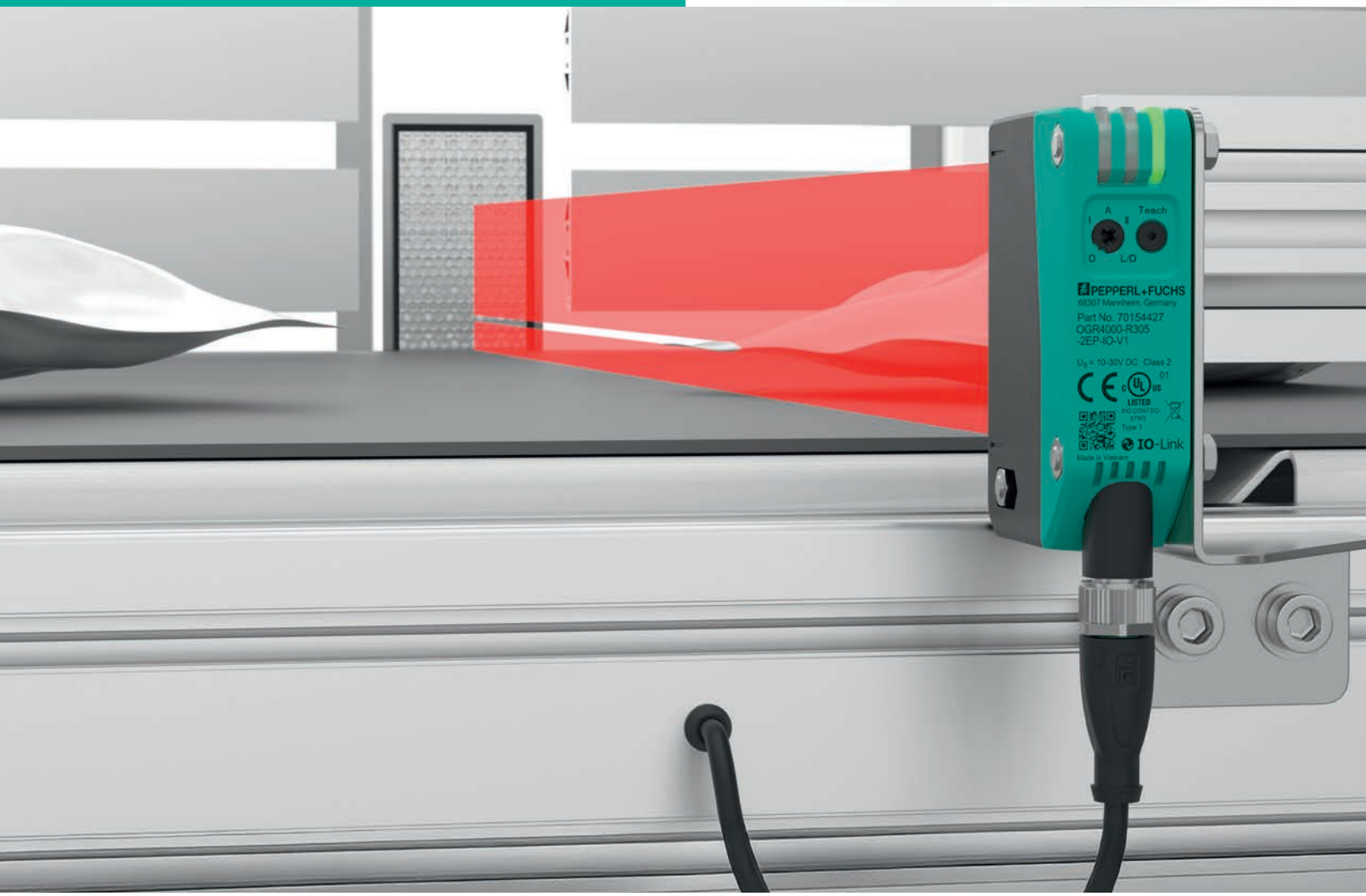
# Detection Guaranteed.

Reliable object detection, regardless of shape or size. Perfectly adaptable to any application.

R305 Retroreflective Area Sensor with IO-Link




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R305 Retroreflective Area Sensor with IO-Link

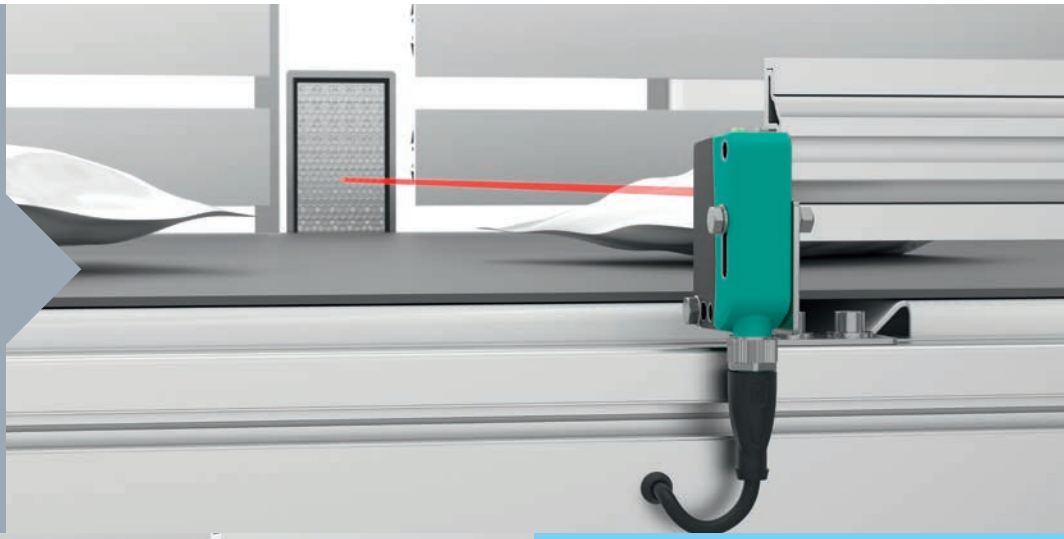
# Reliable Object Detection, Regardless of Shape and Position

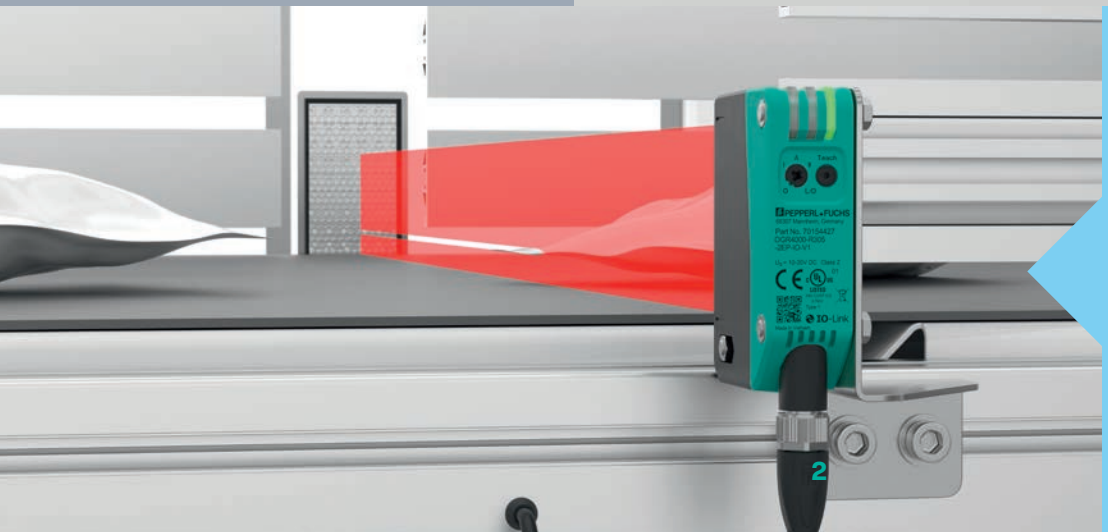
**Wide light band instead of point beam: The R305 retroreflective area sensor reliably detects small and irregularly shaped objects. With a 60 mm bandwidth, integrated height measurement, and IO-Link interface, it offers possibilities that go beyond those of classic photoelectric sensors.**

### Wide Light Band for Large Detection Area

Traditional retroreflective sensors do not detect small or narrow objects that are not precisely aligned with the point-shaped detection area. At the same time, non-homogeneous objects with irregular contours can trigger multiple switching. With its light band, however, the R305 retroreflective area sensor covers a wide detection area. Small objects are reliably detected, while multiple switching is prevented for irregular contours.

**With a point light beam, the object may not be detected at all or only after a noticeable delay. Multiple switching can be triggered for irregular contours.**





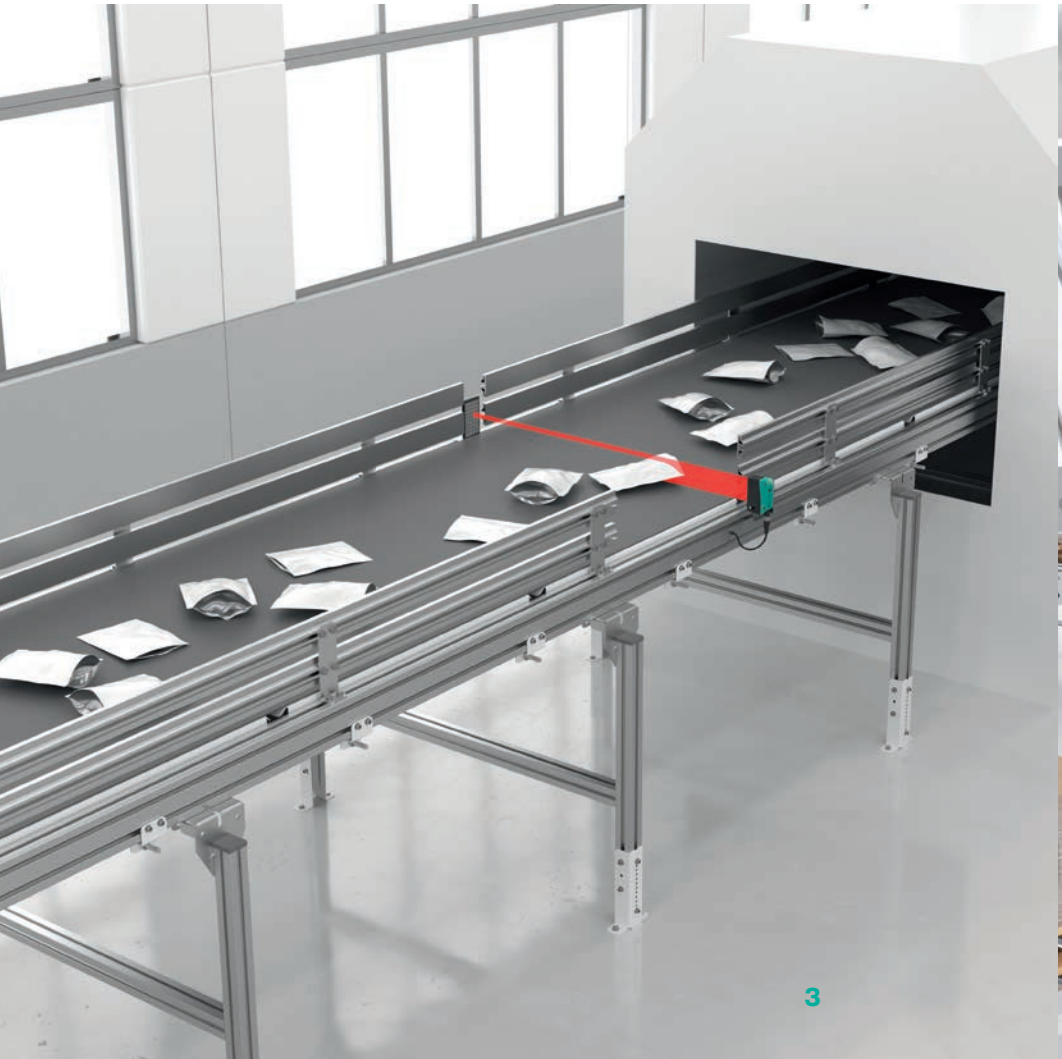
**The wide light band, however, reliably detects very narrow object edges and avoids multiple switching.**

### Reliable Detection of Irregular Objects

Small products, granulates, and liquids are often packaged in flexible plastic bags (polybags). Their contours are naturally irregular. The edge of the bag that reaches the detection zone first can be very small. In High Resolution Mode, the R305 retroreflective area sensor detects objects from a height of just 2 mm. The polybag always remains in the light band as it passes by and only triggers a single object detection circuit.

### Single Switching for Interrupted Contours

When focused on a typical pallet foot, simple retroreflective sensors may switch up to three times, registering “no object” twice between detections. The R305 retroreflective area sensor, on the other hand, only triggers once and detects the pallet continuously as it passes by. Its light band always detects the leading edge of the object, even if the load extends beyond the edge of the pallet. With a detection range of up to 4 m, the device simultaneously senses both the pallet base and its load, while performance is unaffected by foil or stretch film.







R305 Retroreflective Area Sensor with IO-Link

# Flexibility During Installation, Easy Integration into the Application

**Simple installation, flexible integration: The R305 retroreflective area sensor impresses with automatic teach-in, signal compensation, and conveyor belt suppression. It offers a choice of high resolution or long range—ideal for a wide range of applications.**

### Simple Alignment and Compact Side View

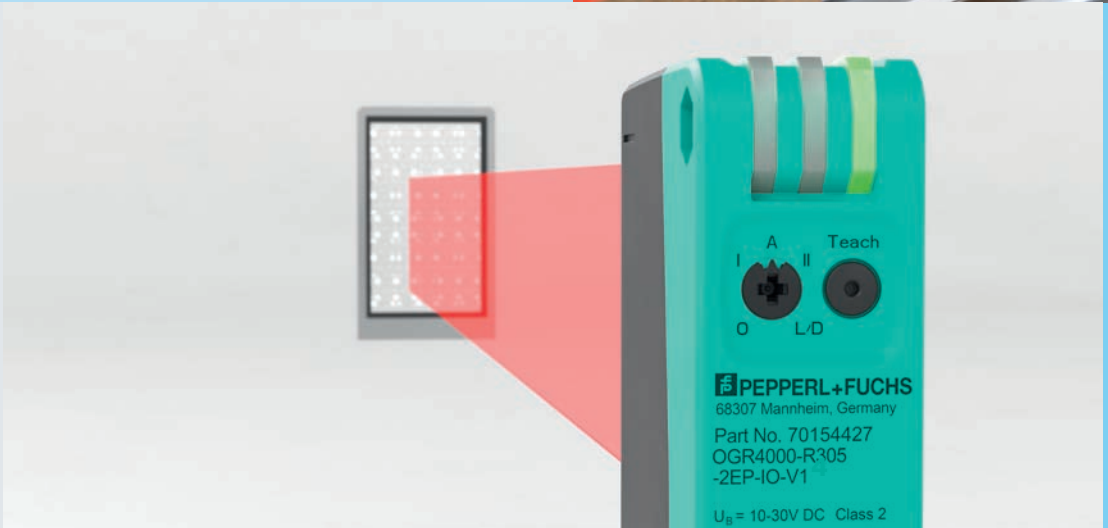
The light band is quickly and easily aligned with the reflector using the Easy Alignment Mode. This auxiliary function allows intuitive installation without time-consuming adjustment. Using an adapter with integrated deviation mirror, the R305 retroreflective area sensor can also be mounted offset by 90 degrees. This space-saving side-looker version was developed for particularly tight spaces.

### Automatic Teach-In and Signal Compensation During Operation

The Auto-Teach function automatically adjusts the sensor to the application environment. After aligning its light band with the reflector, it automatically saves the central parameters. When the system is switched on again, for example after maintenance-related downtime, it does not need to be taught in again. The automatic signal compensation neutralizes impairments caused by dust, dirt, or changing light conditions during operation. By adjusting the light intensity of the device, it ensures consistently reliable detection—fully automatic and without the need for further intervention.










### Long Range or High Resolution

The sensor offers a choice between two preset measuring modes: long range with a detection range of up to 4 m or high resolution up to 2 mm, so that even very small objects are detected. Adaptation to the application can be performed directly on the sensor using the rotary selector switch and button. With IO-Link, it is also possible to gradually change the range and resolution values and optimize them for the application. Both modes are available with or without conveyor belt suppression.

### Conveyor Belt Suppression Filters Out Slagging

Conveyor belts are not always in perfect condition. They can wobble during operation due to wear, a lack of tension, or even vibrations in the system. To avoid incorrect switching, this vertical movement of the belt can be suppressed in the detection range of the retroreflective area sensor. To do this, the contrast level of the lowest light beam is increased. Conveyor belt suppression mode can be activated using the push button, with individual adjustments possible via IO-Link.

**Teach button**
Teach-in/Conveyor belt suppression

**Rotary switch**
I: High Resolution Mode
A: Alignment Mode
II: Standard Resolution Mode
O: Keylock/Operating Mode
L/D: Light on/Dark on






# Additional Data, Predictive Maintenance, and Precise Application Customization

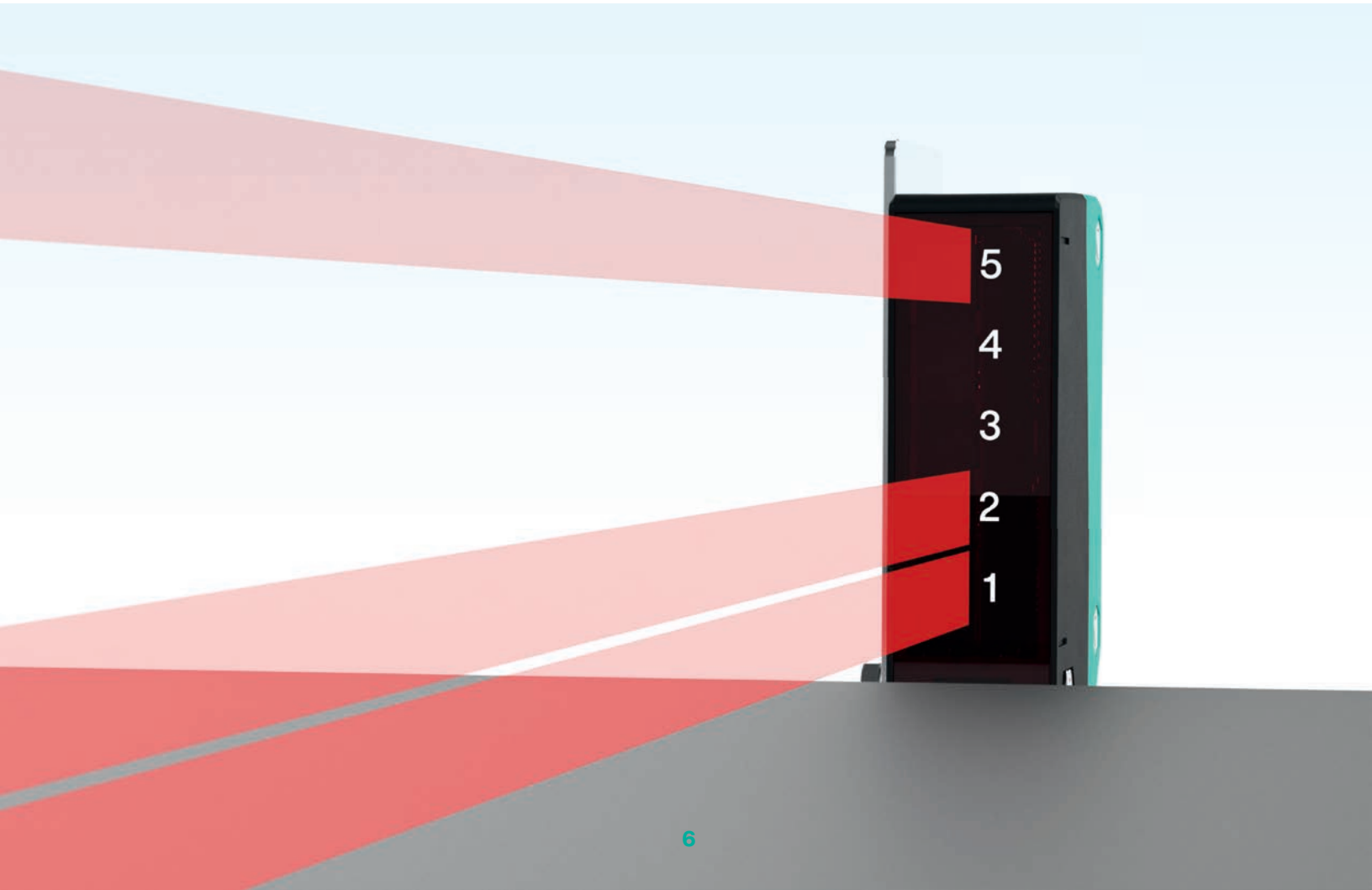
**The IO-Link interface opens up a whole range of possibilities for optimizing the operation of the sensor for the application. The parallel transmission of measurement and status data also creates the basis for predictive maintenance according to actual requirements.**

### Flexible Settings

For many applications, the predefined settings selected using the rotary selector switch on the device are sufficient. Where the default settings reach their limits, individual adjustments and additional optimization can be performed via IO-Link. The sensor settings can therefore be adapted precisely to the specific requirements of the application.

### Beam Blanking and Contrast Adjustment

The light band of the R305 retroreflective area sensor consists of five individual beams, each 12 mm wide. Each of the beams can be switched off individually to block out interfering objects in the detection area or to align the total height of the light band to a narrow opening. The contrast level can also be adapted to the application in order to reliably detect objects made of clear glass, for example.



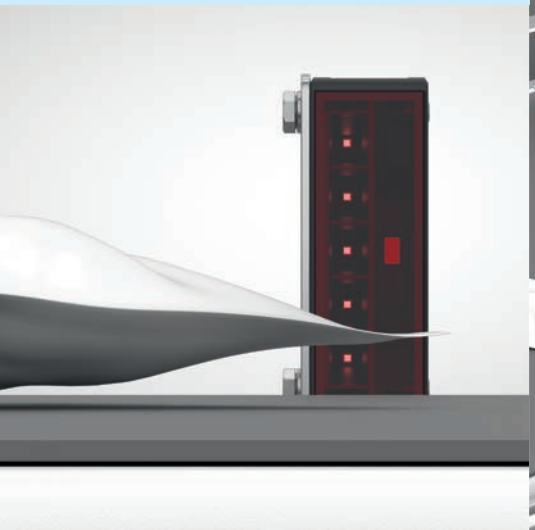
IO-Link

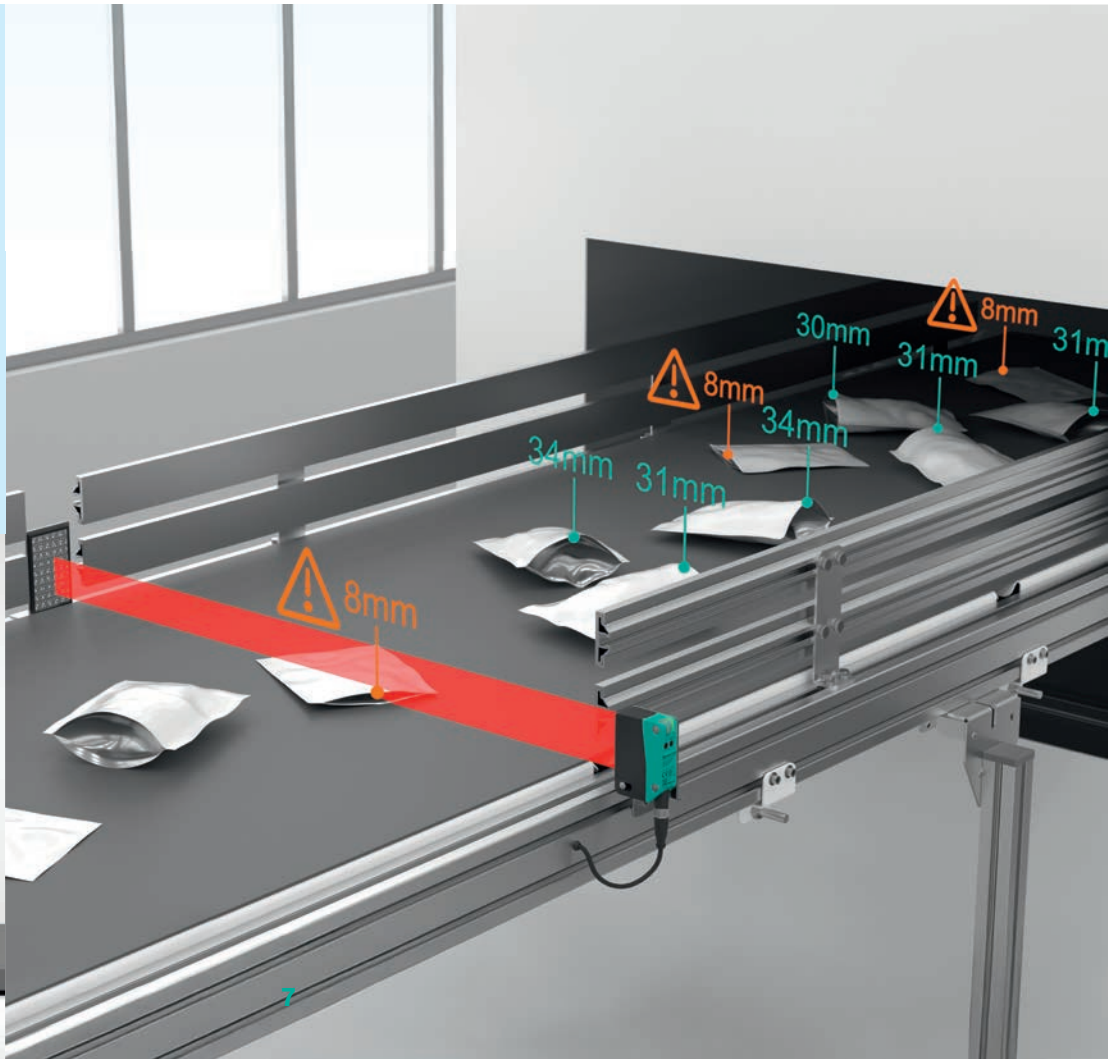
## Integrated Object Height Measurement

The sensor can not only detect the presence of an object, but also measure its height. The current measured value is transmitted via IO-Link to the control system. The trend evaluation provides insights, for example, on the fill level of plastic bags. This additional information can be used for quality control and process optimization and opens up completely new application possibilities.

| Extract of technical data | OGR4000-R305-* |
|---|---|
| **Dimensions (W × H × D)** | 28.5 × 89 × 59.5 mm |
| **Measurement range** | High resolution mode: 0 ... 2 m<br>Standard resolution mode: 0 ... 4 m |
| **Object size** | High resolution mode:<br>2 mm at 0 ... 1.5 m detection range<br>3 mm at 0 ... 2 m detection range<br><br>Standard resolution mode:<br>5 mm at 0 ... 1.5 m detection range<br>8 mm at 0 ... 3 m detection range<br>10 mm at 0 ... 4 m detection range |
| **Resolution** | 2 mm |
| **Interface** | IO-Link, push-pull output |

For more information, visit
**pepperl-fuchs.com/pf-r305**





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