



## 3C SERIES

Compact photoelectric sensors  
and diffuse sensors

***power* reserve.**



# SENSOR SOLUTIONS FOR ALMOST ANY APPLICATION

The 3C series offers a range of unique features and the largest selection of functions that any device currently available on the market in this performance segment has to offer.

**power**reserve.



## COMPACT, ROBUST, VERSATILE AND USER-FRIENDLY

In addition to large operating ranges and increased function reserves, the 3C series scores with simple handling and fast commissioning. Thus, the devices stand for reliable object detection even in dusty environments or with high alignment tolerances.

Technologies such as A<sup>2</sup>LS (Active Ambient Light Suppression), simple one-point teaching and the optional IO-Link interface characterize this series.



## THE ALL-ROUNDERS AMONG THE SENSORS

Thanks to the diverse range of models of the compact 3C series, these sensors are used in a wide range of applications, such as in mounting/handling technology as well as in the transport of very small containers, in printing technology or in packaging systems.

### **power**reserve.

- Maximum function reserves
- High extraneous light protection through A<sup>2</sup>LS
- Energy savings through low power consumption
- Degree of protection IP 67 and IP 69K for demanding environmental conditions

### **easy**handling.

- 360° visibility of the indicator diodes
- Teaching devices, also with line teaching
- Protection against manipulation by means of a lockable button
- Significantly reduced squint angle simplifies mounting without alignment
- All sensors optionally with IO-Link

### **think**modular.

- Models with M3 threaded sleeves
- Slotted hole for flexible mounting
- Diffuse sensors with background suppression and special light-spot profiles (rectangular, small)
- Diffuse sensors with background suppression
- Sensors with autocollimation principle
- Photoelectric sensors and diffuse sensors with laser light and collimated light beam propagation
- Models with PNP and NPN outputs
- Connection options include M8 connector, 2,000 mm cable and cable with M8 or M12 connector

Simple, one-point teaching



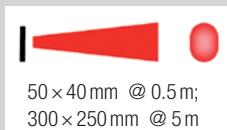
Integrated metal mounting sleeve



Robust M8 metal thread



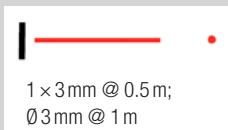
# RETRO-REFLECTIVE PHOTOELECTRIC SENSORS



The retro-reflective photoelectric sensor for reliable detection  
**PRK 3C**



The single-lenses device for exact positioning applications  
**PRK 3C.A / PRK 3CL.A**



	<b>PRK 3C</b>
Operating range limit	0–10 m
Switching frequency	1,500 Hz
Functions	Standard

	<b>PRK 3C.A</b>	<b>PRK 3CL.A</b>
Operating range limit	0–5 m	0–3 m
Switching frequency	1,500 Hz	3,000 Hz
Functions	Autocollimation	Dynamic teach

- High function reserve
- Reliable detection with standard light spot

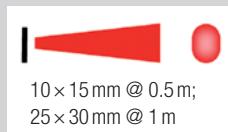
- Specially suited for positioning with high accuracy
- Object detection through slits, holes and gaps
- Reliable detection in fast processes
- Reliable detection of objects with a diameter  $\geq 1$  mm

Detection of containers



Detection of tamper-evident seals





The retro-reflective photoelectric sensors for films and transparent objects  
**PRK 3C.T / TT**



	<b>PRK 3C.T / PRK 3C.TT</b>	<b>PRK 3C.TT</b>
Operating range limit		0–3.5 m
Switching frequency		1,500 Hz
Functions	For bottles	Tracking

- Maximum threshold adjustability for detection of transparent objects
- High switching point stability through temperature compensation
- Automatic contamination compensation with tracking

Detection of clear glass containers



#### MATCHING ACCESSORIES FOR RETRO-REFLECTIVE PHOTOELECTRIC SENSORS

Plastic triple reflectors  
TKS 20x40, TKS 40x60



Micro-triad-type reflectors for laser types MTKS 14x23, MTKS 20x30



Reflective tapes  
REF 20x20, REF 50x50



# DIFFUSE REFLECTION SENSORS



Diffuse reflection sensor  
with background suppression  
**HT 3C/HT 3CL**

HT 3C



25 × 25 mm @ 0.4 m

HT 3CL



Ø 1 mm, consistent



HT 3C-S



Ø 4 mm @ 0.1 m;  
Ø 7 mm @ 0.2 m

HT 3C-XL



3 × 40 mm @ 0.5 m;  
Beam spread = 33°

Sensor for demanding  
object detection  
**HT 3C-S/-XL/-V**

HT 3C-V



Transmitter inclined down-  
ward 11° towards receiver

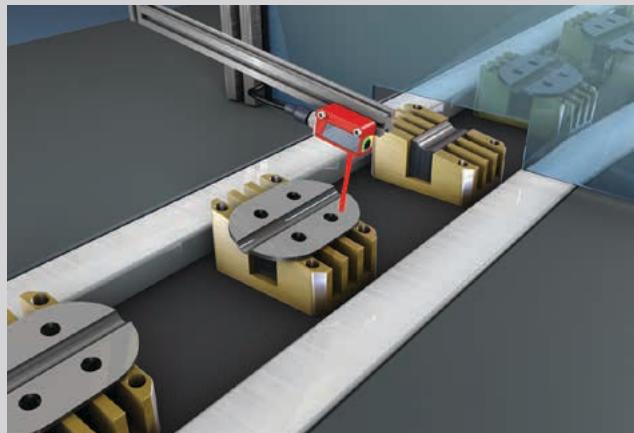
	<b>HT 3C</b>	<b>HT 3CL</b>
Operating range limit	5–400 mm	15–550 mm
Switching frequency	1,000 Hz	3,000 Hz
Functions	Standard	

- Very good black/white behavior and reliable switching
- Exact range adjustment via 8-turn potentiometer
- Also available with laser class 1 (HT 3CL)

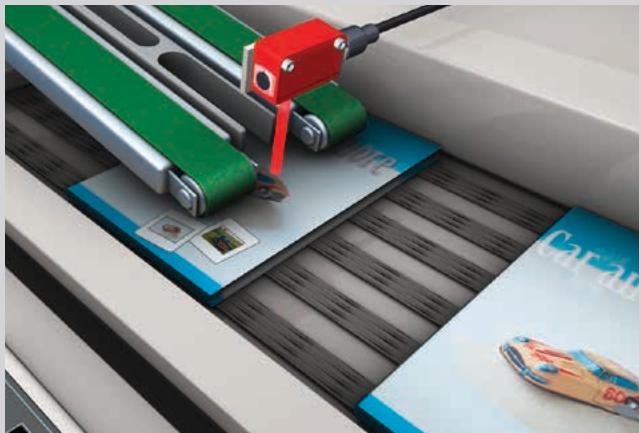
	<b>HT 3C-S</b>	<b>HT 3C-XL</b>	<b>HT 3C-V</b>
Operating range limit	5–200 mm	5–100 mm	15–150 mm
Switching frequency	1,000 Hz		
Functions (light spot)	Small	Long	V-optics

- Light spot HT 3C-S: For glossy and color structured objects
- Light spot HT 3C-XL: Detection of objects with bore holes and grooves, e.g. circuit boards
- Light spot HT 3C-V: Especially suitable for planar, reflective and high-gloss surfaces

Detection of workpiece holders



Detection of high-gloss objects



# THROUGHBEAM PHOTOELECTRIC SENSORS



L 3C



Ø 20 mm @ 0.5 m;  
Ø 40 mm @ 1 m

L 3CL



Ø 1 mm @ 0.4 m;  
2.5 x 2 mm @ 1 m

Throughbeam photoelectric sensor  **IO-Link**  
for large operating range and small objects

**L 3C / L 3CL**

	<b>L 3C</b>	<b>L 3CL</b>
Operating range limit		10 m
Switching frequency	1,500 Hz	3,000 Hz
Functions	Standard	Laser

- Reliable detection with small light spot
- Activation input / warning output

Detection of small objects



# MATCHING ACCESSORIES

Sensor mounting bracket  
BT205M / BT3B



Sensors rod mount  
BTU 200M



Sensor voltage supply  
PSU



Sensor distribution box with M8-/M12  
ports MD7XX



Connection and interconnection cables  
K DS / K DU



Signaling column  
A7 / A4



# OUR PROMISE TO YOU

## SMARTER PRODUCT USABILITY

With regard to our product developments, we systematically place emphasis on the especially good usability of all devices. To this end, simple mounting and alignment are taken into account – just as the uncomplicated integrability of the sensors in existing field bus systems and easy configuration, e.g. via a web browser, are.

## SMARTER APPLICATION KNOW-HOW

Whoever can do it all, can do nothing right. Which is why we concentrate on selected target sectors and applications. There, we are specialists and know all aspects inside out. For this purpose, we optimize our solutions and offer a comprehensive product range that makes it possible for our customers to obtain the absolute best solutions from a single source.

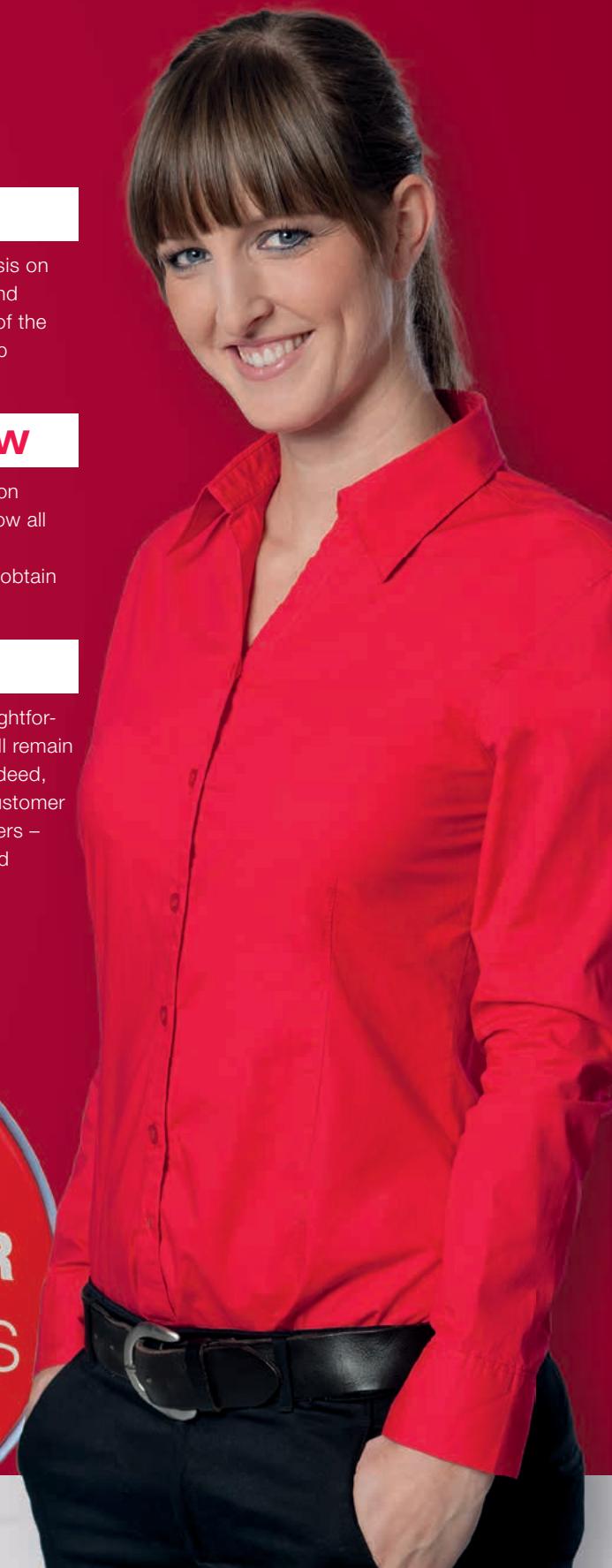
## SMARTER CUSTOMER SERVICE

The technical and personal proximity to our customers, and a skilled, straightforward handling of queries and problems, are among our strengths – and will remain so. Consequently, we will continue to expand our service offerings and, indeed, also forge ahead in new directions to persistently redefine the utmost in customer service. Whether on the phone, on the Internet or on-site with our customers – regardless of when and where the expertise of the sensor people is needed at any time.

Info at: [www.leuze.com](http://www.leuze.com)



Katrin Rieker,  
Sales Methods, Processes, Tools



**Switching Sensors**

Optical Sensors  
Ultrasonic Sensors  
Fiber Optic Sensors  
Inductive Switches  
Forked Sensors  
Light Curtains  
Special Sensors

**Measuring Sensors**

Distance Sensors  
Sensors for Positioning  
3D Sensors  
Light Curtains  
Forked Sensors

**Products for Safety at Work**

Optoelectronic Safety Sensors  
Safe Locking Devices, Switches and Proximity Sensors  
Safe Control Components  
Machine Safety Services

**Identification**

Bar Code Identification  
2D-Code Identification  
RF Identification

**Data Transmission/****Control Components**

MA Modular Connection Units  
Data Transmission  
Safe Control Components  
Signaling Devices  
Connection Technology and Passive Distribution Boxes

**Industrial Image Processing**

Light Section Sensors  
Smart Camera