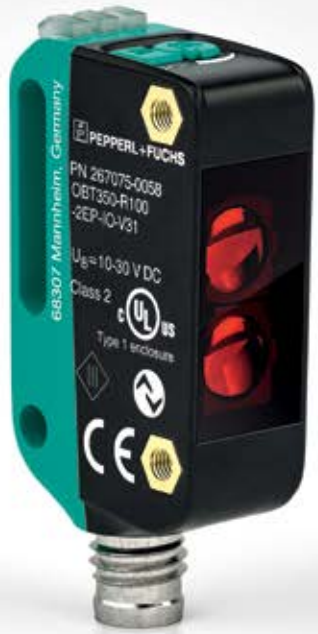
Mastering challenges.
Opening communication channels.
Redefining flexibility.

R100 Series
A Unique Family of Small Photoelectric Sensors



Your automation, our passion.

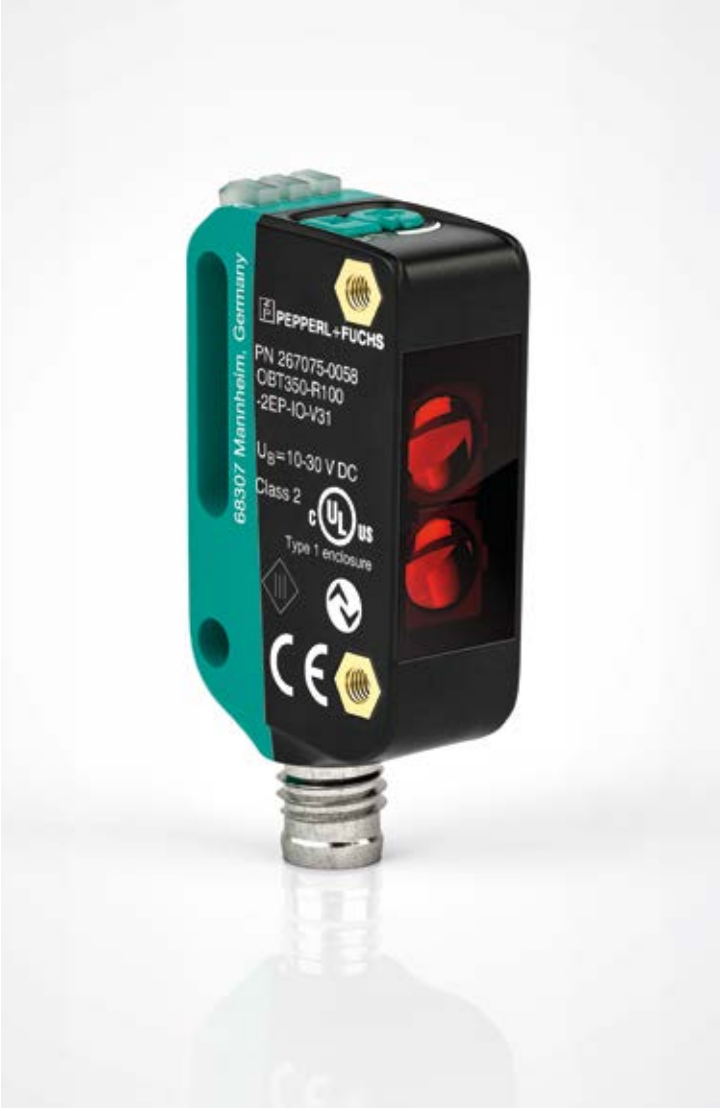
PEPPERL+FUCHS

The New Generation of Photoelectric Sensors

A new generation of photoelectric sensors—the R100 series—redefines versatility and opens doors to the automation factory of the future. First, it packs an entire family of sensing modes into a single, standard housing. To ensure reliability and precision, the R100 is availale with DuraBeam laser technology and combines it with MPT distance measurement. IO-Link is built into the entire portfolio to unlock the R100's ability to deliver diagnostic and status information down to the sensor level.

This unique family of photoelectric sensors from Pepperl+Fuchs does more than just deliver data. These sensors actually communicate with higher-level communication systems, bringing intelligent sensing solutions to the plant floor. This is Sensor Technology 4.0, Sensorik 4.0, an advanced generation of sensing technology to meet the requirements of Industry 4.0.

Welcome to the future!



Cutting-Edge Product Design Combines Sensing Modes

The R100 series includes the complete family of photoelectric sensing modes in a single housing design, from thru-beam sensors to measuring and distance sensors. Regardless of which sensing mode is required in the application, housing characteristics such as dimensions, wiring, and installation are identical throughout the series.

The integration of IO-Link in every version of the R100 enables communication all the way down to sensor level, allowing sensor intelligence to be used to its full potential.

More Installation Possibilities than Ever Before

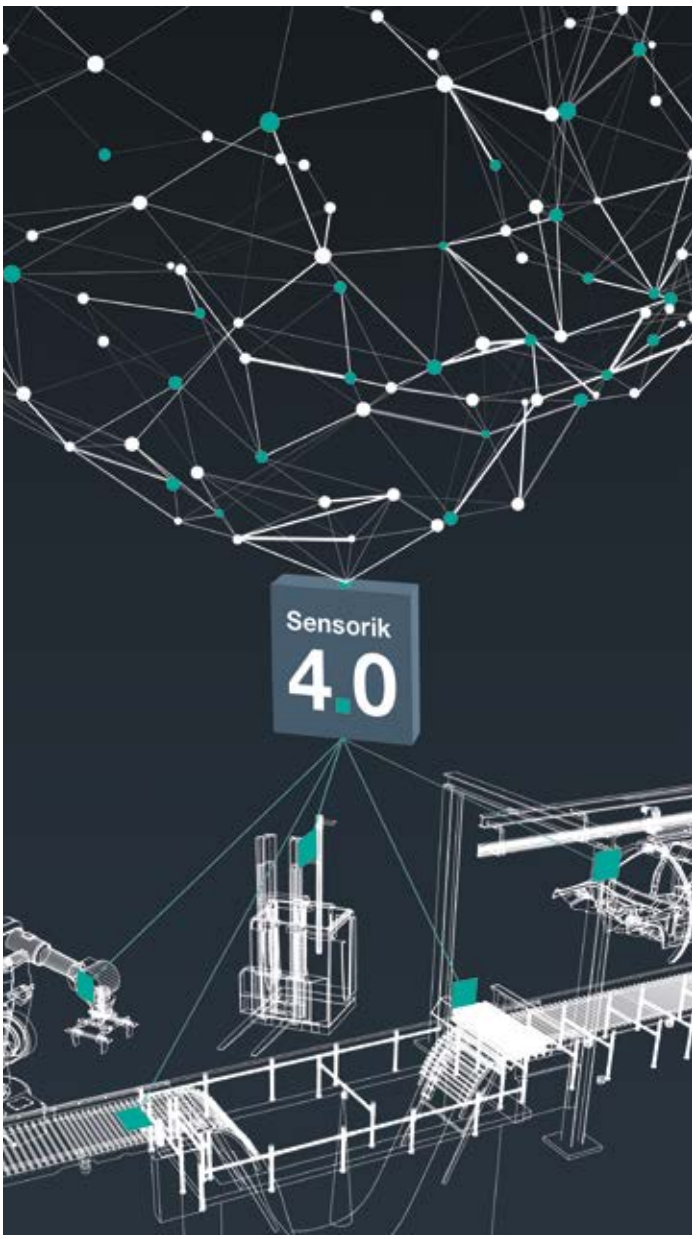
The R100 series offers several mounting options with just a single housing. This gives the user a unique level of flexibility: The diffuse and measuring sensors can be installed in identical mounting locations with no further adjustments required. All sensors are available with integrated M8 connector, M8 or M12 pigtail, and cable options. Accessories specific to the application requirements open up new possibilities for integration of the R100 into machines and systems.

IO-Link

Simple and Intuitive Operation

The operation of the R100 is based on tried and tested technology. The intelligent combination of a multiturn potentiometer and pushbutton control enables intuitive adjustment of all functions—across the entire family.

This design significantly reduces the complexity of the sensor adjustment. Depending on the sensing mode, the sensitivity adjustment or operating mode can be set via the multiturn potentiometer. The output type as well as the teach-in of the switch point are controlled using the pushbutton. The display, consisting of three LEDs, is identical for all the sensors. This provides increased operating efficiency and safety, while saving time and money during installation.

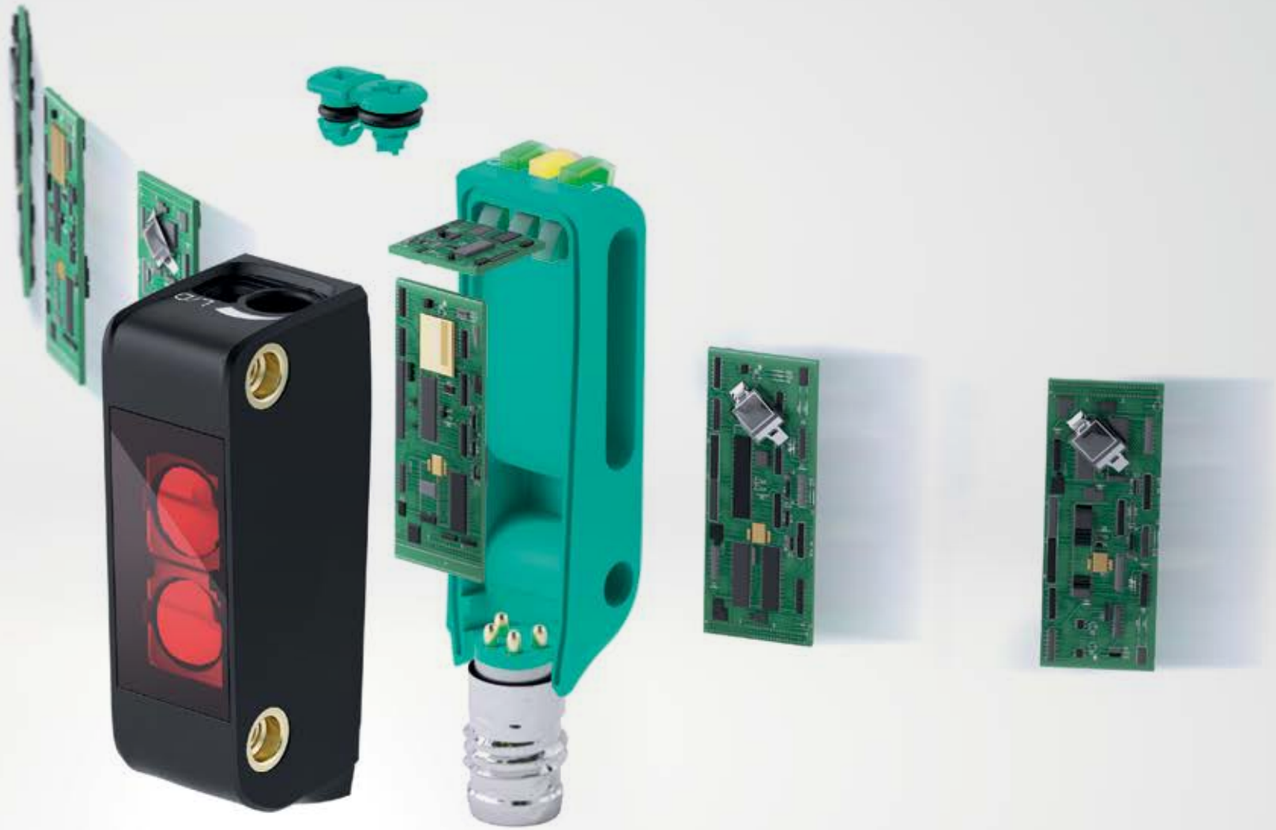


Sensorik 4.0: Customizable Automation with Sensor Technology 4.0

To manage the tasks of the future, sensors need to do more than simply deliver the process data to the machine controller. They must be able to communicate with different kinds of receivers and send and receive sensor data to and from higher-level information systems. The key to achieving this is the ability of the sensors themselves to communicate. This is the defining characteristic of Sensor Technology 4.0—the sensor technology of the future that Pepperl+Fuchs is developing to meet the requirements of digital networking in Industry 4.0.

The state-of-the-art IO-Link technology serves as an interface that allows us to unlock the sensors' ability to communicate. The R100 series is the next logical step in the Sensor Technology 4.0 concept: IO-Link is built into the entire portfolio. This opens up a host of new possibilities for the user—whether for configuration, diagnostics, or maintenance. Even wireless communication is possible. Using SmartBridge® technology, data can be sent wirelessly to mobile devices.

The R100 series from Pepperl+Fuchs represents another step toward the digital factory of the future, opening up a wide range of potential new applications.



A Complete Family in One Housing Type

The sensors in the R100 series vary only on the inside. The pioneering product design of the R100 series is the first to combine the complete family of photoelectric sensing modes in one housing.

DuraBeam: The New Laser Technology for a Noticeable Power Boost

In addition to the PowerBeam LED, the R100 features a powerful new laser technology: DuraBeam. For the first time, the strengths of LED technology are combined with the innovative benefits of laser technology, offering the best of both worlds. The eye-safe Class 1 lasers offer an exceptionally long service life and open up new application options, even at high ambient temperatures.

Another feature of this new laser technology is the special beam profile, which always casts a sharp, circular light spot on an object. This particular feature is ideal for extremely precise detection and distance measurement of small objects.

MPT Distance Measuring in a Compact Size

The R100 series distance sensors feature proven Multi Pixel Technology (MPT) from Pepperl+Fuchs. The small size of the measuring core makes this series the first to integrate high-precision, reliable distance measurements for close-range applications in a standard compact housing.

Combined with IO-Link, the R100 distance sensors offer powerful new possibilities in a small housing design. They achieve accurate measurements: Object detection and background suppression are extremely precise and the distance measurement function is highly reliable and adaptable in every situation.

Additional information is available at:
www.pepperl-fuchs.com/r100

R100 Series		PowerBeam LED	DuraBeam Laser
Sensing Modes	Type Code	IO-Link	IO-Link
Thru-beam sensor	OBE*-R100*	■	■
Retroreflective sensor with polarization filter	OBR*-R100*	■	■
Retroreflective sensor for clear object detection	OBG*-R100*	■	
Diffuse mode sensor	OBD*-R100*	■	
Diffuse mode sensor with background suppression	OBT*-R100*	■	■
Diffuse mode sensor with background evaluation	OBT*-R100*-1T*	■	■
Measuring sensor with multiple switch points	OQT*-R100*	■	■
Distance sensor	OMT*-R100*	■	■

Highlights

- State-of-the-art product design: integrating several photoelectric sensing technologies in one housing design
- Maximum flexibility and more integration possibilities than ever before
- Precise and reliable MPT distance measurement in a standard small housing
- Innovative DuraBeam laser technology for an exceptionally long life and increased operating temperature range
- Communication all the way down to sensor level with IO-Link as the basis for Sensor Technology 4.0 — in all sensor types

Your automation, our passion.

Explosion Protection

- Intrinsically Safe Barriers
- Signal Conditioners
- Fieldbus Infrastructure
- Remote I/O Systems
- HART Interface Solutions
- Wireless Solutions
- Level Measurement
- Purge and Pressurization Systems
- Industrial Monitors and HMI Solutions
- Electrical Explosion Protection Equipment
- Solutions for Explosion Protection

Industrial Sensors

- Proximity Sensors
- Photoelectric Sensors
- Industrial Vision
- Ultrasonic Sensors
- Rotary Encoders
- Positioning Systems
- Inclination and Acceleration Sensors
- AS-Interface
- Identification Systems
- Logic Control Units

PEPPERL+FUCHS

www.pepperl-fuchs.com
Subject to modifications · © Pepperl+Fuchs
Printed in USA · Part No. 915493 · TDOCT-4997_USA 01/16