

# High-Power Light Source Units PFBR-600SW-LL/-LLCF





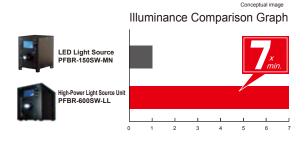
## PFBR-600SW-LL/-LLCF

- Stable light output is maintained over long periods with a service life of 20,000 hours\*
- 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)

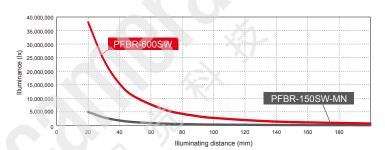


## >>> Provides High Output to Easily Replace Xenon Flash Light Sources

Output increased more than 7x that of previous LED light sources. The result is an ultra-high output light source unit comparable to xenon flash light sources



Actual measurement values with intensity of 100%, a bundle of  $\emptyset 8$  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.)

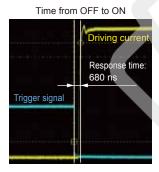


Actual measurement values with intensity of 100%, bundles of Ø8 mm, a straight light guide with a total length of 1,000 mm installed, and at positions at each illuminating distance away from the fiber output edge. (Results may vary for individual units.)

## **>>>** High-Speed Response 1 μs or Faster

For pulse illumination synchronized to external trigger input.

#### Response Time by External Trigger Signal Input



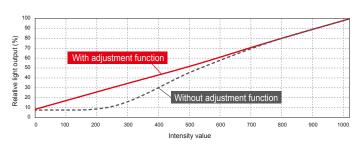


Measured at the maximum light quantity.
This data is for reference only. Actual values may vary.

### **>>>** Equipped with Linearity Adjustment Function

Linearity with reproducibility is achieved with our unique correction function.

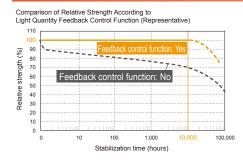
Light Intensity is Adjustable with a High Resolution of 1,024 Steps.



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



Relationship between Light Quantity Feedback Control Function and Stabilization Time (Representative)



- (1) Stabilized up to 5,000 hours at 80% maximum light quantity.
- (2) Stabilized up to 10,000 hours at 70% maximum light quantity.
- (3) Stabilized up to 15,000 hours at 60% maximum light quantity.
- (4) Stabilized up to 20,000 hours at 50% maximum light quantity.

Note: In Ta=40°C environment.

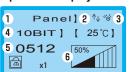
This graph is representative of the function. Actual values may vary.

Note: Refer to the instruction guide for more information on the light quantity feedback

## **>>>** Easily Checked Operating Status on the LCD Panel

Displays operating status such as light source temperature, light intensity and operating tim

#### **Operation Display 1**



- Operating mode
- Peedback function icon
- 6 Light ON icon
- Intensity resolution
- Intensity value 6 Intensity indicator

#### **Operation Display 2**



- Total time (min.)
- Strobe setting
- Light source temperature
- Lock icon
- Intensity step magnification

#### **Mode Setting Display**



Refer to the instruction guide for details of displayed contents

## **External Control by Use of a Large Variety of Communication Methods**

- Ethernet communication control: TCP/IP and UDP/IP

- Parallel communication control Digital light control: Compatible with sink and source types
  - Analog light control: Intensity control from 0 to 5 V

## >>> PFBR-600SW-LLCF Filter Changer Model

Serial communication control: RS-232C





- 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.



- Cyan
- Blue Magenta
- Green Yellow

Note: Refer to the instruction guide for installing and setting filters

A variety of filters are available with excellent heat resistance

## High Power & High Speed Switching PFBR-600SW-LL-HD/LLCF-HD

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.







Triger 4 Light Intensity: 130

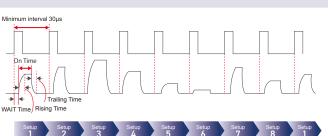


Triger 6 Light Intensity: 190

Triger 7 Light Intensity: 230

Triger 8 Light Intensity: 255

■ Timing Chart

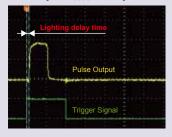


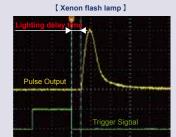
**High Power & Dedicated Strobe Operation** Custom Model PFBR-600SW-LL-XF/LLCF-XF

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

■ Comparison of PFBR-600SW-LL-XF and Xenon flash lamp in strobe operation.(PFBR-600SW-LL-XF has no jitter (delay time after trigger input).

#### [ PFBR-600SW-LL-XF ]



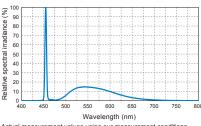


These models are custom products. For more details, please contact your local CCS sales representative

#### **Specifications**

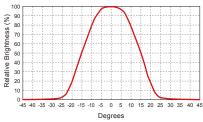
	DEDD COCCULI	PFBR-600SW-LLCF
Model name	PFBR-600SW-LL	(Filter Changer Model)
Applicable fiber bundle diameter	Ø8 to Ø14 mm	
Light distribution angle	Total angle of 30°	
Emitting color	White	
Correlated color temperature (typ.)	5,600 K	
Drive method	Constant-current system	
Intensity control method	Variable-current 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 M $\Omega$ min.	
Operating environment (indoors only)	Temperature: 0 to 40°C, Humidity: 20 to 80%RH (with no condensation) 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 EMC standard: Conforms to EN61000-6-2, EN61000-6-4, and 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 (Filter Changer Model): Filter holders x 5 pcs., holder mounting screws x 18 pcs.	

#### Light Spectrum Characteristics



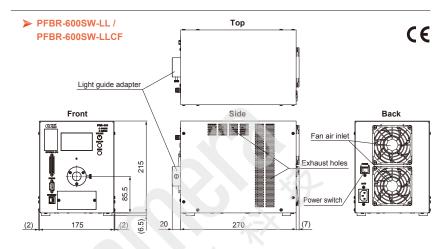
Actual measurement values using our measurement conditions Results for individual products may vary.

## 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 and PFBR-600SW-LLCF share the same dimensions

#### Light Guides / Light Guide Adapters

We offer various light guides suited to a variety of applications, including straight types, ring types, and types for line sensors









- 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.

#### Color Filters

Use filters to emit the optimum light for the inspected work

#### Available Six Colors

Five filters can be installed.



- Red
- Blue
- Green
- Cyan Magenta
- Yellow Conceptual image
- A variety of filters are available with excellent heat resistance.
- Contact your CCS sales representative for the detailed information.

#### Options (Sold Separately)

#### **External Control Cables**

EXCB2-25M-3

M2.6

Select an appropriate cable, depending on the communication method

## Parallel communication cable (Compatible with digital and analog intensity control) 3000 Cut off on one end D-sub 25-pin plug

- 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 instruction guide for more information.

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- 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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