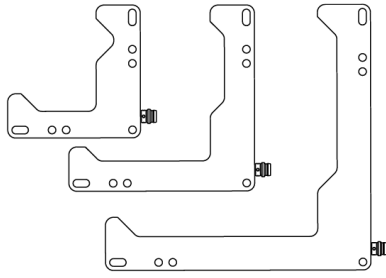


Photoelectric Sensors

Red light Slot Sensors



Opt. Axis	Type
40 mm x 40mm	PSWR-0x-4F
54 mm x 54 mm	PSWR-0x-5F
68 mm x 68 mm	PSWR-0x-6F
90 mm x 90 mm	PSWR-0x-7F
110 mm x 110 mm	PSWR-0x-8F

Safety Notes



These photoelectric sensors may not be used in applications where personal safety depends on proper function of the devices (not safety designed per EU machine guideline). Read these operating instructions carefully before putting the device into service.



Caution! Red light beam!
Glare and irritation of the eyes.
DO NOT LOOK INTO THE LIGHT BEAM!



The CE Marking confirms that our products conform to the EC Directives 2004/108/EEC (EMC) and the EMC Law. In our EMC Laboratory, which is accredited by the DATech for Testing of Electromagnetic Compatibility, proof has been documented that these products meet the EMC requirements of the harmonized standard EN 60947-5-2.

Operating elements



1. Potentiometer for sensitivity adjustment
2. Potentiometer for light-on/dark-on selection
3. LED Power on indicator

Fig. 1: Display and operating elements

Wiring diagram

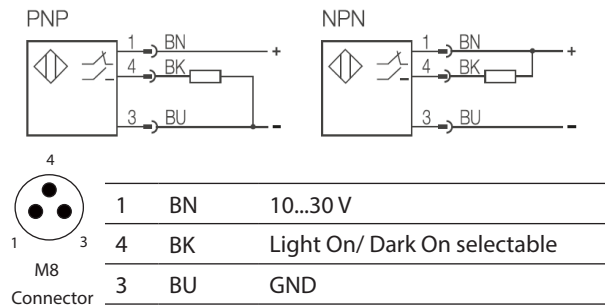


Fig. 2: Connection diagram, pinouts

Selectable output function

1. NO = dark-on
2. NC = light-on

x = P (PNP)
N (NPN)

Sensitivity adjustment



- Minimum sensitivity for small part detection, but sensor is more sensitive to ambient light, contamination etc.: Pot is full CCW
- Maximum sensitivity, but limits small part detection: Pot is full CW

Select between light-on and dark-on



- Dark-on: Pot is full CCW. When an object breaks the beam, the output switches on and the LED comes on.
- Light-on: Pot is full CW. When an object breaks the beam, the output switches off and the LED goes off.
- The gray area is the switch-over range in which the switch is between normally open and normally closed. Avoid this area.

Installation



Caution!
Do not look into the light beam.

The sensor must be installed as to prevent a direct line of eyesight to the light source, even during operation.

Technical Data

Optical data (typ.)

Light type	red
Wave length	640 nm
Risk group acc. to IEC 62471:2009	Exempt Group
Ambient light rejection	5 kLux

Electrical data

Supply voltage U_B	10...30 V DC
Voltage drop U_d at I_e	< 3 V (PNP) < 2.5 V (NPN)
Rated operational current I_e	200 mA
No-load current I_o	≤ 35 mA
Switching frequency PSWR 4F, 5F, 6F, 7F, 8F	1500 Hz
Hysteresis PSWR 4F	0.15 mm
PSWR 5F, 6F, 7F, 8F	0.2 mm
Output depending on type	PNP or NPN
Short circuit protected	yes
Reverse polarity protected	yes
Output function selectable	NC/NO light-on/dark-on
Output function indicator	yellow LED

Smallest detectable object

PSWR 4F, 5F	0.4 mm
PSWR 6F	0.5 mm
PSWR 7F, 8F	0.6 mm

Repeatability

PSWI 4F	≤ 0.04 mm
PSWI 5F	≤ 0.06 mm
PSWI 6F, 7F, 8F	≤ 0.08 mm

Sensitivity adjustment

Pot: 0...270°

Mechanical data

Connection type	M8-connector, 3-pole
Housing material	GD Zn
Active surface material	Glass

Weight

PSWR 4F	94 g
PSWR 5F	125 g
PSWR 6F	150 g
PSWR 7F	233 g
PSWR 8F	334 g

Operating temperature T_a

-10... +60 °C
(14... 140 °F)

Enclosure rating per IEC 60529

IP 67

CAD files for sensors can be found at
www.automationdirect.com

