

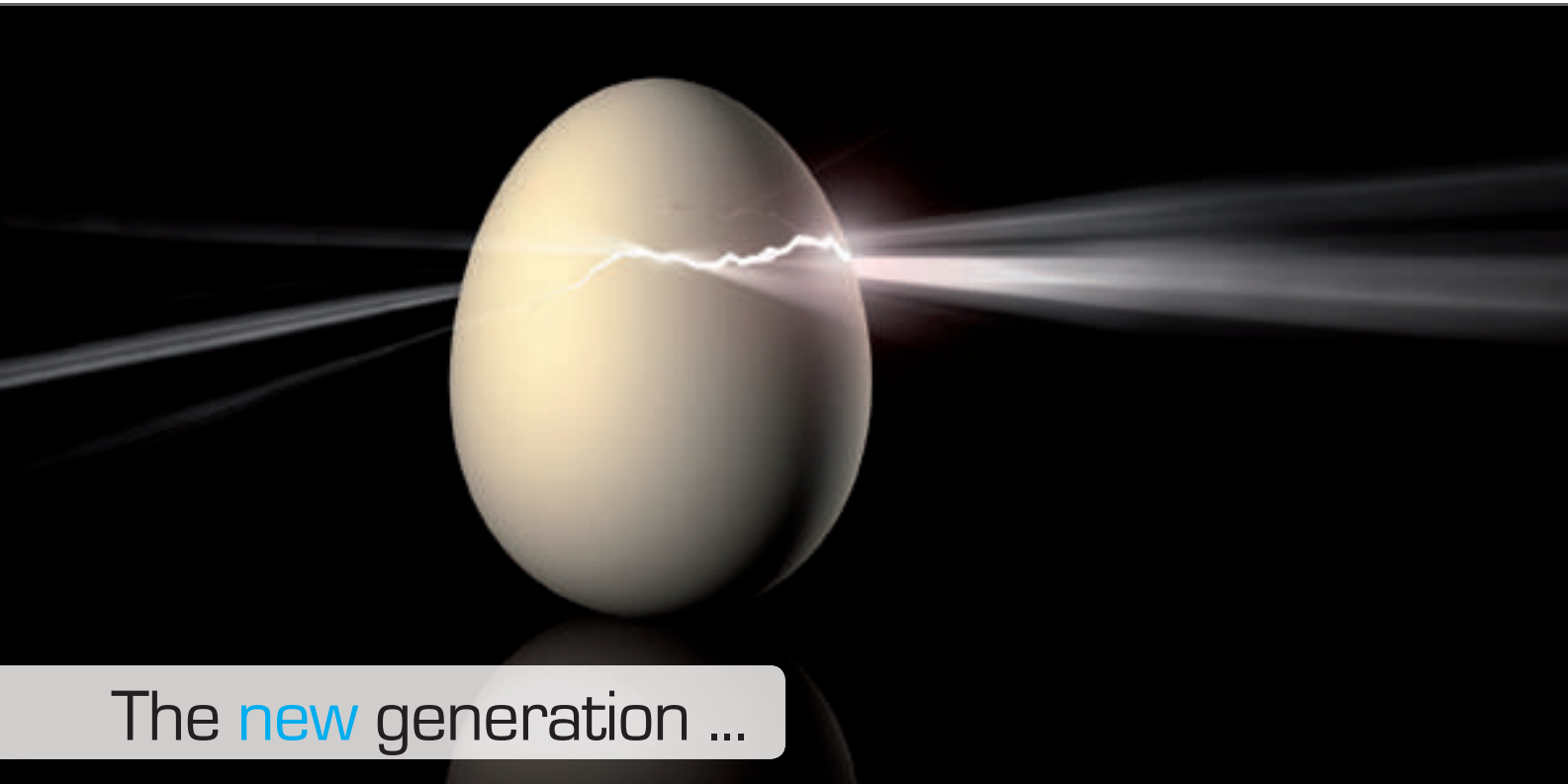
SENSORS IN ACTION



Compact Catalog



Innovative products
for your automation



The new generation ...

... for a mobile
future

di-soric presents a new generation of high-quality movement sensors for indoor and outdoor use. This innovative range of products opens up completely new possibilities in non-contact detection and measuring of motion.

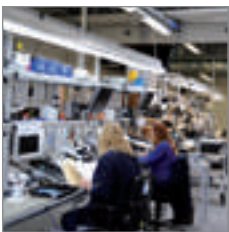
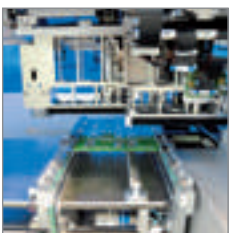
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High-performance and
competent



The **di-soric/di-el** corporate group has successfully been involved in the application, support, development and production of standard and special sensors for industrial automation for more than 25 years. Today, we are one of the largest manufacturers of sensors.

Our family-run companies currently employ more than 140 members of staff at two sites. The company headquarters are located in Urbach, east of Stuttgart (picture below), while our development and production site is in Lüdenscheld, south of Dortmund (pictured on the right).

Thousands of customers rely on di-soric products in Germany alone, and several thousand more world wide.

Our customer base includes small and medium-sized companies as well as international corporate groups and numerous car manufacturers.

Our products have unique selling points which are of great use to our customers, particularly the well-known and popular fork light barriers, which were invented by us more than 20 years ago and are continuously being further developed.

We continue to offer the most extensive and most powerful range of products.

Other highlights are featured in this product overview. "di-soric lights" forms a new product line. Creating customised designs is another particular strength in our production department.

In Germany, customers are advised and supported by more than 35 technicians and engineers, while foreign customers are served by more than 40 qualified authorised dealers. This competent team always guarantees customer proximity – even providing an aftersales service. Friendly and helpful staff in-house, competent technical advice on the phone or at your premises, a highly efficient warehouse and a quick delivery service are just a few of the many reasons why our customers value us.

We don't just see ourselves as a supplier to our customers, but also as a partner.

Use this partnership to your advantage.

The Eisemann family



International Sales Network



- Europe
- Asia
- Australia
- North America
- South America
- Africa

Find the appropriate product –
easily online

By means of the **di-soric** product finder you easily can select our products any time.

A clear structure in connection with intelligent search function allows for a simple identification of the matching product. By means of that product finder and the technical features the matching product can be selected. The product direct selection allows the systematic search for a specific catalogue description or parts hereof.

Log on and check out our website today!
www.di-soric.com



Sales, warehouse and administration in Urbach



Development and production in Lüdenscheld



Catalogue survey product direct selection and product search



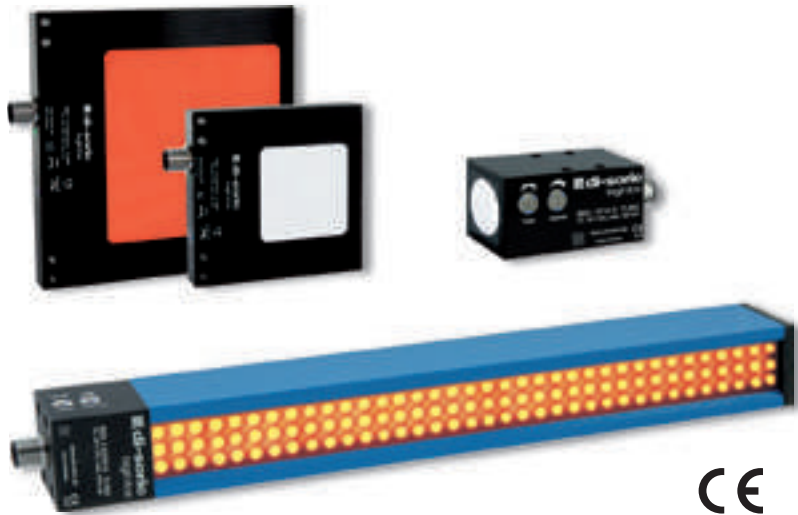
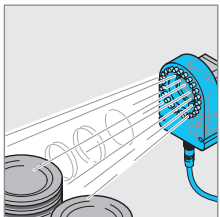
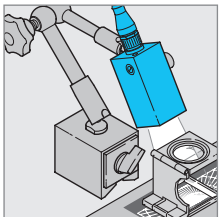
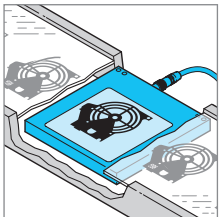
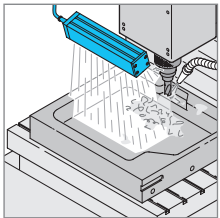
Detailed product page contains all important information

Optimum lighting
for all uses

di-soric provides an extensive range of lighting for industrial applications. The internal power output control ensures a constant level of light intensity over the entire voltage range. These light elements are perfectly suited as support for image processing systems or inspection work as well as illumination of workstations or machines. di-soric lights are very robust and have a high protection class.

Lighting

- Internal control of power output
- Homogeneous luminous field
- High protection class IP 67
- External trigger input
- High efficiency
- Low levels of heat produced
- Adjustable light intensity
- Various options of mounting
- Light colours: white, red, infrared, blue, green
- Sturdy casing design



Technical data (typ.)	+20 °C, 24 VDC
Trigger frequency	1.500 Hz
Trigger input low level	0 ... < 2,8 V
Trigger input high level	> 3,3 ... 35 V
Shock/vibration loading	30 g _n /10 – 55 Hz, 1 mm
Ambient temperature	0 ... +50 °C
Casing material	Aluminium / Polyamide (only BEK 1-P10 .../BEK 1-R ...)

	Illuminated area/length (mm)	Angle of reflected beam (°)	Size (mm)	Light colour	Service voltage (V DC)	Trigger pnp/npn switchable	Protection class	Internal power consumption at 10 VDC (mA)	Internal power consumption at 15 VDC (mA)	Internal power consumption at 24 VDC (mA)	Power at 10 ... 35 VDC (W)	Power at 15 ... 35 VDC (W)	Purchase order table *
Back lights													
	50 x 50	–	90 x 93,5 x 15	Infrared, 850 nm Red light, 625 nm White light, 5600 K	10 ... 35	■	IP 67	– 310 300	– – –	130 130 –	3,4 3,3 –	– – –	BEK 1-F50/50-G0TI-IBS BEK 1-F50/50-G1TI-IBS BEK 1-F50/50-G5TI-IBS
	100 x 100	–	140 x 143,5 x 15	Infrared, 850 nm Red light, 625 nm White light, 5600 K	10 ... 35	■	IP 67	460 570 600	– – –	200 240 240	5,0 6,0 6,0	– – –	BEK 1-F100/100-G0TI-IBS BEK 1-F100/100-G1TI-IBS BEK 1-F100/100-G5TI-IBS
	300	–	40 x 40 x 345	Infrared, 850 nm Red light, 624 nm Green light, 527 nm Blue light, 470 nm White light, 9000 K	15 ... 35	■	IP 65	– – – – –	– 380 570 570 570	250 360 360 360 –	– – – – –	6,0 9,0 9,0 9,0 9,0	BEK 1-A300-G0TI-IBS BEK 1-A300-G1TI-IBS BEK 1-A300-G2TI-IBS BEK 1-A300-G3TI-IBS BEK 1-A300-G5TI-IBS
	400	–	40 x 40 x 445	Infrared, 850 nm Red light, 624 nm Green light, 527 nm Blue light, 470 nm White light, 9000 K	15 ... 35	■	IP 65	– – – – –	– 530 820 820 820	340 500 500 500 500	– – – – –	8,5 12,5 12,5 12,5 12,5	BEK 1-A400-G0TI-IBS BEK 1-A400-G1TI-IBS BEK 1-A400-G2TI-IBS BEK 1-A400-G3TI-IBS BEK 1-A400-G5TI-IBS
	500	14 °	40 x 40 x 545	Infrared, 850 nm Infrared, 850 nm Red light, 624 nm Green light, 527 nm Blue light, 470 nm White light, 9000 K	15 ... 35	■	IP 65	– – – – – –	650 – 650 1070 1070 1070	380 – 400 620 620 620	– – – – – –	10,0 – 10,0 16,0 16,0 16,0	BEK 1-A500/14-G0TI-IBS BEK 1-A500-G0TI-IBS BEK 1-A500-G1TI-IBS BEK 1-A500-G2TI-IBS BEK 1-A500-G3TI-IBS BEK 1-A500-G5TI-IBS
Spot lights													
	–	10 °	35 x 60 x 20	White light, 5600 K	10 ... 35	■	IP 67	120	–	70	1,7	–	BEK 1-P10-G5TI-IBS
	–	14 °	30 x 32 x 60	Infrared, 850 nm Red light, 625 nm Green light, 528 nm Blue light, 470 nm White light, 5600 K	10 ... 35	■	IP 67	190 260 320 320 320	– – – – –	90 120 140 140 140	2,3 3,0 3,5 3,5 3,5	– – – – –	BEK 1-P14-G0TI-IBS BEK 1-P14-G1TI-IBS BEK 1-P14-G2TI-IBS BEK 1-P14-G3TI-IBS BEK 1-P14-G5TI-IBS
	–	30 °	30 x 32 x 60	Infrared, 850 nm Red light, 625 nm Green light, 528 nm Blue light, 470 nm White light, 5600 K	10 ... 35	■	IP 67	190 260 320 320 320	– – – – –	90 120 140 140 140	2,3 3,0 3,5 3,5 3,5	– – – – –	BEK 1-P30-G0TI-IBS BEK 1-P30-G1TI-IBS BEK 1-P30-G2TI-IBS BEK 1-P30-G3TI-IBS BEK 1-P30-G5TI-IBS
Ring lights													
	Ø 50	–	80 x 110,5 x 20	Infrared, 850 nm Red light, 624 nm Green light, 527 nm Blue light, 470 nm White light, 9000 K	10 ... 35	■	IP 67	370 210 290 290 290	– – – – –	170 90 130 130 130	3,7 2,1 3,0 3,0 3,0	– – – – –	BEK 1-R50-G0TI-IBS BEK 1-R50-G1TI-IBS BEK 1-R50-G2TI-IBS BEK 1-R50-G3TI-IBS BEK 1-R50-G5TI-IBS

* Excerpt from our delivery programme

Total systematic view

di-soric photoelectric sensors are the optimum solution for all tasks in automation technology. The most diverse designs and operating principles allow for a perfect, wide range of applications.

Through beam sensors

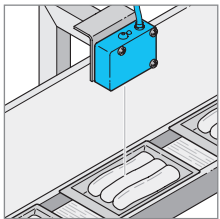
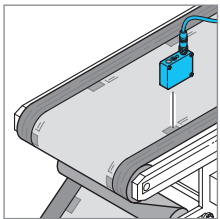
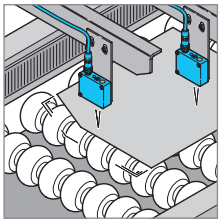
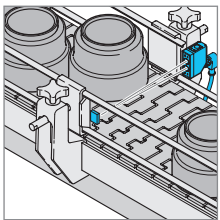
- High resolution
- Ranges up to 50 m
- Alignment aid
- Stainless steel casing with protection class IP 69K

Retroreflective sensors

- High resolution
- Ranges up to 10 m
- Potentiometer or teach function
- Stainless steel casing with protection class IP 69K

Diffuse sensors

- Contrast sensor with white light LED
- High resolution
- Sensing distance up to 2 m
- Background suppression
- Potentiometer or teach function
- Functional reserve/contamination indicator
- Stainless steel casing with protection class IP 69K



Technical data (typ.)														+20 °C, 24 VDC			
Service voltage														10 ... 30 VDC			
some versions with extended service voltage range 10 ... 35 VDC																	
Operating distance, Setting range (mm)		Size (mm)	Sensitivity adjustment by means of		Transmitter (S)/Receiver (E)		Red light, clocked	Infrared light, clocked	White light	Output	Ambient temperature (°C)	Protection class	Casing material	Connector	Connecting cable		
Diffuse sensors, energetic															Purchase order table *		
	... 10	Ø 4,0	—			■				pnp, 100 mA, NO	0 ... +55	IP 67	Stainless stell V2A		—	OTV 40 V 10 P1K	
	... 20	M8	—			■				pnp, 100 mA, NO	0 ... +55	IP 67	Stainless stell V2A	M8	TK ...	OTV 05 V 20 P1K-TSSL	
	... 50	40x5x7	—			■				pnp, 100 mA, NO	0 ... +55	IP 67	Stainless stell V2A	—	TK ...	OTV Q5 M 50 P1LK	
	... 400	M18	Poti			■				pnp, 100 mA, NO/NC	−25 ... +50	IP 66	ABS Metal	M12	VK ... /4	OT 6-18 K 400 P3K-BSL OT 6-18 M 400 P3K-BSL	
	100 ... 500	50x40x15	Poti			■				pnp, 200 mA, NO/NC	−10 ... +60	IP 67	Die-cast zinc	M12	VK ...	OTV 51 M 500 P3K-IBS OTVTI 51 M 500 P3K-IBS	
	100 ... 500	60x40x18	Teach			■				pnp, 200 mA, NO/NC	−10 ... +60	IP 69K	Stainless stell V4A	M12	PRKT ...	OTVTI 51 V 500 P3LK-0.3 BS/IP69K	
	100 ... 1.000	41x31,5x16	Teach			■				Push pull, 200 mA, NO/NC	−20 ... +60	IP 67	Die-cast zinc	M8	TK ...	OTT 41 M 1 G3-T3	
Diffuse sensors with background suppression																	
	10 ... 120	M18	Poti			■				pnp, 200 mA, NO	−25 ... +55	IP 65	Brassnickel-plated	M12	VK ...	OHT 18 M 120 P1K-IBSL	
	15 ... 150	30x30x15	Poti			■				pnp, 200 mA, NO	−25 ... +55	IP 65	Plastic	M8	TK ...	OHT 30 K 150 P1K-TSSL	
	200 ... 2.000	68x40x20	Poti			■				pnp, 100 mA, NO/NC	−20 ... +55	IP 67	Plastic	M12	VK ...	OHT 68 K 2000 P3K-BSL	
Optical contrast diffuse sensor																	
	30 ± 3	50x40x15	Teach					■		Push pull, 200 mA, NO/NC	−10 ... +60	IP 67	Die-cast zinc	M12	VK ... /4	OKTTI 55 M 30 FG3LK-IBS	
Retroreflective sensors																	
	... 2.000	M18	Poti					■		pnp, 100 mA, NO/NC	−25 ... +50	IP 66	ABS Metal	M12	VK ... /4	OR 6-18 K 2000 P3K-BSL OR 6-18 M 2000 P3K-BSL	
	40 ... 2.000	50x40x15	Poti Teach			■				pnp, 200 mA, NO/NC	−10 ... +60	IP 67	Die-cast zinc	M12	VK ...	ORV 51 M 2000 P3K-IBS ORVTI 51 M 2000 P3K-IBS	
	40 ... 2.000	60x40x18	Teach			■				pnp, 200 mA, NO/NC	−10 ... +60	IP 69K	Stainless stell V4A		PRKT ...	ORVTI 51 V 2000 P3LK-0.3BS/IP69K	
	... 3.000	M18	Poti			■				pnp, 100 mA, NO/NC	−25 ... +50	IP 66	ABS Metal	M12	VK ... /4	OR 6-18-1 K 3000 P3K-BSL OR 6-18-1 M 3000 P3K-BSL	
	200 ... 10.000	41x31,5x16	Teach			■				Push pull, 200 mA, NO/NC	−20 ... +60	IP 67	Die-cast zinc	M8	TK ...	ORT 41 M 10 G3-T3	
Through beam sensors																	
	... 8.000	M18	Poti	S/E				■		pnp, 100 mA, NO/NC	−25 ... +50	IP 66	ABS Metal	M12	VK ... /4	OES 6-18 K 8000 P3K-BSL OES 6-18 M 8000 P3K-BSL	
	0 ... 10.000	50x40x15	Poti	S E				■		— pnp, 200 mA, NO/NC	−25 ... +60	IP 67	Die-cast zinc	M12	VK ...	OSV 51 M 10000-IBS OEVP 51 M 10000 P3K-IBS	
	0 ... 50.000	50x40x15	Poti	S E				■		— Push pull, 200 mA, NO/NC	−40 ... +50	IP 67	Die-cast zinc	M12	VK ... /4	OSP 50 M 50000-IBS/H OEVP 50 M 50000 G3K-IBS/H	
	0 ... 20.000	60x40x18	Poti	S E				■		— Push pull, 200 mA, NO	−10 ... +60	IP 69K	Stainless steel V4A	M12	PRKT ...	OSP 50 V 20000-0.3BS/IP69K OEVP 50 V 20000 G2LK-0.3BS/IP69K	

* Excerpt from our delivery programme

High-precision lighting

Laser photoelectric sensors can safely, quickly and reliably detect even the smallest parts.

Laser photoelectric sensors

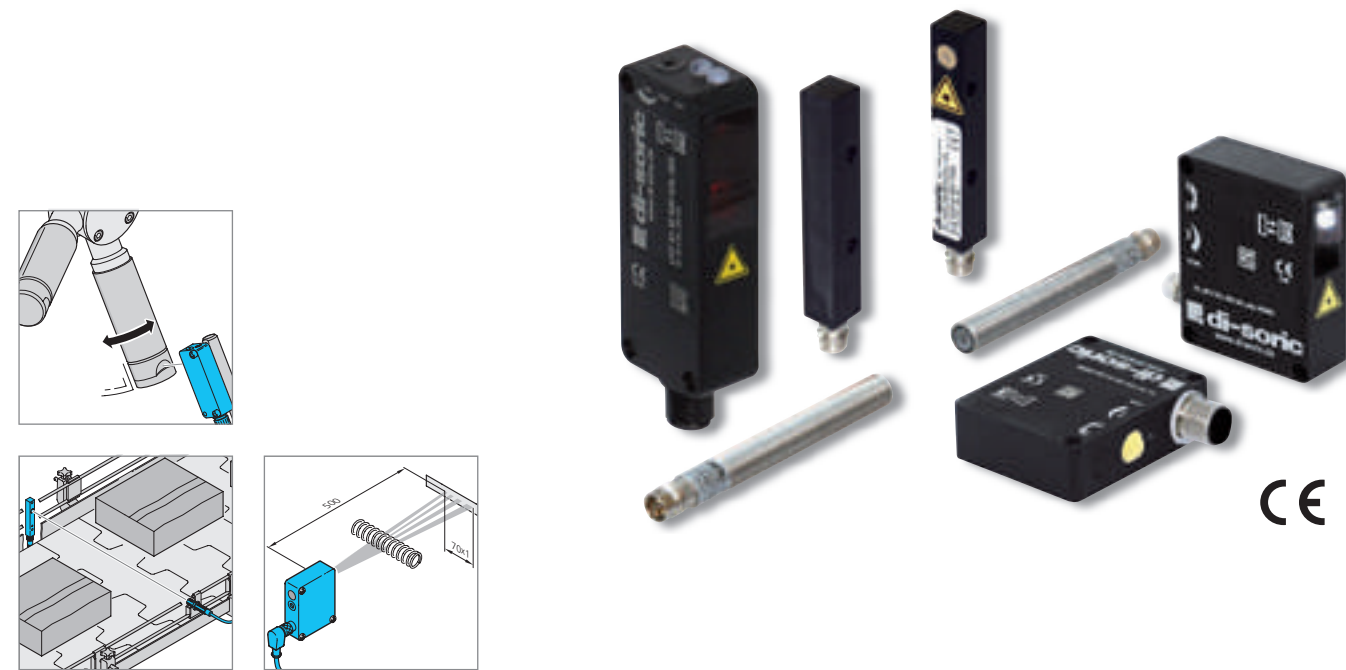
- Resolution 0,2 mm
- High switching frequency
- Collimated red light laser, clocked
- Range up to 50 m
- Robust metal casing
- Compact design

Laser line retroreflective sensors

- Fan-shaped laser beam with auto collimation principle
- Detects small parts in the entire active zone
- Red light laser, clocked
- 4-way potentiometer or teach function
- Robust metal casing

Laser sensors with background suppression

- Optical or electronic background suppression
- Vibration-safe 6-way setting for very fine adjustment
- Red light laser, clocked, with small laser point
- Push pull power stage pnp + npn
- High resolution, switching accuracy and frequency
- Functional reserve indicator/contamination output
- Automatic readjustment of the teach function transmit power
- Teach function



Technical data (typ.)	+20 °C, 24 VDC
Emitted light	Red light laser, clocked
Service voltage	10 ... 35 VDC
Protection class	IP 67
Casing material	Die-cast zinc / Stainless steel (only OLE/OLS 08/12/Q15...)

	Operating distance, Setting range (mm)	Size (mm)	Sensitivity adjustment by means of	Transmitter (S)/Receiver (E)	Output	Operating frequency (Hz)	Internal power consumption (mA)	Ambient temperature (°C)	Ambient light immunity (Lux)	Casing material	Connector	Connecting cable	
Laser sensors													
Purchase order table *													
	75 ... 200	50x40x15	Poti		pnp, 200 mA, NO/NC	2.000	30	-10 ... +50	8.000	Die-cast zinc	M8 M12	TK ... VK ...	LTV 51 M 200 P3K-TSSL LTV 51 M 200 P3K-IBS
	75 ... 200	50x40x15	Teach		pnp, 200 mA, NO/NC	2.000	30	-10 ... +50	8.000	Die-cast zinc	M8 M12	TK ... VK ...	LTVTI 51 M 200 P3K-TSSL LTVTI 51 M 200 P3K-IBS
	100 ... 600	50x40x15	Poti		pnp, 200 mA, NO/NC	500	30	-10 ... +50	5.000	Die-cast zinc	M8 M12	TK ... VK ...	LTV 51 M 600 P3K-TSSL LTV 51 M 600 P3K-IBS
	100 ... 600	50x40x15	Teach		pnp, 200 mA, NO/NC	500	30	-10 ... +50	5.000	Die-cast zinc	M8 M12	TK ... VK ...	LTVTI 51 M 600 P3K-TSSL LTVTI 51 M 600 P3K-IBS
Laser sensors with background suppression													
	50 ... 200	50x40x15	Poti Teach		pnp, 200 mA	500	45	-10 ... +50	8.000	Die-cast zinc	M12	VK ... VK ... /4	LHT 51 M 200 P3K-IBS ¹⁾ LHTTI 51 M 200 FP3K-IBS ¹⁾
	40 ... 400	76x30x18	Poti		Push pull, 200 mA, NO/NC	1.000	30	-10 ... +60	5.000	Die-cast zinc	M12	VK ... /4	LHT 81 M 400 G4L-IBS ²⁾
Retroreflective laser sensors													
	1.000	50x40x15	Poti		pnp, 200 mA, NO/NC	2.000	40	0 ... +50	5.000	Die-cast zinc	M8 M12	TK ... VK ...	LRV 51 M 1000 P3K-TSSL LRV 51 M 1000 P3K-IBS
	1.000	50x40x15	Teach		pnp, 200 mA, NO/NC	2.000	40	0 ... +50	5.000	Die-cast zinc	M8 M12	TK ... VK ...	LRVTI 51 M 1000 P3K-TSSL LRVTI 51 M 1000 P3K-IBS
	2.000	41x31,5x16	Teach		Push pull, 200 mA, NO/NC	1.000	40	0 ... +50	50.000	Die-cast zinc	M8	TK ...	LRT 41 M 2 G3-T3
	2.000	50x40x15	Poti		pnp, 200 mA, NO/NC	2.000	40	0 ... +50	5.000	Die-cast zinc	M8 M12	TK ... VK ...	LRV 51 M 2000 P3K-TSSL LRV 51 M 2000 P3K-IBS
	2.000	50x40x15	Teach		pnp, 200 mA, NO/NC	2.000	40	0 ... +50	5.000	Die-cast zinc	M8 M12	TK ... VK ...	LRVTI 51 M 2000 P3K-TSSL LRVTI 51 M 2000 P3K-IBS
	10.000	50x40x15	Poti		pnp, 200 mA, NO/NC	2.000	40	0 ... +50	5.000	Die-cast zinc	M8 M12	TK ... VK ...	LRV 51 M 10000 P3K-TSSL LRV 51 M 10000 P3K-IBS
	10.000	50x40x15	Teach		pnp, 200 mA, NO/NC	2.000	40	0 ... +50	5.000	Die-cast zinc	M8 M12	TK ... VK ...	LRVTI 51 M 10000 P3K-TSSL LRVTI 51 M 10000 P3K-IBS
	Laser through beam sensors												
	0 ... 2.000	M8x70	-	S E	- pnp, 200 mA, NO	2.000	30	0 ... +50	- 5.000	Stainless steel	M8	TK ...	OLS 08 V 2000-TSSL OLE 08 V 2000 P2K-TSSL
	0 ... 2.000	M12x70	Poti	S E	- pnp, 200 mA, NO	2.000	30	0 ... +50	- 5.000	Stainless steel	M12	VK ...	OLS 12 V 2000-IBSL OLE 12 V 2000 P2K-IBSL
	500...2.000	10x10x60	Poti	S E	- pnp, 200 mA, NO	2.000	30	0 ... +50	- 5.000	Die-cast zinc	M8	TK ...	OLS Q 10 M 2000-TSSL OLE Q 10 M 2000 P2K-TSSL
	2.000...50.000	15x15x69	Poti	S E	- pnp, 200 mA, NO/NC	1.200	24 15	5 ... +45	- -	Stainless steel	M8	TK ...	OLS Q 15 V 50000-TSSL OLE Q 15 V 50000 P3K-TSSL
Laser line retroreflective sensors													
	50 ... 500	50x40x15	Poti		pnp, 200 mA, NO/NC	750	30	5 ... +50	15.000	Die-cast zinc	M8 M12	TK ... VK ...	LLRV 51 M 500 P3K-TSSL LLRV 51 M 500 P3K-IBS
	50 ... 500	50x40x15	Teach		pnp, 200 mA, NO/NC	750	30	5 ... +50	15.000	Die-cast zinc	M8 M12	TK ... VK ...	LLRVTI 51 M 500 P3K-TSSL LLRVTI 51 M 500 P3K-IBS

* Excerpt from our delivery programme

¹⁾electronic background suppression / ²⁾optical background suppression

Powerful light in spite of extraordinary conditions

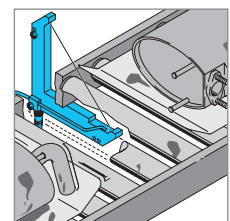
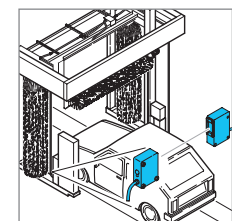
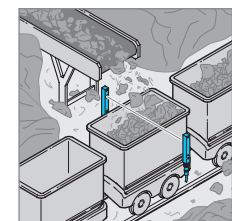
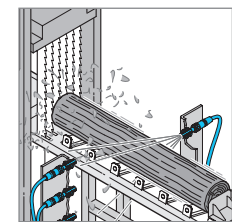
High performance photoelectric sensors are the more powerful versions of the various photoelectric sensors series. Thanks to their extremely high performance, chips, dust, oil and waste water can all be reliably penetrated.

High performance photoelectric sensors

- High switching accuracy
- Extremely resistant to dirt
- Ranges up to 50 m
- Protection classes IP 67, IP 68 and IP 69K
- Versions with switchable heating function
- Stainless steel casing

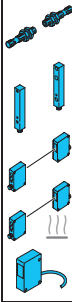
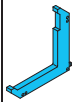
High performance angled light barriers with contamination indicator/output

- Intelligent contamination output with LED
- Intelligent contamination indicator
- High functional reserve
- Listed in the automobile industry
- Advanced PE-contact
- Optical axis approachable in x-, y- and z-direction
- All-purpose mounting
- Robust metal casing



* OGLP and OGUP, only

Technical data (typ.)		+20 °C, 24 VDC
Emitted light	Infrared light, clocked	
	Red light, clocked, collimated (only OGL 50/31 .../OGL 55/54 ...)	
Ambient temperature	-10 ... +60 °C	
	-20 ... +60 °C (only Oxp 12 ...)	
	-40 ... +50 °C (only .../H)	
Protection class	IP 67	
	IP 67, IP 69, IP 69K (only Oxp 12 ...)	
	IP 69K (only .../IP 69K)	

Operating distance Setting range (mm), Fork opening (mm), Journal length (mm)													
Size (mm)													
Transmitter (S)/Receiver (E)													
Service voltage (V DC)													
Output													
Operating frequency (Hz)													
Internal power consumption (mA)													
Ambient light immunity (Lux)													
Casing material													
Connector													
Connecting cable													
High performance through beam sensors												Purchase order table *	
	50.000	M12x75	S E	10 ... 35	— Push pull, 200 mA, NO	— 20	55 40	— > 15.000	Stainless steel V2A	M12	VK ...	OSP 12 VHF-IBSL OEP 12 V 50000 G2-IBSL	
	50.000	12x12x91	S E	10 ... 35	— Push pull, 200 mA, NO	— 20	55 40	— > 15.000	Stainless steel V2A	M8	TK ...	OSPQ 12 MHF-TSSL OEPQ 12 M 50000 G2-TSSL	
	0 ... 50.000	50x40x15	S E	10 ... 35	— Push pull, 200 mA, NO/NC	— 20	55 40	— > 15.000	Die-cast zinc	M12	VK ...	OSP 50 M 50000-IBS OEVP 50 M 50000 G3LK-IBS	
	0 ... 50.000	50x40x15	S E	10 ... 35	— Push pull, 200 mA, NO/NC	— 20	55 40	— > 15.000	Die-cast zinc	M12	VK .../4	OSP 50 M 50000-IBS/H ¹⁾ OEVP 50 M 50000 G3K-IBS/H ¹⁾	
	0 ... 20.000	60x40x18	S E	10 ... 35	— Push pull, 200 mA, NO	— 20	55 40	— > 15.000	Stainless steel V4A	M12	PRKT ...	OSP 50 V 20000-0.3BS/IP69K OEVP 50 V 20000 G2LK-0.3BS/IP69K	
High performance fork light barriers													
	30	50x60x10		10 ... 30	pnp, 200 mA, NO/NC	300	30	> 20.000	Die-cast zinc	M8	TK ...	OGUP 030 P3K-TSSL	
	50	70x80x10										OGUP 050 P3K-TSSL	
	80	100x80x10										OGUP 080 P3K-TSSL	
High performance angled light barriers													
	50	75x75x10		10 ... 35	pnp, 200 mA, NO/NC	1.000	30	> 20.000	Die-cast zinc	M8	TK ...	OGLP 050 P3K-TSSL	
	80	105x105x10				300	30	> 20.000				OGLP 080 P3K-TSSL	
	120	150x150x12				2.000	40	> 50.000				OGLP 120 P3K-TSSL	
	150	180x180x12				2.000	40	> 50.000	Aluminium			OGLP 150 P3K-TSSL	
High performance angled light barrier with contamination indicator													
	55/55	65x105x14		10 ... 35	pnp, 200 mA, NO	150	40	> 20.000	Aluminium	M12	VK ...	OGL 55/55 P2L-IBS	
High performance angled light barriers with contamination indicator/-output													
	50/31	60x83x10		10 ... 30	pnp, 200 mA, NO	200	45	> 20.000	Die-cast zinc	M12	VK .../4 VK .../5	OGL 50/31 P6L-IBS OGL 50/31 P6L-IBS/PE ²⁾	
	55/54	65x106x10		10 ... 30	pnp, 200 mA, NO	200	45	> 20.000	Die-cast zinc	M12	VK .../4 VK .../5	OGL 55/54 P6L-IBS OGL 55/54 P6L-IBS/PE ²⁾	

* Excerpt from our delivery programme

¹⁾with heating function / ²⁾advanced PE-contact

Further information and types will be found under www.di-soric.com

"Right" angle detection

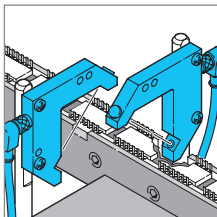
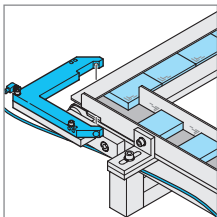
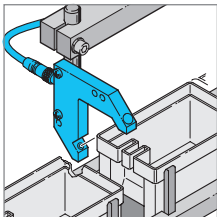
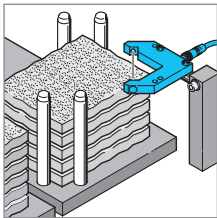
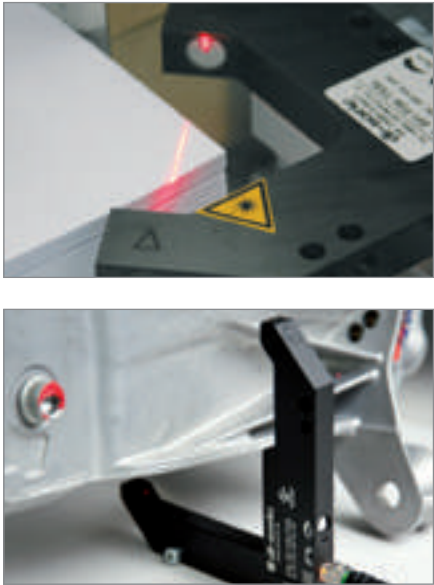
The angled light barrier is of particular use when removing workpieces or detecting parts. With high operating frequency, short response time and high resolution; exact positioning as well as the safe detection of extremely fast motion sequences of the smallest parts is possible.

Angled light barriers

- Red and infrared types
- High operating frequency
- Sensitivity adjustable
- Light/dark switching
- Robust metal casing
- 3-years function guarantee*

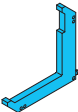
Angled laser light barriers

- Very high resolution
- Visible laser spot
- Mountable side by side
- High operating frequency
- Sensitivity adjustable
- Light/dark switching
- Robust metal casing



*according to our General Conditions of Export

Technical data (typ.)	+20 °C, 24 VDC
Service voltage	10 ... 35 VDC
Voltage drop	< 2,8 V
Switching hysteresis	< 0,25 mm
Ambient temperature	-10 ... +60 °C
Insulation voltage endurance	500 V
Protection class	IP 67
Casing material	Die-cast zinc, lacquered finish

														Journal length (mm)	Size (mm)	Red light 660 nm	Infrared light 880 nm	Red light laser 670 nm	Output	Internal power consumption (mA)	Resolution (mm)	Operating frequency (Hz)	Ambient light immunity (Lux)	Reproducibility (mm)	Connecting cable		
														Angled light barriers												Purchase order table*	
	50	75 x 75 x 10	■			pnp, 200 mA, NO/NC npn, 200 mA, NO/NC	< 30	ø 0,5	4.000	> 80.000	0,06	TK ...	OGL 051 P3K-TSSL OGL 051 N3K-TSSL														
	50	75 x 75 x 10		■		pnp, 200 mA, NO/NC npn, 200 mA, NO/NC	< 30	ø 0,5	4.000	> 25.000	0,06	TK ...	OGL 050 P3K-TSSL OGL 050 N3K-TSSL														
	80	105 x 105 x 10	■			pnp, 200 mA, NO/NC npn, 200 mA, NO/NC	< 30	ø 0,7	4.000	> 70.000	0,06	TK ...	OGL 081 P3K-TSSL OGL 081 N3K-TSSL														
	80	105 x 105 x 10		■		pnp, 200 mA, NO/NC npn, 200 mA, NO/NC	< 30	ø 0,7	4.000	> 20.000	0,06	TK ...	OGL 080 P3K-TSSL OGL 080 N3K-TSSL														
	120	150 x 150 x 12	■			pnp, 200 mA, NO/NC npn, 200 mA, NO/NC	< 40	ø 1,0	2.000	> 50.000	0,06	TK ...	OGL 121 P3K-TSSL OGL 121 N3K-TSSL														
	120	150 x 150 x 12		■		pnp, 200 mA, NO/NC npn, 200 mA, NO/NC	< 40	ø 1,0	2.000	> 50.000	0,06	TK ...	OGL 120 P3K-TSSL OGL 120 N3K-TSSL														
														Angled laser light barriers 													
	50	81 x 81 x 10			■	pnp, 200 mA, NO/NC npn, 200 mA, NO/NC	< 30	ø 0,05	3.000	> 100.000	0,01	TK ...	LGL 051 P3K-TSSL LGL 051 N3K-TSSL														
	80	106 x 106 x 10			■	pnp, 200 mA, NO/NC npn, 200 mA, NO/NC	< 30	ø 0,05	3.000	> 100.000	0,01	TK ...	LGL 081 P3K-TSSL LGL 081 N3K-TSSL														
	120	146 x 146 x 12			■	pnp, 200 mA, NO/NC npn, 200 mA, NO/NC	< 30	ø 0,05	3.000	> 100.000	0,01	TK ...	LGL 121 P3K-TSSL LGL 121 N3K-TSSL														
High performance angled light barriers see page 12 until 13																											

* Excerpt from our delivery programme

Optimally adjusted
thanks to individual geometry

With di-soric fork light barriers, you can reliably monitor, control and manage your material flow. The largest range of fork light barriers in conjunction with customised designs always offers the best solutions.

Fork light barriers

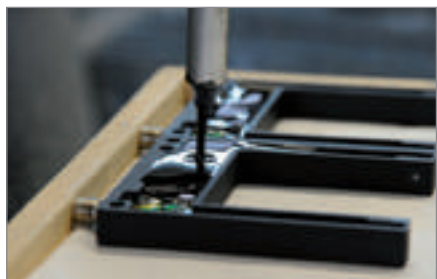
- Potentiometer or teach function
- Static or dynamic operating principle
- Analogue/switching output
- Fork widths from 2 to 250 mm
- High operating frequency
- Sensitivity adjustable
- Light/dark switching
- OGUFIX - does not require any adjustment elements
- Versions in V4A
- 3-years function guarantee*

Differential fork light barriers

- Differential evaluation
- High resolution
- Detects transparent objects and the thinnest threads
- Fork widths from 30 to 90 mm
- 3-years function guarantee*

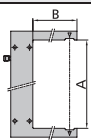
Laser fork light barriers

- Resolution 0,05 mm
- High switching frequency
- Reproducibility 0,01 mm
- Fork widths from 30 to 120 mm



*according to our General Conditions of Export

Technical data (typ.)	+20 °C, 24 VDC
Service voltage	10 ... 35 VDC / 12 ... 35 VDC (only ODG ...) / 10 ... 30 VDC (only LGU ...)
Output	pnp, 200 mA, NO/NC switchable / Push pull, 200 mA, NO/NC switchable (only ... G3K ...)
Sensitivity adjustment	Potentiometer / teach key (only OGUTI ...)
Laser power	100 µW only LGU ...
Laser class	2 - EN 60825-1 (only LGU ...)
Ambient temperature	-10 ... 60 °C / +5 ... 45 °C (only LGU ...)
Protection class	IP 67
Casing material	Die-cast zinc, lacquered
	Stainless steel V4A (1.4404/1.4571) (only OGU ... V4A)
	Aluminium, black anodized (only ODG ... / LGU ...)

	Fork opening (mm)	Size (mm)	Sensitivity adjustment by means of	Red light 660 nm, clocked	Infrared light 880 nm, unclocked	Red light laser 670 nm, clocked	Internal power consumption (mA)	Resolution, smallest detectable part (mm)	Voltage drop (V)	Operating frequency (Hz)	Switching hysteresis (mm)	Reproducibility (mm)	Ambient light immunity (Lux)	Connector	Connecting cable	
Fork light barriers in standard version															Purchase order table *	
	10	25 x 45 x 10	Poti		■		40	Ø 0,3	2,4	10.000	0,1	0,01	20.000	M8	TK ...	OGU 010 G3K-TSSL
	20	40 x 50 x 10		■			30	Ø 0,4	2,8	4.000	0,1	0,02	70.000			OGU 021 P3K-TSSL
	30	50 x 60 x 10		■			30	Ø 0,5	2,8	4.000	0,25	0,02	30.000			OGU 031 P3K-TSSL
	50	70 x 80 x 10		■			30	Ø 0,5	2,8	4.000	0,25	0,04	25.000			OGU 051 P3K-TSSL
	80	100 x 80 x 10		■			30	Ø 0,5	2,8	4.000	0,25	0,06	25.000			OGU 081 P3K-TSSL
	120	144 x 90 x 12		■			45	Ø 0,8	2,0	2.000	0,2	0,06	20.000			OGU 121 P3K-TSSL
Fork light barriers in stainless steel casing																
	30	50 x 60 x 10	Poti	■			30	Ø 0,5	2,8	4.000	0,25	0,02	30.000	M8	TK ...	OGU 031 P3K-TSSL/V4A
	50	70 x 80 x 10		■			30	Ø 0,5	2,8	4.000		0,04	15.000			OGU 051 P3K-TSSL/V4A
	80	100 x 80 x 10		■			30	Ø 0,5	2,8	4.000		0,06	25.000			OGU 081 P3K-TSSL/V4A
	120	144 x 90 x 12		■			45	Ø 0,8	2,0	2.000		0,06	20.000			OGU 121 P3K-TSSL/V4A
Fork light barriers with teach function																
	30	50 x 60 x 10	Teach	■			30	Ø 0,3	2,0	3.000	0,1	0,03	20.000	M8	TK ...	OGUTI 031 P3K-TSSL
	50	70 x 80 x 10		■			30	Ø 0,3		3.000	0,1	0,03	20.000			OGUTI 051 P3K-TSSL
	80	100 x 80 x 10		■			30	Ø 0,3		3.000	0,1	0,03	12.000			OGUTI 081 P3K-TSSL
	120	144 x 90 x 12		■			50	Ø 0,7		1.500	0,15	0,05	15.000			OGUTI 121 G3K-TSSL
Differential fork light barriers																
	30	50 x 70 x 10	Poti		■		35	Ø 0,07	2,5	5.000	0,2	0,01	–	M8	TK ...	ODG 30 P3K-TSSL ¹⁾
	50	70 x 90 x 10		■		Ø 0,1		ODG 50 P3K-TSSL ¹⁾								
	90	110 x 115 x 10		■		Ø 0,25		ODG 90 P3K-TSSL ¹⁾								
Laser fork light barriers 																
	30	60 x 60 x 10	Poti			■	30	Ø 0,05	2,8	3.000	0,02	0,01	100.000	M8	TK ...	LGU 031 P3K-TSSL
	50	80 x 80 x 10		■												LGU 051 P3K-TSSL
	80	110 x 80 x 10		■												LGU 081 P3K-TSSL
	120	150 x 90 x 12		■												LGU 121 P3K-TSSL
Individual fork light barriers																
			di-soric OGUFLEX ... fork light barriers are manufactured following various operating principles and customer requirements. Browse through our range of fork light barriers and select a device with a suitable operating principle for your application. The fork width A and the journal length B are added to the order code of the selected fork light barrier.												OGUFLEX ... ¹⁾	
High performance fork light barriers see page 12 until 13																

* Excerpt from our delivery programme

¹⁾ without UL-approval

Optimally
sorted feeding

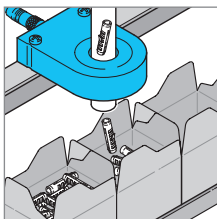
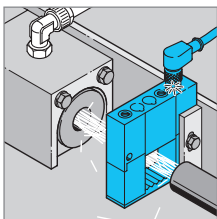
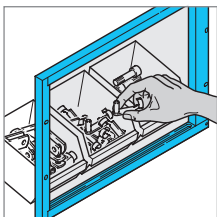
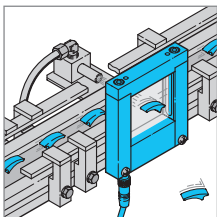
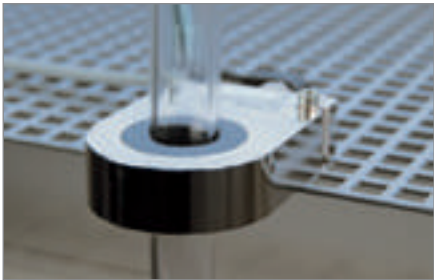
The optimum solution for detecting metallic and non-metallic parts, for counting small parts or for checking ejection or removal of workpieces in press and stamping plants.

Frame light barriers

- Detachable corrugated crossbar
- Patented baffle protection for protected optics
- Invariable resolution even in the border area
- Resolution 0,7 mm
- Very short response time
- Adjustable pulse stretching
- Switchable static/dynamic operating principle
- Integrated blow-off ports
- Robust metal casing

Ring light barriers

- Resolution 1 mm
- Short response time
- Adjustable pulse stretching
- Switchable static/dynamic operating principle
- Ring diameters of 10, 15 and 20 mm
- Version with external amplifier



Technical data (typ.)	+20 °C, 24 V DC
Emitted light	Infrared light 880 nm
Response/release time	0,1 ... 150 ms (only OGWSD ...) / 0,1 ms (only ORSD ...)
Pulse stretching	Adjustable ca. 1 ... 150 ms / 0,1 ... 150 ms (only OGWSD ...), 1 ... 150 ms (only ORSD ... / OVx ...) / 10 ... 300 ms (only OV ...), 1 ... 150 ms (only OVD ...)
Ambient temperature	0 ... 60 °C / 0 ... 50 °C (only OTZ ... / OVx ...)
Protection class	IP 67 / IP 63 (only OTZ ...) / IP 65 (only OVx ...)
Insulation voltage endurance	500 V
Casing material	Aluminium, anodized (only OGWSD ... / OTZ ... / OVx ...) Plastic (only ORSD ...)

													Purchase order table *	
Frame light barriers														
	25x23	60x60x15	S/D	pnp, 200 mA, NO/NC npn, 200 mA, NO/NC	25	Ø 0,7	Ø 1,0	30.000	10 ... 35		M8	TK ...	OGWSD 25 P3K-TSSL OGWSD 25 N3K-TSSL	
	40x49	85x80x15	S/D	pnp, 200 mA, NO/NC npn, 200 mA, NO/NC	30	Ø 0,7	Ø 1,0	20.000	18 ... 35	■	M8	TK ...	OGWSD V 4055 P3K-TSSL OGWSD V 4055 N3K-TSSL	
	40x49	80x125x20	S/D	pnp, 200 mA, NO/NC npn, 200 mA, NO/NC	30	Ø 0,7	Ø 1,0	20.000	18 ... 35		M8	TK ...	OGWSD 4055 P3K-TSSL OGWSD 4055 N3K-TSSL	
	70x62	110x123x20	S/D	pnp, 200 mA, NO/NC npn, 200 mA, NO/NC	30	Ø 1,5	Ø 2,0	20.000	18 ... 35		M8	TK ...	OGWSD 70 P3K-TSSL OGWSD 70 N3K-TSSL	
	100x92	140x153x20	S/D	pnp, 200 mA, NO/NC npn, 200 mA, NO/NC	35	Ø 2,5	Ø 3,0	20.000	18 ... 35		M8	TK ...	OGWSD 100 P3K-TSSL OGWSD 100 N3K-TSSL	
	150x142	190x203x20	S/D	pnp, 200 mA, NO/NC npn, 200 mA, NO/NC	45	Ø 3,0	Ø 5,0	20.000	18 ... 35		M8	TK ...	OGWSD 150 P3K-TSSL OGWSD 150 N3K-TSSL	
	250x242	290x303x20	S/D	pnp, 200 mA, NO/NC npn, 200 mA, NO/NC	45	Ø 5,0	Ø 8,0	10.000	22 ... 26		M8	TK ...	OGWSD 250 P3K-TSSL OGWSD 250 N3K-TSSL	
	300x397,5	340x458,5x20	S/D	pnp, 200 mA, NO/NC npn, 200 mA, NO/NC	50	Ø 5,0	Ø 10,0	8.000	22 ... 26		M8	TK ...	OGWSD 300 P3K-TSSL OGWSD 300 N3K-TSSL	
Ring light barrier														
	20,6	60x85x20	S/D	pnp, 200 mA, NO	30	Ø 1,5	Ø 1,5	5.000	10 ... 35		M12	VK ...	ORSD 20 P2K-IBS	
Ring light barriers to be used with external amplifier/connecting cable 500 mm														
	10,6	35x30x20	—	—	—	—	Ø 1,0	—	—	■	—	—	OTZ 510	
	15,6	40x35x20	—	—	—	—	Ø 2,0	—	—	■	—	—	OTZ 515	
	20,6	40x35x20	—	—	—	—	Ø 3,0	—	—	■	—	—	OTZ 520	
Amplifier for ring light barrier OTZ ...														
	—	35x70x15	S	pnp, 200 mA, NC pnp, 200 mA, NO	60	—	—	—	12 ... 30		M8	TK ...	OV 70 P1K-TSSL OV 70 P2K-TSSL	
	—	35x70x15	D	pnp, 200 mA, NC pnp, 200 mA, NO	60	—	—	—	20 ... 35		M8	TK ...	OVD 70 P1K-TSSL OVD 70 P2K-TSSL	
	—	35x70x15	S	pnp, 200 mA, NC pnp, 200 mA, NO	60	—	—	—	12 ... 30		M8	TK ...	OV 70 P1K-TSSL OV 70 P2K-TSSL	
	—	35x70x15	D	pnp, 200 mA, NC pnp, 200 mA, NO	60	—	—	—	20 ... 35		M8	TK ...	OVD 70 P1K-TSSL OVD 70 P2K-TSSL	

* Excerpt from our delivery programme

Highly flexible detection
despite heat or narrow spaces

Glass fibre-optic cables are used for narrow spaces at extreme temperatures. Thanks to their small casing design, plastic fibre-optic cables can be used in even the narrowest spaces.

Glass fibre-optic cables

- High-quality glass fibre-optic cables
- Silicone, metal or PU coating
- Bendable probes
- High temperature resistance
- Robust, highly flexible construction
- Special designs

Amplifiers for glass fibre-optic cables

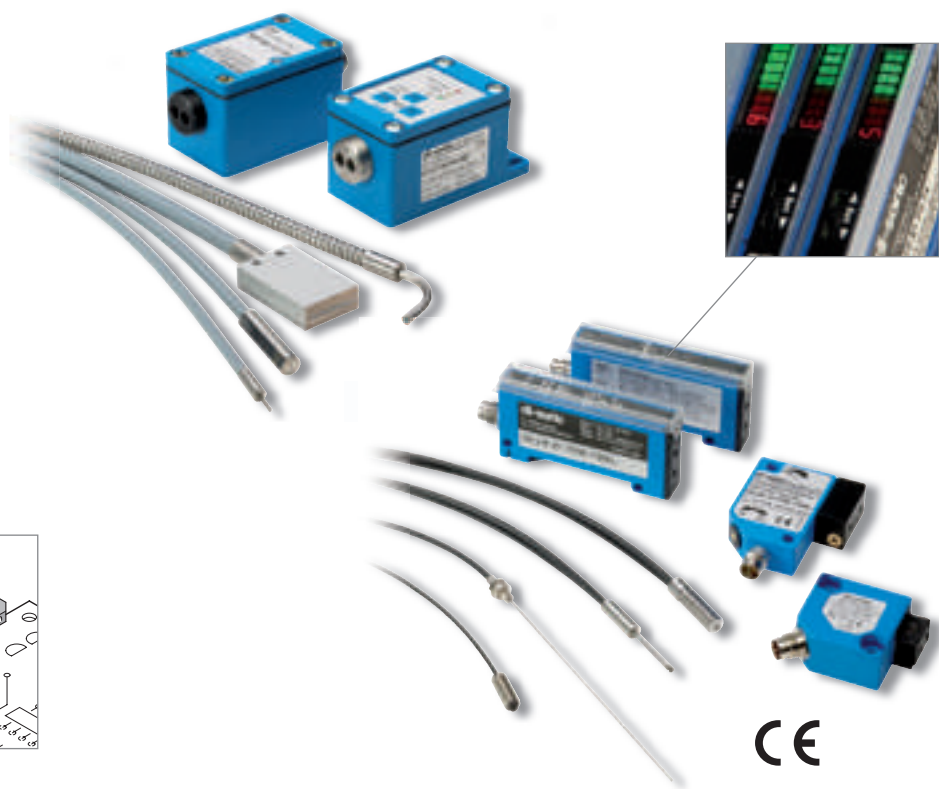
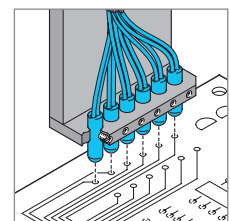
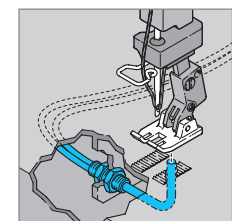
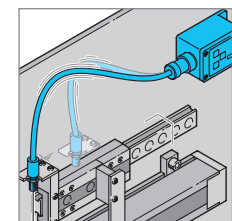
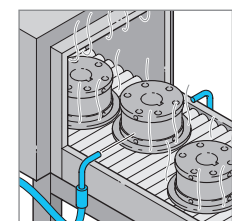
- High switching frequency
- Analog and digital outputs
- Infrared, red and green light, clocked
- Potentiometer or teach function
- Robust metal casing

Plastic fibre-optic cables

- High resolution
- Large operating distances
- Fine internal fibres
- Auxiliary optics
- Bendable sensor probe
- Versions with coaxial arrangement

Amplifiers for plastic fibre-optic cables

- Digital LED display
- High operating frequency
- Timer function
- Potentiometer or teach function
- High operating distance
- Functional reserve output



Technical data (typ.)	+20 °C, 24 VDC
Output	Transistor, pnp, 200 mA
Ambient temperature	–25 ... +55 °C (only OLVK 31 .../OLVKxx 61 ...)
	0 ... +60 °C (only OLVK 41 ...) / –10 ... +60 °C (only OLVxx 4x ...)
Casing material	PBTP (Crastin) / Polyester (only OLVK 41 ...) / Die-cast zinc (only OLV 4x .../OLVTI 4x ...)

Amplifiers for plastic fibre-optic cables															Purchase order table *
	30x30x15	Poti	10 ... 36	1.000		■		10	0,3	10.000	IP 67	15	M8	TK .../4	OLVK 31 P4K-TSSL
	40x36x12	Poti	12 ... 35	750		■	■	15	0,3	30.000	IP 65	36	M8	TK ...	OLVK 41 P3K-TSSL
	60x31x10	Poti	10 ... 30	1.500		■	■	10	0,2	10.000	IP 64	15	M8	TK ...	OLVK 61 P3FK-TSSL/3
														TK .../4	OLVK 61 P3FK-TSSL
	60x31x10	Teach	10 ... 30	1.500		■	■	10	0,2	10.000	IP 64	25	M8	TK .../4	OLVKTI 61 P3FK-TSSL
				4.000				5				30			OLKTD 61 P3-T4 ¹⁾
	65x31x10	Teach	12 ... 24	4.000		■	■	–	0,2	3.000	IP 40	30	M8	TK .../4	OLKTD 71 P3-T4 ¹⁾
Amplifiers for glass fibre-optic cables															
	40x41x75	Poti	12 ... 35	1.500		■	■	10	0,3	20.000	IP 65	55	M12	VK ...	OLV 40 P3K-IBS
								15	0,3						OLV 41 P3K-IBS
	40x41x75	Teach	10 ... 35	1.500		■	■	12	0,1	50.000	IP 65	45	M12	VK .../4	OLVTI 40 P3K-IBS
								12	0,25						OLVTI 41 P3K-IBS

Plastic fibre-optic cables (PMMA)															Purchase order table *
	■		70	–	■		M3								WRBT 2000 K-M3-0.5
	■		140	–	■		M5								WRBT 2000 K-M5-Z8
	■		150	VA	■		M6	■		2.000 ²⁾		–25 ... +70		IP 67	WRBT 2000 KBF-M6-1.0
	■		200	–	■		M6								WRBT 2000 K-M6-1.0
Glass fibre-optic cables															
	■	■	20	VA			Ø5x15								WRB 120SB 2.0-1.0
	■	■	70	VA			Ø8x35								WRB 220SB 2.0-1.0
	■	■	85	VA			Ø8x15								WRB 120SR-8.0-2.5
	■	■	85	VA			M4x20								WRB 220SR-8.0-2.5
	■	■	85	VA											WRB 120S-8-2.5
	■	■	85	AL			30x16x10								WRB 20S-M4-2.5
															WRB 120SQ-90-10-0.6
															WRB 220SQ-90-10-0.3

* Excerpt from our delivery programme ¹⁾ with digital display / ²⁾ further lengths available

Detection and measurement in the grid

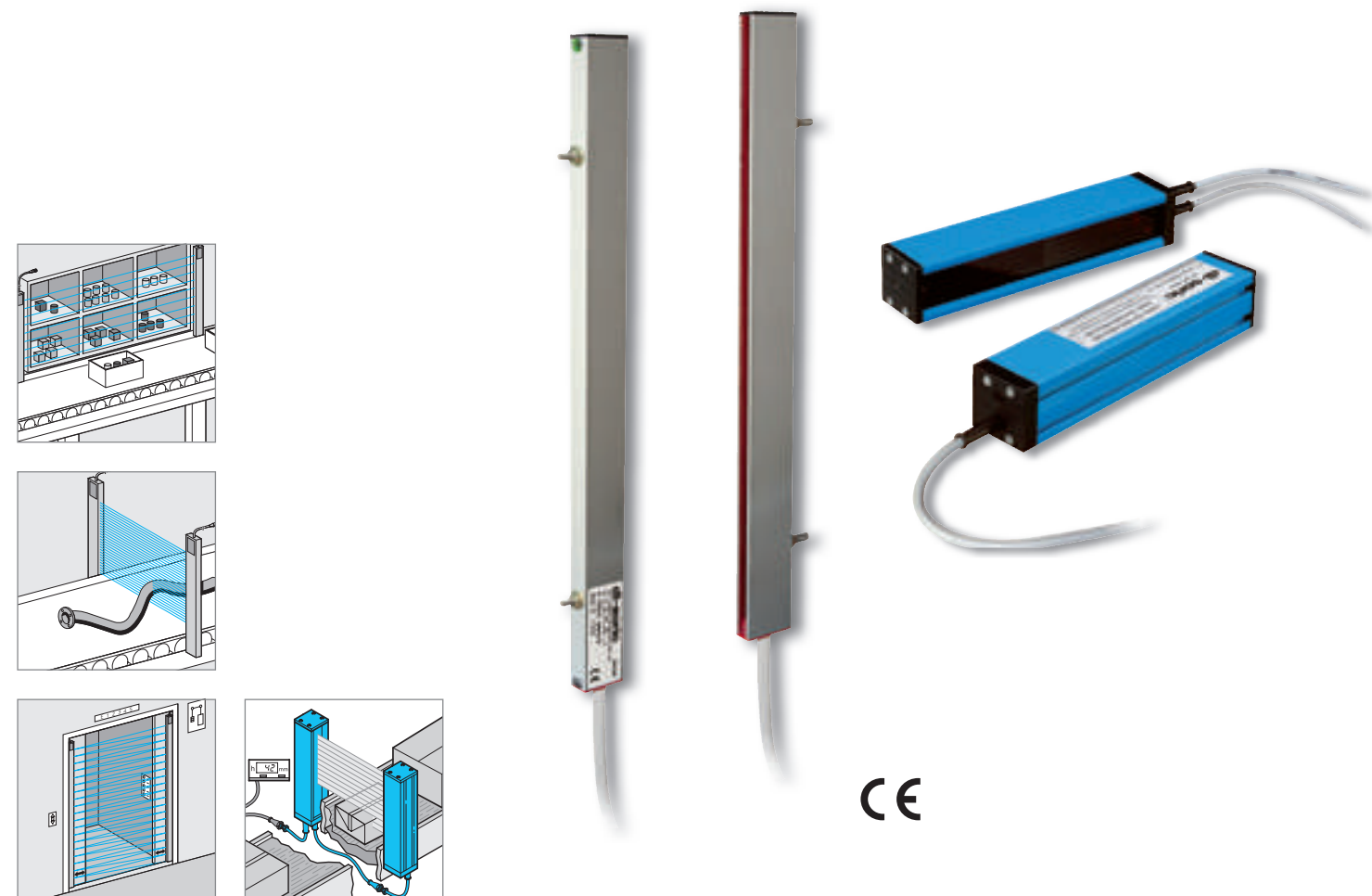
Specified areas for checking individual parts are safely monitored with invisible, infrared light beams in di-soric light curtains.

Light curtains

- Transistor outputs or relay outputs
- Integrated or external evaluation electronics
- Alarm output for contamination
- Light beam interspace from 5 to 112 mm
- Monitoring heights from 35 to 5.775 mm
- Compact design
- Aluminium casing
- Simple mounting

Measuring light curtains

- Resolution 2 mm
- Short response time
- Analogue output from 4 to 20 mA
- Monitoring height 128 mm
- Range from 50 to 300 mm
- Percentage or absolute evaluation
- Automatic calibration



Technical data (typ.)	+20 °C, 24 VDC	
	LA .../LA-D ...	MLE 64/2 A 300 .../MLS 64/2 A 300 ...
Operating distance	0,7 ... 4,0 m / factory preset to 4,0 m	50 ... 300 mm
Emitted light	Infrared light 880 nm, clocked	Infrared 880 nm, clocked
Service voltage	20,4 ... 28,8 VDC	18 ...30 VDC
Outputs	Transistor pnp (switching and alarm output)	4 ... 20 mA (meaning 0 ... 128 mm, linear)
Number of channels/beamgrid		64/2 mm
Resolution, smallest detectable part		2 mm
Detection range		128 mm
Current carrying capacity	200 mA, short-circuit-proof	
Ambient temperature	-10 ... +45 °C	0 ... +60 °C
Ambient light immunity		5.000 Lux
Measured repetition frequency		Max. 25 Hz
Protection class	IP 54	IP 65
EMC-norms	EN 61000-6-3:2001/EN 61000-6-1:2001	
Casing material	Aluminium, rod profile (24x12 mm)	Aluminium, rod profile (40x40 mm)

Purchase order table* light curtains LA ... / LA-D ...								Purchase order table	
	Beam evaluation LA ... = Horizontal LA-D ... = Diagonal	No. of beams	Light beam interspace (mm)	Monitored height H (mm)	Profile length L ca. (mm)	Mounting	H = Light switching D = Dark switching	Light curtains with horizontal light beam evaluation, number of light beams = 8, light beam interspace = 12,5 mm, monitored height = 88 mm, profile length = 260 mm, light switching.	
	LA LA-D	8	-12.5	-88	-260	I- D	H D	LA 8-12.5-88-260 I-H	

Light beam interspace 12,5 mm			Light beam interspace 12,5 mm			Light beam interspace 25 mm			Light beam interspace 50/112 mm		
LA	8-12.5-88-260 I-	H	LA	72-12.5-888-1060 I-	H	LA	8-25-175-360 I-	H	LA	8-50-350-560 I-	H
LA-D	D	D	LA-D	D	D	LA-D	D	D	LA-D	D	D
LA	16-12.5-188-360 I-	H	LA	80-12.5-988-1160 I-	H	LA	16-25-375-560 I-	H	LA	16-50-750-960 I-	H
LA-D	D	D	LA-D	D	D	LA-D	D	D	LA-D	D	D
LA	24-12.5-288-460 I-	H	LA	88-12.5-1088-1260 I-	H	LA	24-25-575-760 I-	H	LA	24-50-1150-1360 I-	H
LA-D	D	D	LA-D	D	D	LA-D	D	D	LA-D	D	D
LA	32-12.5-388-560 I-	H	LA	96-12.5-1188-1360 I-	H	LA	32-25-775-960 I-	H	LA	32-50-1550-1760 I-	H
LA-D	D	D	LA-D	D	D	LA-D	D	D	LA-D	D	D
LA	40-12.5-488-660 I-	H	LA	104-12.5-1288-1460 I-	H	LA	40-25-975-1160 I-	H	LA	40-50-1950-2160 I-	H
LA-D	D	D	LA-D	D	D	LA-D	D	D	LA-D	D	D
LA	48-12.5-588-760 I-	H	LA	112-12.5-1388-1560 I-	H	LA	48-25-1175-1360 I-	H	LA	8-112-783-1050 I-	H
LA-D	D	D	LA-D	D	D	LA-D	D	D	LA-D	D	D
LA	56-12.5-688-860 I-	H	LA		H	LA	56-25-1375-1560 I-	H	LA	16-112-1677-1950 I-	H
LA-D	D	D	LA-D		D	LA-D	D	D	LA-D	D	D
LA	64-12.5-788-960 I-	H	LA		H	LA	65-25-1575-1760 I-	H	LA	24-112-2571-2840 I-	H
LA-D	D	D	LA-D		D	LA-D	D	D	LA-D	D	D

Purchase order table* measuring light curtains MLE 64/02 A 300 .../MLS 64/02 A 300 ...		
Evaluation receiver/transmitter		Model B (percentaged)
	Receiver	MLE 64/02 A 300-A-F250
	Transmitter	MLS 64/02 A 300-A-F250
	Connecting cable 3,0 m	VKHM-Z-3/5
	Connecting cable 5,0 m	VKHM-Z-5/5
Interconnecting cable MLE .../MLS ...		VKHM-MLG-3/8

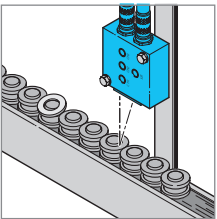
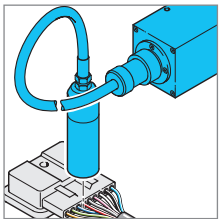
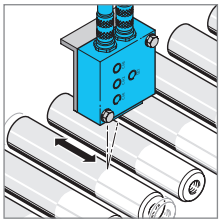
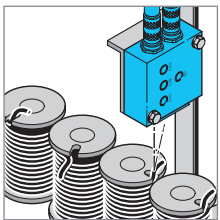
* Excerpt from our delivery programme

Even the smallest difference
safely detected

These high-quality sensors detect shades in changes to colour or surface structures and are frequently used in quality testing.

Colour and surface sensors

- Perceptive operating mode (depending on sensitivity)
- Measurement in colorimetric colour spaces e. g. L*a*b and L*u*v
- Up to 255 channels
- Adjustable colour tolerance
- Very short response time
- High ambient light compensation
- Reflection compensation
- Exportable measured values for PC applications (.xls, .csv)
- Extensive setting options via PC
- Surface structure checking
- Separate evaluation of brightness and colouring
- Illumination with aging-compensated white light LED
- Transmitter can be switched off to measure intensity of light sources
- Fibre-optic cable with various auxiliary optics
- Software included in the scope of delivery



Technical data (typ.)	+20 °C, 24 VDC
Operating distance/Measuring spot Ø	30 ... 60 mm /Ø 8 mm bei 40 mm working distance (only FSL 50 M 60/3 ...)
	See fibre-optic WRB ... (only FSLx xx WRB/x ...)

	Integrated focus optic	Connection fibre-optic	3 channels, Teach-In	Number of colour channels binary coded	3x rpn + pnp, NO/NC, 100 mA each channel	8x rpn + pnp, NO/NC, 100 mA each channel	Illumination with aging-compensated white light LED	LCD display, 3 lines (16 figures/line) 6 buttons, illuminated	Connection: RS 232 (> 115 kBit/s) Power supply: M8x1	Service voltage (V DC)	Internal power consumption (mA)	Protection class	Sensor probe	Active Ø (mm)	Acceptance angle	
Colour and surface sensors																Purchase order table*
				7						18 ... 28	100	IP 54	—	—	—	FSL 50 M 60/3 G3K-BS8 FSLSB 50 M 60/3 G3K-BS8 ¹⁾
				7						18 ... 28	100	IP 54	—	—	—	FSL 50 M WRB/3 G3K-BS8 FSLSB 50 M WRB/3 G3K-BS8 ¹⁾
				255						18 ... 28	500	IP 65	—	—	—	FSL 90 M WRB/8 G3K-BS8
Adapter cable 0,25 m (USB/RS232)																RS232S-0.25-USB
Connecting cable 5,0 m																BSHM-Z-5/8-A
Connecting cable 2,0 m (USB)																BSHM-Z-2/4-USB
Adjust box for FSL 50 ...																
										10 ... 28	150	IP 54	—	—	—	FSLS-CB-01
	Connecting cable 2,0 m (RS232) for adjust box FSLS-CB-01															BSHM-Z-2/4-RS232K

¹⁾not suitable for operation with adjust box FSLS-CB-1

Size (mm)																Spot size (mm)																Working distance (mm)																Scanning distance (mm)																Material (Aluminium, anodized)																Protection class																Sensor probe																Active Ø (mm)																Acceptance angle																																															
Fibre-optic WRB ... for colour and surface sensors FSLx ...																																																																																																																																																																															
	Diffuse sensors																																																																																																																																IP 67				Ø 4,5 x 12 M4 x 20 M6 x 30				2,5				67°				WRB 120 S-SG-4.5-2.5																														
																																																																																																																																																	WRB 120 S-SG-M4-2.5																														
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Through beam sensor																																																																																																																																IP 67				Ø 4,5 x 12				2,5				67°				WRB 220 S-4.5-2.5																															
Focus optics VO ... for mounting on fibre-optic cables WRB ...																																																																																																																																																																															
	Ø 15 x 60				2,0				10				10 ... 15				■																												VO-M12/10-4.5-2.5																																																																																																																																		
	30 x 39,5 x 12				7,0				35				20 ... 50				■																								VO-F/30-4.5-2.5																																																																																																																																						
	40 x 51,6 x 22				14,0				95				70 ... 170				■																				VO-F/120-4.5-2.5																																																																																																																																										

* Excerpt from our delivery programme

Feed control
made easy

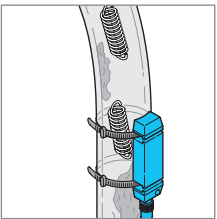
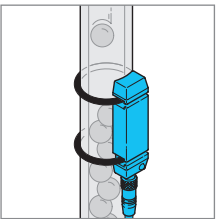
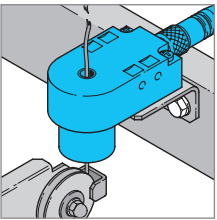
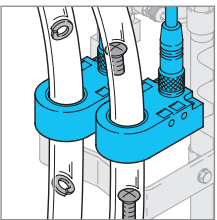
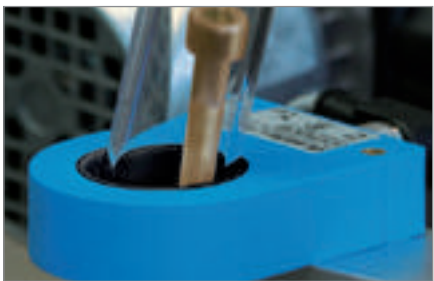
Extremely simple mounting and safe detection of fed metallic objects and small parts, e. g. springs.

Inductive ring sensors/
Wire break sensors

- High resolution:
 - Steel ball $\varnothing$ 0,5 to 10 mm
 - Copper wire from $\varnothing$ 0,1 mm
- Static or dynamic operating principle
- Sensitivity adjustment
- Short response time
- Adjustable pulse stretching
- Switchable NO/NC function
- Ring diameter from 4 to 150 mm
- Insensitivity to dirt
- Protection class IP 67

Inductive tube sensors

- High resolution
- Short response time
- Static or dynamic operating principle
- Universal mounting
- Low weight
- Compact design
- Automatic elimination of metalliferous contamination
- Protection class IP 67



Technical data (typ.)	+20 °C, 24 VDC
Service voltage	10 ... 35 VDC
Sensitivity adjustment	Potentiometer (only IRx .../IRDBx ...)
Voltage drop	2,0 V
Shock/vibration loading	30 g _n /10 ... 55 Hz, 1 mm (only ISx ...)
Speed of parts	< 35 m/s
Pulse stretching	100 ms (only ISx 70 ...) / 0,1 ... 150 ms (only IR ...)
Ambient temperature	-25 ... 70 °C
Protection class	IP 67
Insulation voltage endurance	500 V (1.000V only IRx .../IRDB ...)
Display LED	Output yellow, operation green (only ISx 70 ...)
Casing material	Polyamide, ring POM (only IRx .../IRDBx 6 ...)
	Polyamide, ring POM, ceramic insert (only IRDBx 4 ...)
	Polycarbonate (only ISx ...)

Ring diameter (mm)	Evaluation: Static (S)/Dynamic (D)	Internal power consumption (mA)	Resolution, steel ball (mm)	Resolution copper wire (mm)	Output	Connector	Connecting cable	Versions with radial plug connection ... RIBS available			
Inductive ring sensors										Purchase order table* (pnp)	Purchase order table* (npn)
6,1	S	11	1,0	—	200 mA, NO/NC	M12	VK...	■	IR 6 PSOK-IBS	IR 6 NSOK-IBS	
	D	20	0,5	—	200 mA, NO/NC	M12	VK...	■	IRD 6 PSOK-IBS	IRD 6 NSOK-IBS	
10,1	S	11	1,5	—	200 mA, NO/NC	M12	VK...	■	IR 10 PSOK-IBS	IR 10 NSOK-IBS	
	D	20	0,6	—	200 mA, NO/NC	M12	VK...	■	IRD 10 PSOK-IBS	IRD 10 NSOK-IBS	
15,1	S	11	2,0	—	200 mA, NO/NC	M12	VK...	■	IR 15 PSOK-IBS	IR 15 NSOK-IBS	
	D	20	0,8	—	200 mA, NO/NC	M12	VK...	■	IRD 15 PSOK-IBS	IRD 15 NSOK-IBS	
20,1	S	11	2,5	—	200 mA, NO/NC	M12	VK...	■	IR 20 PSOK-IBS	IR 20 NSOK-IBS	
	D	20	1,0	—	200 mA, NO/NC	M12	VK...	■	IRD 20 PSOK-IBS	IRD 20 NSOK-IBS	
25,1	S	11	3,0	—	200 mA, NO/NC	M12	VK...	■	IR 25 PSOK-IBS	IR 25 NSOK-IBS	
	D	20	1,2	—	200 mA, NO/NC	M12	VK...	■	IRD 25 PSOK-IBS	IRD 25 NSOK-IBS	
35,2	S	11	4,5	—	200 mA, NO/NC	M12	VK...		IR 35 PSOK-IBS	IR 35 NSOK-IBS	
	D	20	2,0	—	200 mA, NO/NC	M12	VK...		IRD 35 PSOK-IBS	IRD 35 NSOK-IBS	
51,0	S	11	6,0	—	200 mA, NO/NC	M12	VK...		IR 50 PSOK-IBS	IR 50 NSOK-IBS	
	D	20	2,5	—	200 mA, NO/NC	M12	VK...		IRD 50 PSOK-IBS	IRD 50 NSOK-IBS	
101,0	S	15	10,0	—	200 mA, NO/NC	M12	VK...		IR 100 PSOK-IBS	IR 100 NSOK-IBS	
	D	20	5,0	—	200 mA, NO/NC	M12	VK...		IRD 100 PSOK-IBS	IRD 100 NSOK-IBS	
151,0	S	15	19,0	—	200 mA, NO/NC	M12	VK...		IR 150 PSOK-IBS	IR 150 NSOK-IBS	
	D	20	10,0	—	200 mA, NO/NC	M12	VK...		IRD 150 PSOK-IBS	IRD 150 NSOK-IBS	
Wire break sensors											
4,0	S	11	—	0,2	200 mA, NO/NC	M12	VK...		IRDB 4 PSOK-IBS	IRDB 4 NSOK-IBS	
	D	20	—	0,1	200 mA, NO/NC	M12	VK...		IRDBD 4 PSOK-IBS	IRDBD 4 NSOK-IBS	
6,1	S	11	—	0,2	200 mA, NO/NC	M12	VK...		IRDB 6 PSOK-IBS	IRDB 6 NSOK-IBS	
	D	20	—	0,1	200 mA, NO/NC	M12	VK...		IRDBD 6 PSOK-IBS	IRDBD 6 NSOK-IBS	
Inductive tube sensors											
—	S	15	**	—	200 mA, NO	M8	TK...		IS 70 PSK-TSSL	IS 70 NSK-TSSL	
	D	25	**	—	200 mA, NO	M12	VK...		IS 70 PSLK-K-BS	IS 70 NSLK-K-BS	
—	S	15	**	—	200 mA, NO	M8	TK...		ISD 70 PSK-TSSL	ISD 70 NSK-TSSL ¹⁾	
	D	25	**	—	200 mA, NO	M12	VK...		ISD 70 PSLK-K-BS	ISD 70 NSLK-K-BS ¹⁾	
—	S	15	**	—	200 mA, NO	M8	TK...		ISDP 70 PSK-TSSL	ISDP 70 NSK-TSSL ²⁾	
	D	25	**	—	200 mA, NO	M12	VK...		ISDP 70 PSLK-K-BS	ISDP 70 NSLK-K-BS ²⁾	

* Excerpt from our delivery programme / ** depending on the feeding hose used ¹⁾ high resolution / ²⁾ insensitive

Non-contact detection
of movement and standstill

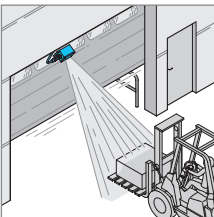
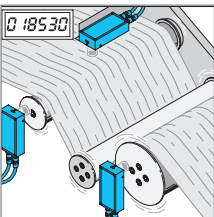
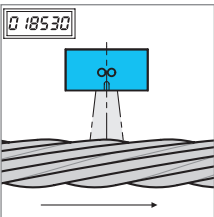
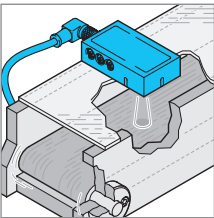
Movements will be safely and contactless detected or measured with optical movement sensors. Radar sensors are used for larger distances and for outdoor use.

Optical movement sensors

- Incremental outputs for measuring speed, length and rpm
- 2 detection axes (along and across the casing)
- Direction detection
- Working distance 30 mm
- Detection of movement or standstill
- Option of parameterisation using software
- Adjustable pulse stretching
- High protection class
- Robust metal casing

Radar sensors

- Detection range up to 6 m
- Non-contact object detection depending on the direction of movement
- Adjustable detection area and pulse stretching
- Can be fitted behind non-metallic materials
- Wear-free switching outputs
- Switch outputs for approach and remote detection
- High protection class IP67 for outdoor use
- Robust metal casing



Technical data (typ.)	+20 °C, 24 VDC
Pulse stretching	2 ... 1.000 ms adjustable (only OBS 60 ...)
	100 ms (only OBS 105 ...)
	0,1 ... 30 sec. adjustable (only RS 40 ...)
Laser class (EN 60825-1)	1M (only OBS xxx ...)
Ambient light immunity	5.000 Lux (only OBS xxx ...)
Ambient temperature	+5 ... +45 °C (only OBS xxx ...)
	-20 ... +60 °C (only RS 40 ...)
Protection class	IP 67
	IP 65 (only OBS 105 ...)
Casing material	Aluminium, black anodized (only OBS xxx ...)
	Die-cast zinc, black lacquered (only RS 40 ...)

Working distance, Material dependent (mm)	Service voltage (VDC)	Internal power consumption (mA)	Infrared laser 850 nm	Radar 24, 125 GHz	Output	Switching output 1: +UB, 100 mA, pnp/npn (push pull), configurable	Switching output 2: +UB, 100 mA, pnp/npn (push pull), configurable	1 switching output for approaching and moving away detection	1 switching output for approaching- and 1 switching output for distance detection	Connector	Connecting cable	
Optical movement sensor with switching output ⚠												Purchase order table*
30 ± 10	10 ... 35	70	■		pnp, 200 mA, NO/NC					M8	TK ...	OBS 60 M 30 P3K-TSSL
Optical movement sensor with incremental- and two configurable switching outputs ⚠												
30 ± 10	10 ... 30	50	■		Push pull RS 422	■	■			M12	VxHM ...	OBS 105 M 30 INC-1 OBS 105 M 30 INC-2
Connecting cable for 1. axis												VKHM-Z-5/8-A
Connecting cable for 2. axis/switching outputs												VSHM-Z-5/8-A
Programming adapter for PC connection												OBS 105 PROG
Radar sensors												
500 ... 6.000 ¹⁾	10 ... 35	35	■		1x push pull, 200 mA, NO/NC 2x push pull, 200 mA, NO/NC			■		M12	VK ... VK .../4	RS 40 M 6000 G3L-IBS RS 40 M 6000 G8L-IBS

* Excerpt from our delivery programme ¹⁾Value as measured by a person in walking pace. The operating distance is depending on the reflection characteristics and the object speed.

Intelligent detection of labels
perfect positioning

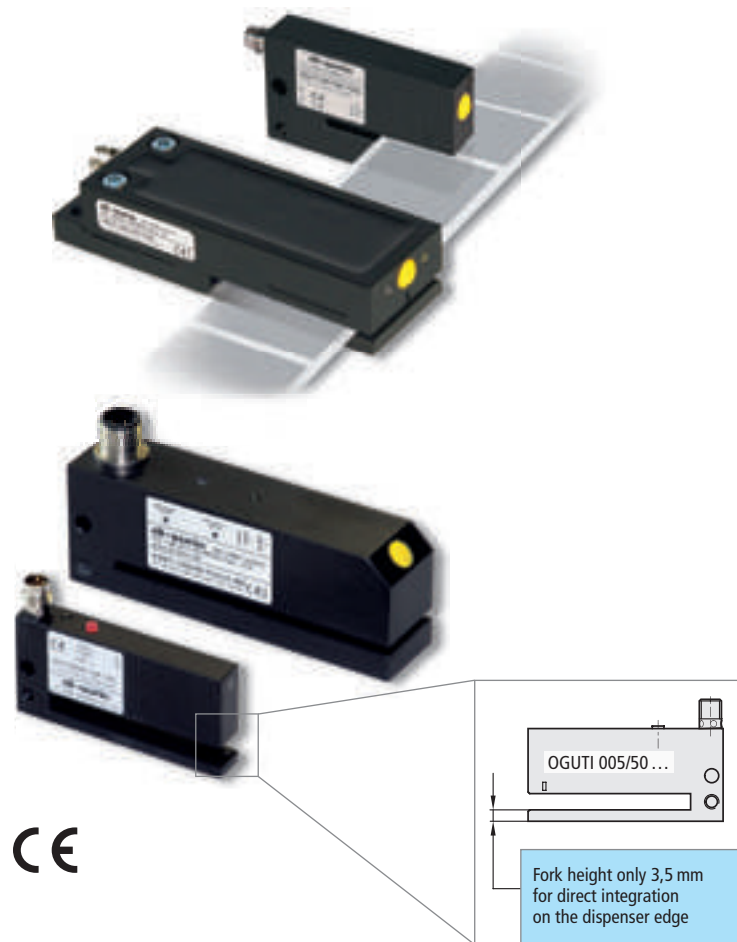
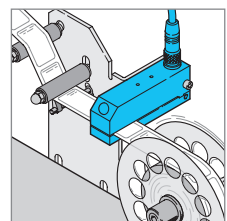
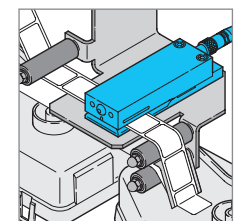
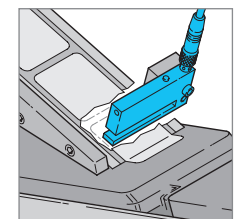
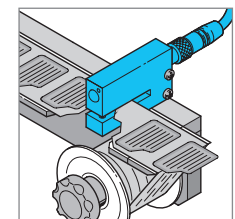
Are you a labelling machine manufacturer or do you work with labels and want to position them exactly on a product? di-soric label sensors detect all label materials and have a high repeat accuracy.

Capacitive label sensors

- Detection of all label materials, including metallized ones (KSSTI xx/80)
- High switching frequency
- Autoteach during ongoing processes
- Remote teach possibilities with key-lock function
- Signalling for the teaching process using LEDs
- Temperature and air humidity compensation
- Separable casing for cleaning the sensor slot

Optical label sensors

- Can be integrated directly on the dispenser edge
- Autoteach during ongoing processes
- Remote teach possibilities with key-lock function
- Signalling for the teaching process using LEDs
- Detection of the most diverse labels



Technical data (typ.)	+20 °C, 24 VDC
Service voltage	10 ... 35 VDC
Operating frequency	< 3.000 Hz (only OGUTI ...)
Switching hysteresis	0,1 mm (only OGUTI 00x .../OGUTI 005/100 ...)
	0,15 mm (only OGUTI 005/50 ...)
	Material dependent (only KSSTI ...)
Ambient temperature	-10 ... +60 °C (only OGUTI ...)
	0 ... +60 °C (only KSSTI ...)
Protection class	IP 67 (only OGUTI ...)
	IP 65 (only KSSTI ...)
Casing material	Die-cast zinc, black lacquered (only OGUTI ...)
	Aluminium / black anodized (only KSSTI ...)

	Fork/slot width (mm)	Slot depth (mm)	Infrared light 880 nm, clocked	Output	Internal power consumption (mA)	Voltage drop (V)	Ambient light immunity (Lux)	Sensitivity adjustment by means of teach key	Sensitivity adjustment by means of teach key and remote teach	Connector	Connecting cable	
Optical contrast diffuse sensors												Purchase order table *
	2	40	■	pnp, 200 mA, NO/NC	35	2,0	> 100.000	■	■	M8	TK ...	OGUTI 002 P3K-TSSL
											TK .../4	OGUTI 002 FP3K-TSSL
	5	40	■	Push pull, 200 mA, NO/NC	35	2,0	> 100.000	■	■	M8	TK ...	OGUTI 005 G3K-TSSL
											TK .../4	OGUTI 005 FG3K-TSSL
	5	50	■	Push pull, 200 mA, NO/NC	35	2,0	> 100.000	■	■	M8	TK ...	OGUTI 005/50 G3K-TSSL
											TK .../4	OGUTI 005/50 FG3K-TSSL
	5	100	■	pnp, 200 mA, NO/NC	35	2,0	> 100.000	■	■	M8	TK ...	OGUTI 005/100 P3K-TSSL
											TK .../4	OGUTI 005/100 FP3K-TSSL
Capacitive label sensors												
	0,4	50	—	Push pull, 200 mA, NO/NC	70	2,5	—	■	■	M8	TK ...	KSSTI 400 G3K-TSSL
											TK .../4	KSSTI 400 FG3K-TSSL
	0,6	50	—	Push pull, 200 mA, NO/NC	70	2,5	—	■	■	M8	TK ...	KSSTI 600 G3K-TSSL
											TK .../4	KSSTI 600 FG3K-TSSL
	1,0	50	—	Push pull, 200 mA, NO/NC	70	2,5	—	■	■	M8	TK ...	KSSTI 1000 G3K-TSSL
											TK .../4	KSSTI 1000 FG3K-TSSL
	0,6	85	—	Push pull, 200 mA, NO/NC	70	2,5	—	■	■	M12	VK .../4	KSSTI 600/80 FG3LK-IBS
	1,0											KSSTI 1000/80 FG3LK-IBS
	0,6	85	—	Push pull, 200 mA, NO/NC	70	2,5	—	■	■	M12	VK .../4	KSSTI 600/80 FG3LK-AIBS
	1,0											KSSTI 1000/80 FG3LK-AIBS
Accessories												
	Bottom part for mounting on KSSTI xx/80 ... for label widths up to 175 mm.											KSSTI 1000/80-U190
	Bottom part for mounting on KSSTI xx/80 ... for label widths up to 215 mm.											KSSTI 1000/80-U270

* Excerpt from our delivery programme

Reliably
monitoring presence

Depending on the functional principle, proximity switches detect metallic or non-metallic materials. Various designs and versions offer a diverse range of possible applications.

Inductive proximity switches

- High temperature-resistant versions up to 230 °C
- Pressure-resistant versions up to 500 bar
- Versions with closed VA sleeve
- Weld-proof and versions resistant to magnetic fields
- Sensing distances up to 4 times more than normal switching distance
- Versions with analogue output
- Versions resistant to food and sea water
- Designs ø 3 mm up to M 30
- Cuboid designs from 5 x 5 mm to 41 x 80 x 100 mm

Capacitive proximity switches

- Detection of: fluid, powdery, solid, electrically conductive and non-conductive materials
- Sensing distances adjustable up to 30 mm
- Probe for level measurement
- Designs ø 6,5 mm to M 30
- Disk design ø 50 x 10 mm
- Cuboid form 34 x 16 x 8 mm



Technical data (typ.)		+20 °C, 24 VDC
Service voltage	10 ... 30	
	some versions with extended service voltage range 10 ... 35 VDC	
Internal power consumption	< 6 ... 15 mA	
Protection class	IP 67	
Ambient temperature	-25 ... +70 °C	

Inductive proximity switches in cylindrical designs							Purchase order table *			Purchase order table *		
Size (mm)	Operating frequency (Hz)	Output	Casing material	Connector	Connecting cable	Operating distance (mm)	Flush-fitted (b)/non flush-fitted (nb)/quasi flush-fitted (qb)			Operating distance (mm)	Flush-fitted (b)/non flush-fitted (nb)/quasi flush-fitted (qb)	
ø 3 x 22	5.000	pnp, 100 mA, NO	VA	—	2,0 m, PUR	0,6	b	DCC 3.0 V 0.6 PSLK	1,0	b	DCC 3.0 V 1.0 PSLK	
ø 4 x 25	3.000	pnp, 200 mA, NO	VA	—	2,0 m, PVC	0,8	b	DCC 4.0 V 0.8 PSLK	1,5	b	DCC 4.0 V 1.5 PSLK	
ø 6.5 x 16	5.000	pnp, 200 mA, NO	VA	—	2,0 m, PVC	1,5	b	DCC 6.5 V 1.5 PSLK	2	b	DCC 6.5 V 02 PSLK	
M4 x 0,5	5.000	pnp, 100 mA, NO	VA	M8	TK ...	0,6	b	DCC 04 M 0.6 PSK-K-TSL	1,0	b	DCC 04 M 1.0 PSK-K-TSL	
M5 x 0,5	3.000	pnp, 200 mA, NO	VA	M8	TK ...	1,5	b	DCC 05 V 1.5 PSK-TSL	2,5	b	DCC 05 V 2.5 PSK-TSL	
M8 x 1	5.000	pnp, 200 mA, NO	VA	M8	TK ...	1,5	b	DCC 08 M 1.5 PSK-TSL	2	b	DCC 08 M 02 PSK-TSL/29	
M8 x 1	500	pnp, 200 mA, NO	MS	M8	TK ...	3	qb	DCC 08 M 03 PSK-TSL	6	nb	DCC 08 M 06 PSK-TSL	
M12 x 1	300	pnp, 200 mA, NO	MS	M12	VK ...	6	qb	DCC 12 M 06 PSK-IBSL	8	qb	DCC 12 M 08 PSK-IBSL	
M12 x 1	400	pnp, 200 mA, NO	MS	M12	VK ...	2	b	DCC 12 M 02 PSK-IBSL	10	nb	DCC 12 M 10 PSK-IBSL	
Inductive proximity switches in rectangular designs												
5 x 5 x 25	5.000	pnp, 200 mA, NO	MS	—	2,0 m, PUR	0,8	b	DCCQ 05 M 08 PSLK	1,5	b	DCCQ 05 M 1.5 PSLK	
8 x 8 x 40	2.000	pnp, 200 mA, NO	AL	—	2,0 m, PUR	—	—	—	1,5	b	DCQZ 08 M 1.5 PSLK	
8 x 8 x 59	1.000	pnp, 200 mA, NO	MS	M8	TK ...	2,0	b	DCCQ 08 M 02 PSK-TSL	3,0	qb	DCCQ 08 M 03 PSK-TSL	
28 x 16 x 10	2.000	pnp, 200 mA, NO	Ks	M8	TK ...	—	—	—	2,0	b	DCR 30 K 02 PSK-TSL	
30 x 20 x 11,5	3.000	pnp, 200 mA, NO	AL	M8	TK ...	—	—	—	1,5	b	DCR 20 M 1.5 PSK-K-TSL	
40 x 26 x 12	2.000	pnp, 200 mA, NO	Ks	M8	TK ...	2,0	b	DCR 40 K02 PSK-TSL	4,0	nb	DCR 40 K04 PSK-TSL	
Inductive proximity switches with stainless steel housing												
M8 x 1	1.000	pnp, 200 mA, NO	VA	M8	TK ...	3	b	D7C 08 V 03 PSK-TSL	6	nb	D7C 08 V 06 PSK-TSL	
M12 x 1	400	pnp, 200 mA, NO	VA	M12	VK ...	6	b	D7C 12 V 06 PSK-IBSL	10	nb	D7C 12 V 10 PSK-IBSL	
M18 x 1	200	pnp, 200 mA, NO	VA	M12	VK ...	10	b	D7C 18 V 10 PSK-IBSL	20	nb	D7C 18 V 20 PSK-IBSL	
M30 x 1,5	100	pnp, 200 mA, NO	VA	M12	VK ...	20	b	D7C 30 V 20 PSK-IBSL	40	nb	D7C 30 V 40 PSK-IBSL	
Capacitive proximity switches												
ø 6.5 x 54	100	pnp, 50 mA, NO	VA	M8	TK ...	1,5	b	KDC 6.5 V 1.5 PSK-TSL	3,0	nb	KDC 6.5 V 03 PSK-TSL	
ø 50 x 10	50	pnp/npn, 150 mA, NO/NC	Ks	—	2,0 m, PUR	25	b	KDC 50 K 25 PNSOLK	—	—	—	
M8 x 1	100	pnp, 50 mA, NO	VA	M8	TK ...	1,5	b	KDC 08 V 1.5 PSK-TSL	3,0	nb	KDC 08 V 0.3 PSK-TSL	
M12 x 1	100	pnp, 200 mA, NO	VA	M12	VK ...	4	b	KDC 12 M 04 PSK-IBSL	—	—	—	
M18 x 1	100	pnp, 200 mA, NO	VA	M12	VK ...	8	b	KDC 18 M 08 PSK-IBSL	—	—	—	
M18 x 1	100	pnp, 200 mA, NO	Ks	M12	VK ...	—	—	—	15	nb	KDC 18 K 15 PSK-IBSL	
M30 x 1,5	100	pnp, 300 mA, NO/NC	VA	M12	VK ...	20	b	KDC 30 M 20 PSOK-BSL	—	—	—	
34 x 16 x 8	100	pnp, 50 mA, NO	Ks	—	2,0 m, PUR	8	b	KDCR 16 K 08 PSLK	8	nb	KDCR 16 K 08S PSLK	

Flush mounting (b)	Quasi-flush mounting (qb)	Non-flush mounting (nb)
These proximity switches can be mounted in all materials (metallic/non-metallic), so that the sensing face is flush with the front of the surrounding material. They have the following advantages: - Flush mounting (see installation notes) in conductive materials (metals) - Protection of the active zone from mechanical damage - Lower influence of external interference fields - Lower lateral distance to the next proximity switch	These proximity switches possess a higher operating distance than proximity switches for flush-mounting. They may be mounted into conductive materials only quasi-flush mounted, i. e. not completely flush mounted. The proximity switches must exceed a little bit over the installation surface (see installation notes). Flush mounting in non-conductive materials is permissible.	These proximity switches must not be flush-mounted with the surface of conductive materials. They have the greatest possible operating distance. Special installation notes are applicable for these proximity switches. Flush mounting in non-conductive materials is permissible.

* Excerpt from our delivery programme

Further information and types will be found under www.di-soric.com

Every contact counts

Striking parts produce structure-borne noise, which is converted into a standard output signal.

Contact and vibration sensors

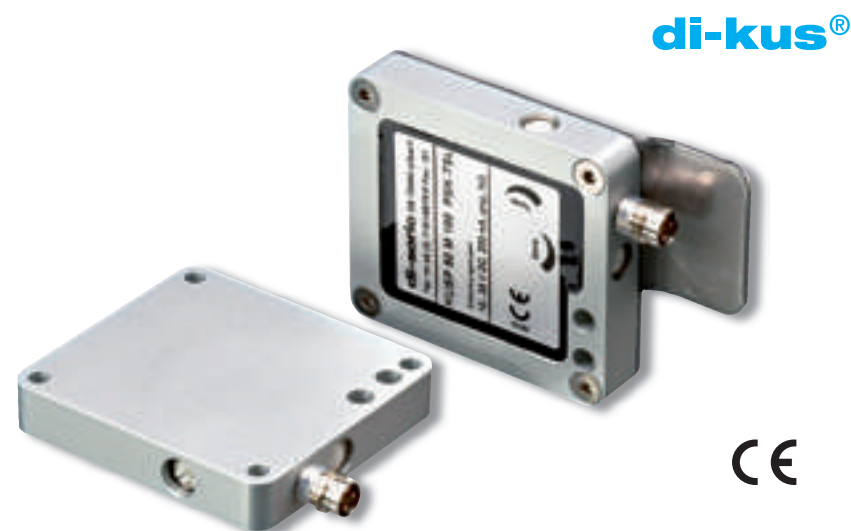
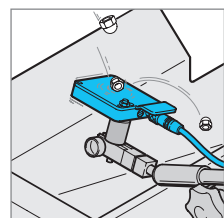
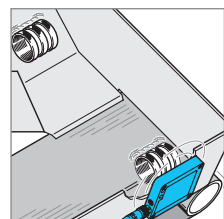
- Detects with direct contact to ejected parts or parts in free fall
- For screws, studs, springs and non-metallic parts
- Adjustable suppression of multiple pulses
- Up to 100 parts can be detected per second
- Long service life thanks to replaceable baffle plate
- Functional assurance even under the most extreme conditions



Technical data (typ.)	+20 °C, 24 VDC
Service voltage	10 ... 35 VDC
Sensitivity adjustment	Steel ball Ø 3 mm from 20 mm height
Pulse stretching	1 ... 30 ms
Ambient temperature	–25 ... +70 °C
Protection class	IP 67
Internal power consumption	> 15 mA
Operating frequency	< 100 Hz

		<i>Size (mm)</i>	<i>Output</i>	<i>Casing material</i>	<i>Connector</i>	<i>Connecting cable</i>	
Contact sensors							Purchase order table*
	Sensor incl. baffle plate	50x75x14	pnp, 200 mA, NO	Aluminium Heat-treatable steel	M8	TK ...	KUSP 50 M 100 PSK-TSL
	 Sensor	50x55x10	pnp, 200 mA, NO	Aluminium	M8	TK ...	KUS 50 M 100 PSK-TSL
Accessories							
  	Baffle plate	50x75x4		Heat-treatable steel			P-KUS 50
	Damper set for mounting						D-KUS 50
	Magnetic fixing device		Adhesive force 50 kg	Steel			MSH-300

* Excerpt from our delivery programme



Piston position
detected through the wall

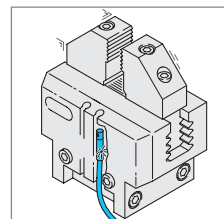
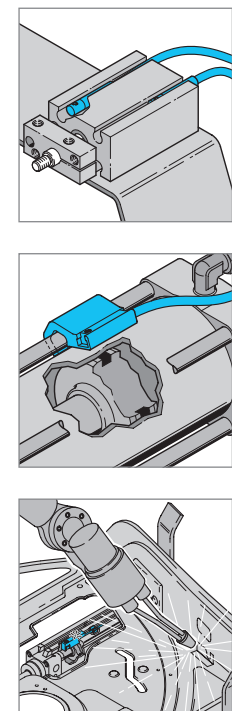
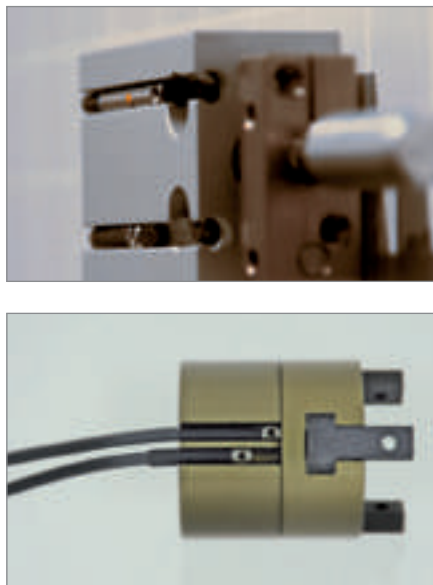
Cylinder sensors are designed for pneumatic cylinders with integrated magnets. The piston position is detected through the cylinder wall.

Cylinder sensors

- For all common pneumatic cylinders
- Versions which can be fitted from above
- High reproducibility
- Vibration-resistant
- Robust metal casing or shock-proof plastic casing
- Fastening elements made from metal
- High protection class
- Weld-proof versions

Sensors for gripper systems

- Specially aligned magnetic field for using on gripping tongs
- High reproducibility
- Short construction
- Fastening element made from stainless steel
- Vibration-resistant
- High protection class



Technical data (typ.)	+20 °C, 24 VDC
Service voltage	10 ... 30 VDC
Output	Transistor pnp / NO
Voltage drop	2,0 V
	2,5V only MZEx 9-xx ...
Operating frequency	1.000 Hz
Ambient temperature	-25 ... +70 °C
	-25 ... +80 °C (only MZEx 9-xx ...)
Insulation voltage endurance	500 V
Casing material	Die-cast zinc
	Plastic and V2A (only MZEC 3.7 .../MZES 3.9 ...)
	V2A (only MZEC 4.0 ...)
	Polyamide, fixing aid stainless steel (only MZEx 9-xx ...)

	Size (mm)	Type of mounting	Flush-fitted(b)/ non flush-fitted (nb)	Strömbelastbarkeit	Short-circuit-proof	Polarity-safe	Internal power consumption	Reproducibility	Protection class	Type of connection: Cable length/connector (mm)	Matching connecting cable	Connecting cable PUR, Welding spark resistant	
Cylinder sensors for C-shaped slot													Bestelltabelle *
	Ø 3,7x21	↙	b	100 mA		■	11 mA	0,1 mm	IP 68	2.500 / – 300/M8	– TK...	■	MZEC 3.7 PSL
													MZEC 3.7 PS-K-TSSL
	Ø 4,0x25	↙	b	100 mA		■	11 mA	0,1 mm	IP 68	2.500 / – 300/M8	– TK...	■	MZEC 4.0 PSL
													MZEC 4.0 PS-K-TSSL
	2,8x7,7x17,5	↓	nb	100 mA	■	■	10 mA	0,2 mm	IP 67	2.000 / – 300/M8	– TK...		MZEC 9-18 PSL
													MZEC 9-18 PSL-K-TSS
	2,8x5x25,8	↓	nb	100 mA	■	■	10 mA	0,2 mm	IP 67	2.000 / – 300/M8	– TK...		MZEC 9-26 PSL
													MZEC 9-26 PSL-K-TSS
Cylinder sensors for T-shaped slot													
	6,1x5x25	↙	b	200 mA	■	■	10 mA	0,1 mm	IP 68	2.500 / – 300/M8	– TK...	■	MZET 25 PSLK
													MZET 25 PSK-K-TSSL
	6,1x5x25	↓	nb	200 mA	■	■	10 mA	0,1 mm	IP 68	2.500 / – 300/M8	– TK...	■	MZET 28 PSLK
													MZET 28 PSK-K-TSSL
	5x7x20	↓	nb	200 mA	■	■	10 mA	0,1 mm	IP 68	M8	– TK...		MZERT 20 PSK-TSSL
	5,2x5x25	↙	b	200 mA	■	■	10 mA	0,1 mm	IP 68	2.500 / – 300/M8	– TK...	■	MZEK 25 PSLK
													MZEK 25 PSK-K-TSSL
	5x6,5x25	↓	b	100 mA	■	■	10 mA	0,2 mm	IP 67	2.000 / – 300/M8	– TK...		MZET 9-25 PSL
										300/M12	– VK...		MZET 9-25 PSL-K-TSS
													MZET 9-25 PSL-K-IBS
Sensors for gripper systems for C-shaped slot													
	Ø 3,9x21	↙	b	100 mA		■	12 mA	0,1 mm	IP 67	2.500 / – 5.000 / – 300/M8	– TK...	■	MZES 3.9 PSL
										600/M8	– TK...	■	MZES 3.9 PSL/5
													MZES 3.9 PS-K-TSSL
													MZES 3.9 PS-K0.6-TSSL
Sensors for gripper systems for T-shaped slot													
	6,1x5x25	↙	b	100 mA		■	12 mA	0,1 mm	IP 67	2.500 / – 300/M8	– TK...	■	MZES 25 PSL
										2.500 / – 300/M8	– TK...	■	MZES 25 PS-K-TSSL
													MZEKS 25 PSL
													MZEKS 25 PS-K-TSSL

* Excerpt from our delivery programme

The measured way to keep a distance

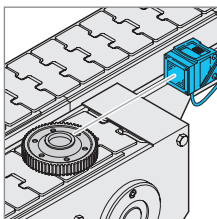
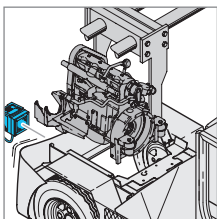
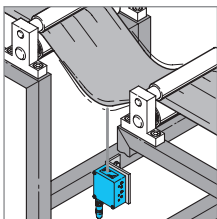
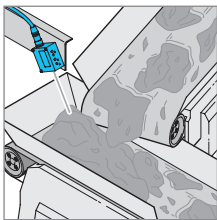
Distance sensors with switching and/or analogue output use infrared or laser light. The field of applications are e.g. height/loopcontrol on conveyor belts up to accurate measurement of distances on linear units.

Distance sensors LHT 9-45 ...

- Large range; up to 10 m
- Red light laser for simple alignment
- Switching and analog output parametrizable/linearized
- Four-digit display parametrizable
- Very good colour and surface independence
- Robust metal casing
- High protection class

Diffuse sensors OAA ...

- Two independently adjustable switching outputs
- Non linearized analog output 4 ... 20 mA
- Suitable for uneven surfaces
- Very good colour independence
- Robust metal casing
- High protection class



Technical data (typ.)	+20 °C, 24 VDC
Load resistance	500 Ω (only OAA ...)
Load resistance	4 ... 20 mA, max. 250 Ω (only LHT 9-45 M 10 P3IU-B4)
	0 ... 10 V, min. 5.000 Ω (only LHT 9-45 M 10 P3IU-B4)
Threshold	0 ... 100 % adjustable (only OAA ...)
	2 ... 100 % adjustable (only LHT ...)
Internal power consumption	< 60 mA (only OAA ...)
	< 150 mA (only LHT ...)
Ambient temperature	-10 ... +60 °C
Ambient light immunity	> 2.000 Lux with 30 ° incoming light angle (only OAA ...)
	> 8.000 Lux (only LHT ...)
Protection class	IP 67 (only OAA ...)
	IP 65 (only LHT ...)
Protection degree	Operation with class 2 supply voltage
Casing material	Aluminium, black anodized (only OAA ...)
	Die-cast zinc, black lacquered (only LHT ...)
Window casing	Glass

	Detection range (mm)	Size (mm)	Infrared light 880 nm, clocked	Red light laser 650 nm, clocked (Laser class 2)	Output (I): Transistor pnp, 200 mA, NO/NC switchable short-circuit-proof	Output (I): Transistor pnp, 200 mA, NO/NC programmable	Output (I): 4 ... 20 mA, unlinearised	Output (II): NO/NC programmable or analog (4 ... 20 mA/0 ... 10 V scalable)	Service voltage (V DC)	Max. operating frequency (Hz)	Output sequence frequency (Hz)	Diameter of light spot (mm)	Connector	Connecting cable	
	Distance sensors														Purchase order table *
	200 ... 10.000	45 x 52 x 42	■	■	■	■	■	■	10 ... 30	5	1 ... 33	Ø 6	M12	VK ...	LHT 9-45 M 10 P3-B4 ¹⁾
									18 ... 30	5				VK ... /4	LHT 9-45 M 10 P3IU-B4 ¹⁾
	Diffuse sensors														
	20 ... 280		■	■	■	■	■	■	15 ... 35	10	24	Ø 7 ... 26	M12	VK ... /5	OAA 280 IPP3K-IBS
	80 ... 800	60 x 60 x 30	■	■	■	■	■	■				Ø 7 ... 26			OAA 800 IPP3K-IBS
	180 ... 1.500											Ø 15 ... 26			OAA 1500 IPP3K-IBS

* Excerpt from our delivery programme

¹⁾ Digital display

Position detection
using echoes

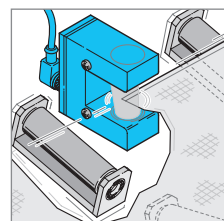
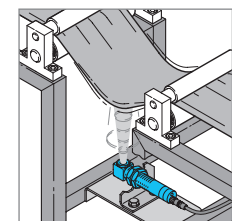
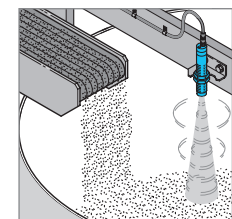
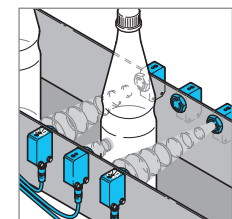
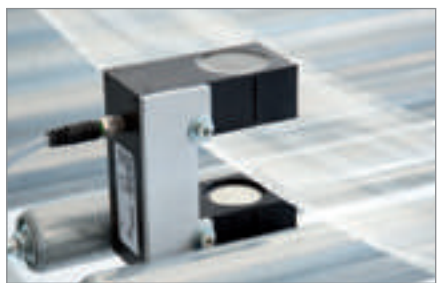
Ultrasonic sensors are used to measure distance in automation tasks. These sensors measure the duration of the noise and can thereby detect even transparent, fluid and powdery objects.

Ultrasonic sensors

- Dirt resistant
- Insensitive to noise interference
- High resolution
- High cycle speed
- Measures independent of surface
- Operational range up to 6 m
- Synchronisation input/release input
- Analog/digital output

Ultrasonic fork sensors

- Large linearized analog range
- Very high repeatability
- Web edge control also with transparent materials
- Dirt resistant
- Robust metal casing



Technical data (typ.)				+20 °C, 24 VDC								
Service voltage				18 ... 30 VDC								
some versions are available with advanced operating range of 12 ... 36 VDC												
	Scanning distance (mm) Fork opening/ Measuring range (mm)	Size (mm)	Sound output	Switching output (Transistor pnp)	Analog output	Repeat accuracy	Ambient temperature (°C)	Protection class	Casing material	Connector	Connecting cable	
Ultrasonic distance sensors												Purchase order table*
	20 ... 150	M12 x 91	Axial	100 mA, NO/NC – –	– 0 ... 10 V 4,0 ... 20 mA	0,5 %	–25 ... 70	IP 65	Brassnickel-plated	M12	VK.../4	USTI 12 MFB 150 PSOK-IBSL USTI 12 MFB 150 A-IBSL USTI 12 MFB 150 I-IBSL
	20 ... 200	M12 x 70	Axial	100 mA, NO/NC – –	– 0 ... 10 V 4,0 ... 20 mA	0,5 %	–25 ... 70	IP 65	Brassnickel-plated	M12	VK.../4	USTI 12 M 200 PSOK-IBSL USTI 12 M 200 A-IBSL USTI 12 M 200 I-IBSL
	180 ... 1.000	M18 x 90 M18 x 96	Axial Radial	100 mA, NO	–	2 %/Sn max.	–20 ... 50	IP 67	Polyamide	Kabel 2,0 m		US 18 K 1003 PSLK US 18 KR 1003 PSLK
	180 ... 1.000	M18 x 90 M18 x 96	Axial Radial	100 mA, NO	1,6 ... 10 V	2 %/Sn max.	–20 ... 50	IP 67	Polyamide	M8	TK.../4	US 18 K 1003 PSAK-TSSL US 18 KR 1003 PSAK-TSSL
	180 ... 1.000	M18 x 90	Axial	100 mA, NO	1,8 ... 10 V	2 %/Sn max.	–20 ... 50	IP 67	V2A	M8	TK.../4	US 18 V 1003 PSAK-TSSL
	100 ... 700	M18 x 63,5 M18 x 81,5	Axial Radial	150 mA, NO	–	1 mm	–25 ... 70	IP 67	Brassnickel-plated	M12	VK.../4	USCTI 18 M 700 FPSK-BSL USCTI 18 MR 700 FPSK-BSL
	150 ... 1.000	M18 x 101	Axial	150 mA, NO –	– 4,0 ... 20 mA	2 mm	–25 ... 70	IP 67	Brassnickel-plated	M12	VK.../4	USC 18 M 1000 IPSK-IBSL USC 18 M 1000 I4/20-IBSL
	200 ... 1.300	M30 x 131	Axial	300 mA, NO	–	2 mm	–25 ... 70	IP 65	Brassnickel-plated	M12	VK.../4	USC 30 M 1300 IPSK-BSL
	600 ... 6.000	M30 x 153	Axial	300 mA, NO	0 ... 10 V	9 mm	–25 ... 70	IP 65	Brassnickel-plated	M12	VK/5 ...	USC 30 M 6000 I0/10PSK-BSL
	600 ... 6.000	M30 x 153	Axial	300 mA, NO	4,0 ... 20 mA	9 mm	–25 ... 70	IP 65	Brassnickel-plated	M12	VK/5 ...	USC 30 M 6000 I4/20PSK-BSL
	120 ... 500	46 x 30 x 18	Radial	100 mA, NO	–	–	–20 ... 50	IP 67	Polyamide V2A	M8	TK ...	US 46 K 500 PSK-TSSL
	80 ... 500	60 x 41 x 32	Radial	100 mA, 2 x NO	–	–	–20 ... 50	IP 67	Polyamide V2A	M8	TK ...	US 60 K 500 PSS-TSSL
	250 ... 2.500	60 x 41 x 33	Radial	100 mA, NO	5,6 ... 20 mA	1 %/Sn max.	–20 ... 50	IP 67	Polyamide	M8	TK.../4	US 60 K 2500 PSI-TSSL
400 ... 5.000	60 x 41 x 38	Radial	100 mA, NO	5,3 ... 20 mA	–	–	–20 ... 50	IP 67	Polyamide	M8	TK.../4	US 60 K 5000 PSI-TSSL
Ultrasonic retroreflective sensors												
	0 ... 200	M18 x 63,5	Axial	150 mA, NO	20 ... 30 V	–	–25 ... 70	IP 67	Brassnickel-plated	M12	VK.../4	USCRTI 18 M 200 FPSK-BSL USCRTI 18 M 200 FPSK-BSL
	0 ... 700	M18 x 81,5	Radial	150 mA, NO	20 ... 30 V	–	–25 ... 70	IP 67	Brassnickel-plated	M12	VK.../4	USCRTI 18 MR 700 FPSK-BSL USCRTI 18 MR 700 FPSK-BSL
Ultrasonic through beam sensors												
	0 ... 1.500	Receiver Transmitter	Radial	100 mA, NO –	– –	–	–20 ... 50	IP 67	Polyamide V2A	M8	TK ...	USE 46 K 1500 PSKT-TSSL USS 46 K 1500-TSSL
	Ultrasonic fork sensors											
	30/8	74 x 30 x 65		–	–	–	–	IP 67	Aluminium anodized	M12	VK.../4	USGT 30/8 A-B4
	40/13	92 x 39 x 80		–	0 ... 10 V	0,15 mm ¹⁾	0 ... 60	IP 67	Aluminium anodized	M12	VK.../4	USGT 40/13 A-B4
	60/8	104 x 30 x 65		–	–	–	–	IP 67	Aluminium anodized	M12	VK.../4	USGT 60/8 A-B4
	70/13	122 x 39 x 80		–	–	–	–	IP 67	Aluminium anodized	M12	VK.../4	USGT 70/13 A-B4

* Excerpt from our delivery programme

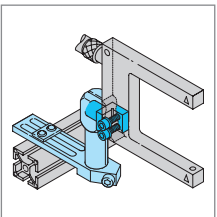
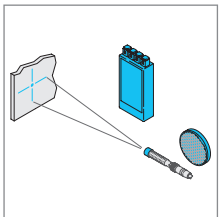
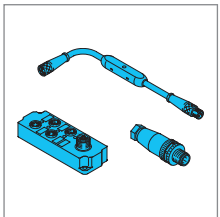
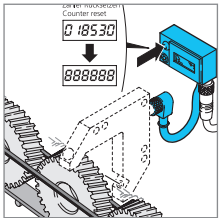
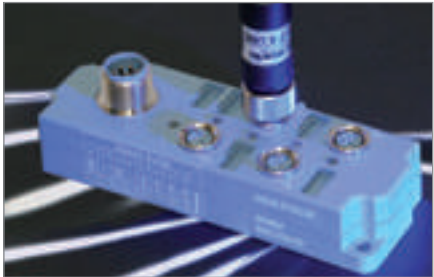
¹⁾at 50% coverage

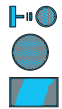
Matching equipment
for di-soric sensors

A comprehensive range of accessories rounds off the wide range of sensors and offers you virtually all the options possible.

Accessories

- Sensor tester
 - Counting module with reset function in M8 and M12 versions
 - M8 and M12 multifunctional adapter:
 - pnp threshold switch
 - npn/pnp converter, pnp/npn converter
 - pnp inverter
 - pnp antivalent signal
 - pnp pulse stretcher
 - Logic distributor
 - Sensor clamp
- Connector
 - Connecting cables
 - M8/M12 and M12/M8 adapter plugs
 - Power supply with relay
 - Reflectors
 - Mounting brackets



	Size (mm)	Number of wires	Plug	Cable length (m)	Mounting	Metalnut	Max. service voltage allowed (V/AC/DC)	Connector: PU; Cable PVC, PU-coating	Temperature resistant up to (°C)	Protection class	
Connecting cable											Purchase order table*
	M8	3	straight	2,5	—	■	60	■		IP 67	TKHM - Z - 2,5
		4		5,0							TKHM - Z - 5
				2,5							TKHM - Z - 2,5/4
				5,0							TKHM - Z - 5/4
	M8	3	angled	2,5	—	■	60	■		IP 67	TKHM - W - 2,5
		4		5,0							TKHM - W - 5
				2,5							TKHM - W - 2,5/4
				5,0							TKHM - W - 5/4
	M12	4	straight	2,5	—	■	250	■		IP 67	VKHM - Z - 2,5/4
		5,0		VKHM - Z - 5/4							
	M12	4	angled	2,5	—	■	250	■		IP 67	VKHM - W - 2,5/4
		5,0		VKHM - W - 5/4							
Reflectors for infrared and red light											
	Ø 19x6	—			M3x9				80		R 21 M3
	Ø 50x8	—			adhesive				80		R 50
	50 x 80 x 7	—			adhesive				80		R 50 x 80
Reflectors with laser light											
	13 x 17 x 4				adhesive				80		RL 13 x 17
	42 x 35 x 8,4				Ø 3,3 (2x)				80		RL 42 x 35

Pulse stretching					
	pnp	M8/3-poled	1 ... 150 ms	Operating frequency < 500 Hz	TKHM-Z/TSM-Z/T
	pnp	M12/3-poled	1 ... 150 ms	Operating frequency < 500 Hz	VKHM-Z/VSM-Z/T

Mounting bracket				Sensor holder					
		For fork- / angled light barriers		Angle clamp					
		Hole spacing 8 mm		A	B	C	D	E	
		For fork light barriers		10			16	18	SH-WST-L-10-U
		Hole spacing 20 mm		14			18	18	SH-WST-L-14-U
		For cylindrically designed casings		20			25	40	SH-WST-JU-20-U
		A	D	SH ...					
		4	10	SH-4-10					
		5	10	SH-5-10					
		6,5	10	SH-6.5-10					
		8	10	SH-8-10					
		12	10	SH-12-10					
		For photoelectric sensors size 50							
				Angle arm					
				A	B	C	D	E	
				10	30	10			SH-WKA-10-10-30
				10	60	10			SH-WKA-10-10-60
				10	90	10			SH-WKA-10-10-90
				Articulated arm					
				A	B	C	D	E	
				10	30	10			SH-GLA-10-10-30
				10	60	10			SH-GLA-10-10-60
				10	90	10			SH-GLA-10-10-90

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