

 **Leuze electronic**

HVS
PRECONISATEUR DE SOLUTIONS DEPUIS 1985

2 rue René Laennec 51500 Taissy France
Fax: 03 26 85 19 08, Tel : 03 26 82 49 29

E-mail: hvssystem@hvssystem.com
Site web : www.hvssystem.com

the **sensor** people

Series 3B

Photoelectric Sensors
and Light Scanners



PRODUCT INFORMATION

Sensor solutions for nearly **any application** – **Series 3B.**

Compact, versatile, user-friendly, robust.

Series 3B from Leuze electronic offers a range of unique features and the largest variety of functions in this performance class of all competitors on the market.

In addition to large operating ranges and improved performance reserves for reliable object detection, even in dusty environments or with high alignment tolerances, technologies such as Active Ambient Light Suppression (A²LS) or “brightVision®” for easy handling and fast commissioning or device models with homogenous pin-point light spot are characteristic of Series 3B.

The diverse range of models make these sensors ideal for a wide variety of applications, for example in mounting and handling technologies, in the conveyance of extremely small containers as well as in printing and packaging technologies.



The most important **advantages** at a glance.

User friendly

- 360° visibility of the indicator diodes
- Simple, one-point teaching
- Robust teach button, can be operated manually or using a tool
- Teach devices also with line teaching
- Protection against manipulation by means of a lockable button



Reliable

- Maximum performance reserve
- High extraneous light protection through A²LS
- Energy savings through lower power consumption
- Protection classes IP 67



Versatile

- The following functions are available:
 - Retro-reflective photoelectric sensor and light scanner for all standard applications
 - Light scanner with special light-spot profiles (rectangular, small) and background suppression
 - Light scanner with V-optics and background suppression
 - Sensors with autocollimation principle
 - Retro-reflective photoelectric sensors and light scanners with laser light and collimated light beam propagation
 - Energetic light scanner also with fading (background suppression)
 - Throughbeam photoelectric sensors with small light beam propagation and a high range



Robust

- Integrated attachment sleeve made of metal to protect against housing breakage
- M8 metal plug
- Reinforced in the connection area

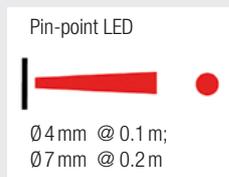


Flexible

- Push-pull outputs for NPN or PNP controls
- All common connections:
 - M8 connector
 - 2000 mm cable
 - Cable with M8 or M12 connector
- Slot for flexible mounting



Throughbeam photoelectric sensors



@ = at a distance of

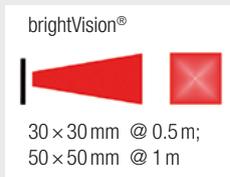
For **reliable** object detection **independent** of the environmental conditions.

	LSR 3B
Operating range limit	0 – 10 m
Switching frequency	1,000 Hz
Functions	Large operating range

- High performance reserve
- Transmitter with small, homogeneous light spot by means of pin-point LED
- Transmitter optionally with activation input
- Receiver optionally with warning output
- Warning output for increased availability



Retro-reflective photoelectric sensors



Reliable function with small, **misadjusted** reflectors and heavy **soiling**.

	PRK 3B/66	PRK 3B/66.1	PRK 3B/6.7
Operating range limit	0.02–6 m	0.02–6 m	0.02–6 m
Switching frequency	1,000 Hz		
Functions	Standard	with adjustment	Economy

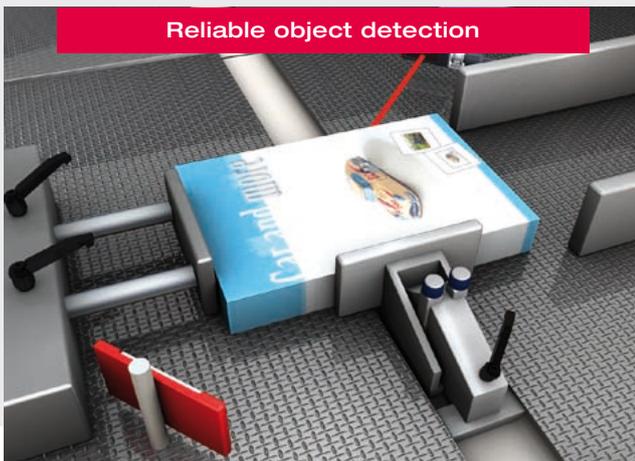
- High performance reserve
- Reliable object detection with small, misadjusted reflectors, large operating range or heavy soiling



The specialist for **positioning tasks**.

	PRK 3B/6.22
Operating range limit	0–5 m
Switching frequency	1,000 Hz
Functions	autocollimation

- High performance reserve
- Especially designed for positioning with high accuracy
- Short range with foil reflectors
- Autocollimation principle for use at zero distance
- Easy adjustment via lockable teach button or teach input

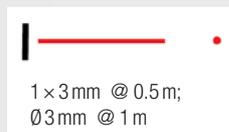


Reliable object detection



Short range also with foil reflectors

Retro-reflective photoelectric sensors



The world's **first laser autocollimator** in this size.

	PRKL 3B/22
Operating range limit	0–3 m
Switching frequency	2,000 Hz
Functions	dynamic teach-in

- Reliable detection of objects with a diameter ≥ 0.1 mm
- Object detection through slits, holes and gaps with extremely small dimensions
- Especially designed for the detection of fast events and small parts



The specialist for **transparent media**.

	PRK 3B/6.42	RKR 3B/6.42
Operating range limit	0–3.5 m	0–1.8 m
Switching frequency	1,000 Hz	
Functions	for bottles	for foil

- Especially designed for the detection of transparent media such as glass, PET and foils thinner than 20 μm
- Easy adjustment via lockable teach button or teach input
- Particularly suited for highly transparent PET and glass bottles



Trigger photoelectric sensor



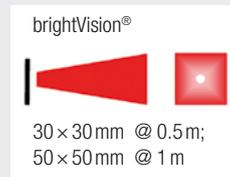
Bottle detection



Laser retro-reflective photoelectric sensor for **bottles**.

	PRKL 3B.42
Operating range limit	0–0.5 m
Switching frequency	2,000 Hz
Functions	for bottles

- Particularly suited for highly transparent PET and glass bottles
- For highly transparent full and empty bottles; foil > 20 µm
- Detection or counting of highly transparent objects – especially suited to small space between objects



RKR 3B/22D.01
RKR 3B/44D.01



RKR 3B/66.11

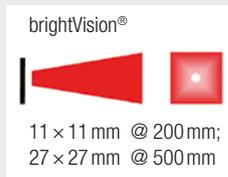
Switching on **glossy surfaces**.

	RKR 3B/22D.01	RKR 3B/44D.01	RKR 3B/66.11
Operating range limit	0.02–5 m	0.02–5 m	0.02–7 m
Switching frequency	1,500 Hz	1,500 Hz	1,000 Hz
Functions	increased switching frequency		extra large light spot

- Retro-reflective photoelectric sensor with un-polarized red light, making it especially suited to switching on a polished metal plate serving as a reflector
- RKR 3B/22D.01 and /44D.01: increased switching frequency for high precision
- RKR 3B/66.11: extra large light spot for high angle tolerance



Diffuse reflection scanners energetic

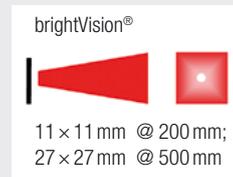


For use in standard applications
with high ranges.

	RTR 3B/66	RTR 3B/6.7
Scanning range limit		0 – 750 mm
Switching frequency		1,000 Hz
Functions	Standard	Economy

- Energetic diffuse reflection light scanner with scanning range adjustment
- High switching frequency for detection of fast events

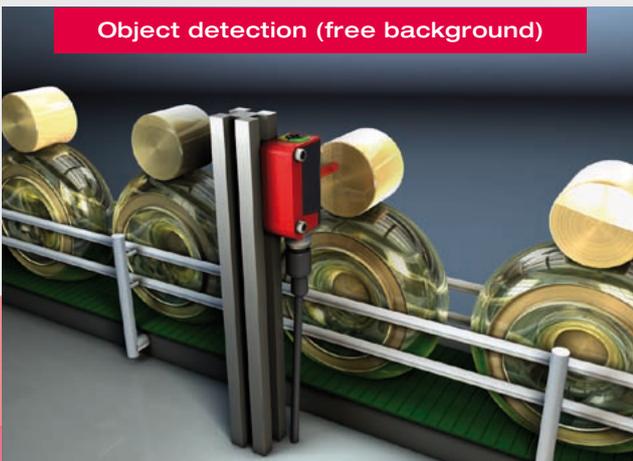
Diffuse reflection scanners with fading



For detection of objects
on a transport system.

	RTFR 3B/66	RTFR 3B/6.7
Scanning range limit		0 – 450 mm
Switching frequency		1,000 Hz
Functions	Standard	Economy

- Fading – no object detection in background
- Potentiometer for scanning range adjustment
- High switching frequency for detection of fast events



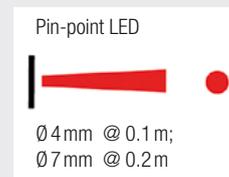
Diffuse reflection light scanner with background suppression



For use in **standard applications.**

	HRTR 3B/66	HRTR 3B/6.7
Scanning range limit		5–400 mm
Switching frequency		1,000 Hz
Functions	Standard	Economy

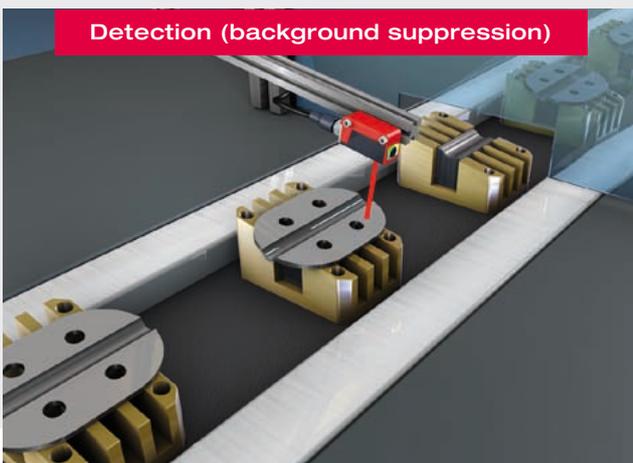
- Very good bw/wb behavior and reliable switching nearly independent of the object and background properties
- Exact scanning range adjustment through 8-turn potentiometer
- Also available with infrared light (HRT 3B)



For demanding **object detection.**

	HRTR 3B/66-S
Scanning range limit	5–200 mm
Switching frequency	1,000 Hz
Functions	Small light spot

- Small, homogeneous light spot by means of pin-point LED
- Very good background suppression
- Excellent black/white behaviour and reliable switching on glossy objects and objects with colored structure
- Exact scanning range adjustment through 8-turn potentiometer



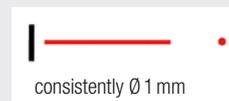
Diffuse reflection light scanner **with background suppression**



HRTR 3B/66-XL



HRTR 3B/66-L



For the **reliable detection** of **objects with openings** and holes.

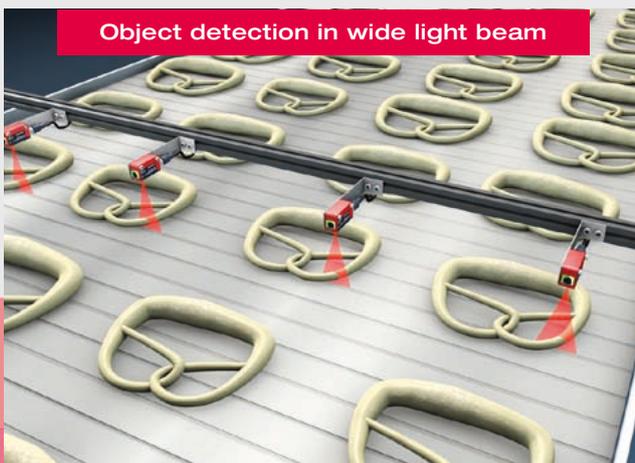
Short response time for fast processes and **highly precise detection** of **small parts**.

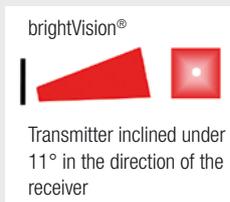
	HRTR 3B/66-XL	HRTR 3B/66-L
Scanning range limit	5–100 mm	
Switching frequency	1,000 Hz	150 Hz
Functions	extra large light spot	large light spot

	HRTL 3B/66-C1	HRTL 3B/66-C2
Scanning range limit	10–400 mm	5–500 mm
Switching frequency	2,000 Hz	
Functions	Laser class 1	Laser class 2

- Especially designed for the detection of objects with openings, holes and grooves, e.g. circuit boards
- Also for transparent foil and bottles
- HRTR 3B-L: Especially designed for the use of fluorescent lights with HF-ballast

- Especially designed for the detection of fast events and small parts
- For applications with high demands on positioning and reproducibility
- Standard design in laser class 1
- Extendable scanning area with very good bw/wb behavior in laser class 2



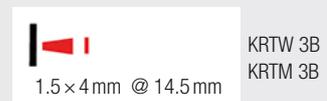


For the detection of **glossy objects** with background suppression.

	HRTR 3B/66-V
Scanning range limit	15–200 mm
Switching frequency	1,000 Hz
Functions	V scanner

- With V-optics:
Especially designed for the detection of flat, reflective or highly glossy surfaces
- Also for transparent objects

IO-Link

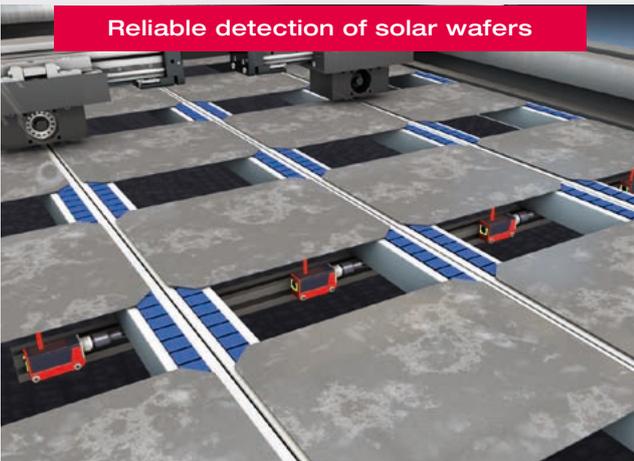


Reliably detect contrasts in small housing.

	KRTW 3B	KRTM 3B	KRTL 3B
Scanning range	14.5 mm ±2 mm	14.5 mm ±2 mm	60 mm ±20 mm
Switching frequency	6,000 Hz, 10,000 Hz	10,000 Hz	4,000 Hz
Functions	White light	Multicolor	Laser

- KRTW 3B: contrast scanner with white light and YellowBoost, especially designed for detecting more than one contrast
- KRTM 3B: contrast scanner with RGB (red, green, blue) light, especially designed for detecting one contrast
- KRTL 3B: contrast scanner with laser-generated red light, especially designed for large scanning distances (40–80 mm)
- All devices optionally with IO-Link interface

Reliable detection of solar wafers



Reliable detection of glossy marks



Optoelectronic Sensors

Cubic Series
Cylindrical Sensors, Mini Sensors, Fibre Optic Amplifiers
Measuring Sensors
Special Sensors
Light Curtains
Forked Sensors
Double Sheet Monitoring, Splice Detection
Inductive Switches
Accessories

Identification Systems

Data Transmission Systems

Distance Measurement

Bar Code Readers
RF-IDent-Systems
Modular Interfacing Units
Industrial Image Processing Systems
Optical Data Transmission Systems
Optical Distance Measurement/Positioning
Mobile Code Readers

Safety Sensors

Safety Systems

Safety Services

Safety Laser Scanners
Safety Light Curtains
Transceivers and Multiple Light Beam Safety Devices
Single Light Beam Safety Devices
AS-i-Safety Product Range
Safety Sensor Technology for PROFIBUS DP
Safety Switches, Safety Locking Devices, Safety Command Devices
Safety Relays
Sensor Accessories and Signal Devices
Safety Engineering Software
Machine Safety Services

Leuze electronic GmbH + Co. KG

In der Braike 1

D-73277 Owen / Germany

Phone +49(0)7021/573-0

Fax +49(0)7021/573-199

info@leuze.de

www.leuze.com