

**"Extreme Power"
Strobe Lights**

Strobe time:
1 to 100 μ s
991 levels (steps of 0.1 μ s)

Peak illuminance:
15.5 million lx

* Measured using LDL-PF-33X6SW
(LWD=10 mm)

High Power Strobe Lights

PF Series

**NEW
LINE
UP**

More ways **to solve high-speed inspections**
with the expanded PF Series lineup



■ Ring Type
LDR-PF Series



■ Low-Angle Ring Type
LDR-PF-LA Series



■ Ring Type for Diffused Lighting
HPR-PF Series



■ Bar Type
LDL-PF Series



■ Dome Type
HPD-PF Series



■ Coaxial Type
LFV-PF Series

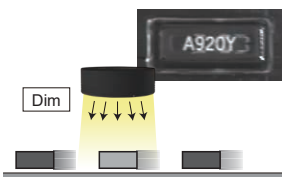


Ultra-powerful lighting reduces exposure time. No blurred images even on high-speed lines!

Horizontal Blur

Conventional product

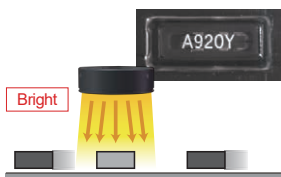
Long exposure period and insufficient brightness result in image blur.



The image is blurred in fast moving production lines.

PF Series

High brightness allows for short exposure time and reduces blur.

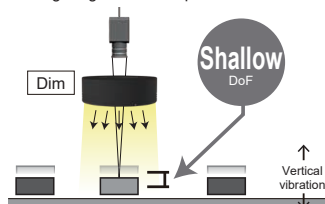


Applicable to fast moving production lines.

Vertical Blur

Conventional product

Adjusting aperture to compensate for dim lighting reduces depth of field.



Vibration causes image blur.

PF Series

High brightness allows for smaller aperture and increased depth of field.

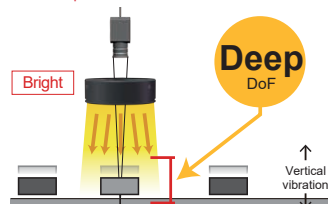


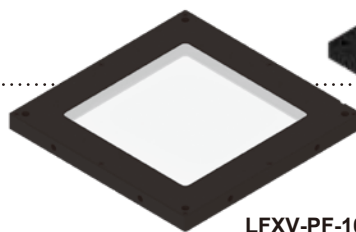
Image unaffected by vibration.

Flat Dome Type

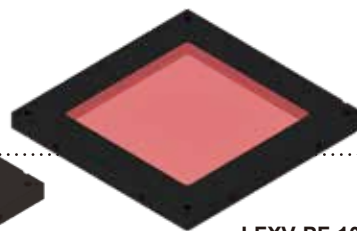
LFXV-PF Series

Dome light effect in a flat design

Ultra-high power strobe with uniform diffuse illumination

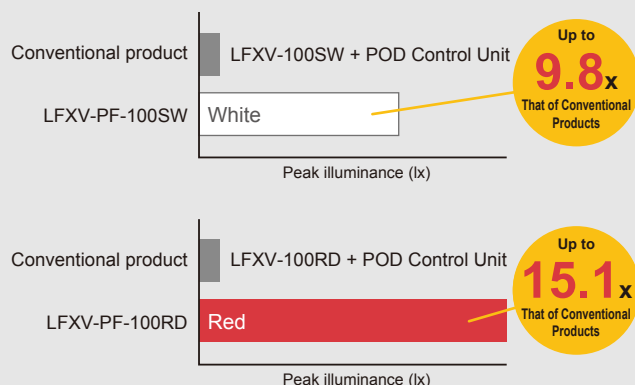


LFXV-PF-100SW



LFXV-PF-100RD

▶ Brightness comparison versus conventional products

▶ Imaging example: print inspection on food cans Food / Cans

■ Workpiece



Food Cans

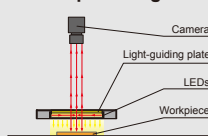
■ LFXV-PF-100SW + PF Control Unit



Print is clear and readable.

Light emission time 30 μ s

■ Example configuration



* Imaging at LWD 10 mm

Low-Angle Square Type

FPQ-PF Series

Low-angle diffuse illumination from 4 directions

Capable of detecting contours of rectangular workpieces and imaging with minimal glare

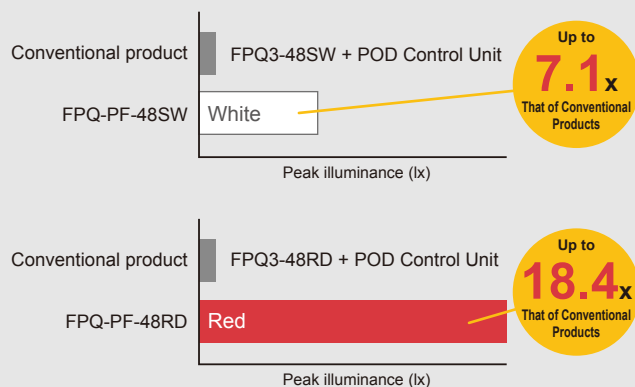


FPQ-PF-48SW



FPQ-PF-48RD

▶ Brightness comparison versus conventional products

▶ Imaging example: exterior imaging of electronic components Semiconductor

■ Workpiece



Electronic Components

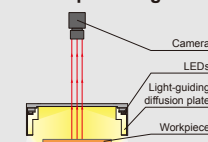
■ FPQ-PF-48SW + PF Control Unit



Clearly image print and cracked areas on electronic components.

Light emission time 100 μ s

■ Example configuration



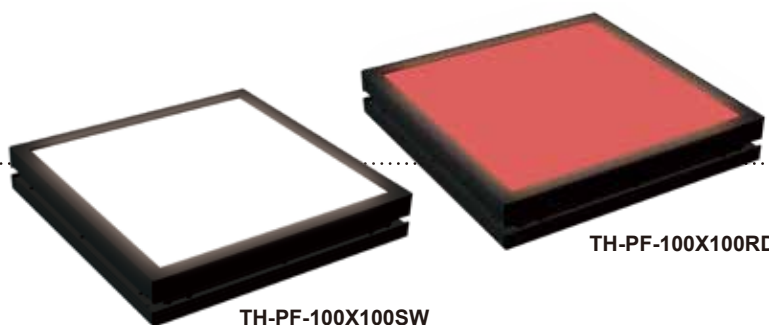
* Imaging at LWD 8 mm

Flat Type

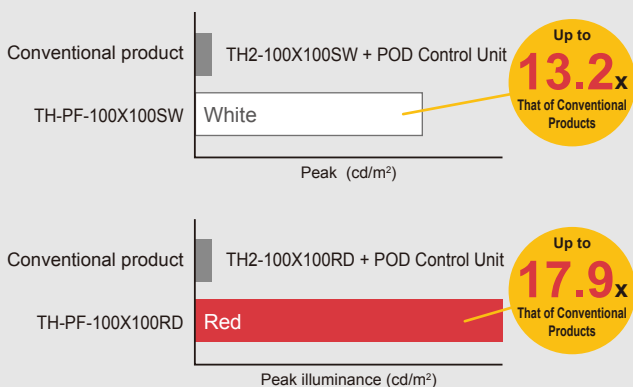
TH-PF Series

Uniform diffuse light for backlight illumination

Increase the speed of liquid level and shape/appearance inspections

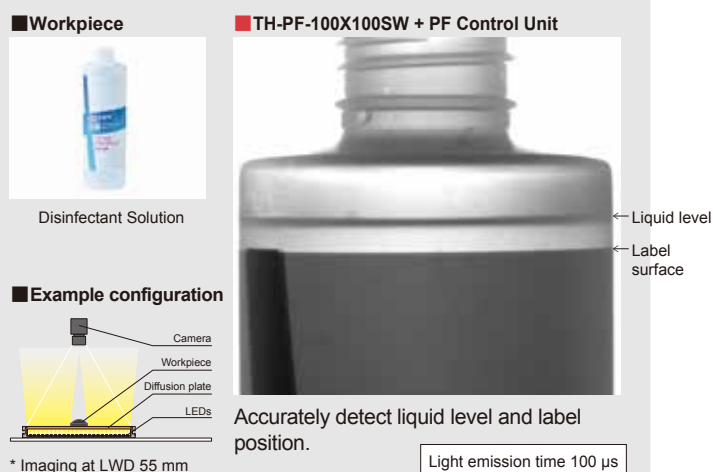


Brightness comparison versus conventional products



* Comparison of peak luminance

Imaging example: liquid level testing for disinfectant solution Pharmaceuticals



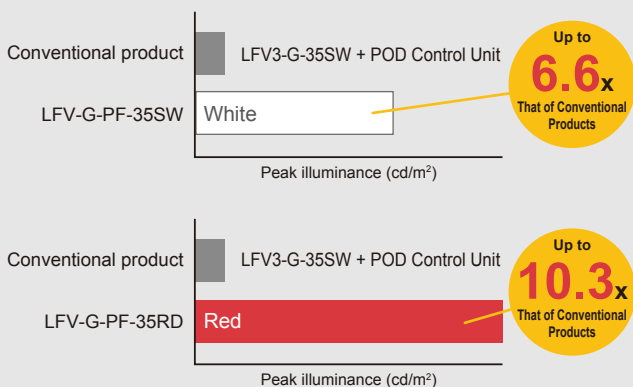
Coaxial Type (High-Resolution)

LFV-G-PF Series

Thin half-mirror prevents ghost images
For high-speed imaging with high-resolution cameras

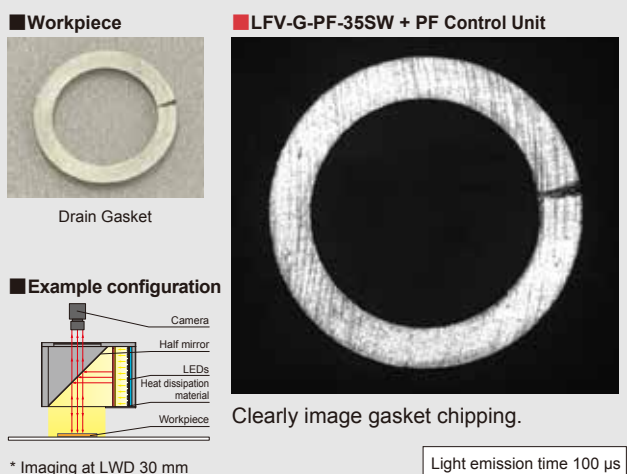


Brightness comparison versus conventional products



* Comparison of peak luminance

Imaging example: exterior inspection of drain gasket Automotive



Small sizes added to bar / diffused ring types!

Bar Type

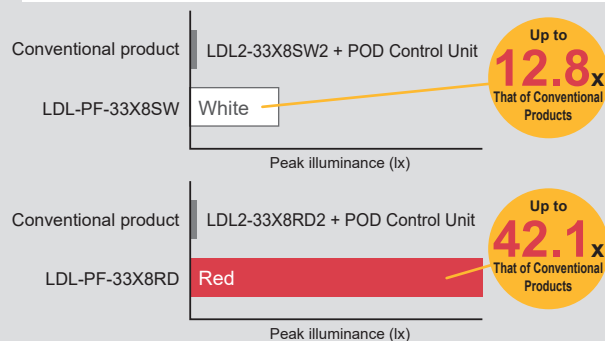
LDL-PF Series



LDL-PF-33X8SW

LDL-PF-33X8RD

▶ Brightness comparison versus conventional products



Diffused Ring Type

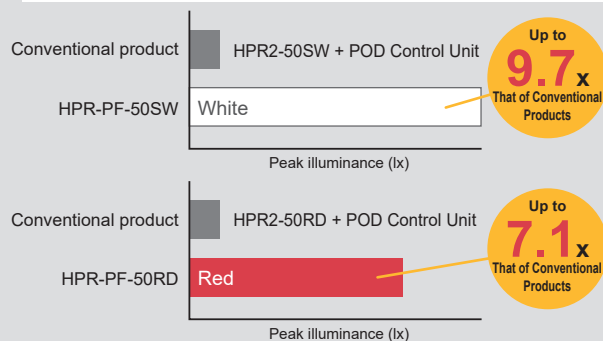
HPR-PF Series



HPR-PF-50SW

HPR-PF-50RD

▶ Brightness comparison versus conventional products



Imaging comparison versus conventional products

Short light emission time allows for clear image acquisition.

Reduce exposure time and **speed up inspection lines.**

■ Workpiece



Can

■ LFXV-100SW + POD Control Unit



Light emission time: 300 μs

■ LFXV-PF-100SW + PF Control Unit



Light emission time: 30 μs

* Imaging at LWD 10 mm

Shorten emission time to approx. 1/10

of conventional products on overdrive!

High Brightness

Comparable to

Xenon Flash Lamps

Adjusting the strobe time of the PF Series light unit enabled the same inspection speed made possible by xenon lamps.

	Brightness stability	Flashing failure	Controllability	Operational lifetime	Fiber cabling	Environmental impact	Operating noise	Number of channels
High Power Strobe LED Lights	Stable	Flashing does not fail.	Good	Long	Flexible	Small	Quiet	More than one
Strobe time: 15 μs	No impact on inspection accuracy.	No impact on inspection accuracy.	Light intensity, strobe time, and lighting delay time can be set with various types of external control.	Long service life. 50,000 hours. (Expected service life)	Installation flexibility.	Contributes to reducing CO ₂ and saving energy.	No operating noise.	Available with multiple channels. Multiple light units can be used with a single control unit.
Xenon Flash Lamps	Fluctuant	Flashing sometimes fails.	Poor	Short	Inflexible	Large	Abrasive	One
Strobe time: 1.75 μs (measured value)	Impacts inspection accuracy.	Impacts inspection accuracy.	Light control is possible, but strobe time is fixed.	The service life of xenon lamps is typically 3,000 hours.	Inconvenient to route fiber.	Mercury contained in the used lamps makes them difficult to dispose.	Characteristic operating noise.	If multiple lights are required, additional fiber and light sources are required.

Lineup

▷ Total of 10 series with 76 models to suit various imaging environments

Type	Model Name *1		Peak Current		Peak Wavelength / Correlated Color Temperature		Options	Extension Cables	Dedicated Control Units	Weight		
			RD (Red)	SW(White)	RD (Red)	SW (White)						
Ring	LDR-PF-36□□		5.4 A		627 nm	7600 K	Diffusion plate Polarizing plate Mounting adapter	FCB-PF	PF-A4048-2 PF-A16048-4	70 g		
	LDR-PF-54□□		10.8 A							110 g		
	LDR-PF-75□□		18 A	21.6 A						150 g		
Low-Angle Ring	LDR-PF-75□□-LA		16.2 A		622 nm	8000 K	Diffusion plate Mounting adapter	FCB-PF		125 g		
	LDR-PF-100□□-LA		28.8 A					FCB-PF-EL9		200 g		
	LDR-PF-150□□-LA		42 A							350 g		
Diffused Ring	HPR-PF-50□□ NEW		6 A		625 nm	5600 K	Brackets	FCB-PF		50 g		
	HPR-PF-75□□		12 A		636 nm	6500 K				170 g		
	HPR-PF-100□□		21.6 A							180 g		
	HPR-PF-150□□		36 A					FCB-PF-EL9		270 g		
	HPR-PF-200□□		43.2 A		400 g							
Low-Angle Square	FPQ-PF-32□□ NEW (Custom)		*2		*2		Reflective plate	*2		*2		
	FPQ-PF-48□□ NEW		14 A		631 nm	6000 K	-	FCB-PF		90 g		
Bar	Emitting width 4 mm	LDL-PF-19X4□□ NEW (Custom)		*2		*2		Diffusion plate Polarizing plate Brackets		*2	*2	
		LDL-PF-33X8□□ NEW		4 A		627 nm	7500 K			FCB-PF	22 g	
	Emitting width 18 mm	LDL-PF-52X18□□		5.4 A							FCB-PF x 2 *3	140 g
		LDL-PF-102X18□□		10.8 A								210 g
		LDL-PF-152X18□□		16.2 A								290 g
		LDL-PF-52X30□□		9 A						180 g		
	Emitting width 30 mm	LDL-PF-102X30□□		18 A						FCB-PF-EL9	270 g	
		LDL-PF-152X30□□		27 A							380 g	
Flat	TH-PF-27X27□□ NEW (Custom)		*2		*2			Light control film Brackets		*2	*2	
	TH-PF-51X51□□ NEW (Custom)						FCB-PF-EL9			200 g		
	TH-PF-100X100□□ NEW		41 A	625 nm	5200 K							
Dome	HPD-PF-75□□		12 A		636 nm	6500 K	Brackets	FCB-PF		150 g		
	HPD-PF-100□□		21.6 A					FCB-PF-EL9		170 g		
	HPD-PF-150□□		36 A							310 g		
	HPD-PF-200□□		43.2 A							480 g		
Flat Dome	LFXV-PF-25□□ NEW (Custom)		*2		*2		-	*2		*2		
	LFXV-PF-50□□ NEW (Custom)							FCB-PF-EL9		440 g		
	LFXV-PF-75□□ NEW (Custom)											
	LFXV-PF-100□□ NEW		26 A	36 A	631 nm	5600 K						
Coaxial	LFV-PF-35□□		10.8 A	14.4 A	627 nm	7800 K	Diffusion plate Polarizing plate Light control film Brackets	FCB-PF		230 g		
	LFV-PF-50□□		18.0 A	21.6 A						FCB-PF-EL9	400 g	
	LFV-PF-70□□		37.8 A					800 g				
	LFV-PF-100□□		48.6 A	64.8 A				Diffusion plate / Polarizing plate Light control film			1400 g	
Coaxial (High-Resolution)	LFV-G-PF-27□□ NEW (Custom)		*2		*2		Protective Plate	*2		*2		
	LFV-G-PF-35□□ NEW		8 A		623 nm	4800 K		FCB-PF		150 g		

*1 □□ in the model name contains the LED color. (RD: Red, SW: White)

*2 Contact our local sales office for details.

*3 Light unit has two connectors. Use two extension cables of the same length to connect the light unit. Using cables of different lengths may cause uneven light emission due to voltage drop caused by the DC resistance of the cable.

Common Specifications

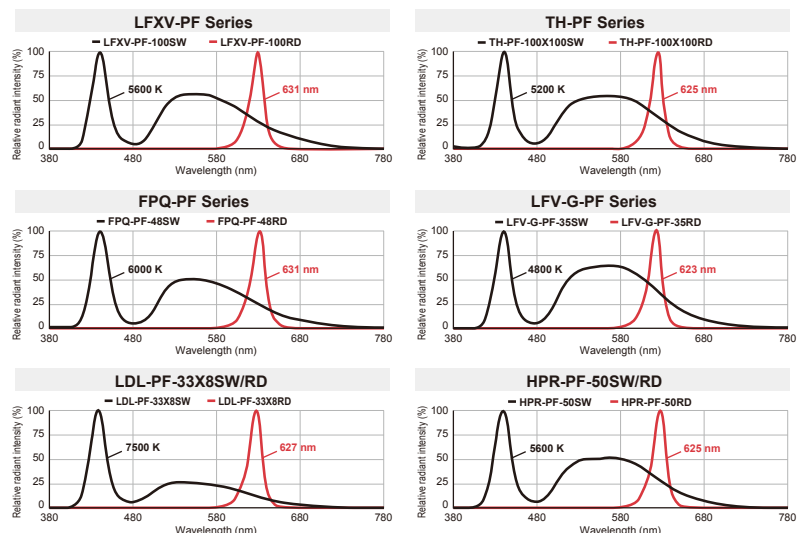
Input voltage	DC48V
Lighting conditions	Maximum light emission time: 500 μs Maximum duty ratio: 1%
Connector	EL Connector (ELP-04NV/ELP-09V)
Extension cables	FCB-PF/FCB-PF-EL9 Series (Sold separately)
Cooling method	Natural air-cooling
Operating environment (indoors only)	Temperature: 0 to 40°C, Humidity: 20 to 85% RH (with no condensation)
Storage environment (indoors only)	Temperature: -20 to 60°C, Humidity: 20 to 85% RH (with no condensation)
CE marking	Safety standard: Conforms to EN62471-1
Environmental regulations	RoHS compliant

Refer to our website
for product details.

► <https://www.ccs-grp.com/powerflash/>



LED Properties



The data included is for reference only. Actual values may vary.

For LED characteristics of models other than those listed above, please refer to the website or the general catalog.

Data: Illuminance Graph and Uniformity (Representative Example)

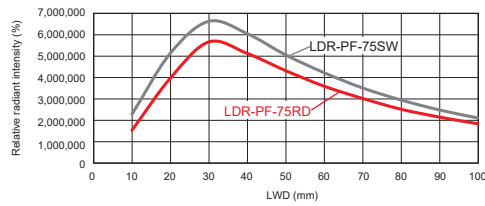
▷ Ring Type

LDR-PF Series

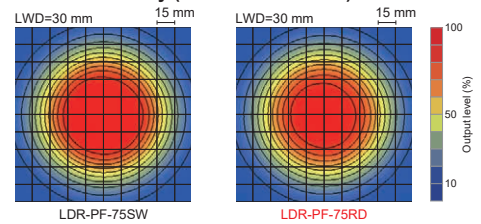


LDR-PF-75SW/RD

Illuminance graph^{*1} (LWD characteristics)^{*2}



Uniformity (Relative irradiance)



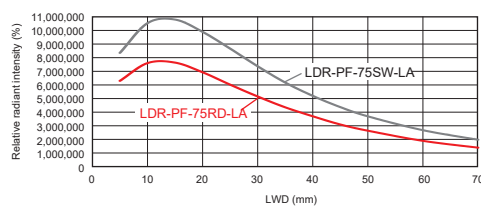
▷ Low-Angle Ring Type

LDR-PF-LA Series

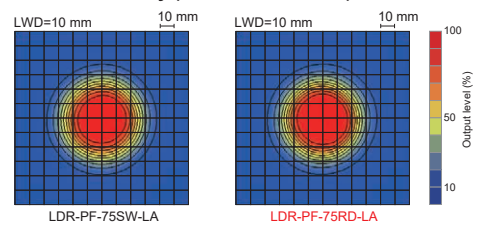


LDR-PF-75SW/RD-LA

Illuminance graph^{*1} (LWD characteristics)^{*2}



Uniformity (Relative irradiance)



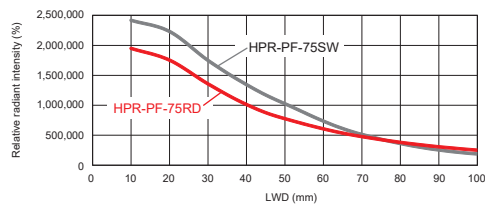
▷ Diffused Ring Type

HPR-PF Series

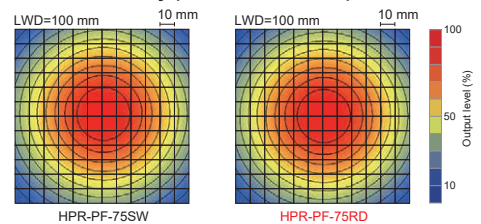


HPR-PF-75SW/RD

Illuminance graph^{*1} (LWD characteristics)^{*2}



Uniformity (Relative irradiance)

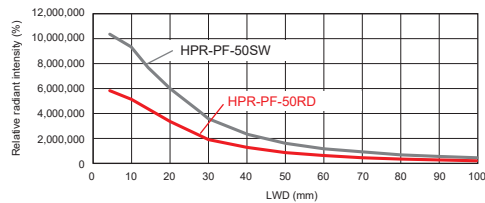


NEW

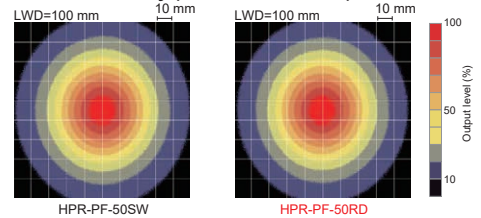


HPR-PF-50SW/RD

Illuminance graph^{*1} (LWD characteristics)^{*2}



Uniformity (Relative irradiance)



▷ Low-Angle Square Type

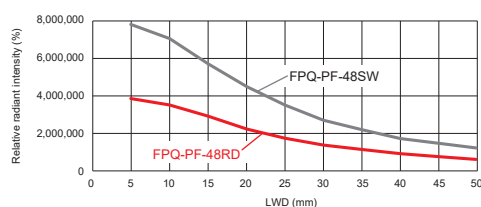
FPQ-PF Series

NEW

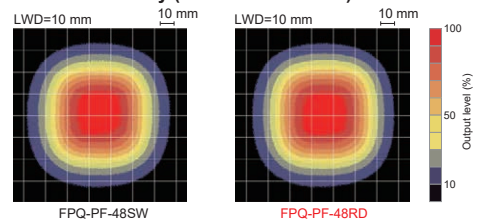


FPQ-PF-48SW/RD

Illuminance graph^{*1} (LWD characteristics)^{*2}



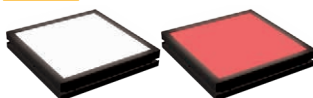
Uniformity (Relative irradiance)



▷ Flat Type

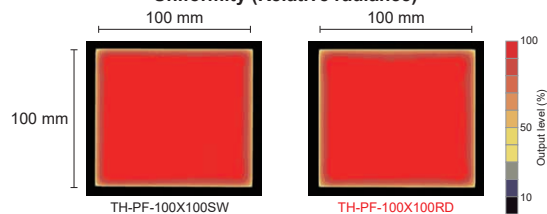
TH-PF Series

NEW



TH-PF-100X100SW/RD

Uniformity (Relative radiance)

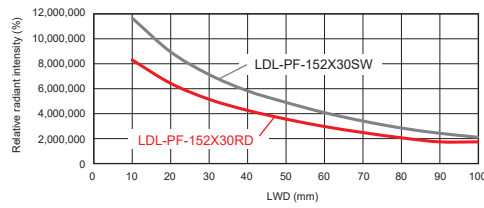


▷ Bar Type LDL-PF Series

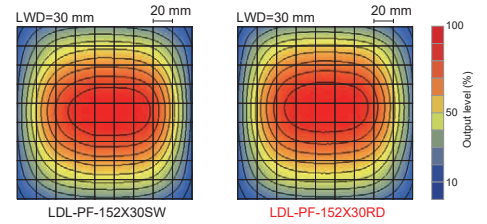


LDL-PF-152X30SW/RD

Illuminance graph ^{*1} (LWD characteristics) ^{*2}



Uniformity (Relative irradiance)

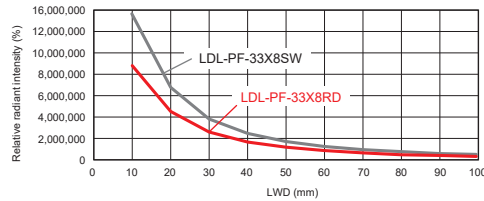


NEW

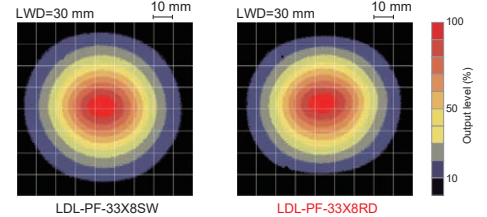


LDL-PF-33X8SW/RD

Illuminance graph ^{*1} (LWD characteristics) ^{*2}



Uniformity (Relative irradiance)

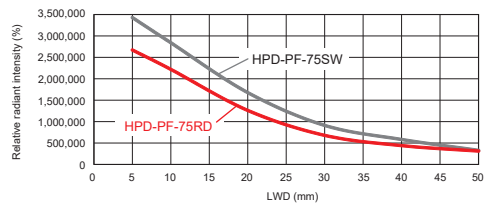


▷ Dome Type HPD-PF Series

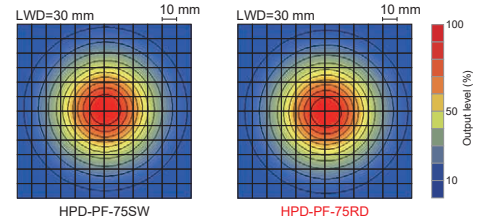


HPD-PF-75SW/RD

Illuminance graph ^{*1} (LWD characteristics) ^{*2}



Uniformity (Relative irradiance)

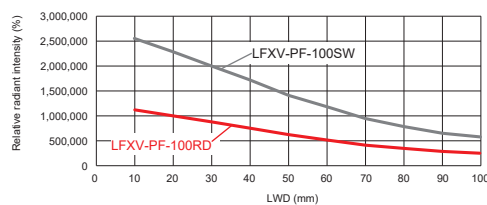


▷ Flat Dome Type LFXV-PF Series

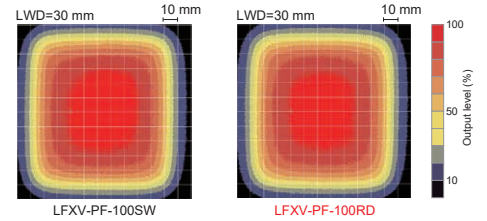


LFXV-PF-100SW/RD

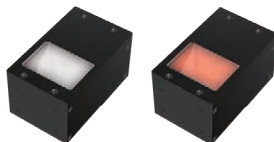
Illuminance graph ^{*1} (LWD characteristics) ^{*2}



Uniformity (Relative irradiance)

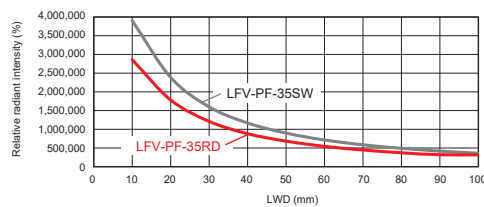


▷ Coaxial Type LFV-PF Series

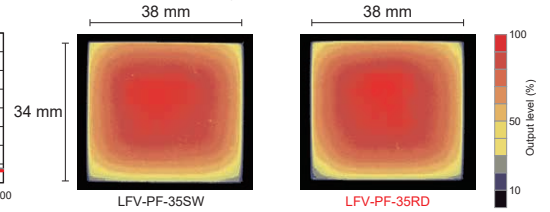


LFV-PF-35SW/RD

Illuminance graph ^{*1} (LWD characteristics) ^{*2}



Uniformity (Relative radiance)

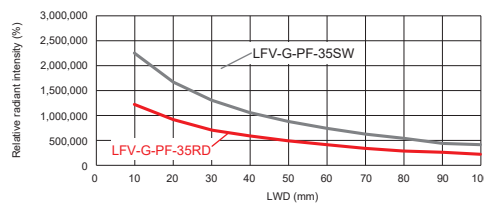


▷ Coaxial Type (High-Resolution) LFV-G-PF Series

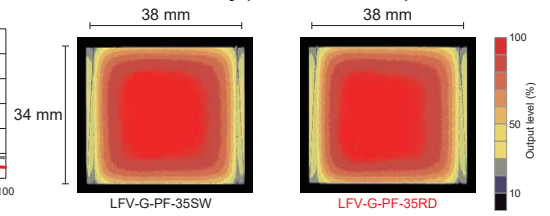


LFV-G-PF-35SW/RD

Illuminance graph ^{*1} (LWD characteristics) ^{*2}



Uniformity (Relative radiance)

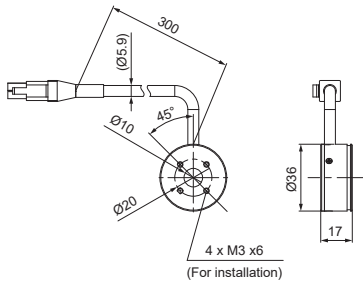


Dimensions (mm)

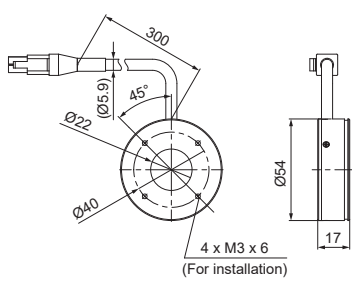
Ring Type LDR-PF Series



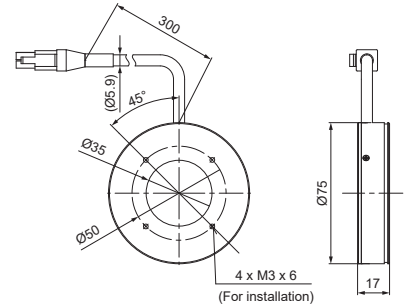
LDR-PF-36SW/RD



LDR-PF-54SW/RD



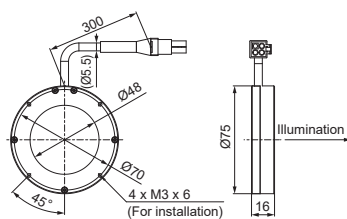
LDR-PF-75SW/RD



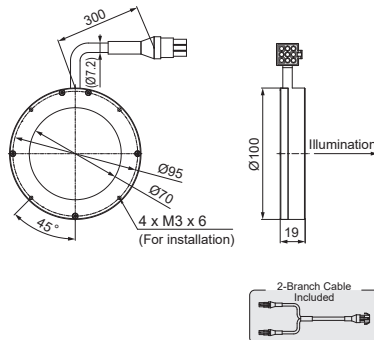
Low-Angle Ring Type LDR-PF-LA Series



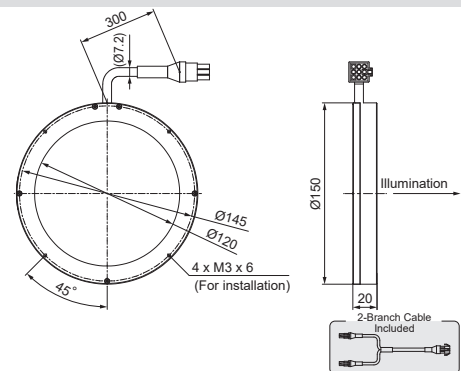
LDR-PF-75RD-LA / SW-LA



LDR-PF-100RD-LA / SW-LA



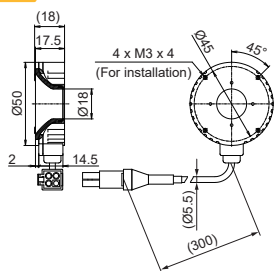
LDR-PF-150RD-LA / SW-LA



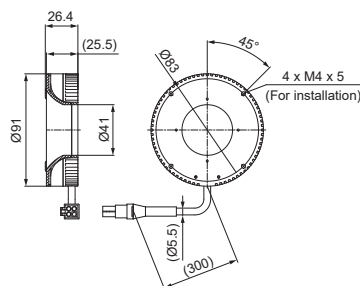
Diffused Ring Type HPR-PF Series



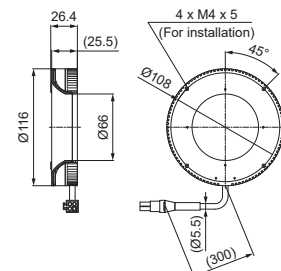
NEW HPR-PF-50SW/RD



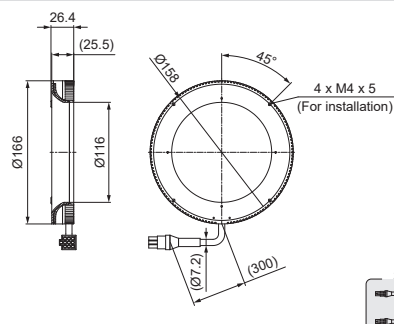
HPR-PF-75SW/RD



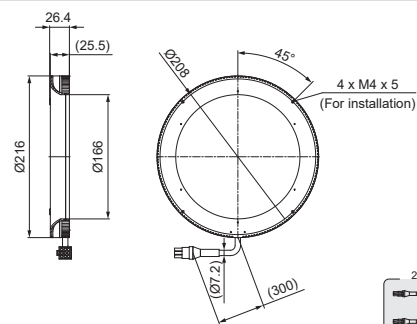
HPR-PF-100SW/RD



HPR-PF-150SW/RD



HPR-PF-200SW/RD

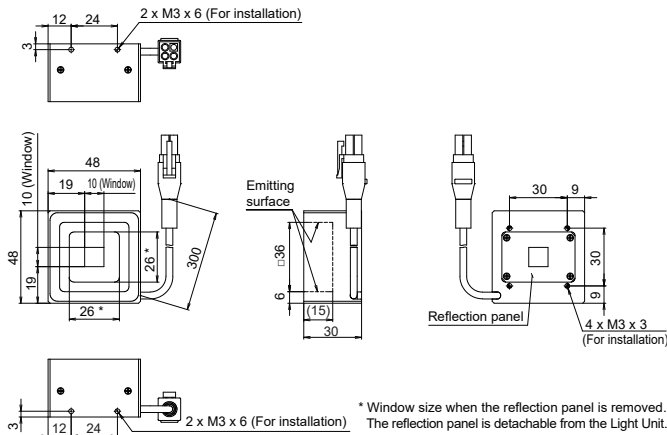


▷ Low-Angle Square Type FPQ-PF Series

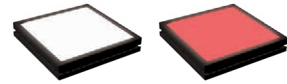


NEW

FPQ-PF-48SW/RD

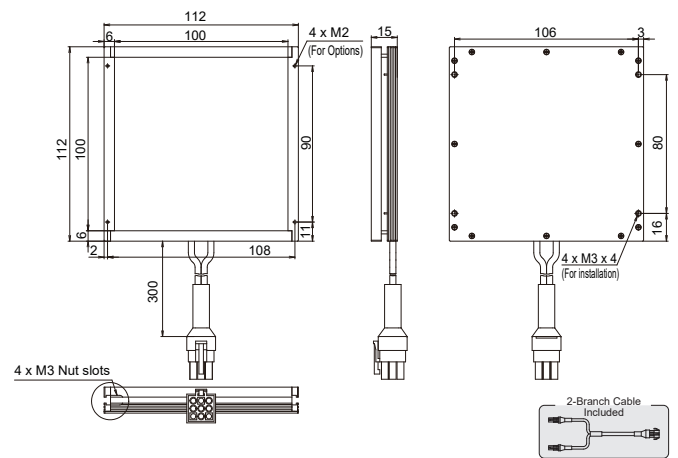


▷ Flat Type TH-PF Series



NEW

TH-PF-100SW/RD

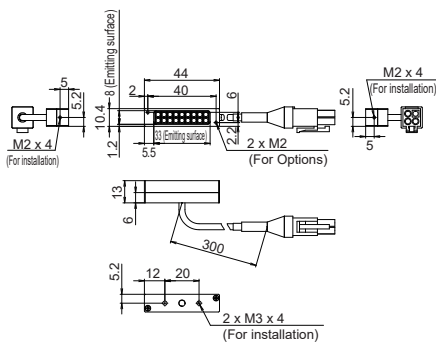


▷ Bar Type LDL-PF Series



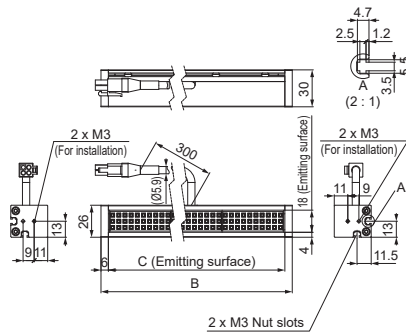
NEW

Emitting width 8 mm



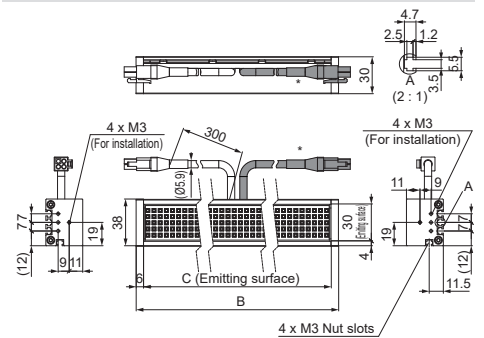
Model Name
LDL-PF-33X8SW/RD

Emitting width 18 mm



Model Name	B	C
LDL-PF-52X18SW / RD	64	52
LDL-PF-102X18SW / RD	114	102
LDL-PF-152X18SW / RD	164	152

Emitting width 30 mm



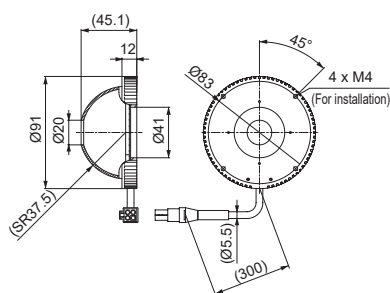
* The LDL-PF-152X30SW/RD Light Unit has two connectors.

Model Name	B	C
LDL-PF-52X30SW / RD	64	52
LDL-PF-102X30SW / RD	114	102
LDL-PF-152X30SW / RD	164	152

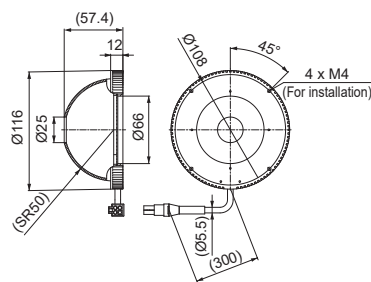
▷ Dome Type HPD-PF Series



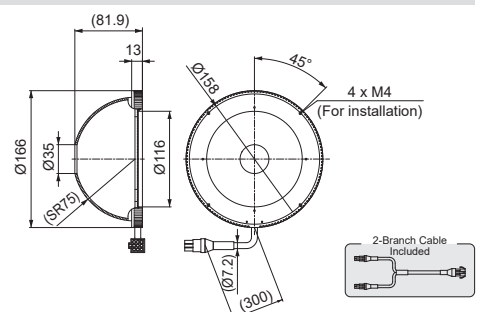
HPD-PF-75SW/RD



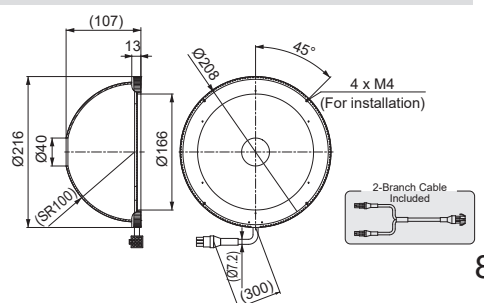
HPD-PF-100SW/RD



HPD-PF-150SW/RD



HPD-PF-200SW/RD



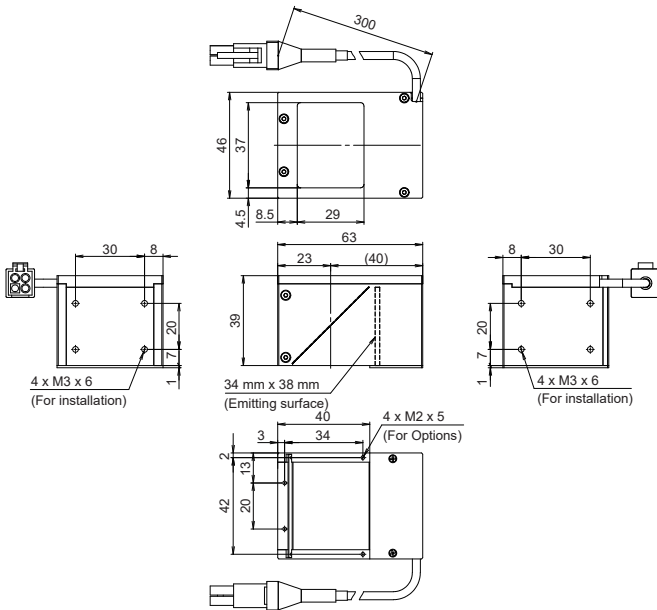
Dimensions (mm)

▷ Coaxial Type (High-Resolution) LFV-G-PF Series



NEW

LFV-G-PF-35SW/RD

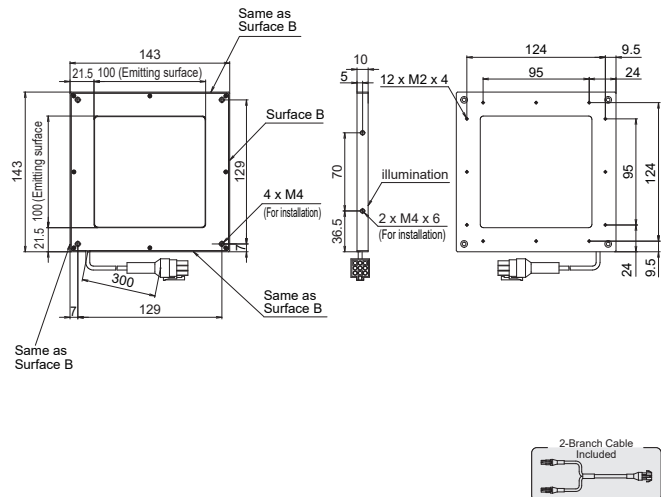


▷ Flat Dome Type LFXV-PF Series



NEW

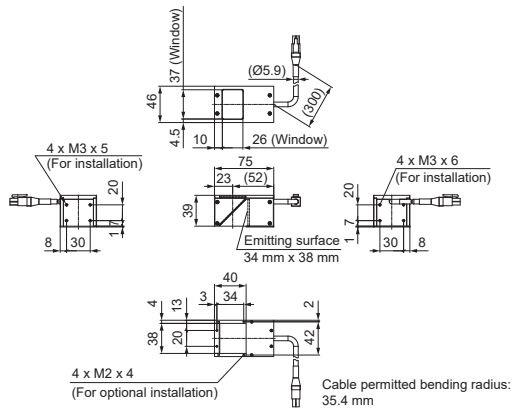
LFXV-PF-100SW/RD



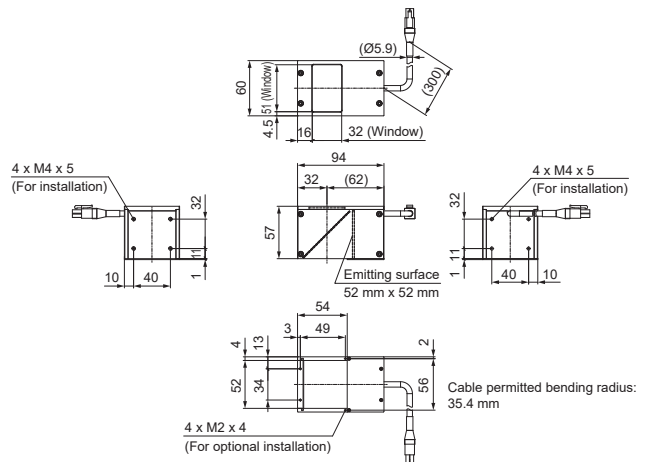
▷ Coaxial Type LFV-PF Series



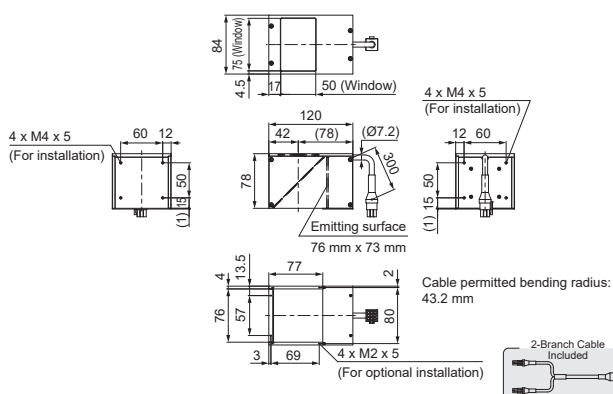
LFV-PF-35SW/RD



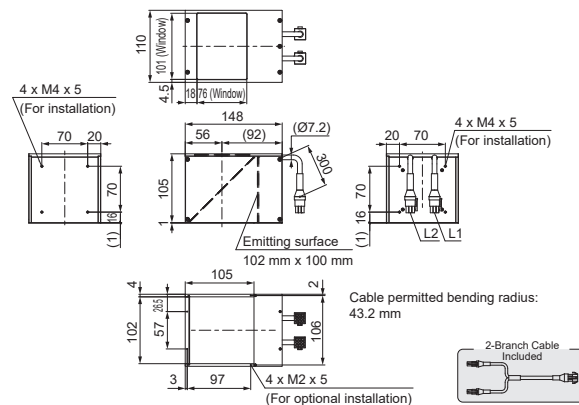
LFV-PF-50SW/RD



LFV-PF-70SW/RD



LFV-PF-100SW/RD



High Power Strobe Control Units PF Series

▶ PF-A4048-2 (2-channel model)



Features

- Light intensity: 512 levels
- Strobe time: 1 to 100 μ s
- Lighting delay: 0 to 100 μ s
- Compatible with Ethernet communications, etc.

▶ PF-A16048-4 (4-channel model)



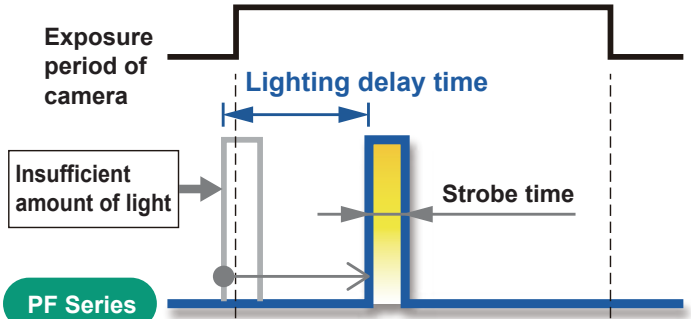
Features

- Light intensity: 512 levels
- Strobe time: 1 to 500 μ s*
- Lighting delay: 0 to 100 μ s
- Compatible with Ethernet communications
- Trigger link, etc.

* Refer to the specification table.

Freely Adjustable Flash Timing

You can use the lighting delay time setting of the control unit to adjust the timing of the flash to be within the exposure period of the camera.



Delaying the timing of the flash enables strobing within the exposure period of the camera.

Specifications

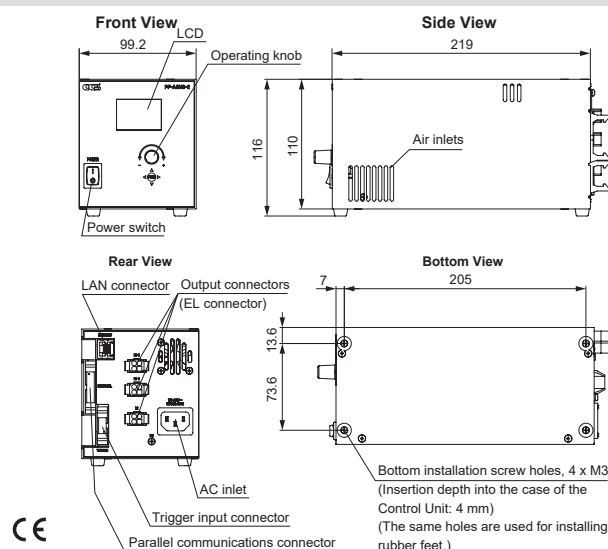
Model name	PF-A4048-2, PF-A16048-4	
Lighting method	Strobe lighting	
Drive method	Constant-voltage system	
Intensity control method	Variable-voltage control, Strobe time control	
Number of channels	PF-A4048-2: 2 channels, PF-A16048-4: 4 channels	
Number of output connectors	PF-A4048-2: L1: 2, L2: 1 PF-A16048-4: L1: 2, L2: 2, L3: 2, L4: 2	
Applicable Light Unit (ratings)	High Power Strobe Light Units from CCS	
Output voltage settings	Manual	Operation on the front panel
	External	Command input via TCP/IP or UDP/IP comm. Signal input through parallel port
Strobe time settings	Manual	Operation on the front panel
	External	Command input via TCP/IP or UDP/IP comm. Signal input through parallel port
Lighting delay settings	Manual	Operation on the front panel
	External	Command input via TCP/IP or UDP/IP comm. Signal input through parallel port
Input power	100 to 240 VAC (+10%, -15%), 50/60 Hz	
Power consumption (typ.)	PF-A4048-2: 65 VA, PF-A16048-4: 140 VA	

Inrush current (typ.)	PF-A4048-2: 15 A (at 100 VAC), 36 A (at 240 VAC) from a cold start PF-A16048-4: 17 A (at 100 VAC), 40.8 A (at 240 VAC) from a cold start
Ground leakage current	3.5 mA max. (264 VAC, 60 Hz, with no load)
Output voltage (ratings)	High intensity range: 33 to 48 VDC Low intensity range: 12 to 48 VDC
Output current (peak)	PF-A4048-2: 43.2 A total for 2 channels (21.6 A/connector), PF-A16048-4: 172.8 A total for 4 channels (21.6 A/connector)
Insulation withstand voltage (input-output, input-FG)	1500 VAC for one minute, Cutoff current: 10 mA, 500 VDC, 20 M Ω min.
Overvoltage category	Category II
Operating environment	Temperature: 0 to 40°C, Humidity: 20% to 85% (with no condensation) Altitude: 2,000 m max., Protective ground class: Class I, Pollution degree: 2, Indoor use only
Storage environment	Temperature: -20 to 60°C, Humidity: 20% to 85% (with no condensation)
Cooling method	Forced air cooling
CE marking	Safety standard: Conforms to EN 61010-1, EMC standard: Conforms to EN61000-6-2 and EN61000-6-4
Environmental regulations	RoHS compliant
Material, coating, and surface processing	Steel sheet, Cover thickness: 1.6 mm, Chassis thickness: 1.0 mm, Black (half matte)
Weight	PF-A4048-2: 1,900 g max., PF-A16048-4: 3,300 g max.
Accessories	Instruction guide, 2-m-long 3-prong AC power cord with ground terminal

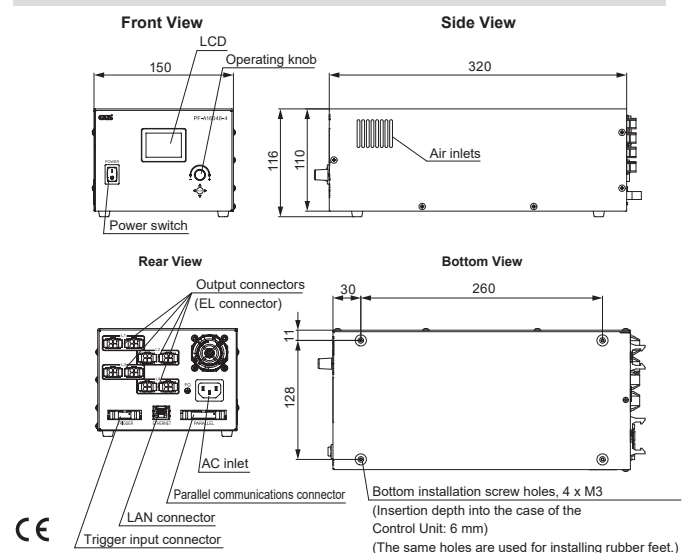
* For Ethernet communications: 1 to 100 μ s (in steps of 0.1 μ s), 100.5 to 500 μ s (in steps of 0.5 μ s)
For parallel communications: Low strobe time range (1 to 100 μ s, in steps of 0.1 μ s), High strobe time range (5 to 500 μ s, in steps of 0.5 μ s)

Dimensions (mm)

PF-A4048-2



PF-A16048-4

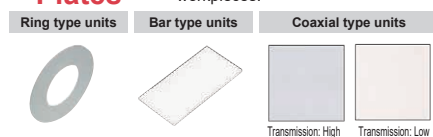


Options

* The model name "OO" indicates the size.

Diffusion Plates

Reduces glare, especially problematic in the imaging of glossy workpieces.



Model name	Applicable Light Unit
DF-LDR-PF-OO	LDR-PF Series *1
DF-LDR-PF-OO-LA	LDR-PF-LA Series *1
DF-LDL-PF-OO	LDL-PF Series *2
DF-LFV3-OO (Transmission: High) *3	LFV-PF Series
DF-LFV3-OO-UF (Transmission: Low)	

*1 An adapter is needed for attachment to the Light Unit.
 *2 The diffusion plate for "LDL-PF-33X8" is "DF-LDL2-33X8".
 *3 It is the same diffusion plate as the standard equipment.

Polarizing Plates

Reduces glare when used in combination with a polarizing filter on the camera.



Model name	Applicable Light Unit
PL-LDR-PF-OO	LDR-PF Series *1
PL-LDL-PF-OO-HO/VE *3	LDL-PF Series *2
PL-LFV3-OO	LFV-PF Series

*1 An adapter is needed for attachment to the Light Unit.
 *2 The polarizing plate for "LDL-PF-33X8" is "PL-LDL2-33X8-HO/VE".
 *3 HO: Light is polarized parallel to the longer edge of the plate.
 VE: Light is polarized parallel to the shorter edge of the plate.

Adapters

For attaching a diffusion plate or polarizing plate to the light unit.



Model name	Applicable Light Unit
AD-LDR-PF-OO	LDR-PF Series LDR-PF-LA Series

Protective Plates

Protects the emitting part of the light unit.



Model name	Applicable Light Unit
PR-LFV3-OO	LFV-G-PF Series
PR-LFXV-OO	LFV-PF Series

Brackets

Secures light units.

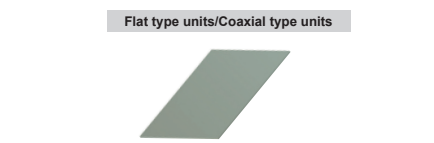


Model name	Applicable Light Unit
BK-LDL-PF	LDL-PF Series *1
BK-TH-LE12	TH-PF Series

*1 The bracket for "LDL-PF-33X8" is "BK-LDL2."

Light Control Films

Improves parallelism of light to reduce light diffraction.

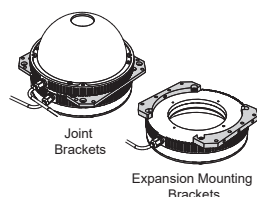


Model name	Applicable Light Unit
LC-LFV3-35	LFV-PF Series
LC-TH2-OO-HO/VE *1	TH-PF Series

*1 Model suffix -HO/VE has a different lower direction.
 HO: When installed with the cable outlet directly below, the lower direction is horizontal.
 VE: When installed with the cable outlet directly below, the lower direction is vertical.

Joint Brackets

Joint brackets are used to join a dome type unit with a ring or coaxial type unit.



Light Joint Brackets

Model name	Applicable Light Unit ①	Applicable Light Unit ②
BK-75-JO	HPD-PF-75	HPD-PF-75
BK-100-JO	HPD-PF-100	HPD-PF-100
BK-150-JO	HPD-PF-150	HPD-PF-150
BK-200-JO	HPD-PF-200	HPD-PF-200
BK-250-JO	HPD-PF-250	HPD-PF-250

Coaxial Light Joint Brackets

Model name	Applicable Light Unit ①	Applicable Light Unit ②
BK-HPD2-75-LFV	HPD-PF-75	LFV-PF-35
BK-HPD2-100-LFV	HPD-PF-100	LFV-PF-50
BK-HPD2-150-LFV	HPD-PF-150	

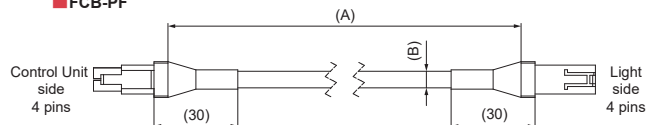
Expansion Mounting Brackets

Model name	Applicable Light Unit ①	Applicable Light Unit ②
BK-75-CI	HPD-PF-75	HPR-PF-75
BK-100-CI	HPD-PF-100	HPR-PF-100
BK-150-CI	HPD-PF-150	HPR-PF-150
BK-200-CI	HPD-PF-200	HPR-PF-200

Cables

Connects a light unit and control unit.

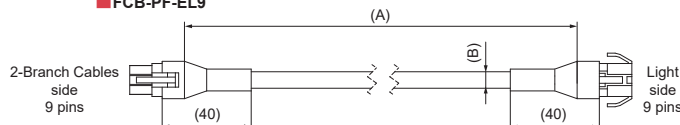
FCB-PF



Model name	Dimension A	Dimension B	Permitted bending radius *	Weight
FCB-1-PF	1 m	Ø5.9	35.4 mm	100 g
FCB-2-PF	2 m			150 g
FCB-3-PF	3 m			200 g
FCB-5-PF	5 m	Ø7.0	42.0 mm	450 g

* The cable permitted bending radii shown below are for reference only. Actual values may vary.

FCB-PF-EL9



Model name	Dimension A	Dimension B	Permitted bending radius *	Weight
FCB-1-PF-EL9	1 m	Ø7.4	44.4 mm	100 g
FCB-2-PF-EL9	2 m			190 g
FCB-3-PF-EL9	3 m			270 g
FCB-5-PF-EL9	5 m	Ø9.1	54.6 mm	680 g

* The cable permitted bending radii shown below are for reference only. Actual values may vary.

■ "CCS" and "LIGHTING SOLUTION" are registered trademarks or trademarks of CCS Inc.

Notes

- To ensure proper and safe use of the product, please read the Instruction Guide completely before using the product.
- The design and specifications of this product are subject to change without notification for product improvement.



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