

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

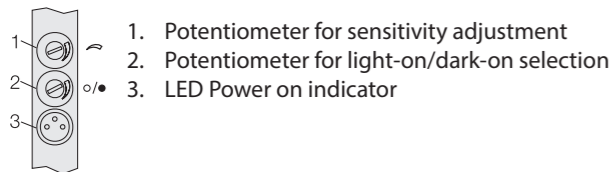


Fig. 1: Display and operating elements

**Wiring diagram**

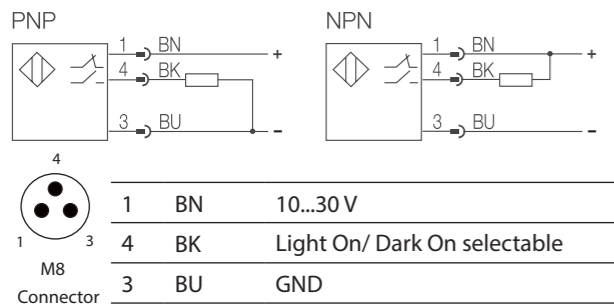


Fig. 2: Connection diagram, pinouts

**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	Red
Wave length $\lambda$	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 $f$	PSUR 1F, 2F: 3000 Hz PSUR 3F ... 9F: 1500 Hz
Hysteresis	PSUR 1F, 2F, 3F, 4F: $\leq 0.1$ mm PSUR 5F: $\leq 0.15$ mm PSUR 6F, 7F, 8F, 9F: $\leq 0.2$ 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	
PSUR 1F, 2F, 3F, 4F	0.3 mm
PSUR 5F, 6F	0.4 mm
PSUR 7F	0.5 mm
PSUR 8F, 9F	0.6 mm
Repeatability	
PSUR 1F, 2F, 3F, 4F	0.02 mm
PSUR 5F	0.04 mm
PSUR 6F	0.06 mm
PSUR 7F, 8F, 9F	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	
PSUR 1F	20 g
PSUR 2F	23 g
PSUR 3F	28 g
PSUR 4F	36 g
PSUR 5F	54 g
PSUR 6F	77 g
PSUR 7F	118 g
PSUR 8F	190 g
PSUR 9F	220 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](http://www.automationdirect.com)