Photoelectric Sensors
Red light Slot Sensors

Technical Data

Optical data (typ.)
- Light type: Red
- Wave length λ: 640 nm
- Risk group acc. to IEC 62471:2009: Exempt Group
- Ambient light rejection: 5 kLux

Electrical data
- Supply voltage U: 10...30 V DC
- Voltage drop Ud at Ie: < 3 V (PNP), < 2.5 V (NPN)
- Rated operational current Ie: 200 mA
- No-load current IO: < 35 mA
- Switching frequency fPSUR 1F, 2F: 3000 Hz
  fPSUR 3F ... 9F: 1500 Hz
- Hysteresis
  PSUR 1F, 2F, 3F, 4F: ≤ 0.1 mm
  PSUR 5F: ≤ 0.15 mm
  PSUR 6F, 7F, 8F, 9F: ≤ 0.2 mm
- Output depending on type
  PNP or NPN
- Short circuit protected: yes
- Reverse polarity protected: yes
- Output function selectable
  NC/NO
- Output function indicator
  yellow LED

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/EC (EMC) and the EMC Law. In our EMC Laboratory, which is accredited by the DAtel 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

Wiring diagram

PNP
- 1 BN 10...30 V
- 2 BU GND
- 3 BK Light On/ Dark On selectable

NPN
- 1 IN
- 2 BU GND
- 3 BK
- 4 BN

Selectable output function

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

Installation

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

Caution! Do not look into the light beam.

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

Responsibility
- 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 Ta
- –10...+60 °C (14...140 °F)

Enclosure rating per IEC 60529
- IP 67

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