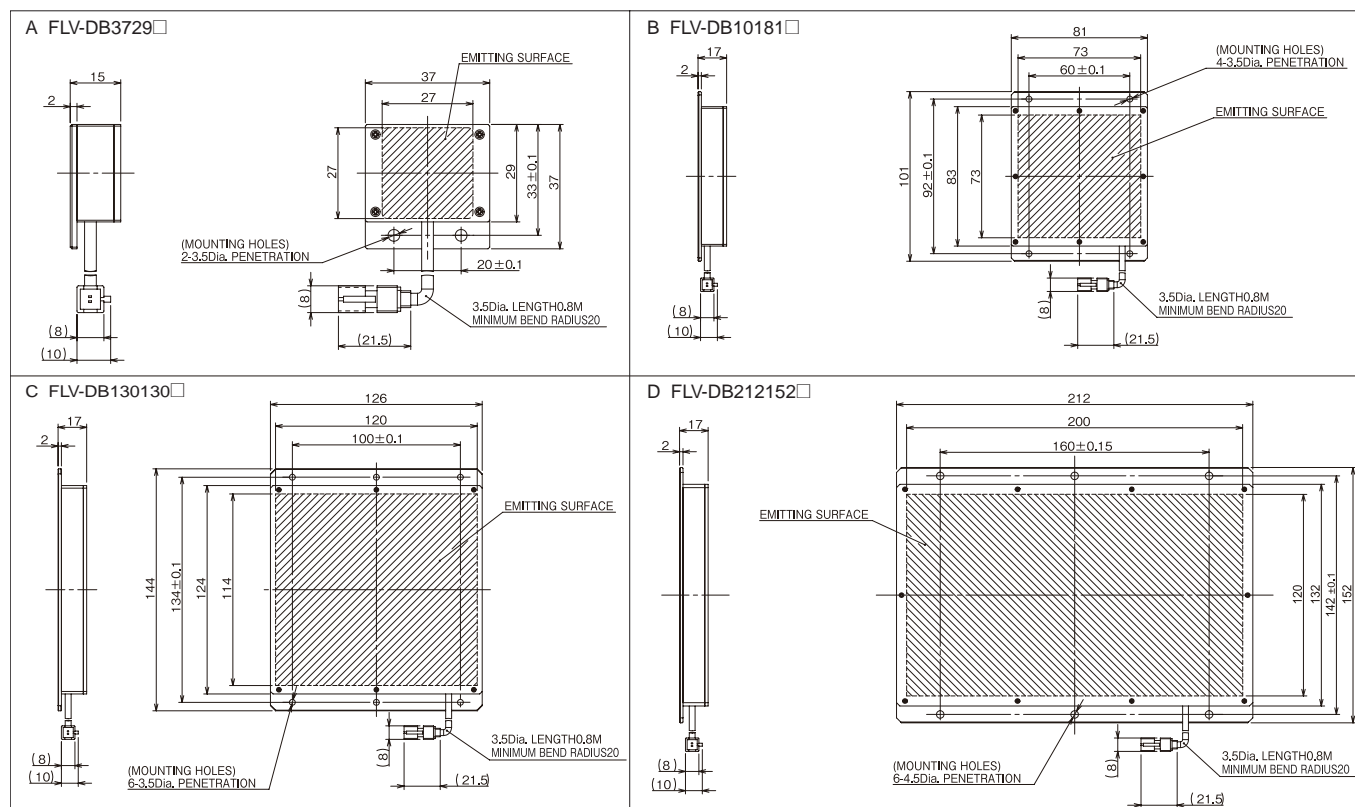| Model | Light Color | Electricity (W) | Weight (g) | Connectable Lighting Controller ✽ | | Dimensions |
|---|---|---|---|---|---|---|
| | | | | Camera-mount Lighting Controller FLV-TCC Series | Analog Lighting Controller FLV-ATC Series | |
| **FLV-CL30W** | White | 2 | 110 | ◎ | ◎ | A |
| **FLV-CL30R** | Red | 1.1 | 110 | ◎ | ◎ | A |
| **FLV-CL30B** | Blue | 2 | 110 | ◎ | ◎ | A |
| **FLV-CL40W** | White | 3.6 | 170 | ◎ | ◎ | B |
| **FLV-CL40R** | Red | 2.2 | 170 | ◎ | ◎ | B |
| **FLV-CL40B** | Blue | 3.6 | 170 | ◎ | ◎ | B |
| **FLV-CL60W** | White | 9.2 | 380 | ○ | ◎ | C |
| **FLV-CL60R** | Red | 4.8 | 380 | ◎ | ◎ | C |
| **FLV-CL60B** | Blue | 9.2 | 380 | ○ | ◎ | C |
| **FLV-CL60IR** | Infrared Light | 3.9 | 380 | ◎ | ◎ | C |
| **FLV-CL60UV** | Ultraviolet Light | 9.2 | 380 | ○ | ◎ | C |
| **FLV-CL80W** | White | 14.4 | 580 | ○ | ◎ | D |
| **FLV-CL80R** | Red | 9.6 | 580 | ○ | ◎ | D |
| **FLV-CL80B** | Blue | 14.4 | 580 | ○ | ◎ | D |
| **FLV-CL100W** | White | 21.2 | 820 | ✕ | ◎ | E |
| **FLV-CL100R** | Red | 14 | 820 | ○ | ◎ | E |
| **FLV-CL100B** | Blue | 21.2 | 820 | ✕ | ◎ | E |

✽: The table shows whether each Lighting can be connected to Lighting Controllers. When multiple Lightings are connected to a Lighting Controller, make sure that the total electricity of all connected Lightings does not exceed the electricity of connectable lighting of each Lighting Controller.
◎: Connectable. Light can be continuously emitted.   ○: Connectable. Light can be emitted only while the trigger is input.  ✕: Not connectable
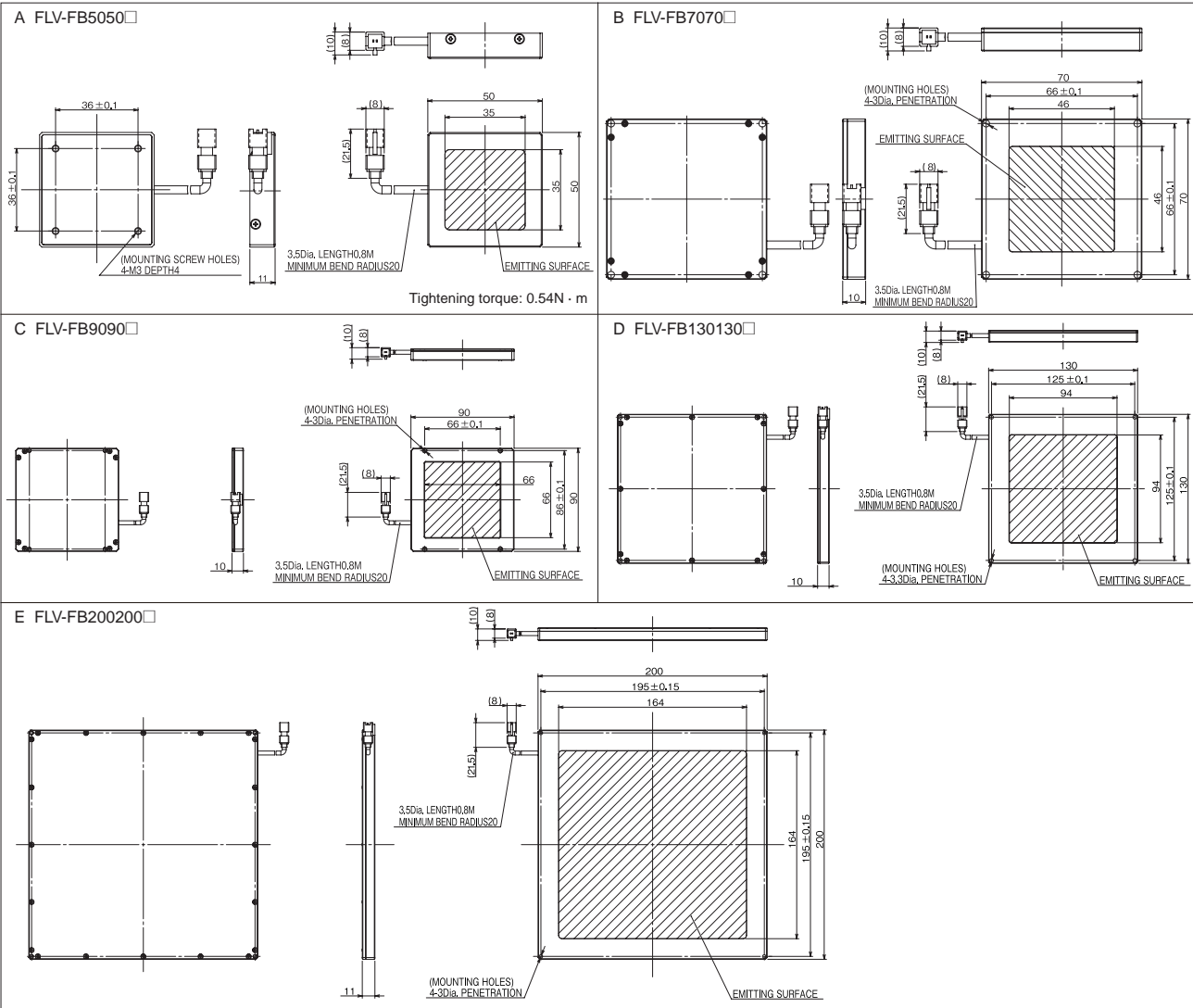
## Dimensions



A  FLV-CL30□
Tightening torque: 1.2N · m

B  FLV-CL40□
Tightening torque: 1.2N · m

C  FLV-CL60□
Tightening torque: 2.3N · m

D  FLV-CL80□
Tightening torque: 2.3N · m

E  FLV-CL100□
Tightening torque: 2.3N · m

OMRON

# Shadowless Lighting
# FLV-FS Series

## Order Information

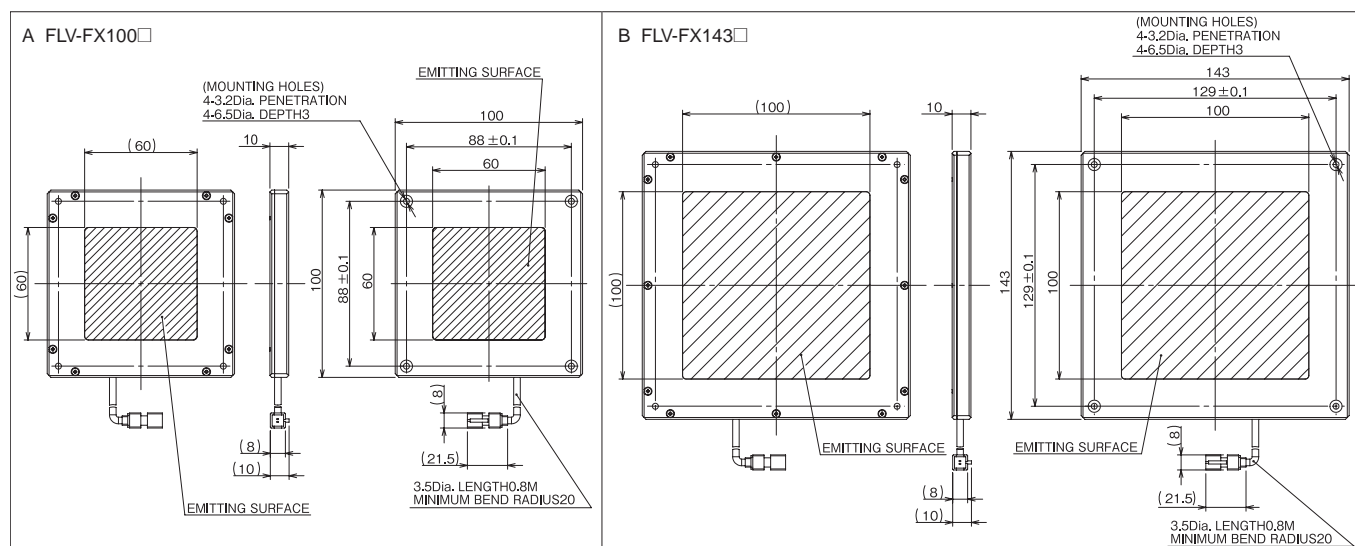| Model | Light Color | Electricity (W) | Weight (g) | Connectable Lighting Controller ✱ | | Dimensions |
|---|---|---|---|---|---|---|
| | | | | Camera-mount Lighting Controller FLV-TCC Series | Analog Lighting Controller FLV-ATC Series | |
| **FLV-FS74W** | White | 4.1 | 140 | ◎ | ◎ | A |
| **FLV-FS74R** | Red | 2.9 | 140 | ◎ | ◎ | A |
| **FLV-FS74B** | Blue | 4.1 | 140 | ◎ | ◎ | A |

✱: The table shows whether each Lighting can be connected to Lighting Controllers. When multiple Lightings are connected to a Lighting Controller, make sure that the total electricity of all connected Lightings does not exceed the electricity of connectable lighting of each Lighting Controller.
　◎: Connectable. Light can be continuously emitted.
　○: Connectable. Light can be emitted only while the trigger is input.
　✕: Not connectable

## Dimensions



A FLV-FS74□

3.5Dia. LENGTH0.8M
MINIMUM BEND RADIUS20

74Dia.
36±0.1
20Dia.

(MOUNTING SCREW HOLES)
4-M3 DEPTH5

36±0.1

EMITTING SURFACE

64Dia.

18

Tightening torque: 0.54N · m
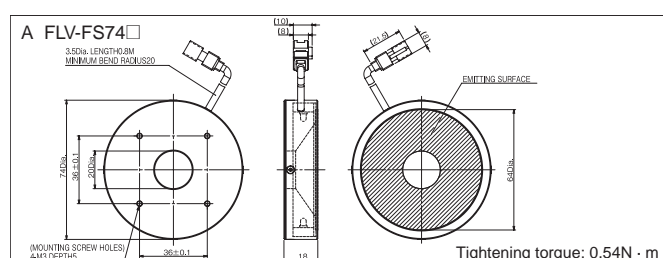
# Shadowless Lighting
# FLV-FR Series

## Order Information

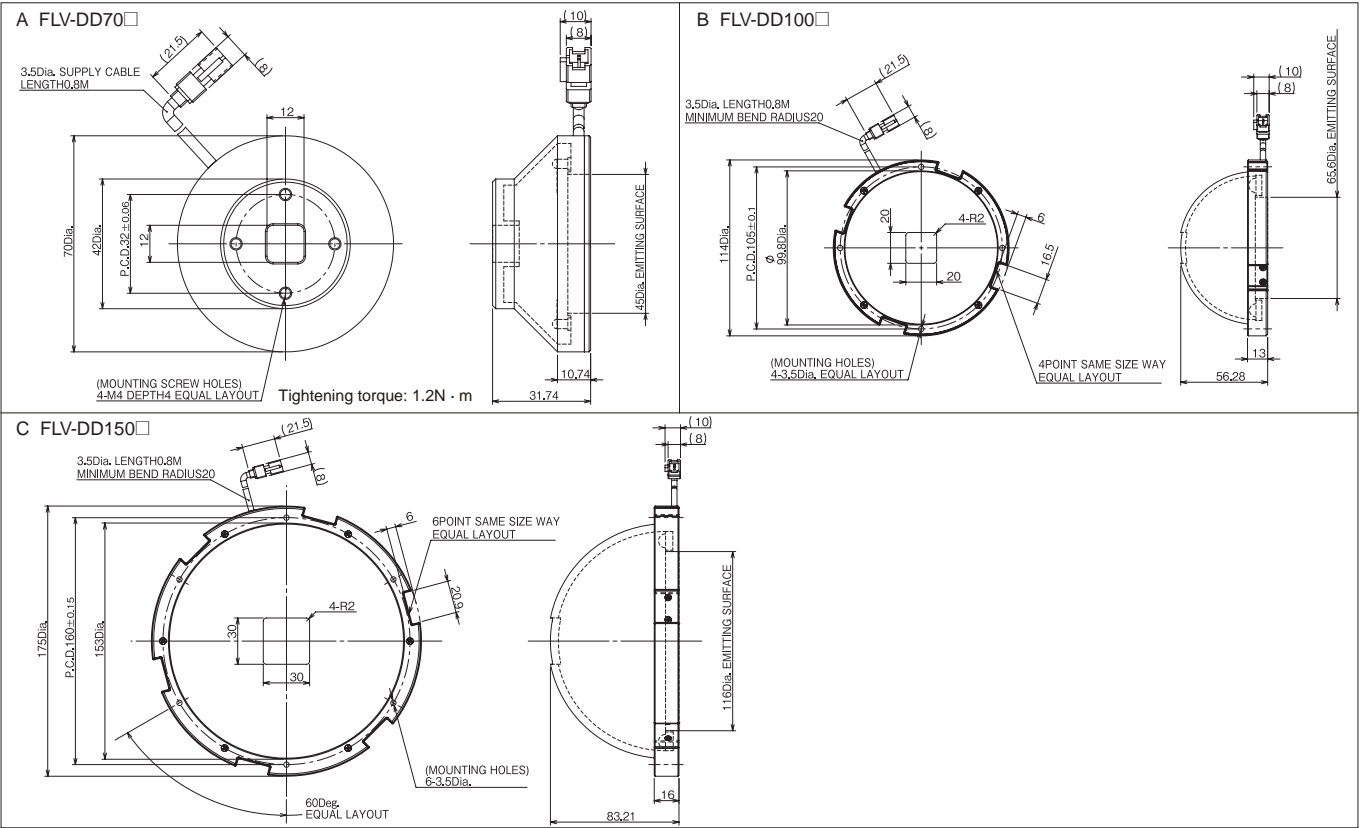| Model | Light Color | Electricity (W) | Weight (g) | Connectable Lighting Controller ✳ | | Dimensions |
|---|---|---|---|---|---|---|
| | | | | Camera-mount Lighting Controller FLV-TCC Series | Analog Lighting Controller FLV-ATC Series | |
| **FLV-FR114W** | White | 3.2 | 270 | ◎ | ◎ | A |
| **FLV-FR114R** | Red | 2.4 | 270 | ◎ | ◎ | A |
| **FLV-FR114B** | Blue | 3.2 | 270 | ◎ | ◎ | A |
| **FLV-FR150W** | White | 4.8 | 500 | ◎ | ◎ | B |
| **FLV-FR150R** | Red | 2.9 | 500 | ◎ | ◎ | B |
| **FLV-FR150B** | Blue | 4.8 | 500 | ◎ | ◎ | B |

✳: The table shows whether each Lighting can be connected to Lighting Controllers. When multiple Lightings are connected to a Lighting Controller, make sure that the total electricity of all connected Lightings does not exceed the electricity of connectable lighting of each Lighting Controller.
◎: Connectable. Light can be continuously emitted.
◯: Connectable. Light can be emitted only while the trigger is input.
✕: Not connectable

## Dimensions



A  FLV-FR114□

3.5Dia. LENGTH 0.8M
MINIMUM BEND RADIUS20
114Dia.
P.C.D.70±0.1
40Dia.
(MOUNTING SCREW HOLES)
4-M3 DEPTH4 EQUAL LAYOUT
(10)
(8)
(21.9)
(8)
EMITTING SURFACE
92Dia.
17.5
Tightening torque: 0.54N · m

B  FLV-FR150□

3.5Dia. LENGTH0.8M
MINIMUM BEND RADIUS20
150Dia.
P.C.D.70±0.1
40Dia.
(MOUNTING SCREW HOLES)
4-M3 DEPTH5 EQUAL LAYOUT
(10)
(8)
EMITTING SURFACE
(21.5)
(8)
43.2Dia.
123Dia.
17.5
Tightening torque: 0.54N · m

OMRON

# Shadowless Lighting
# FLV-FP Series

## Order Information

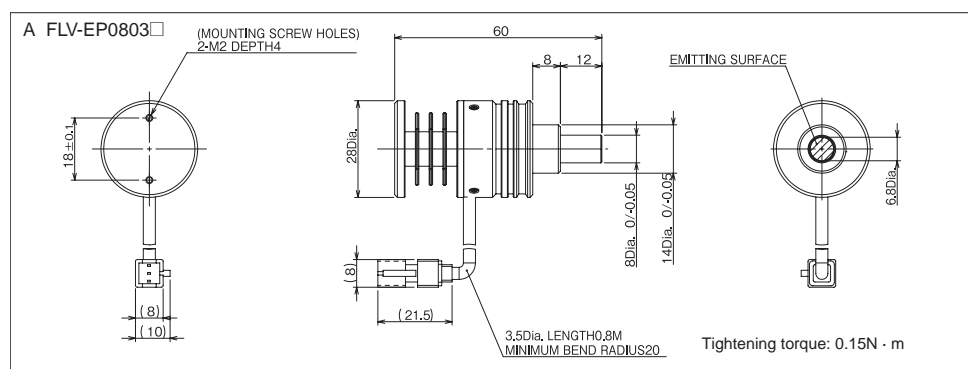| Model | Light Color | Electricity (W) | Weight (g) | Connectable Lighting Controller ∗ | | Dimensions |
| --- | --- | --- | --- | --- | --- | --- |
| | | | | Camera-mount Lighting Controller FLV-TCC Series | Analog Lighting Controller FLV-ATC Series | |
| **FLV-FP130W** | White | 6.8 | 320 | ◎ | ◎ | A |
| **FLV-FP130R** | Red | 6 | 320 | ◎ | ◎ | A |
| **FLV-FP130B** | Blue | 6.8 | 320 | ◎ | ◎ | A |

∗: The table shows whether each Lighting can be connected to Lighting Controllers. When multiple Lightings are connected to a Lighting Controller, make sure that the total electricity of all connected Lightings does not exceed the electricity of connectable lighting of each Lighting Controller.
　◎: Connectable. Light can be continuously emitted.
　○: Connectable. Light can be emitted only while the trigger is input.
　✕: Not connectable

## Dimensions



A FLV-FP130□
3.5Dia, LENGTH0.8M
MINIMUM BEND RADIUS20
(10)
(8)
EMITTING SURFACE
130Dia.
P.C.D.110 ±0.1
100Dia.
100Dia.
120Dia.
(MOUNTING SCREW HOLES)
4-M3 DEPTH4 EQUAL LAYOUT
37
Tightening torque: 0.54N · m

# Shadowless Lighting
# FLV-FQ Series

## Order Information

| Model | Light Color | Electricity (W) | Weight (g) | Connectable Lighting Controller ✲ | | Dimensions |
|---|---|---|---|---|---|---|
| | | | | Camera-mount Lighting Controller FLV-TCC Series | Analog Lighting Controller FLV-ATC Series | |
| **FLV-FQ48W** | White | 1.8 | 100 | ◎ | ◎ | A |
| **FLV-FQ48R** | Red | 1.1 | 100 | ◎ | ◎ | A |
| **FLV-FQ48B** | Blue | 1.8 | 100 | ◎ | ◎ | A |

✲: The table shows whether each Lighting can be connected to Lighting Controllers. When multiple Lightings are connected to a Lighting Controller, make sure that the total electricity of all connected Lightings does not exceed the electricity of connectable lighting of each Lighting Controller.
　◎: Connectable. Light can be continuously emitted.
　○: Connectable. Light can be emitted only while the trigger is input.
　✕: Not connectable

## Dimensions



A FLV-FQ48☐

3.5Dia. LENGTH0.8M
MINIMUM BEND RADIUS20

EMITTING SURFACE

(MOUNTING SCREW HOLES)
4-M3 DEPTH4

Tightening torque: 0.54N · m

**OMRON**

# Direct Back Lighting
# FLV-DB Series

## Order Information

| Model | Light Color | Electricity (W) | Weight (g) | Connectable Lighting Controller ✻ | | Dimensions |
|---|---|---|---|---|---|---|
| | | | | Camera-mount Lighting Controller FLV-TCC Series | Analog Lighting Controller FLV-ATC Series | |
| **FLV-DB3729W** | White | 0.9 | 50 | ◎ | ◎ | A |
| **FLV-DB3729R** | Red | 0.9 | 50 | ◎ | ◎ | A |
| **FLV-DB3729B** | Blue | 0.9 | 50 | ◎ | ◎ | A |
| **FLV-DB10181W** | White | 8 | 160 | ○ | ◎ | B |
| **FLV-DB10181R** | Red | 4.8 | 160 | ◎ | ◎ | B |
| **FLV-DB10181B** | Blue | 8 | 160 | ○ | ◎ | B |
| **FLV-DB130130W** | White | 15.2 | 270 | ✕ | ◎ | C |
| **FLV-DB130130R** | Red | 10.1 | 270 | ○ | ◎ | C |
| **FLV-DB130130B** | Blue | 15.2 | 270 | ✕ | ◎ | C |
| **FLV-DB212152W** | White | 28.8 | 510 | ✕ | ◎ | D |
| **FLV-DB212152R** | Red | 17.3 | 510 | ✕ | ◎ | D |
| **FLV-DB212152B** | Blue | 28.8 | 510 | ✕ | ◎ | D |

✻: The table shows whether each Lighting can be connected to Lighting Controllers. When multiple Lightings are connected to a Lighting Controller, make sure that the total electricity of all connected Lightings does not exceed the electricity of connectable lighting of each Lighting Controller.
　◎: Connectable. Light can be continuously emitted.
　○: Connectable. Light can be emitted only while the trigger is input.
　✕: Not connectable

## Dimensions



A  FLV-DB3729□

B  FLV-DB10181□

C  FLV-DB130130□

D  FLV-DB212152□

# Edge Type Lighting
# FLV-FB Series

## Order Information

| Model | Light Color | Electricity (W) | Weight (g) | Connectable Lighting Controller ✳ | | Dimensions |
|---|---|---|---|---|---|---|
| | | | | Camera-mount Lighting Controller FLV-TCC Series | Analog Lighting Controller FLV-ATC Series | |
| FLV-FB5050W | White | 1.8 | 80 | ◎ | ◎ | A |
| FLV-FB5050R | Red | 0.9 | 80 | ◎ | ◎ | A |
| FLV-FB5050B | Blue | 1.8 | 80 | ◎ | ◎ | A |
| FLV-FB7070W | White | 1.8 | 90 | ◎ | ◎ | B |
| FLV-FB7070R | Red | 1.8 | 90 | ◎ | ◎ | B |
| FLV-FB7070B | Blue | 1.8 | 90 | ◎ | ◎ | B |
| FLV-FB9090W | White | 3.4 | 160 | ◎ | ◎ | C |
| FLV-FB9090R | Red | 1.8 | 160 | ◎ | ◎ | C |
| FLV-FB9090B | Blue | 3.4 | 160 | ◎ | ◎ | C |
| FLV-FB130130W | White | 5.3 | 230 | ◎ | ◎ | D |
| FLV-FB130130R | Red | 2.7 | 230 | ◎ | ◎ | D |
| FLV-FB130130B | Blue | 5.3 | 230 | ◎ | ◎ | D |
| FLV-FB200200W | White | 6.8 | 710 | ◎ | ◎ | E |
| FLV-FB200200R | Red | 5.1 | 710 | ◎ | ◎ | E |
| FLV-FB200200B | Blue | 6.8 | 710 | ◎ | ◎ | E |

✳: The table shows whether each Lighting can be connected to Lighting Controllers. When multiple Lightings are connected to a Lighting Controller, make sure that the total electricity of all connected Lightings does not exceed the electricity of connectable lighting of each Lighting Controller.
◎: Connectable. Light can be continuously emitted.　○: Connectable. Light can be emitted only while the trigger is input.　✕: Not connectable

## Dimensions



A  FLV-FB5050□
Tightening torque: 0.54N · m

B  FLV-FB7070□

C  FLV-FB9090□

D  FLV-FB130130□

E  FLV-FB200200□

OMRON

# Edge Type Coaxial Lighting
# FLV-FX Series

## Order Information

| Model | Light Color | Electricity (W) | Weight (g) | Connectable Lighting Controller ✽ | | Dimensions |
|---|---|---|---|---|---|---|
| | | | | Camera-mount Lighting Controller FLV-TCC Series | Analog Lighting Controller FLV-ATC Series | |
| **FLV-FX100W** | White | 3.9 | 180 | ◎ | ◎ | A |
| **FLV-FX100R** | Red | 2 | 180 | ◎ | ◎ | A |
| **FLV-FX100B** | Blue | 3.9 | 180 | ◎ | ◎ | A |
| **FLV-FX143W** | White | 5.3 | 240 | ◎ | ◎ | B |
| **FLV-FX143R** | Red | 3.9 | 240 | ◎ | ◎ | B |
| **FLV-FX143B** | Blue | 5.3 | 240 | ◎ | ◎ | B |

✽: The table shows whether each Lighting can be connected to Lighting Controllers. When multiple Lightings are connected to a Lighting Controller, make sure that the total electricity of all connected Lightings does not exceed the electricity of connectable lighting of each Lighting Controller.
　◎: Connectable. Light can be continuously emitted.
　○: Connectable. Light can be emitted only while the trigger is input.
　✕: Not connectable

## Dimensions



A  FLV-FX100□

B  FLV-FX143□

# Dome Lighting
# FLV-DD Series

## Order Information

| Model | Light Color | Electricity (W) | Weight (g) | Connectable Lighting Controller ✱ | | Dimensions |
|---|---|---|---|---|---|---|
| | | | | Camera-mount Lighting Controller FLV-TCC Series | Analog Lighting Controller FLV-ATC Series | |
| **FLV-DD70W** | White | 2 | 130 | ◎ | ◎ | A |
| **FLV-DD70R** | Red | 2 | 130 | ◎ | ◎ | A |
| **FLV-DD70B** | Blue | 2 | 130 | ◎ | ◎ | A |
| **FLV-DD100W** | White | 14.4 | 210 | ○ | ◎ | B |
| **FLV-DD100R** | Red | 9.6 | 210 | ○ | ◎ | B |
| **FLV-DD100B** | Blue | 14.4 | 210 | ○ | ◎ | B |
| **FLV-DD150W** | White | 14.4 | 490 | ○ | ◎ | C |
| **FLV-DD150R** | Red | 9.6 | 490 | ○ | ◎ | C |
| **FLV-DD150B** | Blue | 14.4 | 490 | ○ | ◎ | C |

✱: The table shows whether each Lighting can be connected to Lighting Controllers. When multiple Lightings are connected to a Lighting Controller, make sure that the total electricity of all connected Lightings does not exceed the electricity of connectable lighting of each Lighting Controller.
　◎: Connectable. Light can be continuously emitted.
　○: Connectable. Light can be emitted only while the trigger is input.
　╳: Not connectable

## Dimensions



A  FLV-DD70□

B  FLV-DD100□

C  FLV-DD150□

OMRON

# High-power Spot Lighting
# FLV-EP08 Series

## Order Information

| Model | Light Color | Electricity (W) | Weight (g) | Connectable Lighting Controller ✱ | | Dimensions |
|---|---|---|---|---|---|---|
| | | | | Camera-mount Lighting Controller FLV-TCC Series | Analog Lighting Controller FLV-ATC Series | |
| **FLV-EP0803W** | White | 2.3 | 80 | ✕ | ◎ | A |
| **FLV-EP0803R** | Red | 2.3 | 80 | ✕ | ◎ | A |
| **FLV-EP0803B** | Blue | 2.3 | 80 | ✕ | ◎ | A |

✱: The table shows whether each Lighting can be connected to Lighting Controllers. When multiple Lightings are connected to a Lighting Controller, make sure that the total electricity of all connected Lightings does not exceed the electricity of connectable lighting of each Lighting Controller.
◎: Connectable. Light can be continuously emitted.
◯: Connectable. Light can be emitted only while the trigger is input.
✕: Not connectable

## Dimensions



A  FLV-EP0803□

(MOUNTING SCREW HOLES)
2-M2 DEPTH4

18 ±0.1

( 8 )
( 10 )

60

8    12

28Dia.

( 8 )

( 21.5 )

3.5Dia. LENGTH0.8M
MINIMUM BEND RADIUS20

EMITTING SURFACE

8Dia. 0/-0.05
14Dia. 0/-0.05

6.8Dia.

Tightening torque: 0.15N · m

# Spot Lighting
# FLV-EP50 Series

## Order Information

| Model | Light Color | Electricity (W) | Weight (g) | Connectable Lighting Controller ✲ | | Dimensions |
|---|---|---|---|---|---|---|
| | | | | Camera-mount Lighting Controller FLV-TCC Series | Analog Lighting Controller FLV-ATC Series | |
| **FLV-EP50W** | White | 2.3 | 200 | ✕ | ◎ | A |
| **FLV-EP50R** | Red | 2.3 | 200 | ✕ | ◎ | A |

✲: The table shows whether each Lighting can be connected to Lighting Controllers. When multiple Lightings are connected to a Lighting Controller, make sure that the total electricity of all connected Lightings does not exceed the electricity of connectable lighting of each Lighting Controller.
  ◎: Connectable. Light can be continuously emitted.
  ◯: Connectable. Light can be emitted only while the trigger is input.
  ✕: Not connectable

## Dimensions

OMRON
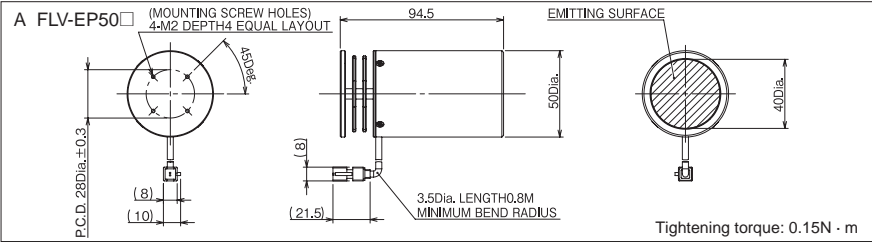
# Camera-mount Lighting Controller for FLV Series

# FLV-TCC Series

## Camera-mount Compact Lighting Controller to Perform Multistage Control with up to 4 Lightings

## Product features

- Compact design helps save space in the control panel.
- Lighting intensity can be maintained even with long wiring distances.
- No complicated wiring to the Vision Sensor is required.

**<Standard Lighting System>**

Camera

Lighting Controller

Lighting

Long distances result in voltage drops and lower light intensities.

**<FLV Series>**

Camera

Shutter speed: 1/2 of previous speed

Lighting

Power is supplied from the Camera, so light intensity does not decrease even if the Controller and Lighting are separated.
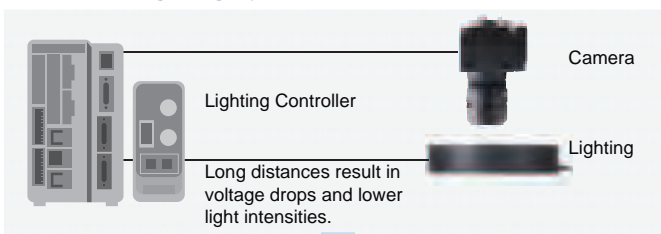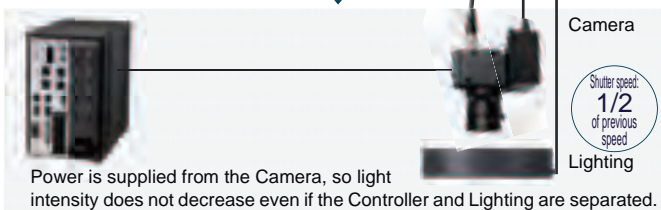
## Order Information

| Model | Number of Connectable Lightings | Applicable Lighting | | Power Supply Voltage | Electricity of Connectable Lighting | Luminance Control Method |
|---|---|---|---|---|---|---|
| | | Standard Lighting FLV Series *1 | Spot Lighting FLV-EP Series | | | |
| **FLV-TCC1** | 1ch | ◯ | - | 24 VDC *2 | 15W max. | Digital *3 |
| **FLV-TCC4** | 4ch | ◯ | - | | | |

*1. Standard lighting is all FLV-series Lightings excluding the FLV-EP-series Spot Lightings.
*2. If the total power consumption of Lightings is 7.5 W or less, an external power supply is not required because the power is supplied from the Camera.
*3. Luminance can be controlled by setting from the Vision Sensor Controller.

## Camera-mount Lighting Controller for FLV Series FLV-TCC Series

## Specification

| Item Model | FLV-TCC1 | FLV-TCC4 |
|---|---|---|
| **Number of connectable lightings** | 1 | 4 |
| **Applicable Lighting** | FLV series (However, FLV-EP series is excluded.) | |
| **Applicable Cameras** | FH-S series, FZ-S series | |
| **Applicable Image Sensor Controller** | FH series, FZ5 series | |
| **Input Voltage** | Supplied from applicable camera (13 V) or external power supply (24 V) | |
| **External power supply voltage** | 24 VDC ± 10% (including ripple) | |
| Recommended power supply | Model S8VS-06024 (manufactured by OMRON, 24 VDC, 2.5 A, 60 W) | |
| **Connectable lighting** | | |
| **13 VDC for camera supply** | | |
| **Continuous lighting** | 7.5 W max. | 4ch total 7.5 W max. |
| **Trigger lighting** Simultaneous lighting | 7.5 W max. | 4ch total 7.5 W max. |
| Individual lighting | | 7.5 W max. for 1ch |
| **24 VDC for external supply** | | |
| **Continuous lighting** | 7.5 W max. | 4ch total 7.5 W max. |
| **Trigger lighting** Simultaneous lighting | No duty restriction: 7.5 W max.<br>Duty by 50%: 15 W max. | No duty restriction: 4ch total 7.5 W max.<br>Duty by 50%: 4ch total 15 W max. |
| Individual lighting | | No duty restriction: 7.5 W max. for 1ch<br>Duty by 50%: 15 W max. for 1ch |
| **Drive method** | Contrast voltage method | |
| **Lighting method** | Trigger lighting, Continuous lighting | |
| **Luminance Control Method** | Duty light adjustment or voltage light adjustment<br>Duty light adjustment: PWM frequency of 100 kHz, light adjustment of 255 levels<br>Voltage light adjustment: Light adjustment of 255 levels<br>(all are set with image sensor controller) | |
| **Trigger lighting** | Lighting in synchronization with trigger input timing from the controller.<br>(auto setting in accordance with shutter speed) | |
| Trigger lighting delay time | Ton: 30 μs max. | |
| Lighting duration setting | Synchronized with the shutter speed of the camera (when the trigger is illuminated) | |
| Lighting time control | Set with image sensor controller, or synchronized with shutter speed | |
| **External Interface** | Camera connection cable (directly connected with the main unit) | |
| **Insulation Resistance** | 0.5 MΩ (100 VDC) | |
| **Ambient Temperature** | Operating: 0 to +50°C, Storage: -15 to +60°C (with no icing or condensation) | |
| **Ambient Humidity** | Operating and storage: 35% to 85% (with no condensation) | |
| **Degree of Protection** | IP20 (IEC60529) | |
| **Vibration Resistance (destructive)** | 10 to 150 Hz, (0.7 mm double amplitude) 80 min each in X, Y, and Z directions | |
| **Shock Resistance (destructive)** | 150 m/s² 3 times each in 6 directions (up/down, left/right, forward/backward) | |
| **Materials** | Case: Aluminum, Cable: PVC | |
| **Weight** | Approx: 120 g (including the camera mount plate) | Approx. 130 g (including the camera mount plate) |
| **Accessories** | Instruction manual, Camera Mount plate, mounting screws (M2 set screw × 4, M2 flat head screw × 4, M4 flat head screw × 4) | |

**OMRON**

# Camera-mount Lighting Controller for FLV Series FLV-TCC Series

## Part Names and Functions



| No. | Name | Description |
|-----|------|-------------|
| 1 | Lighting connecting connector | Connects the LED lighting. |
| 2 | Camera connecting cable | Connects to the extension connector of the camera. |
| 3 | 24 V external power supply input terminal block | Connects the 24 VDC power supply. |
| 4 | Mounting hole for fixing screw | Holes to mount the screws to secure the Lighting Controller to a mounting plate or device. |

## Mounting the Controller to the Camera

The Lighting Controller can be mounted to the Camera using the provided Camera Mount plate. Mounting directions are: (1) Upper mount, (2) Right side mount, (3) Left side mount.

(1) Top/Bottom mount    (2) Right side mount    (3) Left side mount
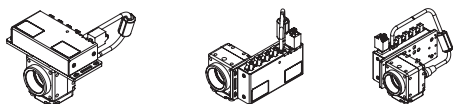


## Dimensions
### ●Lighting Controller
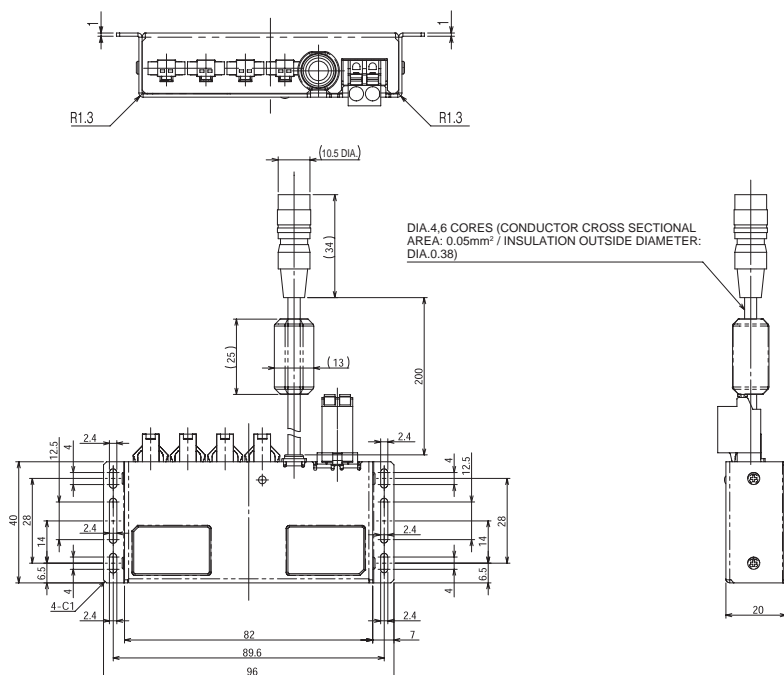


### ●Camera mount plate (provided)
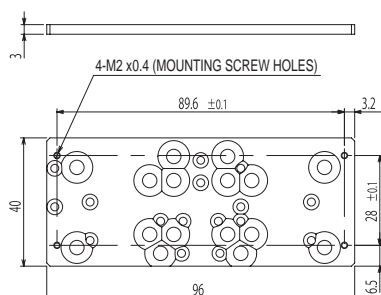
# Analog Lighting Controller for FLV Series
# FLV-ATC Series

## Stationary Lighting Controller

## Product features

- Suitable for small installation space near the Camera
- Light emission trigger can be input directly even without Omron's Vision Sensor.

## Order Information

| Applicable Lighting | Model *2 | Number of Connectable Lightings | Power Supply Voltage | Electricity of Connectable Lighting | Luminance Control Method |
|---|---|---|---|---|---|
| Standard Lighting *1 | FLV-ATC21024 | 2ch | 100 to 240 VAC | 40W max. | Analog |
| | FLV-ATC41024 | 4ch | | | |
| For Spot Lighting | FLV-ATC10405 | 1ch | | 3W max. | |
| | FLV-ATC40405 | 4ch | | 12W max. | |

*1. Standard lighting is all FLV-series Lightings excluding the FLV-EP-series Spot Lightings.
*2. The standard plug is A type. C, B, B3, SE, BF, and O types are also available. (The suffix "-C", "-B", "-B3", "-SE", "-BF", or "-O" is added to the model name.)

## ●Standard Lighting FLV-ATC21024/-ATC41024

## Parts Names and Functions



| No. | Name | Description |
|---|---|---|
| 1 | Main power supply | Starts up the Controller when it is turned ON. |
| 2 | Lighting adjustment volume | Rotating the volume clockwise increases the emission intensity or counterclockwise decreases it. |
| 3 | AC power supply input connector | A terminal to supply AC power. Connect the provided AC input cable. |
| 4 | Lighting connector | Connects an LED lighting. |
| 5 | Terminal block for trigger input | A terminal block for lighting illumination trigger input from outside to each lighting. |
| 6 | Lighting mode switching button | Illumination mode switch button is ON (The button is pushed.): Short-circuiting (+) and (-) of TR1 to TR4 respectively makes the trigger input status ON, turning the light ON. Releasing (+) and (-) makes the status OFF, turning the light OFF. |
| | | Illumination mode switch button is OFF (The button is not pushed.): Short-circuit (+) and (-) of TR1 to TR4 respectively makes the trigger input status OFF, turning the light OFF. Releasing (+) and (-) makes the status OFF, turning the light ON. |
| 7 | Frame ground terminal | A terminal for frame ground. Connect the ground line. |

**OMRON**

# Analog Lighting Controller for FLV Series FLV-ATC Series

## Specifications

| Item                             Model | FLV-ATC21024-☐ | FLV-ATC41024-☐ |
|----------------------------------------|----------------|----------------|
| Number of connectable lightings | 1 | 4 |
| Applicable lighting | FLV series (However, FLV-EP series is excluded.) | |
| Power supply voltage | 100 to 240 VAC | |
| Electricity of connectable lighting | 2ch total 40 W max.<br>30 W max. for 1ch | 4ch total 40 W max.<br>30 W max. for 1ch |
| Drive method | Constant voltage method | |
| Lighting method | Trigger lighting, Continuous lighting | |
| Luminance control method | Voltage light adjustment: 14.0 to 24.0 V | |
| Trigger lighting | Lighting in synchronization with input from the trigger input terminal | |
| Trigger lighting delay time | Ton: 100 µs max. | |
| External interface | Trigger input terminal block | |
| Dielectric strength | AC 1500 V    50/60 Hz    1 min | |
| Insulation resistance | 20 MΩ (500 VDC) | |
| Ambient temperature | Operating: 0 to +50°C, Storage: -15 to +60°C (with no icing or condensation) | |
| Ambient humidity | Operating/storage: 35% to 85% (with no condensation) | |
| Degree of protection | IP20 (IEC60529) | |
| Vibration resistance (destructive) | 10 to 150 Hz, (0.2 mm double amplitude) 80 min each in X, Y, and Z directions | |
| Shock resistance (destructive) | 150 m/s$^2$ 3 times each in 6 directions (up/down, left/right, forward/backward) | |
| Materials | Case: Aluminum | |
| Weight | Approx. 800 g | |
| Accessories | Instruction manual, AC input cable ∗1 | |

∗1: The suffixed symbol of the model name means the plug shape of the accessory cable. A model name with no suffix means type A.

## Connection with external trigger input terminal block

• Connection of this terminal block is not required if external lighting issuance trigger is not used.

**<Connection of trigger input terminal block>**
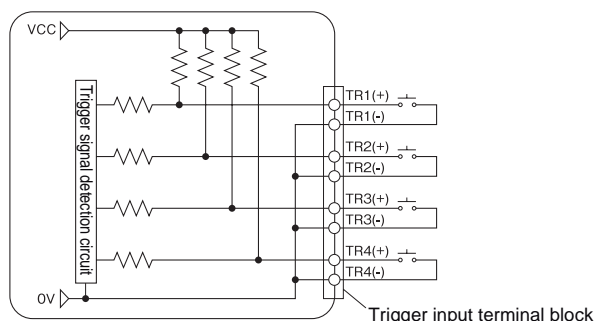


∗ Current flowing through the short circuit is less than 2 mA.

●**FLV-ATC21024-☐**
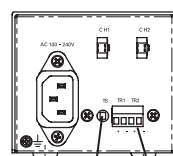


Illumination mode switch button

Trigger input terminal block CH1 to CH2

● **FLV-ATC41024-☐**
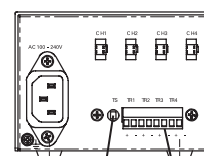


Illumination mode switch button

Trigger input terminal block CH1 to CH4

Illumination mode switch button is ON (The button is pushed.)

Short-circuiting (+) and (-) of TR1 to TR4 respectively makes the trigger input status ON, turning the light ON.
Releasing (+) and (-) makes the status OFF, turning the light OFF.

Illumination mode switch button is OFF (The button is not pushed.)

Short-circuit (+) and (-) of TR1 to TR4 respectively makes the trigger input status OFF, turning the light OFF.
Releasing (+) and (-) makes the status ON, turning the light ON.

**[Important]**
• Make sure that excessive force is not imposed on the wire and terminal block.
• Do not install the product in which loads are constantly applied to the terminal block such as the wire being under tension.
• When wiring the terminal block, use an applicable cable (AWG 14 to 24, tip processing length: 7 mm).

# Analog Lighting Controller for FLV Series FLV-ATC Series

## Dimensions (Unit: mm)

●FLV-ATC21024-□
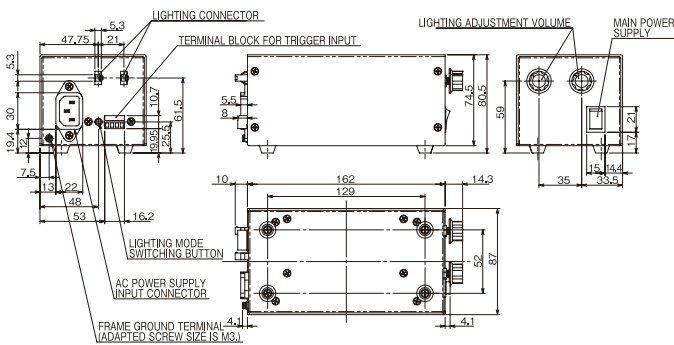
●FLV-ATC41024-□
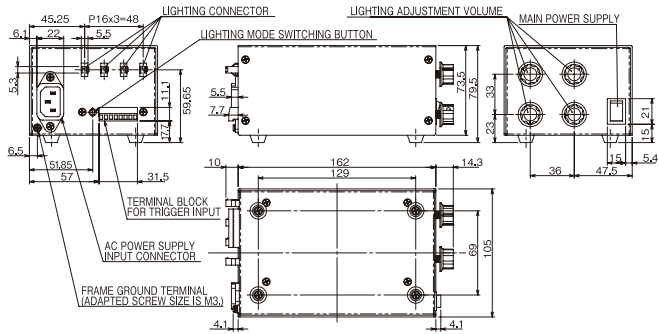


## ●For Spot Lighting FLV-ATC10405/-ATC40405

## Parts Names and Functions



| No. | Name | Description |
|-----|------|-------------|
| 1 | Main power supply | Starts up the Controller when it is turned ON. |
| 2 | Lighting adjustment volume | Rotating the volume clockwise increases the emission intensity or counterclockwise decreases it. |
| 3 | AC power supply input connector | A terminal to supply AC power. Connect the provided AC input cable. |
| 4 | Lighting connector | Connects an LED lighting. |
| 5 | Terminal block for trigger input | A terminal block for lighting illumination trigger input from outside to each lighting. |
| 6 | Frame ground terminal | A terminal for frame ground. Connect the ground line. |

## Specifications

| ItemModel | FLV-ATC10405-□ | FLV-ATC40405-□ |
|-----------|----------------|----------------|
| **Number of connectable lightings** | 1 | 4 |
| **Applicable lighting** | FLV-EP series | |
| **Power supply voltage** | 100 to 240 VAC | |
| **Electricity of connectable lighting** | 3 W max. | 4ch total 12 W max. 3 W max. for 1ch |
| **Drive method** | Constant current method | |
| **Lighting method** | Trigger lighting, Continuous lighting | |
| **Luminance control method** | Current light adjustment ~0.4 A | |
| **Trigger lighting** | Turning the light off in synchronization with input from the trigger input terminal | |
| **Trigger lighting delay time** | Ton: 100 μs max. | |
| **External interface** | Trigger input terminal block | |
| **Dielectric strength** | AC 1500 V　　50/60 Hz　　1 min | |
| **Insulation resistance** | 20 MΩ (500 VDC) | |
| **Ambient temperature** | Operating: 0 to +50°C, Storage: -15 to +60°C (with no icing or condensation) | |
| **Ambient humidity** | Operating/storage: 35% to 85% (with no condensation) | |
| **Degree of protection** | IP20 (IEC60529) | |
| **Vibration resistance (destructive)** | 10 to 150 Hz, (0.2 mm double amplitude) 80 min each in X, Y, and Z directions | |
| **Shock resistance (destructive)** | 150 m/s$^2$ 3 times each in 6 directions (up/down, left/right, forward/backward) | |
| **Materials** | Case: Aluminum | |
| **Weight** | Approx. 800 g | |
| **Accessories** | Instruction manual, AC input cable ✽1 | |

✽1: The suffixed symbol of the model name means the plug shape of the accessory cable. A model name with no suffix means type A.

**OMRON**

# Analog Lighting Controller for FLV Series FLV-ATC Series

## Connections with external trigger input terminal block

• Connection of this terminal block is not required if external lighting issuance trigger is not used.

**<Connection of trigger input terminal block>**



✽ Current flowing through the short circuit is less than 1 mA.

● **FLV-ATC10405-□**



Trigger input terminal block CH1

● **FLV-ATC40405-□**



Trigger input terminal block CH1 to CH4

Short-circuiting (+) and (-) of TR1 to TR4 respectively makes the trigger input status OFF, turning the light OFF.
Releasing (+) and (-) makes the status ON, turning the light ON.

### [Important]
• Make sure that excessive force is not imposed on the wire and terminal block.
• Do not install the product in which loads are constantly applied to the terminal block such as the wire being under tension.
• When wiring the terminal block, use an applicable cable (AWG 14 to 24, tip processing length: 7 mm).

## Dimensions (Unit: mm)

● FLV-ATC10405-□



● FLV-ATC40405-□

# Bar Lighting
# FL-BR Series

## The highest level of brightness in the industry.
## These Bar Lighting are structured for adaptable wiring and mounting.
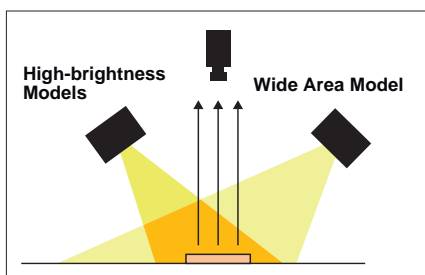
**High-brightness Models**　　　　**Wide Area Model**

**ODR** Optical Double Reflection

## Illumination Structure



High-brightness Models　Wide Area Model

## Lighting Intensity Distribution Characteristics

High-brightness Models (FL-BR9120W-H)　　WD=30mm / WD=50mm / WD=100mm
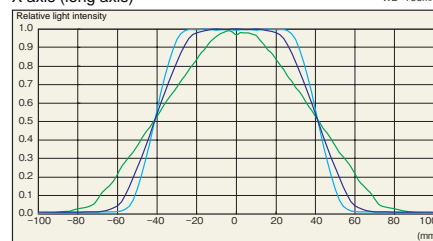
X axis (long axis)　　　Y axis (short axis)
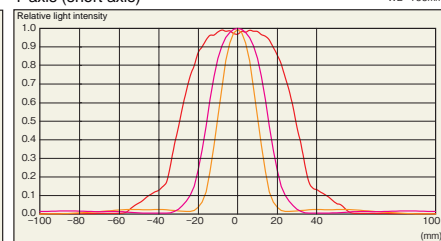


Wide Area Model (FL-BR9120W)
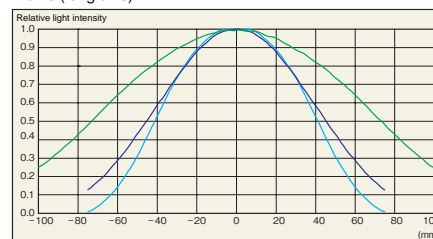
X axis (long axis)　　　Y axis (short axis)
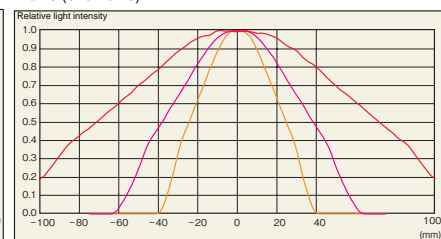


## Application

**Standard Lighitng**　　　　**FL Series**



It is difficult to read characters with low contrast.

Sharp images are created of both two-dimensional codes and characters.

## Order Information

| Standard Models | Model | Light color |
|---|---|---|
| Wide Area Model | FL-BR5020W | |
| High-brightness Models | FL-BR5020W-H | |
| Wide Area Model | FL-BR9120W | White LEDs |
| High-brightness Models | FL-BR9120W-H | |
| Wide Area Model | FL-BR13120W | |
| High-brightness Models | FL-BR13120W-H | |

## Ratings and Specifications

| Model | Wide Area Model | High-brightness Models | Wide Area Model | High-brightness Models | Wide Area Model | High-brightness Models |
| --- | --- | --- | --- | --- | --- | --- |
| | FL-BR5020W | FL-BR5020W-H | FL-BR9120W | FL-BR9120W-H | FL-BR13120W | FL-BR13120W-H |
| Light source | White LEDs | | | | | |
| Vibration resistance | 10 to 150 Hz (Double amplitude: 0.7 mm), 80 min each in X, Y, and Z directions | | | | | |
| Shock resistance | 150 m/s² 3 times each in 6 directions | | | | | |
| Ambient temperature | Operation: 0 to 40°C, Storage: -15 to 60°C (with no icing or condensation) | | | | | |
| Ambient humidity | Operation or storage: 35% to 85% (with no condensation) | | | | | |
| Ambient atmosphere | No corrosive gases. | | | | | |
| Degree of protection | IEC60259 IP20 | | | | | |
| Weight | Approx. 40g | | Approx. 70g | | Approx. 100g | |
| Materials | Light: Case: Aluminum; Cover, side parts, and lens: Heat resistant polyvinyl chloride; Connector: Thermoplastic resin with glass | | | | | |
| LED Class | Class2 (JIS C 6802:2005) | | | | | |
| Accessories | Instruction manual | | | | | |

The color of white LEDs can vary due to intrinsic characteristics. Confirm suitability for the application in advance.

## Dimensions (Unit: mm)



FL-BR5020W(-H)



FL-BR9120W(-H)



FL-BR13120W(-H)

# Direct Ring Lighting
# FL-DR Series

## Clear Images WITH Industry's Top Level of Brightness and a Illumination over a Wide Field of View

**High-brightness Models**

**ODR** Optical Double Reflection

**Wide Area Models**

## Illumination Structure
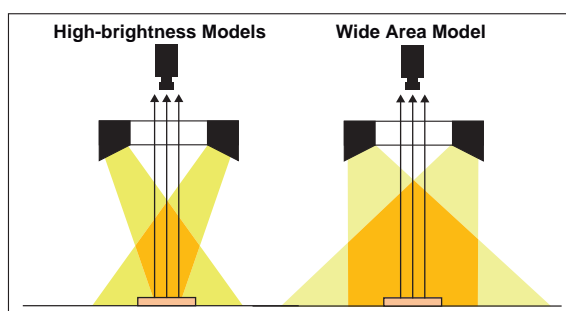
**High-brightness Models**   **Wide Area Model**

## Lighting Intensity Distribution Characteristics

High-brightness Models (FL-DR50W-H)
Relative light intensity

— WD=30mm
— WD=50mm
— WD=100mm

Wide Area Model (FL-DR50W)
Relative light intensity

— WD=30mm
— WD=50mm
— WD=100mm
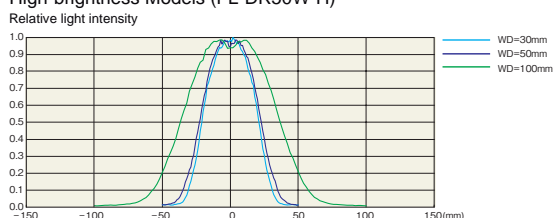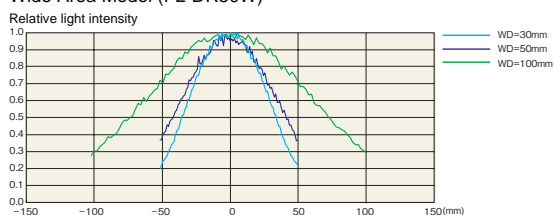
## Application

**Standard Lighitng**    **FL series**

Faster lines make it necessary to increase shutter speeds, but then the clarity of workpiece images decreases.

More than sufficient brightness is provided for high-speed lines.

## Order Information

| Standard Models | Model | Light color |
|---|---|---|
| Wide Area Model | **FL-DR32W** | |
| High-brightness Models | **FL-DR32W-H** | |
| Wide Area Model | **FL-DR50W** | |
| High-brightness Models | **FL-DR50W-H** | White LEDs |
| Wide Area Model | **FL-DR90W** | |
| High-brightness Models | **FL-DR90W-H** | |

**OMRON**

## Ratings and Specifications

| Model | Wide Area Model | High-brightness Models | Wide Area Model | High-brightness Models | Wide Area Model | High-brightness Models |
|---|---|---|---|---|---|---|
| | FL-DR32W | FL-DR32W-H | FL-DR50W | FL-DR50W-H | FL-DR90W | FL-DR90W-H |
| Light source | White LEDs | | | | | |
| Vibration resistance | 10 to 150 Hz (Double amplitude: 0.7 mm), 80 min each in X, Y, and Z directions | | | | | |
| Shock resistance | 150 m/s$^2$ 3 times each in 6 directions | | | | | |
| Ambient temperature | Operation: 0 to 40°C, Storage: -15 to 60°C (with no icing or condensation) | | | | | |
| Ambient humidity | Operation or storage: 35% to 85% (with no condensation) | | | | | |
| Ambient atmosphere | No corrosive gases. | | | | | |
| Degree of protection | IEC60259 IP20 | | | | | |
| Weight | Approx. 25g | | Approx. 30g | | Approx. 70g | Approx. 80g |
| Materials | Light: Case: Aluminum; Cover, side parts, and lens: Heat resistant polyvinyl chloride; Connector: Thermoplastic resin with glass | | | | | |
| LED Class | Class2 (JIS C 6802:2005) | | | | | |
| Accessories | Instruction manual | | | | | |

The color of white LEDs can vary due to intrinsic characteristics. Confirm suitability for the application in advance.

## Dimensions (Unit: mm)



FL-DR32W(-H)



FL-DR50W(-H)



FL-DR90W(-H)

## Stationary Lighting Controller
# FL-STC Series

**The smallest body in the industry is combined
with the industry's longest cable at 25 m.
Install in essentially any location.**

**Two-channel models**                    **One-channel
models**

## Product features

### ●Easy Control and Adjustment of the Lighting

With a compact design small enough to fit in the palm of your hand, the Controller can be built into the control panel or in the gap between production lines.

By using the longest lighting cable in the industry (25 m), the Controller can be installed along with the image processing monitor in a variety of locations. It is possible to adjust the lighting while looking at the screen.

**Connect to a Remote Control
Panel**

**Mount to a DIN Rail underneath
the Line or in the Gap between Tables**

### Lighting Control without Programming

This enables light emission synchronized with the camera using essentially any trigger, such as a photoelectric sensor. The Controller be connected to an image processing device to control lighting without any programming on a PLC.

[ Control Output ]
• PNP/NPN compatible
• Power source: 24 V

[ Lighting Emission Controls ]
• Lighting triggers can be used individually for each channel.
• Lighting delay and lighting time can be controlled.

### Intuitive Digital Light Controls

Digital adjustment of light emission makes it easy to reproduce the lighting environment after line switchovers.

The quantity of light is displayed digitally in 400 levels. Adjust the light in fine detail.

▲ Increases brightness

▼ Decreases brightness

**OMRON**

## Order Information

| Standard Models | Model | I/O specifications | Input voltage |
|---|---|---|---|
| One-channel models | **FL-STC10** | NPN | |
| | **FL-STC15** | PNP | 24 VDC |
| Two-channel models | **FL-STC20** | NPN | |
| | **FL-STC25** | PNP | |

## Ratings and Specifications

| Product name | | One-channel models | | Two-channel models | |
|---|---|---|---|---|---|
| I/O type | | NPN | PNP | NPN | PNP |
| Model | | **FL-STC10** | **FL-STC15** | **FL-STC20** | **FL-STC25** |
| Power supply voltage | | 24 VDC±10% (including ripple) | | | |
| Power consumption | | 36 W, 1.5 A max. (including the lighting section) | | 72 W, 3 A max. (including the lighting section) | |
| Number of output channels | | 1 | | 2 | |
| Applicable lights | | FL-□ Series *1 | | | |
| Light control modes | Continuous light emission mode | While the Strobe Controller power source is ON, light is continuously emitted. PWM frequency: 100 kHz, Light adjustment: 400 levels | | | |
| | Triggered light emission mode | Light emission is synchronized with an external trigger input. Light emission: Continuous while the trigger is input, or 0.1 to 99.9 ms (set in 0.1-ms increments) PWM frequency: 100 kHz, Light adjustment: 400 levels | | | |
| | Strobe light emission mode | Light emission is synchronized with the external trigger input, but twice the amount of light is emitted in comparison with the trigger light emission mode. Light emission pulse width: 0.01 to 5 ms (light adjustment: 500 levels equivalent) | | | |
| Light adjustment setting | Operation on the light | Light adjustment mode settings and light adjustment value input: slide switch and directional pad | | | |
| | Remote operation | Light adjustment value input: 9-bit binary input | | | |
| External interface | | Parallel I/O connector (D-sub 15-pin), Terminal block (external trigger input with 2 terminals, power source voltage input with 2 terminals) | | | |
| Ambient temperature | | Operation: 0 to 40°C, Storage: -15 to 60°C (with no icing or condensation) | | | |
| Ambient humidity | | Operation or storage: 35% to 85% (with no condensation) | | | |
| Vibration resistance | | 10 to 150 Hz (Double amplitude: 0.7mm), 80 min each in X, Y, and Z directions | | | |
| Shock resistance | | 150 m/s² 3 times each in 6 direction (up-down, left-right, front-back) | | | |
| Materials | | Case: PC | | | |
| Degree of protection | | IEC60529 IP20 | | | |
| Weight | | Approx. 100 g | | | |
| Accessories | | Instruction manual,Terminal block Connector | | | |

(*1) Ask your OMRON representative for details on applicable models.

## Dimensions (Unit: mm)

## I/O Circuit Diagrams



・NPN type
(FL-STC20/10)
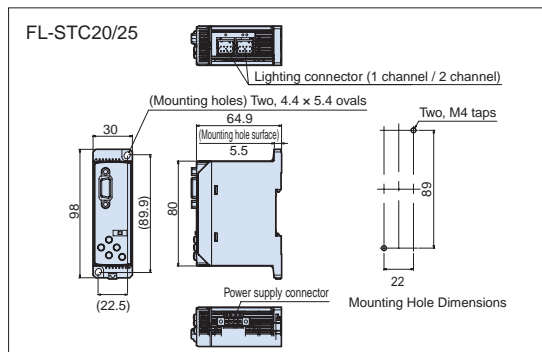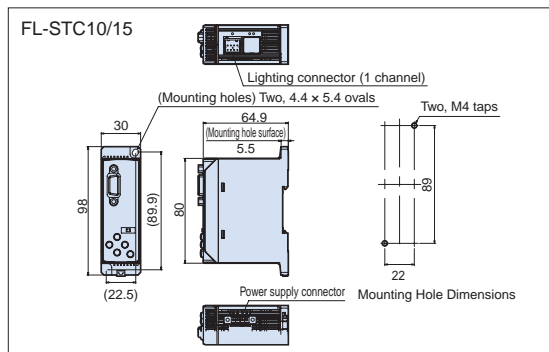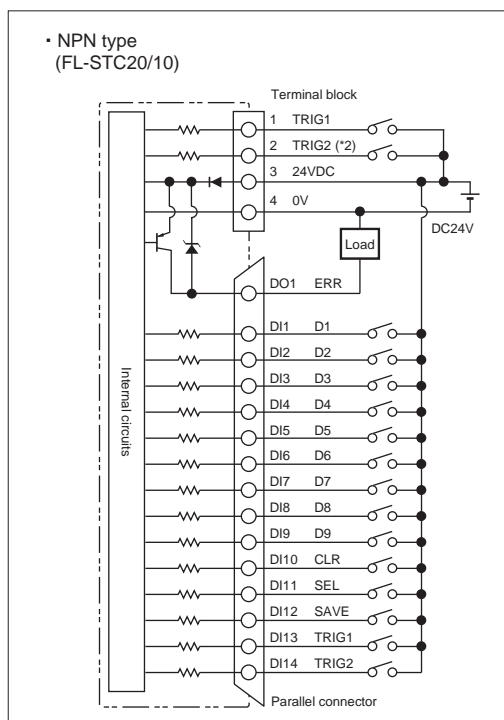
(*2) no use for FL-STC10



・PNP type
(FL-STC25/15)
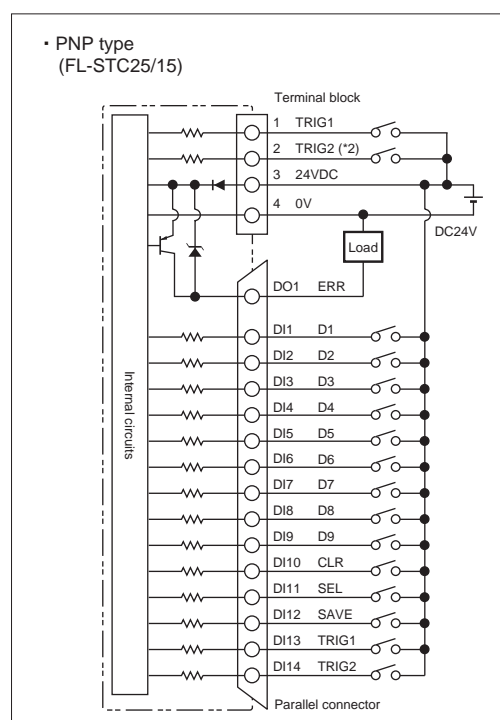
(*2) no use for FL-STC15

### ●Electrical Specifications

| Output circuit | Input circuit |
|---|---|
| NPN Open-collector 30VDC 50mA max. ON: residual voltage 1.2V max. OFF: leakage current 0.1mA max. | ON: Connected to 0 V or 1.5 V max. OFF: Open (Leakage current: 0.1 mA max.) |

### ●Electrical Specifications

| Output circuit | Input circuit |
|---|---|
| PNP Open-collector 50mA max. ON: residual voltage 1.2V max. OFF: leakage current 0.1mA max. | ON: Connected to power supply voltage or power supply voltage -1.5 V max. OFF: Open (Leakage current: 0.1 mA max.) |

## Wiring diagram

Pin Arrangement
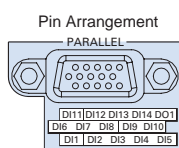


| Pin No. | Signal | Signal direction | Function | |
|---|---|---|---|---|
| DI1 | D1 | Input | Bit 1 of light control data (least significant bit) | (1)CONT/TRIG Mode Light control data is specified using 9 bits of binary data from D1 to D9. The specifiable range is the 400 levels from 1 to 400 (binary 000000001 to 110010000). (2)STB Mode Strobe light emission data is specified in 9 bits of binary data from D1 to D9 The specifiable range is the 500 values from 0.01 to 5.00 ms (binary 000000001 to 111110100). Each bit is 1 for ON and 0 for OFF (open). |
| DI2 | D2 | Input | Bit 2 of light control data | |
| DI3 | D3 | Input | Bit 3 of light control data | |
| DI4 | D4 | Input | Bit 4 of light control data | |
| DI5 | D5 | Input | Bit 5 of light control data | |
| DI6 | D6 | Input | Bit 6 of light control data | |
| DI7 | D7 | Input | Bit 7 of light control data | |
| DI8 | D8 | Input | Bit 8 of light control data | |
| DI9 | D9 | Input | Bit 9 of light control data (most significant bit) | |
| DI10 | CLR | Input | Error reset input. Errors are reset when the error reset input changes from OFF (open) to ON. | |
| DI11 | SEL | Input | Lighting control channel selection input. OFF (open) specifies channel 1, ON specifies channel 2. | |
| DI12 | SAVE | Input | The light control data (D1 to D9) is saved in the built-in memory when the input changes from OFF (open) to ON. | |
| DI13 | TRIG1 | Input | Inputs the light emission trigger signal for channel 1. | |
| DI14 | TRIG2 | Input | Inputs the light emission trigger signal for channel 2. (✱) | |
| DO1 | ERR | output | Turns ON when an error occurs. | |

✱ An input with the same function as the lighting emission trigger input is also available on the terminal block (pins 1 and 2). When using the trigger input, connect the input line only to the parallel connector or only to the terminal block.It is not possible to use both input lines at the same time.

**OMRON**

# Camera-mount Lighting Controller for FL Series
# FL-TCC Series

## Camera-mount Compact Lighting Controller Which Requires No Power Supply Nor Lighting Control

## Product features

- No separate power supply is required because the power is supplied from the Camera.
- Light is emitted when a trigger signal is received from the Camera.
- Simple connection between the Camera and the Lighting with a single cable

Camera for Vision Sensor

LED Lighting

Lighting Controller
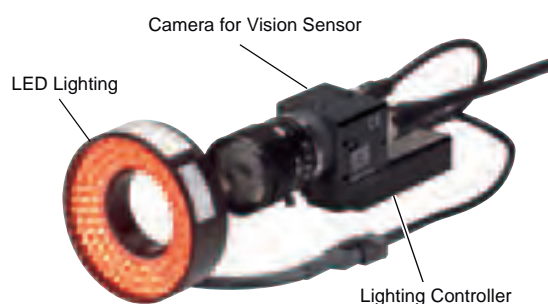
## Order Information

| Item | Model | Weight |
|------|-------|--------|
| Lighting Controller | **FL-TCC1** | Approx. 110 g |
| Camera Mounting Spacer | **FL-TCC1-XSP** | Approx. 10 g |
| Camera Mounting Attachment | **FL-TCC1-XAT** | Approx. 20 g |

## Ratings and Specifications

### ●Lighting Controller

| Model | Lighting Controller | |
|-------|---------------------|---|
| **Model Name** | FL-TCC1 | |
| **Input Voltage** | Supplied from compatible camera. | |
| **Compatible Cameras** | FH-S/SC/S02/SC02/S04/SC04, FZ-S/SC/S2M/SC2M/S5M2/SC5M2/SH/SHC/SF/SFC/SP/SPC and others. (✲) | |
| **Compatible Controllers** | FH Series, FZ5 Series, FZ4 Series, FZ3 Series (H900, H950, H700, H750, H300, H350, L350) and others. (✲) | |
| **Currant Consumption** | MAX 10W, 0.9A (Lighting Included) | |
| **Lighting Channel** | 1 | |
| **Applicable Lighting** | FL-□ series | |
| **Luminance Control Method** | **Functions** | PWM frequency: 100 KHz, Control step: 255 steps (configurable from the Controller) |
| | **Trigger lighting** | Lighting ON synchronized with trigger input timing from the Controller. (Auto setting in accordance with the shutter speed.) |
| | **Trigger lighting delay time** | Ton: 30 µs max. (Trigger ready µs) Toff: 10 µs max. |
| **External Interface** | Dedicated communication connector | |
| **Ambient Temperature** | Operating: 0 to +50°C, Storage: -15 to +60°C (with no icing or condensation) | |
| **Ambient Humidity** | Operating and storage: 35% to 85% (with no condensation) | |
| **Vibration resistance** | 10 to 55 Hz, (0.7mm double amplitude) 80 min each in X, Y, and Z directions | |
| **Shock resistance** | 150 m/s² 3 times each in 6 directions (up/down, left/right, forward/backward) | |
| **Materials** | Case: SECC, Cable: PVC | |
| **Degree of Protection** | IP20 (IEC60529) | |
| **Weight** | Approx. 110 g | |
| **Accessories** | Instruction sheet, Insulation Sheet, Mounting screw (M2 × 6 mm) × 4 | |

✲ Contact your OMRON sales representative for more information on model compatibility.

# Camera-mount Lighting Controller for FL Series FL-TCC Series

## Dimensions (Unit: mm)
### ●Lighting Controller FL-TCC1

<br>

2-4Dia.6CORES(CONDUCTOR CROSS SECTIONAL AREA:0.05mm
INSULATION OUTSIDE DIAMETER:0.38 Dia.)

Bending radius for cable wiring must be at least 15 mm

4-M2 TAPPING

MOUNTING SCREW HOLES

### ●Optional Products

**Camera Mounting Spacer**
**FL-TCC1-XSP (sold separately)**

(MOUNTING HOLES) 8-2.5Dia.

4-C2

**Camera Mounting Attachment**
**FL-TCC1-XAT (sold separately)**

(MOUNTING HOLES FOR CAMERA)
2-4.5Dia.

(MOUNTING HOLES FOR CAMERA)
2-4.5Ellipse

(MOUNTING HOLES
FOR CONTROLLER)
4-M2 TAPPING

**OMRON**

# Cable/Diffusion Plates/Mounting Brackets

## Cable

### Order Information

#### ●Extension Cable, Standard Cables

| Model | Cable Length | Weight |
|-------|-------------|--------|
| FL-XC1 | 1m | Approx. 50 g |
| FL-XC2 | 2m | Approx. 80 g |
| FL-XC3 | 3m | Approx. 120 g |
| FL-XC5 | 5m | Approx. 190 g |
| FL-XC10 | 10m | Approx. 400 g |
| FL-XC25 | 25m | Approx. 1000 g |

#### ●Extension Cables, Flexible Cables

| Model | Cable Length | Weight |
|-------|-------------|--------|
| FL-XC1R | 1m | Approx. 60 g |
| FL-XC2R | 2m | Approx. 100 g |
| FL-XC3R | 3m | Approx. 150 g |
| FL-XC5R | 5m | Approx. 240 g |
| FL-XC10R | 10m | Approx. 500 g |
| FL-XC25R | 25m | Approx. 1200 g |

#### ●Parallel Cable

| Model | Cable Length | Weight |
|-------|-------------|--------|
| FL-XCP2 | 2m | Approx. 180 g |

### Dimensions (Unit: mm)

#### ●Extension Cable



Vinyl-insulated round cable, 5 dia. (See note 2.)

L (See note 1.)

Nameplate
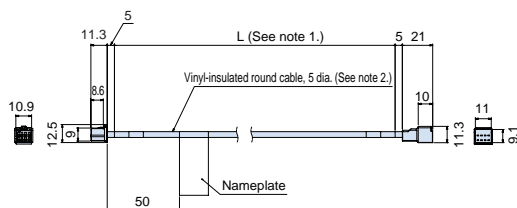
Note 1. Depends on the cable length.
Note 2. The cable diameter is 6.2 for robot cables.

#### ●Parallel Cable



Vinyl-insulated round cable, 6 dia., 15 conductors

L (See note 1.)

Nameplate
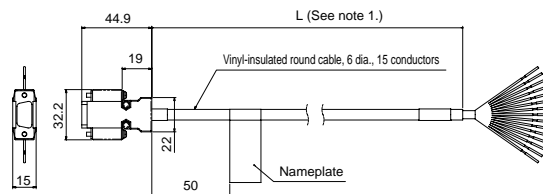
Note 1. Depends on the cable length.

### Order Information

| Type | Model | Cable Length | Dimensions |
|------|-------|-------------|------------|
| Extension Cable for Standard Lighting *1 | FLV-XC1 | 1m | A |
| | FLV-XC2 | 2m | |
| | FLV-XC3 | 3m | |
| | FLV-XC5 | 5m | |
| Extension Cable for Spot Lighting | FLV-XC1EP | 1m | B |
| | FLV-XC2EP | 2m | |
| | FLV-XC3EP | 3m | |
| | FLV-XC5EP | 5m | |
| Branch Cable for Standard Lighting *1 | FLV-XC1S2 | 1m | C |
| | FLV-XC2S2 | 2m | |
| | FLV-XC3S2 | 3m | |
| | FLV-XC5S2 | 5m | |

*1. Standard lighting is all FLV-series Lightings excluding the FLV-EP-series Spot Lightings.

**Options**

## Dimensions (Unit: mm)

**A  FLV-XC□**



| Model | L |
|---|---|
| **FLV-XC1** | 1000 |
| **FLV-XC2** | 2000 |
| **FLV-XC3** | 3000 |
| **FLV-XC5** | 5000 |

2PIN PLUG CONNECTOR
2PIN SOCKET CONNECTOR
3.5Dia. MINIMUM BEND RADIUS20

**B  FLV-XC□EP**



| Model | L |
|---|---|
| **FLV-XC1EP** | 1000 |
| **FLV-XC2EP** | 2000 |
| **FLV-XC3EP** | 3000 |
| **FLV-XC5EP** | 5000 |

3PIN PLUG CONNECTOR
3PIN SOCKET CONNECTOR
3.5Dia. MINIMUM BEND RADIUS20

**C  FLV-XC□S2**



2PIN SOCKET CONNECTOR
BRANCH COUPLER
2PIN PLUG CONNECTOR
3.5Dia. MINIMUM BEND RADIUS20

| Model | L1 | L2 |
|---|---|---|
| **FLV-XC1S2** | 500 | 500 |
| **FLV-XC2S2** | 1000 | 1000 |
| **FLV-XC3S2** | 1000 | 2000 |
| **FLV-XC5S2** | 2000 | 3000 |

**Options**

**OMRON**

# Diffusion Plates and Polarization Plates

## Order Information

### ●Diffusion Plates

| Standard Models | Model | Outer diameter (mm) | Weight |
|---|---|---|---|
| Bar Lighting | FL-BR5020DF | 49.8✕18✕4 | Approx. 5 g |
| | FL-BR9120DF | 90.6✕18✕4 | Approx. 10 g |
| | FL-BR13120DF | 131.4✕18✕4 | Approx. 15 g |

| Standard Models | Model | Outer diameter/Inner diameter/Thickness (mm) | Weight |
|---|---|---|---|
| Direct Ring Lighting | FL-DR32DF | 32/10/4 | Approx. 5 g |
| | FL-DR50DF | 50/28/4 | Approx. 10 g |
| | FL-DR90DF | 90/50/4 | Approx. 15 g |

### ●Polarization Plates

| Standard Models | Model | Outer diameter/Inner diameter/Thickness (mm) | Weight |
|---|---|---|---|
| Direct Ring Lighting | FL-DR32PL | 32/10/2 | Approx. 3 g |
| | FL-DR50PL | 50/28/2 | Approx. 5 g |
| | FL-DR90PL | 90/50/2 | Approx. 15 g |

## Order Information

### ●Diffusion Plates

| Standard Models | Model | Connectable Lighting |
|---|---|---|
| Direct Ring Lighting | FLV-DR12030DF | Direct Ring Lighting FLV-DR12030☐ |
| | FLV-DR9215DF | Direct Ring Lighting FLV-DR9215☐ |
| | FLV-DR9030DF | Direct Ring Lighting FLV-DR9030☐ |
| | FLV-DR9000DF | Direct Ring Lighting FLV-DR9000☐ |
| | FLV-DR7000DF | Direct Ring Lighting FLV-DR7000☐ |
| | FLV-DR7030DF | Direct Ring Lighting FLV-DR7030☐ |
| | FLV-DR6615DF | Direct Ring Lighting FLV-DR6615☐ |
| | FLV-DR5030DF | Direct Ring Lighting FLV-DR5030☐ |
| | FLV-DR3220DF | Direct Ring Lighting FLV-DR3220☐ |

### ●Diffusion Plates

| Standard Models | Model | Connectable Lighting |
|---|---|---|
| Bar Lighting | FLV-BR48031DF | Bar Lighting FLV-BR48031☐ |
| | FLV-BR38037DF | Bar Lighting FLV-BR38037☐ |
| | FLV-BR21230DF | Bar Lighting FLV-BR21230☐ |
| | FLV-BR21222DF | Bar Lighting FLV-BR21222☐ |
| | FLV-BR15020DF | Bar Lighting FLV-BR15020☐ |
| | FLV-BR14030DF | Bar Lighting FLV-BR14030☐ |
| | FLV-BR11222DF | Bar Lighting FLV-BR11222☐ |
| | FLV-BR8532DF | Bar Lighting FLV-BR8532☐ |
| | FLV-BR6022DF | Bar Lighting FLV-BR6022☐ |

### ●Diffusion Plates

| Standard Models | Model | Connectable Lighting |
|---|---|---|
| Low Angle Ring Lighting | FLV-DL15060DF | Low Angle Ring Lighting FLV-DL15060☐ |
| | FLV-DL12060DF | Low Angle Ring Lighting FLV-DL12060☐ |
| | FLV-DL7260DF | Low Angle Ring Lighting FLV-DL7260☐ |
| | FLV-DL5890DF | Low Angle Ring Lighting FLV-DL5890☐ |

Options

## Mounting Brackets

### Order Information

| Standard Models | Model |
|---|---|
| Bar Lighting | FL-XBK1 |

### Dimensions (Unit: mm)



16

7

5

8

Two, 3.4 dia. throughholes
12±0.1
4-R2
2-R2

12.9±0.1 dia.
(groove center)
3.2 + 0.20 (groove width)
2-R8
(2-R1.6)
4-R0.8
12
5
7
(16)
20
Rolling direction

90° ±1°
Burr side
Radius:
1.5 max.
22
12

Burrs must extend less than 0.1 mm.
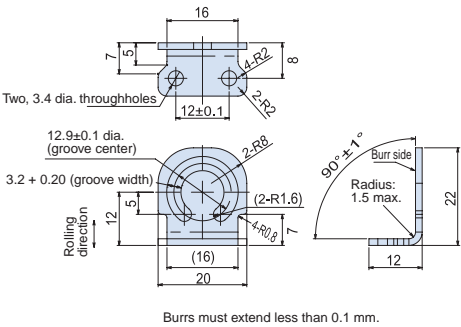
# Standard Lens
# SV-V Series

- Standard CCTV lens.
- Lineup of 9 models with focal lengths ranging from 6 to 100 mm.
- Locking set screws for focus and iris.
- More robust structure designed for machine vision.
- Lower distortion and higher resolution than previous CCTV lenses.

## Order Information

| Series | Model | Dimension | Focal distance (mm) | Focus (F No) | Field of view (V × H) | Closest distance (mm) | Filter size | Weight (g) | Total length (mm) | Maximum compatible CCD |
|---|---|---|---|---|---|---|---|---|---|---|
| C-mount Lens for 1/3-inch image sensor (Recommend: FZ-S□/ FZ-SH□/ FH-S□) | 3Z4S-LE SV-0614V | A | 6 | 1.4 | 42.3°× 54.6° | 200 | M27.0 P0.5 | 49 | 30 | 1/3 inch |
| | 3Z4S-LE SV-0813V | B | 8 | 1.3 | 44.6°× 57.3° | 200 | M25.5 P0.5 | 55 | 34 | 1/3 inch |
| | 3Z4S-LE SV-1214V | C | 12 | 1.4 | 21.9°× 38.9° | 300 | M27.0 P0.5 | 44 | 29.5 | 1/3 inch |
| | 3Z4S-LE SV-1614V | D | 16 | 1.4 | 22.8°× 30.1° | 400 | M27.0 P0.5 | 34 | 24.5 | 1/3 inch |
| | 3Z4S-LE SV-2514V | E | 25 | 1.4 | 14.9°× 19.8° | 500 | M27.0 P0.5 | 36 | 24 | 1/3 inch |
| | 3Z4S-LE SV-3518V | F | 35 | 1.8 | 10.8°× 14.4° | 300 | M27.0 P0.5 | 47 | 33.5 | 1/3 inch |
| | 3Z4S-LE SV-5018V | G | 50 | 1.8 | 7.9°× 10.5° | 300 | M30.5 P0.5 | 67 | 37 | 1/3 inch |
| | 3Z4S-LE SV-7527V | H | 75 | 2.7 | 4.9°× 6.6° | 1200 | M30.5 P0.5 | 76 | 42 | 1/3 inch |
| | 3Z4S-LE SV-10035V | I | 100 | 3.5 | 4.0°× 5.3° | 2000 | M30.5 P0.5 | 79 | 43.9 | 1/3 inch |

## Dimensions
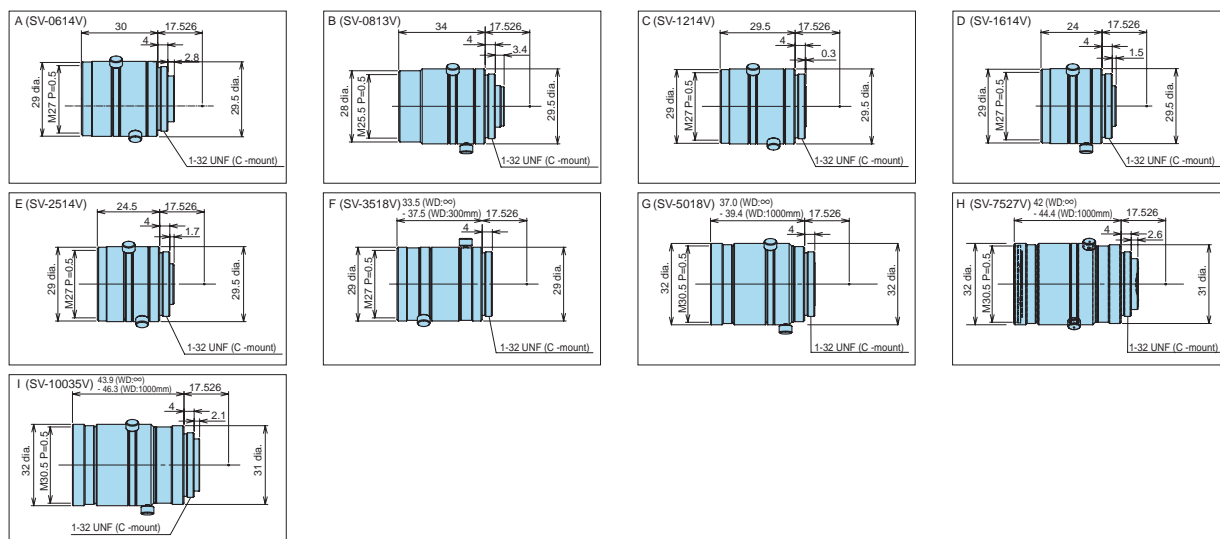
# High-resolution, Low-distortion Lens
# SV-H/VS-H1 Series

- High-resolution lens for megapixel camera.
- Lineup of 9 models for 2/3-inch cameras, with focal lengths ranging from 6 to 100 mm, and 5 models for 1-inch Cameras.
- Locking set screws for focus and iris.
- Bright F number of 1.4 for high-speed CMOS camera.
- Compact design but minimized decrease in distortion and brightness.

for 2/3-inch image sensor SV-H series

for 1-inch image sensor VS-H1 series

## Order Information

| Series | Model | Dimension | Focal distance (mm) | Focus (F No) | Field of view (V × H) | Closest distance (mm) | Filter size | Weight (g) | Total length (mm) | Maximum compatible CCD |
|---|---|---|---|---|---|---|---|---|---|---|
| C-mount Lens for 2/3-inch image sensor (Recommend: FZ-S□2M/ FZ-S□5M/ FH-S□02) | **3Z4S-LE SV-0614H** | A | 6 | 1.4 | 56.8°× 71.5° | 100 | M40.5 P0.5 | 145 | 57.5 | 2/3 inch |
| | **3Z4S-LE SV-0814H** | B | 8 | 1.4 | 44.9°× 57.6° | 100 | M35.5 P0.5 | 125 | 52.5 | 2/3 inch |
| | **3Z4S-LE SV-1214H** | C | 12 | 1.4 | 30.2°× 39.6° | 100 | M27 P0.5 | 85 | 51 | 2/3 inch |
| | **3Z4S-LE SV-1614H** | D | 16 | 1.4 | 23.1°× 30.6° | 100 | M27 P0.5 | 85 | 47.5 | 2/3 inch |
| | **3Z4S-LE SV-2514H** | E | 25 | 1.4 | 15.0°× 20.0° | 150 | M27 P0.5 | 65 | 36 | 2/3 inch |
| | **3Z4S-LE SV-3514H** | F | 35 | 1.4 | 10.8°× 14.3° | 200 | M35.5 P0.5 | 150 | 45.5 | 2/3 inch |
| | **3Z4S-LE SV-5014H** | G | 50 | 1.4 | 7.5°× 10.0° | 300 | M40.5 P0.5 | 170 | 57.7 | 2/3 inch |
| | **3Z4S-LE SV-7525H** | H | 75 | 2.5 | 2/3"= 5.0° × 6.7° 1"= 7.3° × 9.7° | 1200 | M34.0 P0.5 | 85 | 49.5 | 1 inch |
| | **3Z4S-LE SV-10028H** | I | 100 | 2.8 | 2/3"= 3.9° × 5.1° 1"= 5.6° × 7.5° | 2000 | M37.5 P0.5 | 105 | 66.5 | 1 inch |
| C-mount Lens for 1-inch image sensor (Recommend: FH-S□04) | **3Z4S-LE VS-1214H1** | J | 12 | 1.4 | 44.0°× 56.9° | 300 | M35.5 P0.5 | 140 | 48 | 1 inch |
| | **3Z4S-LE VS-1614H1** | K | 16 | 1.4 | 33.7°× 44.3° | 300 | M30.5 P0.5 | 110 | 42.5 | 1 inch |
| | **3Z4S-LE VS-2514H1** | L | 25 | 1.4 | 21.5°× 28.5° | 300 | M30.5 P0.5 | 90 | 33.5 | 1 inch |
| | **3Z4S-LE VS-3514H1** | M | 35 | 1.4 | 15.6°× 20.7° | 300 | M30.5 P0.5 | 100 | 35 | 1 inch |
| | **3Z4S-LE VS-5018H1** | N | 50 | 1.8 | 11.0°× 14.6° | 500 | M40.5 P0.5 | 135 | 44.5 | 1 inch |

## Dimensions

OMRON
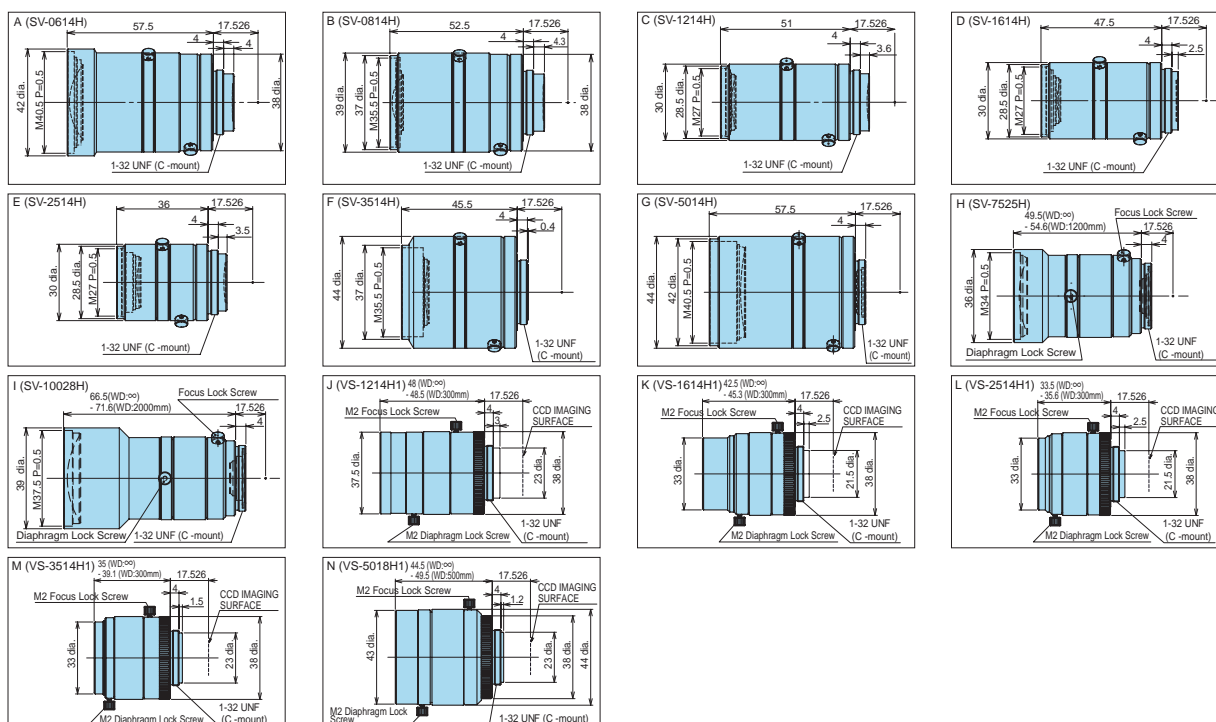
# Vibrations and shocks resistant C-mount Lens
# VS-MC Series

- Lineup of 7 models with focal lengths ranging from 15 to 75 mm.
- A fixation ring is used to fasten to the surface.
- Internal structure of the lens is designed to strengthen against vibration to achieve higher resistance to vibration than previous lenses, which allows the lens to be moved or to be used in a place subject to vibration.
- Install in narrow space without a locking set screw.

## Order Information

| Series | Model | Dimension | Focal distance (mm) | Focus (F No.) | Maximum outer diameter: (mm) | Total length (mm) | Filter size | WD (mm) | Depth of field (mm) | Maximum compatible CCD |
|---|---|---|---|---|---|---|---|---|---|---|
| Vibrations and shocks resistant C-mount Lens for 2/3-inch image sensor (Recommend: FZ-S□/FZ-S□2M/FZ-S□5M2/FZ-SH□/FH-S□/FH-S□02) | 3Z4S-LE VS-MC15 | A | 15 | Maximum aperture | 31 dia. | 29.5 | M27.0 P0.5 | 492.2 / 67.3 / 42.3 | 183.1 / 4.8 / 2.3 | 2/3 inch |
| | 3Z4S-LE VS-MC15-FNO56 | A | 15 | 5.6 | 31 dia. | 29.5 | M27.0 P0.5 | 492.2 / 67.3 / 42.3 | 512.7 / 13.4 / 6.5 | 2/3 inch |
| | 3Z4S-LE VS-MC15-FNO80 | A | 15 | 8 | 31 dia. | 29.5 | M27.0 P0.5 | 492.2 / 67.3 / 42.3 | 732.4 / 13.4 / 9.2 | 2/3 inch |
| | 3Z4S-LE VS-MC20 | B | 20 | Maximum aperture | 31 dia. | 30.5 | M27.0 P0.5 | 516.5 / 81.0 / 49.8 | 110.8 / 3.4 / 1.5 | 2/3 inch |
| | 3Z4S-LE VS-MC20-FNO56 | B | 20 | 5.6 | 31 dia. | 30.5 | M27.0 P0.5 | 516.5 / 81.0 / 49.8 | 291.2 / 9.0 / 3.9 | 2/3 inch |
| | 3Z4S-LE VS-MC20-FNO80 | B | 20 | 8 | 31dia. | 30.5 | M27.0 P0.5 | 516.5 / 81.0 / 49.8 | 416.0 / 12.8 / 5.6 | 2/3 inch |
| | 3Z4S-LE VS-MC25N | C | 25 | Maximum aperture | 31dia. | 38.0 | M27.0 P0.5 | 513.9 / 106.0 / 54.9 | 67.2 / 3.2 / 1.0 | 2/3 inch |
| | 3Z4S-LE VS-MC25N-FNO56 | C | 25 | 5.6 | 31dia. | 38.0 | M27.0 P0.5 | 513.9 / 106.0 / 54.9 | 188.2 / 9.0 / 2.7 | 2/3 inch |
| | 3Z4S-LE VS-MC25N-FNO80 | C | 25 | 8 | 31dia. | 38.0 | M27.0 P0.5 | 513.9 / 106.0 / 54.9 | 268.8 / 12.8 / 3.8 | 2/3 inch |
| | 3Z4S-LE VS-MC30 | D | 30 | Maximum aperture | 31dia. | 35.7 | M27.0 P0.5 | 514.6 / 214.5 / 81.1 | 47.1 / 8.2 / 11.0 | 2/3 inch |
| | 3Z4S-LE VS-MC30-FNO56 | D | 30 | 5.6 | 31dia. | 35.7 | M27.0 P0.5 | 514.6 / 214.5 / 81.1 | 131.9 / 22.9 / 3.2 | 2/3 inch |
| | 3Z4S-LE VS-MC30-FNO80 | D | 30 | 8 | 31dia. | 35.7 | M27.0 P0.5 | 514.6 / 214.5 / 81.1 | 188.4 / 32.7 / 4.6 | 2/3 inch |
| | 3Z4S-LE VS-MC35 | E | 35 | Maximum aperture | 31dia. | 45.7 | M27.0 P0.5 | 213.0 / 196.4 / 145.9 | 2.8 / 2.2 / 0.6 | 2/3 inch |
| | 3Z4S-LE VS-MC35-FNO56 | E | 35 | 5.6 | 31dia. | 45.7 | M27.0 P0.5 | 213.0 / 196.4 / 145.9 | 8.4 / 6.5 / 1.7 | 2/3 inch |
| | 3Z4S-LE VS-MC35-FNO80 | E | 35 | 8 | 31dia. | 45.7 | M27.0 P0.5 | 213.0 / 196.4 / 145.9 | 11.9 / 9.2 / 2.5 | 2/3 inch |

## Vibrations and shocks resistant C-mount Lens VS-MC Series

| Series | Model | Dimension | Focal distance (mm) | Focus (F No.) | Maximum outer diameter: (mm) | Total length (mm) | Filter size | WD (mm) | Depth of field (mm) | Maximum compatible CCD |
|---|---|---|---|---|---|---|---|---|---|---|
| Vibrations and shocks resistant C-mount Lens for 2/3-inch image sensor (Recommend: FZ-S□/FZ-S□2M/FZ-S□5M2/FZ-SH□/FH-S□/FH-S□02) | **3Z4S-LE VS-MC50** | F | 50 | Maximum aperture | 31dia. | 63.9 | M27.0 P0.5 | 625.8 | 33.8 | 2/3 inch |
| | | | | | | | | 262.4 | 6.0 | |
| | | | | | | | | 121.1 | 1.3 | |
| | **3Z4S-LE VS-MC50-FNO56** | | | 5.6 | 31dia. | 63.9 | M27.0 P0.5 | 625.8 | 75.6 | |
| | | | | | | | | 262.4 | 13.4 | |
| | | | | | | | | 121.1 | 2.9 | |
| | **3Z4S-LE VS-MC50-FNO80** | | | 8 | 31dia. | 63.9 | M27.0 P0.5 | 625.8 | 108.0 | |
| | | | | | | | | 262.4 | 19.2 | |
| | | | | | | | | 121.1 | 4.1 | |
| | **3Z4S-LE VS-MC75** | G | 75 | Maximum aperture | 31dia. | 105.5 | M27.0 P0.5 | 563.0 | 17.7 | 2/3 inch |
| | | | | | | | | 404.4 | 9.1 | |
| | | | | | | | | 153.8 | 1.3 | |
| | **3Z4S-LE VS-MC75-FNO56** | | | 5.6 | 31dia. | 105.5 | M27.0 P0.5 | 563.0 | 26.1 | |
| | | | | | | | | 404.4 | 13.4 | |
| | | | | | | | | 153.8 | 1.9 | |
| | **3Z4S-LE VS-MC75-FNO80** | | | 8 | 31dia. | 105.5 | M27.0 P0.5 | 563.0 | 37.2 | |
| | | | | | | | | 404.4 | 19.2 | |
| | | | | | | | | 153.8 | 2.7 | |

## Dimensions



A (VS-MC15)    B (VS-MC20)    C (VS-MC25N)    D (VS-MC30)    E (VS-MC35)    F (VS-MC50)    G (VS-MC75)

OMRON
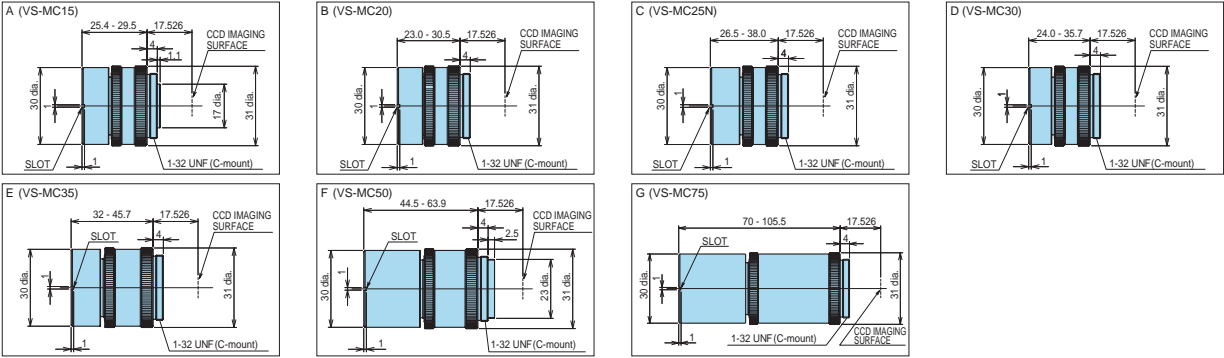
# FZ-LES Series

• Lenses for small cameras: 12 x 12 mm pen-shaped camera and 17 mm thick flat camera.

## Order Information

| Model | Focal length | Brightness |
|---|---|---|
| **FZ-LES3** | 3mm | F2.0 |
| **FZ-LES6** | 6mm | F2.0 |
| **FZ-LES16** | 16mm | F3.4 |
| **FZ-LES30** | 30mm | F3.4 |

## Dimensions

FZ-LES3



FZ-LES6



FZ-LES16



FZ-LES30



**Lenses**
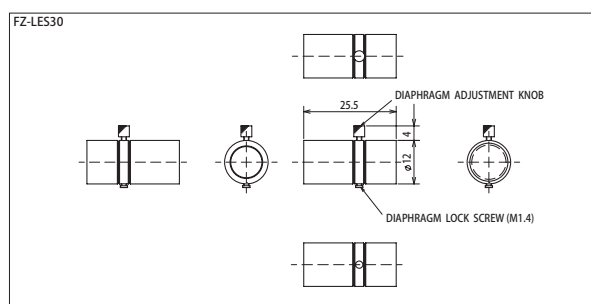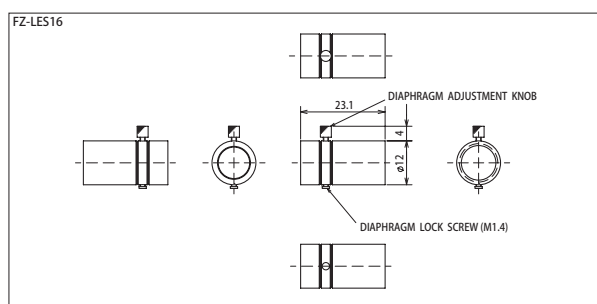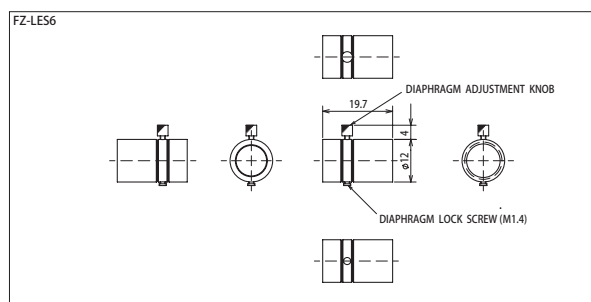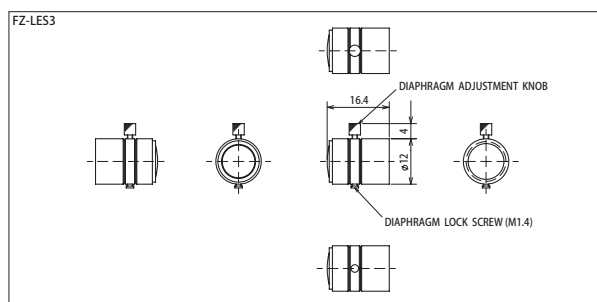
# Non-telecentric Macro Lens
# VS-MC Series

- Lineup of 4 models with magnifications ranging from 1.0 to 0.1 and WD ranging from 325.5 to 82.4 mm.
- 16-mm-dia. simple mechanism with high resistance to vibration.

## Order Information

| Model | Dimension | Magnification | Field of vision *1 (V × H) mm | Dimension Effective FNO | O/I (mm) | WD (mm) | Depth of field *2 | Resolution *3 | TV distortion |
|---|---|---|---|---|---|---|---|---|---|
| 3Z4S-LE VS-MC01-330 | A | 0.1 | 66.0 × 88.0 | 4.43 | 364.5 | 325.5 | 35.4mm | 30.5μm | 0.01% max. |
| 3Z4S-LE VS-MC03-180 | B | 0.3 | 22.0 × 29.3 | 5.29 | 248.5 | 184.8 | 4.7mm | 11.6μm | 0.00% max. |
| 3Z4S-LE VS-MC05-130 | C | 0.5 | 13.2 × 17.6 | 6.10 | 198.8 | 126.3 | 2.0mm | 8.2μm | 0.00% max. |
| 3Z4S-LE VS-MC1-80 | D | 1.0 | 6.6 × 8.8 | 8.14 | 176.8 | 82.4 | 0.7mm | 5.5μm | 0.00% max. |

*1 Calculated using the size of an image element (2/3 inch = 6.6 × 8.8 mm).
*2 Calculated using a permissible circle of confusion diameter of 0.04 mm.
*3 Calculated using a wavelength of 550 nm.

## Dimensions



A (VS-MC01-330)
325.5±16 (WD)　21.5　17.526　2　4　Ø16　30 dia.　1-32 UNF (C-mount)

B (VS-MC03-180)
184.8±9 (WD)　46.2　17.526　2　4　Ø16　30 dia.　1-32 UNF (C-mount)

C (VS-MC05-130)
126.3 ±4 (WD)　55　17.526　2　4　Ø16　30 dia.　1-32 UNF (C-mount)

D (VS-MC1-80)
82.4 ±2.5 (WD)　76.9　17.526　2　4　Ø16　30 dia.　1-32 UNF (C-mount)

OMRON
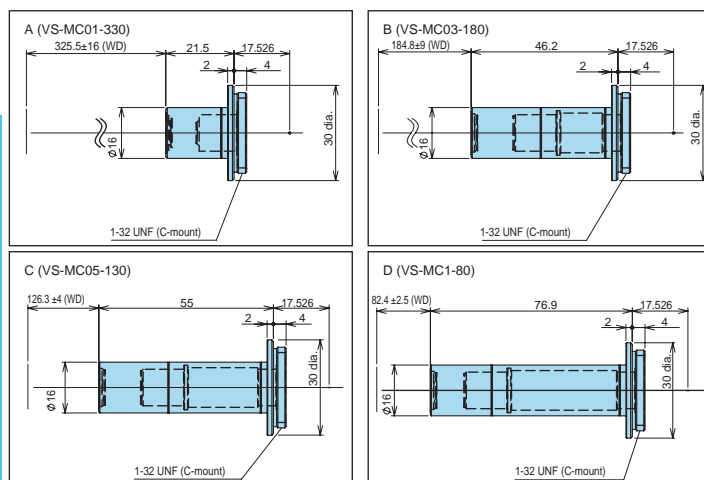
# Lens Option

## Order Information

### Polarizing Filter

| Model |
|---|
| 3Z4S-LE SV-PL255 |
| 3Z4S-LE SV-PL270 |
| 3Z4S-LE SV-PL305 |

### Extension Tubes

| Model | Length (mm) |
|---|---|
| 3Z4S-LE SV-EXR | 7-piece set (40, 20, 10, 5, 2.0, 1.0, 0.5 mm) |

∗ These Extension Tubes are also available individually. Order using the following model number, replacing the box with the desired length: 3Z4S-LE SV-EXR□. (0.5, 1, 2, 5, 10, 15, 20, 25, 30, 40, 50 mm)

### Extension Tubes for Small Digital CCD Cameras

| Model | Contents |
|---|---|
| FZ-LESR | Set of 3 tubes (15 mm, 10 mm, 5 mm)<br>Maximum outer diameter: 12 mm dia. |

### Rear Converter Lens

| Model |
|---|
| 3Z4S-LE SV-1.5X ∗1 |
| 3Z4S-LE SV-2.0X ∗2 |

∗1 In the following lenses, it is necessary to use it together with the extension tubes of 5mm or more.
SV-0614H, SV-0814H, SV-1214H, SV-2514H, SV-0614V, SV-0813V

∗2 In the following lenses, it is necessary to use it together with the extension tubes of 5mm or more.
SV-0614H, SV-0814H, SV-1214H, SV-2514H, SV-0813V

●Configuration

Lens       Rear converter Lens        CCD Camera

**OMRON**

AUTOMATION & SAFETY

**OMRON INDUSTRIAL AUTOMATION • THE AMERICAS HEADQUARTERS**
Schaumburg, IL USA • 847.843.7900 • 800.556.6766 • www.omron247.com

**OMRON CANADA, INC. • HEAD OFFICE**
Toronto, ON, Canada • 416.286.6465 • 866.986.6766 • www.omron247.com

**OMRON ELECTRONICS DE MEXICO • HEAD OFFICE**
México DF • 52.55.59.01.43.00 • 001.800.556.6766 • mela@omron.com

**OMRON ELECTRONICS DE MEXICO • SALES OFFICE**
Apodaca, N.L. • 52.81.11.56.99.20 • 001.800.556.6766 • mela@omron.com

**OMRON ELETRÔNICA DO BRASIL LTDA • HEAD OFFICE**
São Paulo, SP, Brasil • 55.11.2101.6300 • www.omron.com.br

**OMRON ARGENTINA • SALES OFFICE**
Cono Sur • 54.11.4783.5300

**OMRON CHILE • SALES OFFICE**
Santiago • 56.9.9917.3920

**OTHER OMRON LATIN AMERICA SALES**
54.11.4783.5300

**OMRON EUROPE B.V. •** Wegalaan 67-69, NL-2132 JD, Hoofddorp, The Netherlands. • Tel: +31 (0) 23 568 13 00
Fax: +31 (0) 23 568 13 88 • www.industrial.omron.eu