Leuze electronic

the sensor people

SMART
SENSOR
BUSINESS

18B SERIES

Powerful retro-reflective photoelectric sensors specially designed for transparent media

abeam.

www.leuze.com

ПРОМЭЛЕКТРОНИКА / sales@prom-elec.com

WE'VE SIMPLY DONE AWAY WITH ALIGNMENT!

The 18B series completely redefines optimized usability.

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IS IT POSSIBLE TO MAKE THE BEST EVEN BETTER?

We are already leaders in performance and usability with our sensors of the 18 series. The retro-reflective photoelectric sensors of the 18B series go a step further with numerous smart ideas and offer solutions that are unmatched in terms of handling and mounting as well as speed and performance.

MOUNT AND GO!

The outstanding new feature of the 18B series is most certainly the calibrated optics of the sensors. This makes possible a sensor beam accuracy that actually eliminates the need for fine adjustment. Together with the integrated threads in the housing, mounting is child's play.

DEVICE

- **Extremely resistant housing coating**
  The chemically nickel-plated housing enables use even in demanding environments with extremely short cleaning intervals and aggressive cleaning agents.
- **Glass lens without front screen**
  The elimination of an additional screen prevents reflections and reduces drop formation.
- **Integrated, high-strength plug**
  The plug is a permanent part of the metal housing. As a result, it can no longer break off.
- **Paperless laser labeling**
  All relevant device data are permanently marked on the housing by means of a laser and are thereby protected.

APPLICATION

- **Temperature-compensated electronics**
  The device electronics compensate for temperature fluctuations of ± 20 °C and thereby ensure 100% detection reliability.
- **Contamination compensation**
  A sophisticated tracking function considerably reduces work during cleaning and readjustment.

MOUNTING

- **Calibrated optics system** abeam.
  The precise beam alignment (max. ±0.25° spread) eliminates complicated alignment of the sensor after mounting.
- **Integrated fastening concept**
  All mounting holes integrated in the housing are equipped with M4 internal threads. This eliminates the need for additional mounting parts.

COMMISSIONING

- **Multi-turn potentiometer with user guidance**
  Perfect adjustment for all types of bottles. The user guidance guarantees a 100% reproducible adjustment at all times.
- **Perfect LED visibility**
  The LEDs for displaying the sensor state are highly visible and ensure quick adjustment and reliable process observation.
- **IO-Link**
  Online measurement values, configuration and diagnostics ensure transparent process monitoring.

IO-Link

THIS SENSOR SIMPLY CAN'T BE BEAT

This sensor offers you a number of practical advantages.

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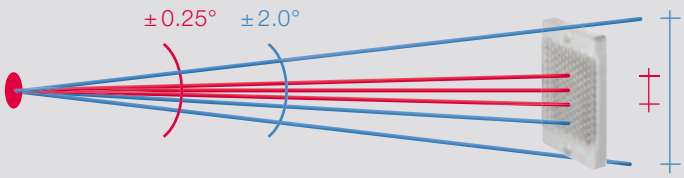


±2.2 mm deviation over 500 mm
±17.5 mm deviation over 500 mm

PRECISION COMPLETELY REDEFINED

The new sensor, with its auto-collimated lens, is up to eight times more precise than standard optics. With a maximum deviation of ±0.25°, the light beam has a deviation of just ±2.2 mm over a distance of 500 mm. This makes alignment of the sensor after mounting and, thus, expensive and complicated mounting parts practically unnecessary.

This accuracy thereby also makes possible reliable detection of the smallest parts in a process.

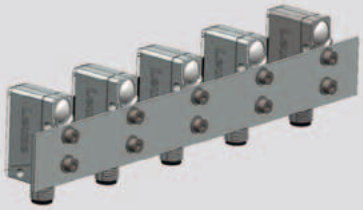
Compared to two-lens systems, auto-collimated sensors have just one optical channel and, as a result, have no angle errors and no restrictions with respect to fitting position. This makes them ideal for bottle detection at short ranges.

The design without front screen before the actual lens also prevents interfering reflections and reduces possible condensation. The glass lens itself is scratch resistant and resistant against cleaning agents — without making any compromises.

MORE THAN THREE TIMES FASTER — HERE THAT MEANS — MORE THAN EIGHT TIMES MORE ACCURATE

With a switching frequency of up to 5,000 Hz, the PRK 18B is far ahead of all previous devices. As a result, it can be used to quickly and reliably detect even small objects. With a response time of just 100 µs, the sensor is also considerably faster and more accurate at dynamic transport speeds. A jitter time of 32 µs opens entirely new possibilities in detection accuracy at static transport speeds.

Product comparison	18 Series	18B Series
Switching frequency	1,500 Hz	5,000 Hz
Response time	333 µs	100 µs
Jitter times	330 µs	32 µs



MOUNTING CAN BE THIS EASY AND THIS FLEXIBLE

The metal housing of the 18B series makes possible entirely new and simple mounting options with the integrated M4 thread.

PROCESS MONITORING DOWN TO THE LOWEST FIELD LEVEL

Sensors can't do it alone. They are always integrated in a control which processes their signals. With the IO-Link interface of the 18B series, you can always access all process, parameter and diagnostic data.

WE REMOVE THE DIRT THROUGH CALCULATIONS

The quality of the detection is highly dependent on the cleanliness of the lens and of the reflector. The integrated contamination compensation of the PRK 18B allows the sensor to electronically adjust to increasing soiling. This extends the cleaning interval by a factor of up to 50.

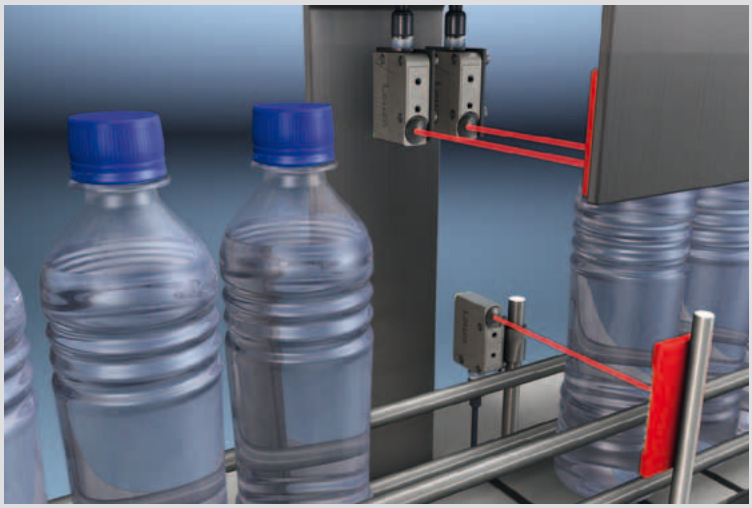
±20°C

TEMPERATURE IS RELATIVE — RELATIVELY UNIMPORTANT!

The reliable detection of transparent objects with widely fluctuating ambient temperatures is no problem for the 18B series. Perfect temperature compensation guarantees stable object detection, even for highly transparent PET bottles.

WE SEE WHAT OTHERS BARELY SEE

The 18B series in use and in detail.



	PRK18B Standard	PRK18B Multiturn	PRK18B Tracking	PRK18B Speed	RK18B Multiturn	RK18B Glass triple
Detection of	Containers	Bottles	Bottles	Bottles	Foils < 20 µm	Containers
Reflectors	TK, REF-pol	TK, REF-pol	TK, REF-pol	TK, REF-pol	TG, TK, REF	TG, TK, REF
Main Settings	Potentiometer 270°	Potentiometer, 11-turn	Teach	Teach	Potentiometer, 11-turn	Potentiometer 270°
Switching frequency	500 Hz	1,500 Hz	1,500 Hz	5,000 Hz	1,500 Hz	500 Hz
Jitter times	330 µs	110 µs	110 µs	32 µs	110 µs	330 µs
Optical alignment	No	Yes	Yes	Yes	Yes	No

TK = plastic triple reflectors
TG = glass triple reflectors
REF = any reflective tapes
REF-pol = polarizing reflective tapes

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 fieldbus systems and easy configuration, e.g. via a web browser, are.

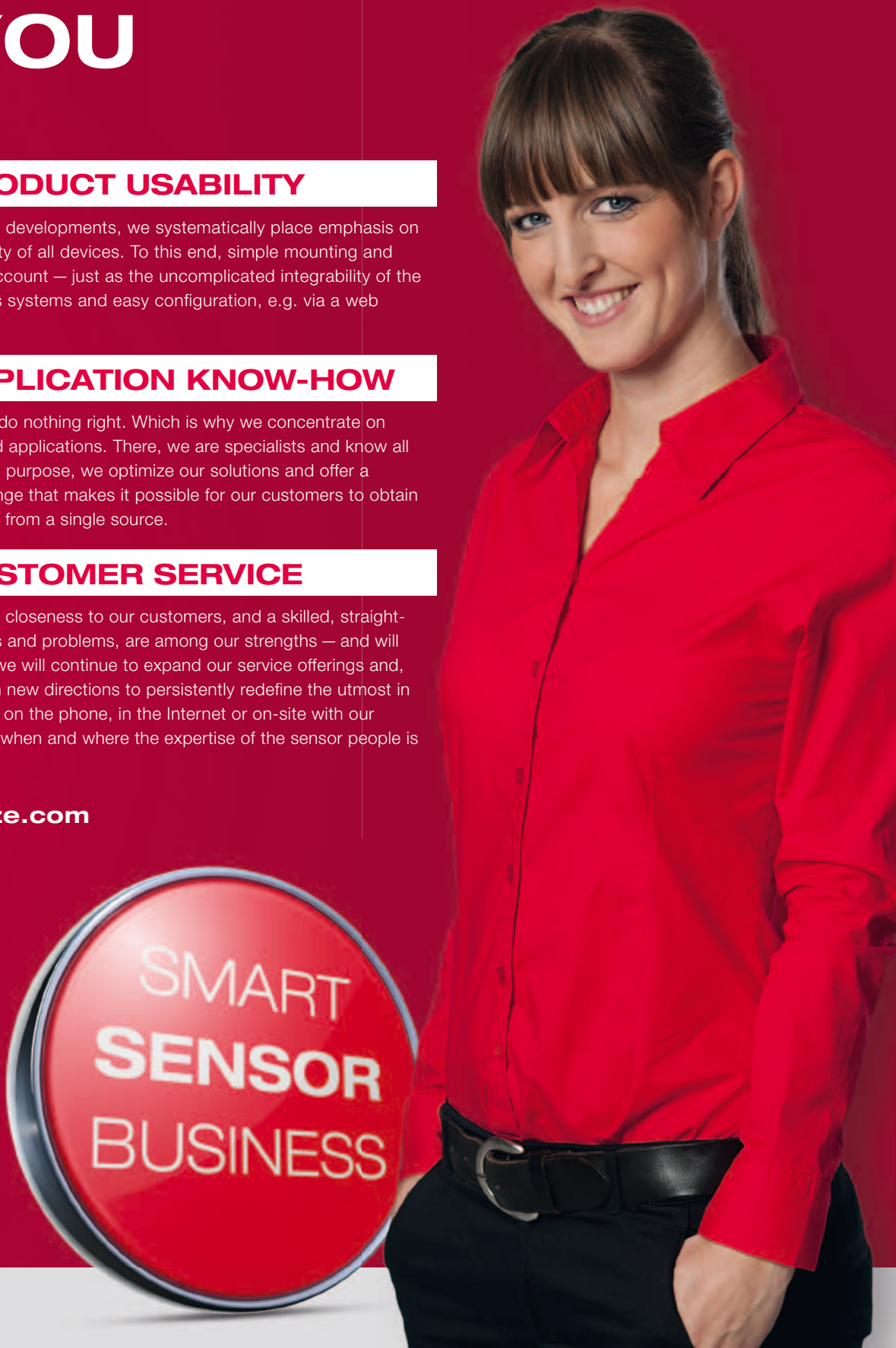
SMARTER **APPLICATION KNOW-HOW**

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 closeness 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, in 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**



Katrin Rieker,
Customer advisor in
the Customer Care Center

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 and Switches
Safe Control Components
Machine Safety Services

Identification
Bar Code Identification
2D-Code Identification
RF Identification

Data Transmission/
Control Components
MA Modular Interfacing Units
Data Transmission
Safe Control Components

Industrial Image Processing
Light-Section Sensors
Smart Camera

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Subject to modifications and errors