



Next-generation light sources delivering high output and a fast response



PFBR-600SW2-LLCF
(Filter Changer Model)

PFBR-600SW2-LL



The supplied AC cord is for use with 100 to 120 VAC. If you want to use the light source unit with 200 to 240 VAC, you must procure another appropriate AC power cord.

Applications

Connected to a dedicated light guide and used as a light source /
Connected to a plastic light guide and used as a light source * XF type only

Caution

These products emit high-intensity visible light. Heat-sensitive or flammable light-absorbing materials may be damaged because light-absorbing materials convert incident light into heat. Check the instructions in the User Manual and use the products in a safe manner.

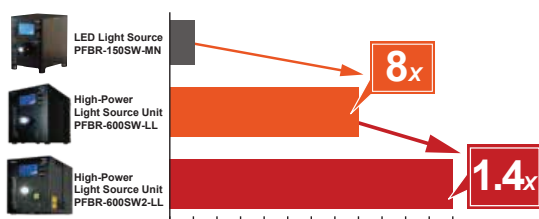
Features

- Continuous lighting and strobe lighting (internal trigger mode and external trigger mode) can be selected
- Available control modes include manual control and external control over Ethernet, parallel communication, and serial communication
- Light intensity can be set in a maximum of 1,024 steps (10-bit: 1,024 steps / 8-bit: 256 steps)

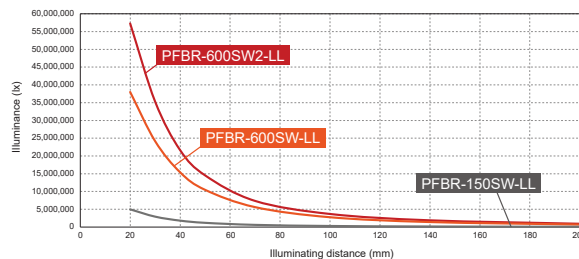
Provides High Output to Easily Replace Xenon Flash Light Sources

Output increased more than 1.4x that of conventional products. The result is an ultra-high output light source unit comparable to xenon flash light sources.

■ Illuminance Comparison Graph (Image)



Note: Actual measurement values with intensity of 100%, a bundle of Ø8 mm, a straight light guide with a total length of 1,000 mm installed, and at a position 50 mm away from the fiber output edge. (Results may vary for individual units.)



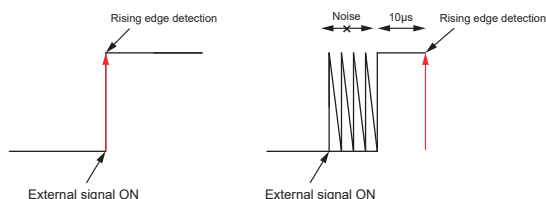
Note: Actual measurement values with intensity of 100%, bundles of Ø8 mm, a straight light guide with a total length of 1,000 mm installed, and at positions at each illuminating distance away from the fiber output edge. (Results may vary for individual units.)

Trigger Filter Function

Stable detection of external trigger input even in noisy environments.

■ Trigger filter set time = 00µs

■ Trigger filter set time = 10µs



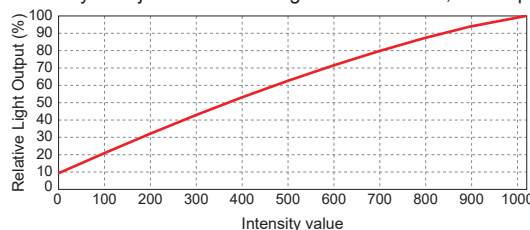
Recognizes as a rising edge trigger at the time of external signal ON.

Recognizes as a rising edge trigger after 10µs from external signal ON. Noise detected from external signal ON until trigger filter set time will not be recognized as a rising edge trigger.

* Please refer to the instruction manual for details.

Dimming and light output characteristics

Light intensity is adjustable with a high resolution of 1,024 steps.

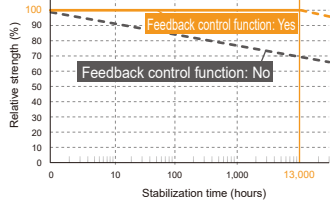


Note: Actual measurement values using our measurement conditions. Results for individual products may vary. The correction function on this product is permanently enabled.

Equipped with Light Quantity Feedback Control Function

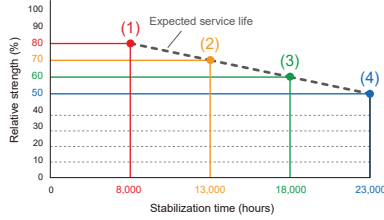
Use the light quantity feedback control function and set the desired stabilization time to maintain output over long periods.

Comparison of relative strength according to light quantity feedback control function (Representative)



Note: When the stabilization time is set to 13,000 hours. This graph is representative of the function. Actual values may vary.

Relationship between light quantity feedback control function and stabilization time (Representative)



Note: In Ta=40°C environment. This graph is representative of the function. Actual values may vary.

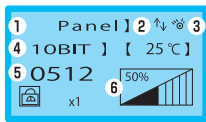
- (1) Stabilized up to 8,000 hours at 80% maximum light quantity.
- (2) Stabilized up to 13,000 hours at 70% maximum light quantity.
- (3) Stabilized up to 18,000 hours at 60% maximum light quantity.
- (4) Stabilized up to 23,000 hours at 50% maximum light quantity.

Note: Refer to the user manual for more information on the light quantity feedback control function.

Easily Checked Operating Status on the LCD Panel

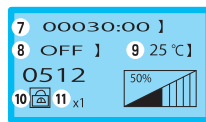
Displays operating status such as light source temperature, light intensity and operating time.

Operation Display 1



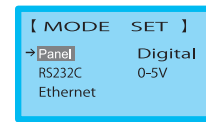
- 1 Operating mode
- 2 Feedback function icon
- 3 Light ON icon
- 4 Intensity resolution
- 5 Intensity value
- 6 Intensity indicator

Operation Display 2



- 7 Total time (min.)
 - 8 Strobe setting
 - 9 Light source temperature
 - 10 Lock icon
 - 11 Intensity step magnification
- When you press the operating knob, the display of the magnification will change in the following order: x1, x10, and x100.

MODE Setting Display



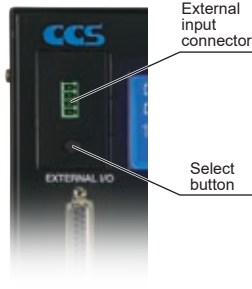
Note: Refer to the user manual for details of displayed contents.

External Control by Use of a Large Variety of Communication Methods

- Ethernet communication control: TCP/IP, UDP/IP
- Parallel communication control
- Digital light control: Compatible with sink and source types
- Serial communication control: RS-232C
- Analog light control: Intensity control from 0 to 5 V

PFBR-600SW2-LLCF Filter Changer Model

Use color filters to emit light at specific wavelengths.



PFBR-600SW2-LLCF

- Equipped with a multi-filter changer that holds five filters.
- Filters can be changed manually and using external communication.
- Easily replace filters by removing the front cover.
- Filters available in six colors.

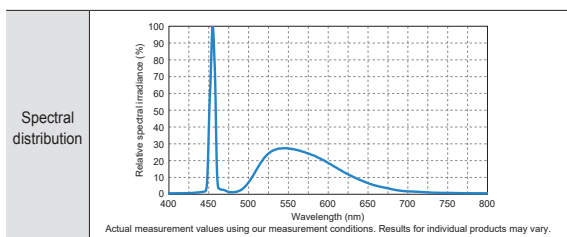


- Red
- Blue
- Green
- Cyan
- Magenta
- Yellow

Note: Refer to the user manual for installing and setting filters.

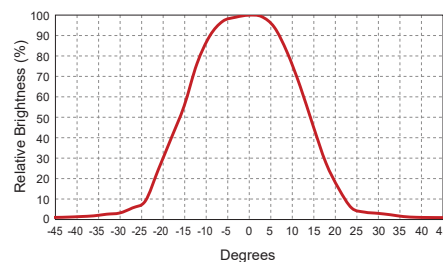
A variety of filters are available with excellent heat resistance.

Light Spectrum Characteristics



Before using the product, be sure to read the User Manual included with the product and follow the usage precautions. The data included is for reference only. Actual values may vary.

Light distribution characteristics at the fiber output end



Note: Actual measurement values with intensity of 100%, a bundle of Ø8 mm, a straight light guide with a total length of 1,000 mm installed, and at a position 1,000 mm away from the fiber output edge. (Results may vary for individual units.)

You can inquire using our website.

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- Light Unit Selection
- Free Product Trial
- Custom Orders
- Product Details
- Pricing/Quotation
- Discontinued Products

Inquire on our website here. <https://www.ccs-grp.com/contact/>

LDR2 LDR2-LA LDR-LA1 SQR SQR-TP	Ring (Direct)
HLDR3 HPR2 LFR LKR FPR	Ring (Convergent/Diffused)
FPQ3	Square
LDL2 LDLB HLDL3 LB	Bar
TH2 (5 types) LFL	Flat
HPD2 LDM2 LAV PDM LFXV LFX3 LFX3-PT	Dome
LFV3 LFV3-G	Coaxial
MSU MFU	Coaxial
PF	Strobe
HLDR-IP HSL-PCL	Water-proof
UV3/VL3 UV LNSP-UV3-FN	UV / Violet
IR2 (Under 1000-nm Type) IR (Over 1000-nm Type) CIR	Infrared
LDF-RLS	Reference Light Source
IU	Intensity Control
HLV3 LV HFS/HFR HLV3-22-4-NR HLV3-3M-RGB-4 PFBR-600SW2 PFBR-150 SLG-150V-CCS PFB3(A)	Spot, Etc.
LNL2 LNSP2 Coaxial Units LNSP-FN LN/LN-HK	Line (Convergent)
LNSD LND2 LT LNV LFXV (Rectangular Type) TH2 (Rectangular Type)	Line (Diffused)
LNDG LNIS2 LNIS LNIS-FN	Line (Oblique Angled)
Telecentric Lens Macro Lens	Lenses
LDF-NB	Other Products

PFBR-600SW2 Series

CCS PFBR-600SW2

Search



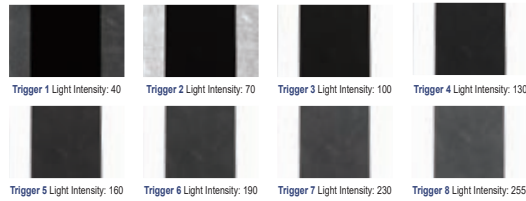
High Power & High Speed Switching PFBR-600SW2-LL-HD / LLCF-HD (Custom Products)



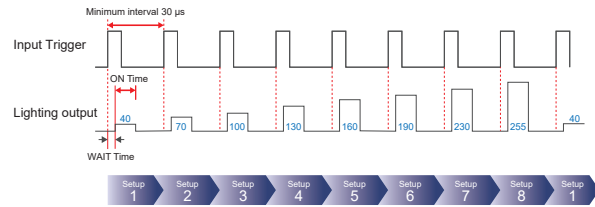
By applying preset light intensity values in a sequence according to the trigger input, it is possible to change light intensity at high speed (8 patterns max). It is suited for inspections where the workpiece surface has differing reflectivity or transparency.

These models are custom products. For more details, please contact your local CCS sales representative.

Workpiece sample of electrode sheet (same workpiece under different light intensity set for each trigger input)



Timing Chart



High Power & Dedicated Strobe Operation PFBR-600SW2-LL-XF / LLCF-XF (Custom Products)

This model is for dedicated strobe operation and offers an alternative solution to xenon flash lamps. It achieves high power output and long life of over 50,000 hours*1. No special light guide is required, but a plastic light guide is available.

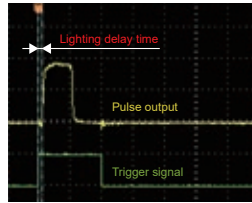
These models are custom products. For more details, please contact your local CCS sales representative.

* The strobe lighting time can be set from 1 μs to 99 μs.

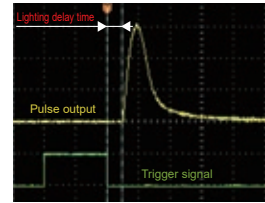
*1 Operating environment: 25°C clean room, lighting conditions: Duty 1% Lifetime is the time when the radiant quantity drops to half under our measurement conditions.

Comparison of PFBR-600SW2-LL-XF and Xenon flash lamp in strobe operation.

(PFBR-600SW2-LL-XF has no jitter (delay time after trigger input).)



[PFBR-600SW2-LL-XF]



[Xenon light source]

Lineup

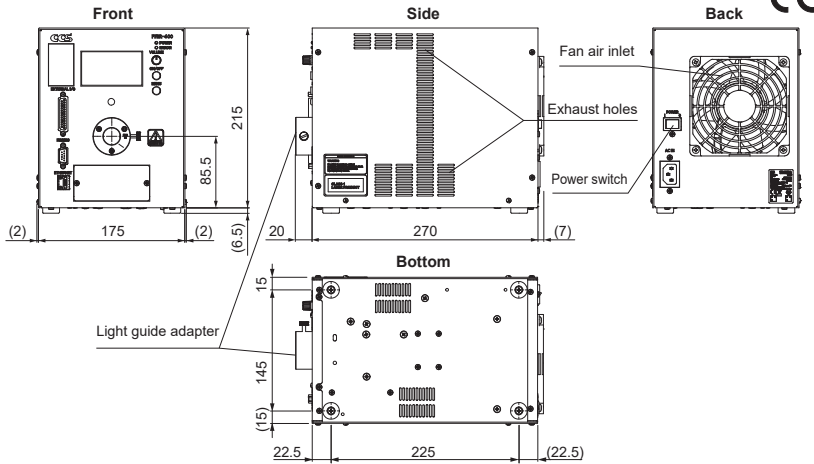
Series	Model Name	LED Color	Correlated Color Temperature	Power Consumption	Light Guide Adapter	External Control Cables	Weight
Standard type	PFBR-600SW2-LL	White	5500 K	410 VA at 100 V input 420 VA at 240 V input	AD-PFBR-600-01 AD-PFBR-600-02 AD-PFBR-600-03	Parallel Communication Cable	6.6 kg
	PFBR-600SW2-LLCF (Filter changer equipped models)						6.9 kg
HD Series (custom order product)	PFBR-600SW2-LL-HD						6.6 kg
	PFBR-600SW2-LLCF-HD (Filter changer equipped models)						6.9 kg
XF Series (custom order product)	PFBR-600SW2-LL-XF	6.6 kg					
	PFBR-600SW2-LLCF-XF (Filter changer equipped models)	6.9 kg					

Common Specifications

Applicable fiber bundle diameter	Ø6 to Ø14 mm	Operating environment (indoors only)	Temperature: 0 to 40°C, Humidity: 20 to 80% (with no condensation) Altitude: Up to 2000 m AC overvoltage: Category II Pollution Level: 2
Light distribution angle	Total angle of 30°	Storage environment	Temperature: -15 to 60°C Humidity: 20 to 85% (with no condensation)
Emitting color	White	Cooling method	Forced cooling
Correlated color temperature (typ.)	5500 K	Applicable standards	Safety standards: CE, UKCA EN 60825-1, BS EN 60825-1, IEC60825-1, IEC62471(High risk) Laser classification: Class 1 Environmental regulations: RoHS compliant
Drive method	Constant-current system	Material/Surface processing	Aluminum alloy (black alumite)
Intensity control method	Variable-current control	Weight	6.6 kg max. *Models with a filter changer weigh less than 6.9 kg
Number of channels	1 channel	Accessories	User manual, 2-m 3-prong AC power cable with ground terminal, Filter Changer Model Only: Filter holders x 5 pcs., holder mounting screws x 18 pcs.
Input power supply	100 to 240 VAC (±10%), 50/60 Hz		
Power consumption (typ.)	410 VA at 100 V input, 420 VA at 240 V input		
Inrush current (typ.)	40 A (From a cold start)		
Ground leakage current	0.5 mA max. (240 VAC, 60 Hz, with 100 % load)		
Insulation withstand voltage (input-output, input-FG)	1500 VAC for one minute, Cutoff current: 10 mA, 500 VDC, 20 MΩ min.		
Strobe lighting time	PFBR-600SW2-LL/ LLCF: 1 μs to 9999 μs PFBR-600SW2-LL-HD/LLCF-HD: 1 μs to 9999 μs PFBR-600SW2-LL-XF/LLCF-XF: 1 μs to 99 μs		

Dimensions (mm)

PFBR-600SW2-LL / PFBR-600SW2-LLCF



PFBR-600SW2-LL and PFBR-600SW2-LLCF share the same dimensions.

Options

Light Guides

We propose light guides according to the application such as straight, ring and line.

Straight Type



Ring Type



Bar Type for Line Sensors

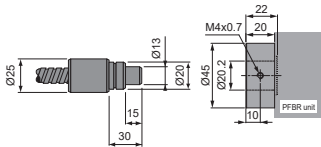


A variety of dedicated light guides are available with excellent heat resistance.

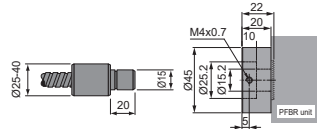
● We accept custom orders for the light guides. Please contact your CCS sales representative for details.

Light Guide Adapter

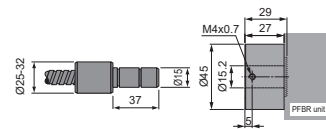
AD-PFBR-600-01 *SU base



AD-PFBR-600-02 *HY base



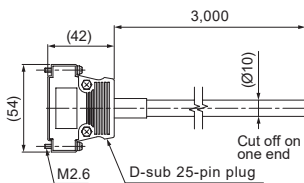
AD-PFBR-600-03 *MO base



● Please be aware that the light guide adapter must be installed after purchase by the customer.

External Control Cables: EXCB2-25M-3

Parallel communication cable (Compatible with digital and analog intensity control)



- Purchase a commercially available RS-232 crossover cable (length: 3 m max.) for the serial communication cable.
- Purchase a commercially available LAN cable (length: shorter than 30 m) for the Ethernet communication cable. Refer to the user manual for more information.

Color Filters

Use filters to emit the optimum light for the inspected workpiece.

Available Six Colors
Five filters can be installed.



- Red : DFR-610A
- Blue : DFB-500A
- Green : DFG-505A
- Cyan : DFC-590A
- Magenta : DFM-495A
- Yellow : DFY-520A

● A variety of filters are available with excellent heat resistance.

● Contact your CCS sales representative for the detailed information.

LDR2 LDR2-LA LDR-LA1 SQR SQR-TP	Ring (Direct)
HLDR3 HPR2 LFR LKR FPR	Ring (Convergent/Diffused)
FPQ3	Square
LDL2 LDLB HLDL3 LB	Bar
TH2 (5 types) LFL	Flat
HPD2 LDM2 LAV PDM LFXV LFX3 LFX3-PT	Dome
LFV3 LFV3-G	Coaxial
MSU MFU	Coaxial
PF	Strobe
HLDR-IP HSL-PCL	Water-proof
UV3/VL3 UV LNSP-UV3-FN	UV / Violet
IR2 (Under 1000-nm Type) IR (Over 1000-nm Type) CIR	Infrared
LDF-RLS	Reference Light Source
IU	Intensity Control
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LNLP LNSP2 Coaxial Units LNSP-FN LN/LN-HK	Line (Convergent)
LNLD LND2 LT LNV LFXV (Rectangular Type) TH2 (Rectangular Type)	Line (Diffused)
LNDG LNIS2 LNIS LNIS-FN	Line (Oblique Angled)
Telecentric Lens Macro Lens	Lenses
LDF-NB	Other Products

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