

Fiber optic amplifier design 15

Installation and environment

The mounting position is arbitrary. Liquid in the light inlet and outlet openings influence the scanning range / range. The installation should therefore be carried out in such a way that no liquid gets onto them during assembly and operation.

The probes of the fiber optic cables should be cleaned with a soft cloth from time to time.

Cable

The PVC connection cable of the pre-wired cable devices is not suitable for environments containing oil or solvents and in applications where the cable is frequently moved.

In such cases, the use of a plug device with a PUR cable socket is recommended.

Assembly and installation of the fiber optics

The fiber optics cable always consists of two light guides: a transmitting and a receiving part. The light guides are each inserted into the light entry or exit hole. Behind the holes are O-rings for sealing, the resistance of which must first be overcome when inserting the fiber optics. Afterwards, it must be ensured that the fiber optics cables are in tight contact with the transmitter or receiver module, otherwise the specified scanning / range will not be achieved. The openings are intended for fiber optics cables with an outer diameter of 2.2mm. When using fiber optic cables with a diameter of 1.1mm, the end pieces AL000016 must also be mounted.

The light guide should be laid in such a way that the permissible bending radius of 25mm is not undershot. Under no circumstances should the fiber optics be kinked. Shortening of the fiber optics is possible with the special knife AL000007. The cut surfaces must be smooth and clean.

Setting

The built-in potentiometer can be used to change the sensitivity and thus the scanning / range. On delivery, the device is set to the maximum value. Turning it counter-clockwise reduces the sensing distance. The full setting range of the potentiometer is 12 revolutions.

The switching output of the devices (black core) is designed as light switching. This means that the switching output works as a normally open contact when operated with diffuse reflection sensors, and as a normally closed contact when operated with light barriers!

The yellow LED is a switching state display and lights up when the switching output is set.

On the OL150700 and OL150770 devices, the alarm output is switched on at the same time as the green function LED lights up.

Operation with diffuse reflection sensor

The scanning range depends on the selected fiber optic diffuse-reflection sensor! Safe operation is guaranteed if the output switches when an object is recognized (light switching!) and the green function LED also lights up along with the yellow switching state LED.

If only the yellow LED lights up when the output is switched, either the sensitivity is set too low, the selected switching distance is too large, or the optics are dirty.

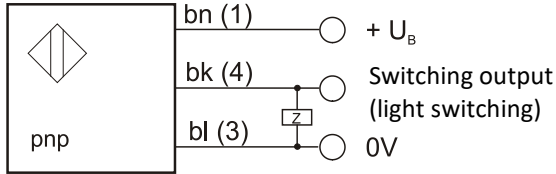
Operation with light barrier

The range depends on the selected fiber optics barrier! Safe operation is ensured when both the green and yellow LEDs light up when the light path is free and both LEDs go out when an object is recognized.

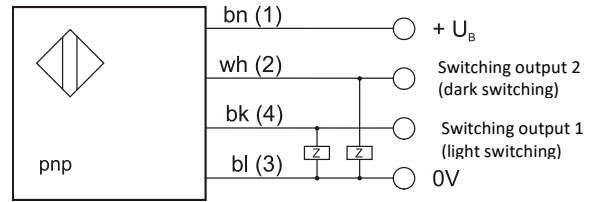
If only the yellow LED lights up when the output is switched, either the sensitivity is set too low, the selected distance between transmitter and receiver is too large, or the optics are dirty.

Electrical connection

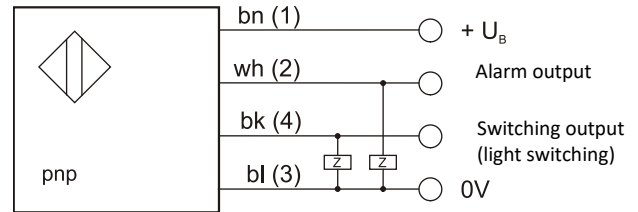
OL150105 / OL150175



OL150400 / OL150470



OL150700 / OL150770



bn = brown - brown - brun
 wh = white - white - blanc
 bk = black - black - noire
 bl = blue - blue - bleu

Terminal marking of the junction box in brackets

Technical data

Article no.	Voltage	Power	Output	Transmit-Element	Connection
OL150105	10 ... 35V DC	200mA	pnp, light switching	LED, red	2m PVC cable
OL150175	10 ... 35V DC	200mA	pnp, light switching	LED, red	M8-connector 3pin
OL150700	10 ... 35V DC	200mA	pnp, light switching/alarm	LED, red	3m PVC cable tail
OL150770	10 ... 35V DC	200mA	pnp, light switching/alarm	LED, red	M8-connector 4pin
OL150400	10 ... 35V DC	200mA	pnp, light/dark switching	LED, red	3m PVC cable tail
OL150470	10 ... 35V DC	200mA	pnp, light/dark switching	LED, red	M8-connector 4pin

Safety Notice:

In case of direct impact on personal safety, the application of these products is prohibited.