

## High-Power Strobe Light Source Units

# PFBR-600SW-LL-XF PFBR-600SW-LLCF-XF

- Next-generation light sources with a maximum brightness of 38 million lux

Note: Equipped with straight light guide with bound diameter of Ø8 mm and total length of 1000 mm for maximum dimming. Measured value at an irradiation distance of 20 mm from the fiber outer end face (not a guaranteed value)

- Maintenance free (lamp replacement not required)
- Strobe lighting mode (internal trigger mode, external trigger mode) can be selected
- External control via EtherNet, parallel or serial communication
- Dimming setting in up to 1,024 levels (10 bit: 1,024 levels / 8 bit: 256 level)
- Can be used with current light guides



### »» High-Speed Response

This strobe light source unit is a solid-state light source with the high-speed driver circuit which enable to respond in extremely short time from trigger input maximum light emission of less than 1  $\mu$ s.

### »» Maintenance-free for greatly reduced workhours

This product is maintenance-free (lamp replacement not required).

The life of a xenon flash lamp is normally  $10^8$  to  $10^9$  flashes (approximately 1 billion times), and replacement is necessary.

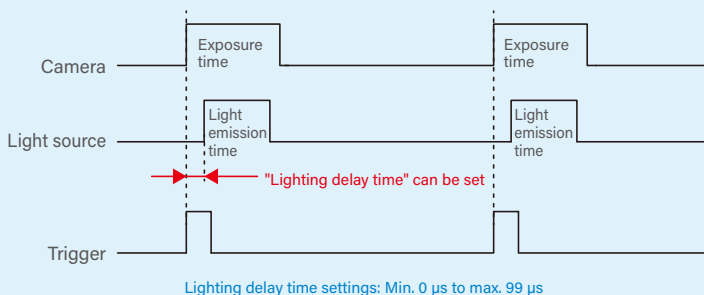
However, this product has a light emission time of 10  $\mu$ s and a repetition frequency of 100 Hz, so with  $10^9$  flashes (about 1 billion times), the light output remains stable even after 2,800 hours.

### »» Fully synchronized with camera exposure timing

The "lighting delay time" can be configured and adjusted to completely synchronize the exposure time and lighting time of the camera.

Achieves a stable imaging environment

#### ■ "Lighting delay time" setting image



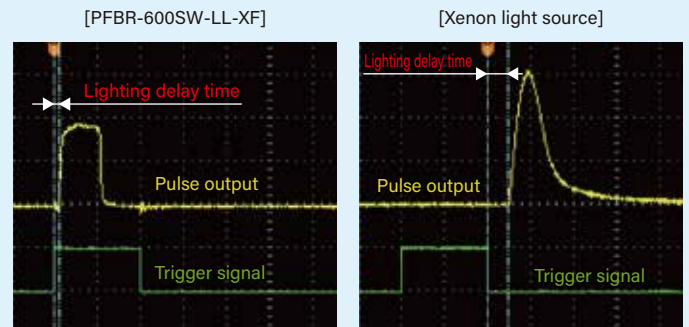
### »» Stable light emission

There is no jitter and no light leakage despite being a xenon flash lamp.

The lighting waveform is a square wave and can control the lighting cycle with a duty ratio of 1% or less using pulse width modulation (PWM).

Responsiveness provides no fluctuation in delay time (jitter) relative to the trigger signal

#### ■ Comparison of pulse output with xenon light source

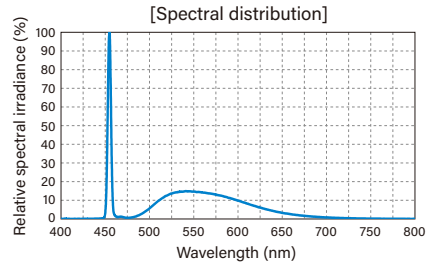


Note: Actual values under our measurement conditions. The data included is for reference only. Actual values may vary.

## Specifications

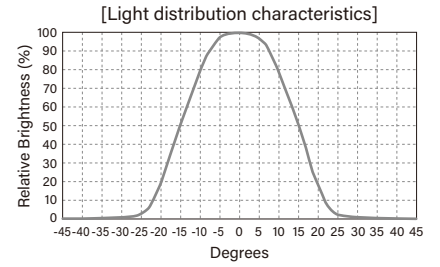
|   |  |  |
|---|--|--|
| Model name  | PFBR-600SW-LL-XF   | PFBR-600SW-LLCF-XF<br>(Filter Changer Model) |
| Applicable fiber bundle diameter                      | Ø8 to Ø14 mm   |  |
| Light distribution angle                              | Total angle of 30°   |  |
| Emitting color  | White  |  |
| Correlated color temperature (typ.)                   | 5,600 K  |  |
| Drive method  | Constant-current system  |  |
| Intensity control method                              | Variable-current control   |  |
| Number of channels                                    | 1 channel  |  |
| Input power supply                                    | 100 to 240 VAC (±10%), 50/60 Hz  |  |
| Power consumption (typ.)                              | 350 VA at 100 V input, 370 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) | 1,500 VAC for one minute, cutoff current: 10 mA, 500 VDC, 20 MΩ min.   |  |
| Operating environment (indoors only)                  | Temperature: 0 to 40°C, Humidity: 20 to 80%RH (with no condensation)<br>Altitude: 2,000 m max., AC overvoltage: Category II, Pollution degree: 2                               |  |
| Storage environment                                   | Temperature: -15 to 60°C, Humidity: 20 to 85%RH (with no condensation)   |  |
| Cooling method  | Forced cooling   |  |
| CE marking  | Safety standard: Conforms to EN61010-1, EN62311-2008<br>EMC standard: Conforms to EN61000-6-2, EN61000-6-4<br>Environmental standard: Conforms to EN50581-2012                 |  |
| Environmental regulations                             | RoHS compliant   |  |
| Material and surface processing                       | Aluminum alloy (black alumite)   |  |
| Weight  | 8.0 kg max.  | 8.5 kg max.                                  |
| Accessories   | Instruction guide, 2-m 3-prong AC power cable with ground terminal For PFBR-600SW-LLCF-XF (Filter Changer Model);<br>Filter holders x 5 pcs., holder mounting screws x 18 pcs. |  |

## Light Spectrum Characteristics



Actual measurement values using our measurement conditions. Results for individual products may vary.

## Distribution Characteristics of Fiber Output Edge

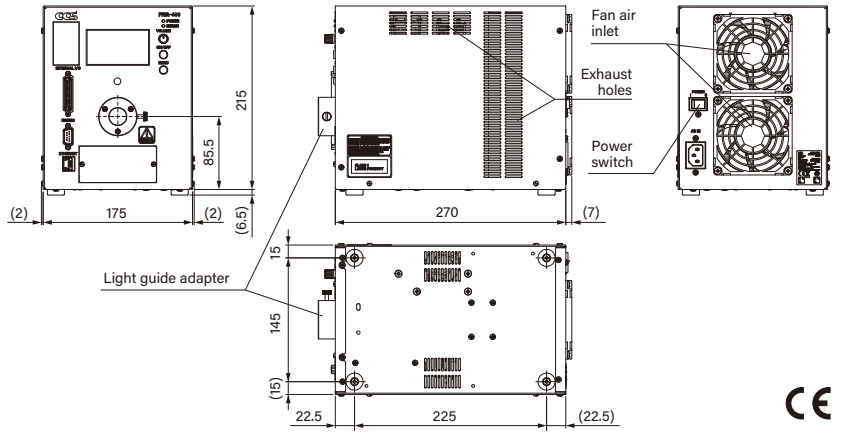


Actual measurement values with intensity of 100%, a bundle of Ø8 mm, a straight light guide with a total length of 1,000 mm installed, and at a position 1,000 mm away from the fiber output edge. (Results may vary for individual units.)

## Dimensions (mm)

### ➤ PFBR-600SW-LL-XF / PFBR-600SW-LLCF-XF

PFBR-600SW-LL-XF and PFBR-600SW-LLCF-XF share the same dimensions.



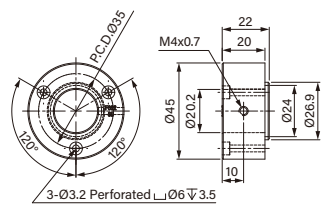
## Options

### ● Light guide adapter

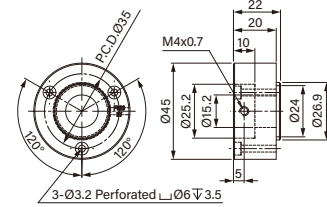
3 types of adapters are available to suit the light guide being used. Adapters not listed can also be custom manufactured to order.

(mm)

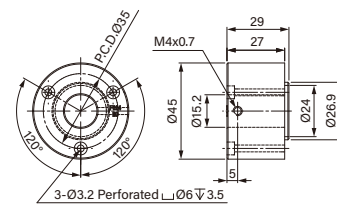
#### ➤ AD-PFBR-600-01 (F022 SU)



#### ➤ AD-PFBR-600-02 (F023 HY)



#### ➤ AD-PFBR-600-03 (F024 MO)



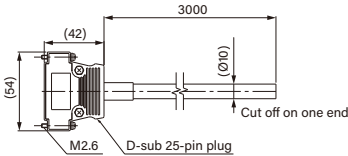
- Please be aware that the light guide adapter must be installed after purchase by the customer.
- We accept custom orders for the light guides. Please contact your CCS sales representative for details.

### ● External Control Cables

Select an appropriate cable, depending on the communication method. (mm)

#### ➤ EXCB2-25M-3

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



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

### ● Color Filters [Exclusively for PFBR-600SW-LLCF-XF (filter changer equipped models)]

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

#### ➤ Available Six Colors

Five filters can be installed.



- A variety of filters are available with excellent heat resistance.
- Contact your CCS sales representative for the detailed information.

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## 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.



For information on your nearest CCS office, refer to our website.  
<https://www.ccs-grp.com/office/>



**Headquarters** (Kyoto, Japan)  
TEL: +81-75-415-8284, FAX: +81-75-415-8316  
E-mail: [sales@ccs-inc.co.jp](mailto:sales@ccs-inc.co.jp)  
<https://www.ccs-grp.com/>

**CCS Asia PTE. LTD.** (Singapore)  
TEL: +65-6363-1180, FAX: +65-6363-1236  
Email: [sales@ccs-asia.com.sg](mailto:sales@ccs-asia.com.sg)  
<https://www.ccs-asia.com.sg/>

**CCS China Inc.** (Shenzhen)  
TEL: +86-755-8279-0477, FAX: +86-755-8279-0478  
Email: [ccschina@ccs-inc.co.jp](mailto:ccschina@ccs-inc.co.jp)  
<https://www.ccs-inc.cn/>

**CCS America, Inc.** (USA)  
TEL: +1-781-272-6900, FAX: +1-781-272-6902  
Email: [info@ccsamerica.com](mailto:info@ccsamerica.com)  
<https://www.ccsamerica.com/>

**CCS MV (Thailand) Co., Ltd.**  
TEL: +66-(0)2-779-1051, FAX: +66-(0)2-779-1054  
Email: [sales@ccs-asia.com.sg](mailto:sales@ccs-asia.com.sg)  
<https://www.ccs-asia.com.sg/>

**Taiwan Office**  
TEL: +886-2-2581-7676, FAX: +886-2-2581-7662  
Email: [taiwan-tr@ccs-inc.co.jp](mailto:taiwan-tr@ccs-inc.co.jp)

**CCS Europe N. V.** (Belgium)  
TEL: +32-(0)2-333-0080, FAX: +32-(0)2-333-0081  
Email: [info@ccseu.com](mailto:info@ccseu.com)

**CCS MV (Malaysia) Sdn. Bhd.**  
TEL: +604-611-6656  
Email: [sales-msia@ccs-asia.com.sg](mailto:sales-msia@ccs-asia.com.sg)  
<https://www.ccs-asia.com.sg/>

**KOREA Testing Room**  
Email: [ccskorea@ccs-inc.co.jp](mailto:ccskorea@ccs-inc.co.jp)