

SMALL SENSORS FOR TIGHT SPACES

ULTRA-SMALL PHOTOELECTRIC SENSOR SERIES R2

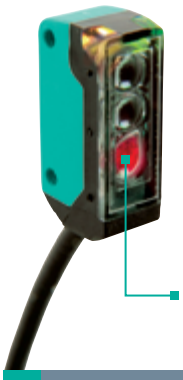
- Ultra-small housing
- Complete sensor family with all standard functional principles
- 45° cable outlet for maximum mounting freedom under extremely tight space constraints
- Improvement in machine availability with abrasion-resistant, antistatic glass front
- Clear, functional display concept for operating modes
- Highly visible light spot, even on dark materials
- Retroreflective sensor for reflective objects and unique background evaluation sensor in this shape



PEPPERL+FUCHS
SENSING YOUR NEEDS

PHOTOELECTRIC SENSORS R2 SERIES:

R2 SERIES – ULTRA-SMALL, HIGH-PERFORMANCE PHOTOELECTRIC SENSORS



The new, ultra-small photoelectric sensor R2 Series combines compact dimensions and high performance in an exemplary manner, and impresses with its special features. For example, this is the only miniature sensor series to feature a 45° cable outlet, to include a background evaluation option and a retroreflective sensor with polarization filters for extremely large detection ranges. Thanks to the availability of all the main optical functional principles for high optical performance in sensors of this size, this miniature series is extremely flexible in its application. Application examples can be found in the print and paper industry, in the semiconductor and solar power sector, in assembly automation, and anywhere in automation technology where maximum compactness is required.

With its very bright LED transmitter commissioning and operation are simplified.
The light beam is easy to see on dark materials.

FUNCTIONAL PRINCIPLES

- **OBE2000-R2 – Thru-beam sensor**
  Two emitter switchable via a cable provide two operating modes in a single sensor. One emitter operates with a long range mode up to 2500 mm. In high-precision mode, the second emitter ensures the precision detection of object edges or small parts as small as 0.16 mm.
- **OBR1000-R2 – Retroreflective sensor with polarization filter**
  With effective detection range up to 1400 mm. Integrated polarization filter allows the detection of reflective objects.
- **OBTxx-R2 – Background suppression sensor**
  For detection ranges up to 80 mm. With a low black-white difference and high switching frequency for more accurate detection regardless of the reflection characteristics of the objects.
- **OBTxx-R2-xx-1T – Background evaluation sensor**
  For detection ranges up to 50 mm. The extremely small light spot for very high switching point accuracy allows the detection of flat objects directly in front of an existing background.

TECHNICAL DATA

Thresold detection range	Retroreflective sensor: 10 ... 1400 mm Thru-beam sensor: 0 ... 2.5 m / 0 ... 300 mm
Sensing range	Background suppression sensor: 15 mm, 20 mm, 30 mm, 40 mm, 50 mm, 80 mm Background suppression sensor: 15 mm, 30 mm, 50 mm
Light source	Visible red light , 630 nm
Angle of divergence	±2°
Operating voltage	10 ... 30 V DC
No-load current	< 10 mA
Switching type	Normally open/closed
Switching output	NPN, PNP
Switching frequency	800 Hz
Response time	600 µs
Operating temperature	-25 ... 60 °C
Protection degree	IP67
Connection	PUR 2 m fixed cable or Pigtail M8 with 200 mm cable
Dimensions (mm)	24 mm x 7.5 mm x 11.2 mm

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