

## Laser forked light barriers

### Intended use

Laser fork light barriers are used as part of a higher-level overall system for detecting objects.



### Safety instructions

Laser fork light barriers are not permitted for safety applications, especially where the safety of persons is dependent on the device function.

The operator of the higher-level overall system, e.g. a machine system, is responsible for compliance with the national and international safety and accident prevention regulations applicable to the specific application.

The application-specific safety and accident prevention regulations must be observed when planning machines and using the laser forked light barriers.

**Caution!** The use of control elements or settings and the performance of procedures not specified here may result in the emission of hazardous radiation.


The installation and electrical connection of the laser fork light barriers may only be carried out by qualified personnel in accordance with the applicable regulations in a **de-energized** status and with **the machine switched off. The machine must be secured against being switched on again.**


### function

Laser fork light barriers work according to the principle of the throughbeam light barrier. They consist of a transmitter and a receiver, each housed in a limb of the common housing. The beam direction from transmitter to receiver is marked with arrows on the housing legs.

The light beam emitted by the transmitter is firmly aligned on the receiver. The receiver's output switches its status when the light beam is interrupted. The output function is switchable between NO (dark-on mode) and NC (light-on mode). The output status is indicated via a ring LED in the connector plug.

### Assembly

 Avoid extraneous light radiation on the receiver side! The beam direction from transmitter to receiver is marked with arrows on the housing legs.

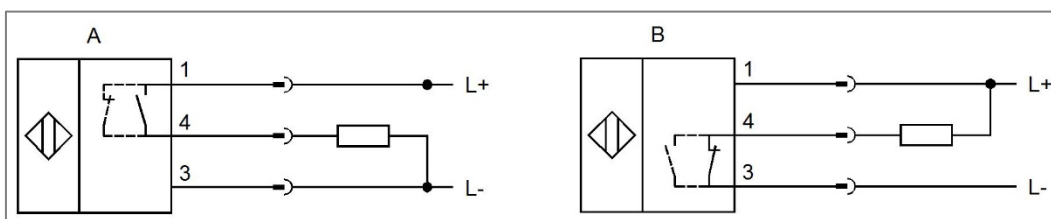
 Attach the laser fork light barrier so that the object to be detected can pass freely through the fork opening. Depending on the type, it is mounted using M4 screws (dimensional drawings and drawing files can be found on our homepage [www.ipf.de](http://www.ipf.de)).

The device may be installed in any position, but make sure that it is installed in a vibration-reducing and vibration-free manner. The device must be protected against mechanical loads, e.g. impacts or shocks.

Observe the device-specific information on connection and operation. Do not operate the device outside the specified temperature limits.

### Electrical connection


The electrical connection is made via a 3-pin M8 cable socket, e.g. VK200071. The device has a push-pull switching output and can be operated with both PNP and NPN control inputs.



**LED display**

This is indicated via a yellow ring LED on the plug connector. If the LED is constantly lit up, the switching output is active.

**Control elements**

- Potentiometer response sensitivity:  
 The sensitivity is highest at the left limit stop of the potentiometer. This means that the smallest possible parts are detected. The radiated power is at its lowest.  
 The sensitivity is lowest at the right limit stop of the potentiometer. This means that only larger parts are detected. The radiated power is at its highest. With this setting, the forked light barriers have a high contamination reserve.
- output function:  
 The output function (NO/NC) is set using a rotary switch. Please refer to the type plate for the required switch position. The rotary switch is covered with a rubber cap to prevent unintentional switching.  
 Always set the switch for the output function to the left or right limit stop!  
 Intermediate positions lead to undefined output states.

**Maintenance and repair**

Laser fork light barriers are largely maintenance-free. Remove deposits on the optics of the laser fork light barrier regularly with a soft cloth.

Repair only by ipf electronic gmbh.

**Warranty**

The statutory warranty provisions apply.

**Technical data**

Please refer to the data sheets on our homepage [www.ipf-electronic.com](http://www.ipf-electronic.com) for the technical data of the laser forked light barrier you are using.

**IO-Link**

The devices are equipped with an IO-Link interface, via which further settings can be made using an IO-Link master (e.g. VY000005) and the corresponding IODD file (download from our homepage). Among other things, you can choose between 4 operating modes (standard, high-resolution, power and speed), which affects the resolution and switching frequency.

article-no.	Standard (factory setting)			High resolution (data typ.)			Power (data typ.)			Speed (data typ.)		
	resolution [mm]	Repeatability [mm]	Switching frequency [Hz]	resolution [mm]	Repeatability [mm]	Switching frequency [Hz]	resolution [mm]	Repeatability [mm]	Switching frequency [Hz]	resolution [mm]	Repeatability [mm]	Switching frequency [Hz]
PG300570	0.05	0.01	5,000	0.03	0.01	2,000	0.1	0.015	1,000	0.05	0.015	10,000
PG500570	0.05	0.01	5,000	0.03	0.01	2,000	0.1	0.015	1,000	0.05	0.015	10,000
PG800570	0.05	0.01	5,000	0.04	0.01	2,000	0.15	0.015	1,000	0.05	0.015	10,000
PGKB0570	0.1	0.01	5,000	0.05	0.01	2,000	0.15	0.015	1,000	0.1	0.015	10,000

## Waste disposal

At the end of its life, the laser fork light barrier must be disposed of in accordance with country-specific regulations at a suitable disposal point for the recycling of electrical and electronic equipment. (WEEE no. 40951076).



## SAFETY INSTRUCTIONS:

Before start-up, please ensure that all safety instructions in the product documentation have been observed!

Improper use can lead to exposure to harmful laser beams. Observe the accident prevention regulations and the laser class.

The application of these products is prohibited if they have a direct impact on personal safety.



### Laser class 1 product

IEC 60825-1: 2014 /  
EN60825-1:2014+A11:2021  
complies with 21 CFR, Part  
1040.10

with the exception of the deviations according to Laser Notice No. 56 dated May 08, 2019