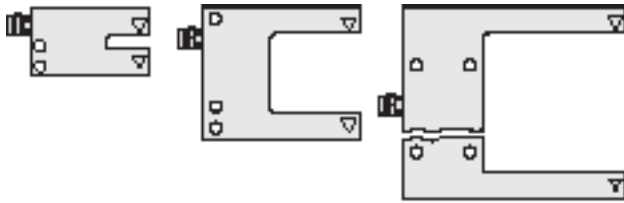


Photoelectric Sensors


Infrared light Slot Sensors





Slot wide	Slot sensor type
5 mm	PSUI-0x-1F
10 mm	PSUI-0x-2F
20 mm	PSUI-0x-3F
30 mm	PSUI-0x-4F
50 mm	PSUI-0x-5F
80 mm	PSUI-0x-6F
120 mm	PSUI-0x-7F
180 mm	PSUI-0x-8F
220 mm	PSUI-0x-9F

x = P (PNP)
N (NPN)

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.

Operating elements

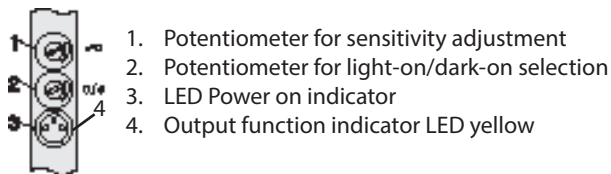


Fig. 1: Display and operating elements

Wiring diagram

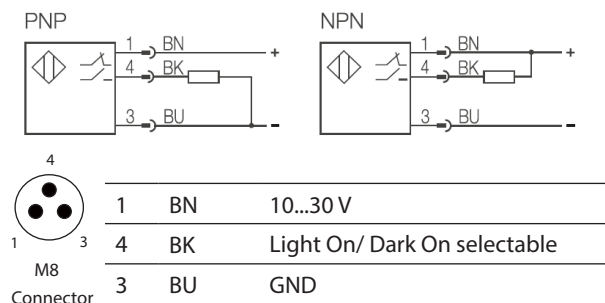




Fig. 2: Connection diagram, pinouts




Selectable output function

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

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.

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	
PSUI 1F, 2F	3000 Hz
PSUI 3F, 4F, 5F, 6F, 8F, 9F	1500 Hz
PSUI 7F	1000 Hz
Hysteresis	
PSUI 1F, 2F, 3F, 4F, 5F	≤ 0.3 mm
PSUR 6F	≤ 0.4 mm
PSUR 7F, 8F, 9F	≤ 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	
PSUI 1F, 2F, 3F, 4F	0.8 mm
PSUI 5F	1.0 mm
PSUI 6F	1.2 mm
PSUI 7F, 8F, 9F	1.5 mm
Repeatability	
PSUI 1F, 2F, 3F, 4F	0.1 mm
PSUI 5F	0.12 mm
PSUI 6F	0.15 mm
PSUI 7F, 8F, 9F	0.2 mm
Excess gain	
PSUI 1F, 2F, 3F, 4F	100
PSUI 5F	60
PSUI 6F	50
PSUI 7F, 8F, 9F	40
Sensitivity adjustment	Pot: 0...270°
Mechanical data	
Connection type	M8-connector, 3-pole
Housing material	GD Zn
Active surface material	Glass
Weight	
PSUI 1F	32 g
PSUI 2F	36 g
PSUI 3F	50 g
PSUI 4F	66 g
PSUI 5F	110 g
PSUI 6F	135 g
PSUI 7F	210 g
PSUI 8F	325 g
PSUI 9F	375 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