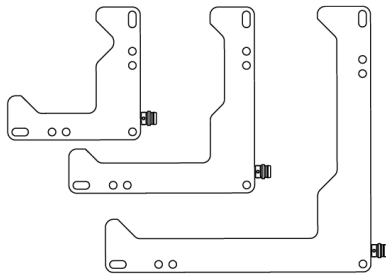




Photoelectric Sensors Infrared Angle Sensors




Opt. Axis	Type
40 mm x 40mm	PSWI-0x-4F
54 mm x 54 mm	PSWI-0x-5F
68 mm x 68 mm	PSWI-0x-6F
90 mm x 90 mm	PSWI-0x-7F
110 mm x 110 mm	PSWI-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! Infrared 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.

x = P (PNP)
N (NPN)

Sensitivity adjustment

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

Select between light-on and dark-on

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

Operating elements

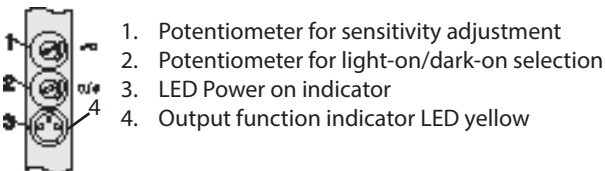


Fig. 1: Display and operating elements

Wiring diagram

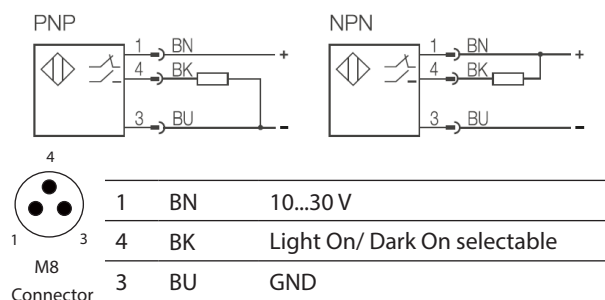


Fig. 2: Connection diagram, pinouts

Selectable output function

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

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	infrared
Wave length	880 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	
PSWI 4F, 5F, 6F, 8F	2000 Hz
PSWI 7F	1000 Hz
Hysteresis	
PSWI 4F	≤ 0.3 mm
PSWI 5F	≤ 0.4 mm
PSWI 6F, 7F, 8F	≤ 0.5 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	
PSWI 4F	1.0 mm
PSWI 5F	1.2 mm
PSWI 6F, 7F, 8F	1.5 mm
Repeatability	
PSWI 4F	≤ 0.12 mm
PSWI 5F	≤ 0.15 mm
PSWI 6F, 7F, 8F	≤ 0.2 mm
Sensitivity adjustment	Pot: 0...270°
Mechanical data	
Connection type	M8-connector, 3-pole
Housing material	GD Zn
Active surface material	Glass
Weight	
PSWI 4F	94 g
PSWI 5F	125 g
PSWI 6F	150 g
PSWI 7F	233 g
PSWI 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