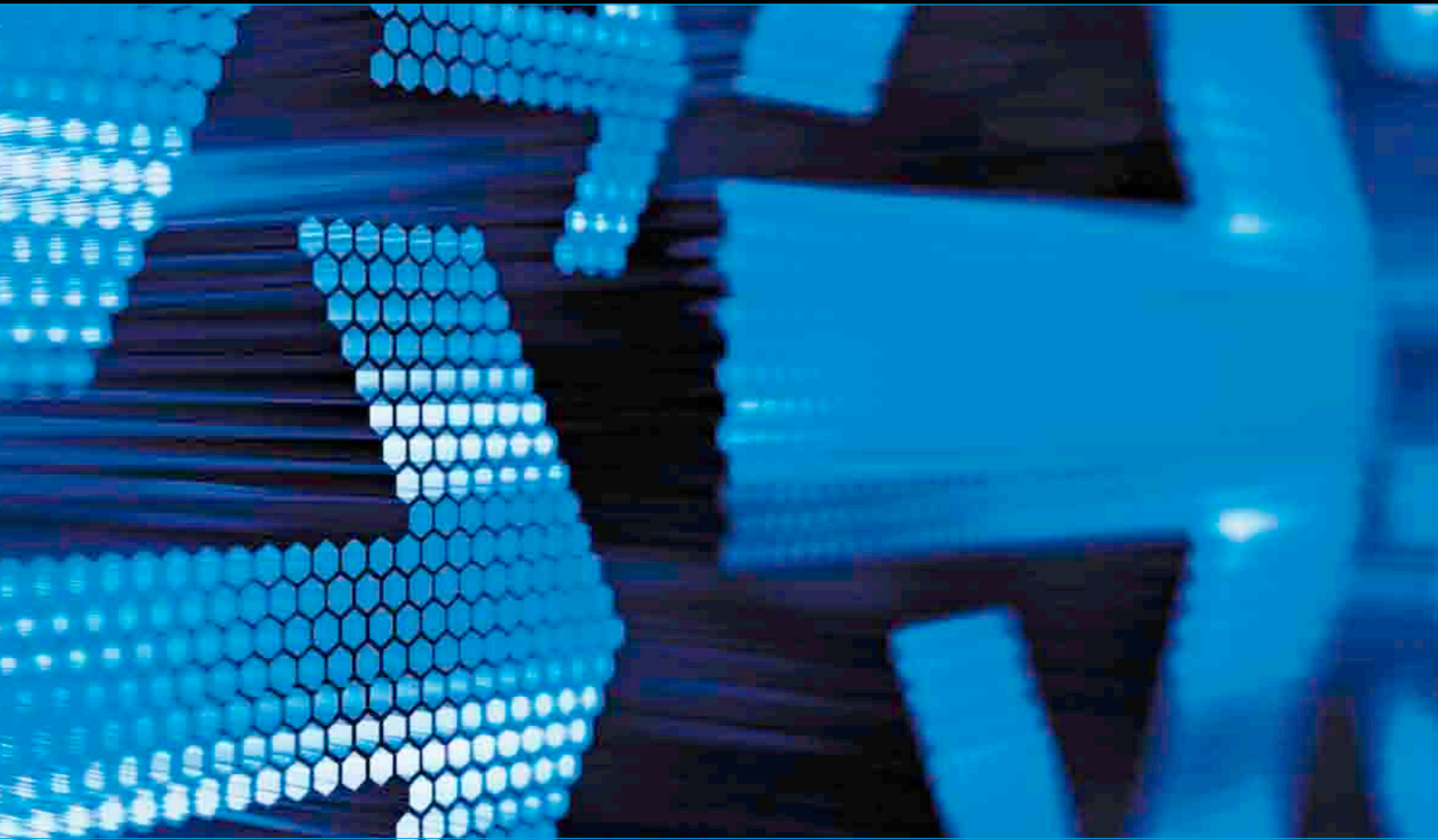
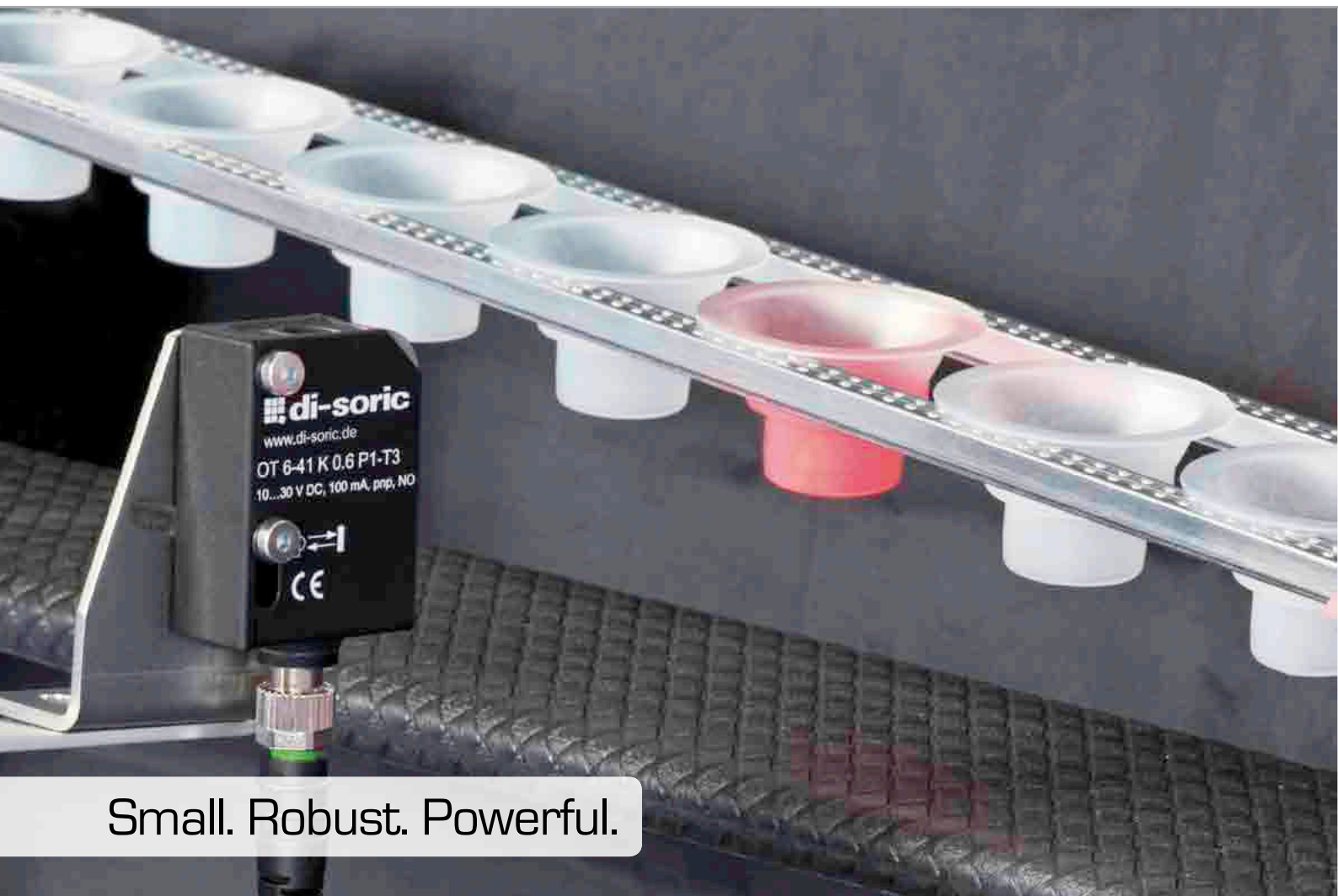


Compact Catalog





Small. Robust. Powerful.

PHOTOELECTRIC SENSORS SERIES 40


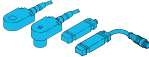
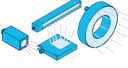

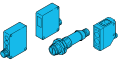
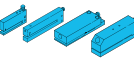
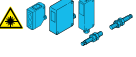

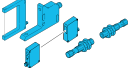


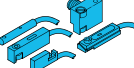

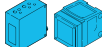

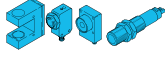
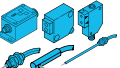


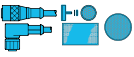

Different functional principles for varying tasks in the automation industry combined with technical refinement define the di-soric light barriers.

Further information on page 9 and 11.

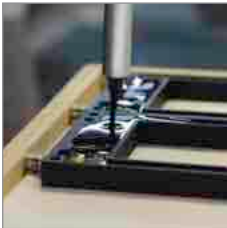
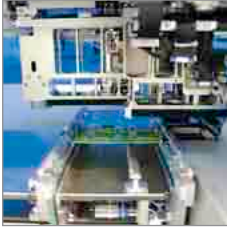
The 40 series light barriers are highlighted with a grey bar.



Innovative products for your automation

	Page		Page		
	Company	4	 Ring and tube sensors	26	
	Lighting	6		Optical movement sensors	28
	Photoelectric sensors	8		Label sensors	30
	Laser photoelectric sensors	10		Proximity switches	32
	High performance photoelectric sensors	12		Contact sensors	34
	Angled light barriers	14		Cylinder sensors	36
	Fork light barriers	16		Distance sensors	38
	Frame and ring light barriers	18		Ultrasonic sensors	40
	Fibre-optic cables/-amplifiers	20		Inclination sensors	42
	Light curtains	22		Accessories	44 – 47
	Colour sensors	24			

High-performance and competent



di-soric has successfully been involved in the application, support, development and production of standard and special sensors for industrial automation for more than 25 years.

Our family-run companies currently employ more than 180 members of staff at two sites. The company headquarters are located in Urbach, east of Stuttgart, while our development and production site is in Lüdenscheid, south of Dortmund.

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 very well-known 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



Sales, warehouse and administration in Urbach



Development and production in Lüdenscheid

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



Catalogue survey product direct selection and product search

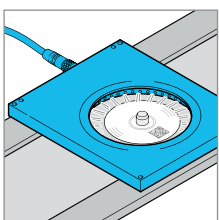
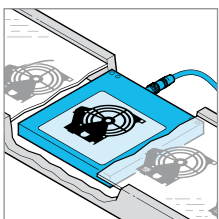
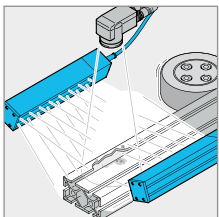


Detailed product page contains all important information

di-soric provides an extensive range of lightings for image data processing as well as inspection tasks. Unique technical features in combination with extremely robust casings and a high protection class feature di-soric lights.

Lighting











- ◆ Internal control of power output
- ◆ Homogeneous luminous field
- ◆ High Protection class up to IP 69K
- ◆ External trigger input
- ◆ High efficiency
- ◆ Low levels of heat produced
- ◆ Adjustable light intensity
- ◆ Various options of mounting
- ◆ Light colours: UV, blue, green, red, infrared, white
- ◆ Sturdy casing design
- ◆ Standard M12-Connector



CE

Technical data (typ.)	+20 °C, 24 VDC
Trigger frequency	500 Hz
Trigger input low level	0 ... < 2,8 V
Trigger input high level	> 3,3 ... 35 V
Shock/vibration loading	30 g _r /10 – 55 Hz, 1 mm
Ambient temperature	0 ... +50 °C

Colour Code	Example
Infrared	...-G0TI-... BEK 1-A300-G0TI-IBS
Red	...-G1TI-... BEK 1-A300-G1TI-IBS
Green	...-G2TI-... BEK 1-A300-G2TI-IBS
Blue	...-G3TI-... BEK 1-A300-G3TI-IBS
White	...-G5TI-... BEK 1-A300-G5TI-IBS
¹⁾ Version clear	BEK-R70/20-G5TI-IBS-CLR
¹⁾ Version diffuse	BEK-R70/20-G5TI-IBS-DIF
¹⁾ Version polarized	BEK-R70/20-G5TI-IBS-POL

	Illuminated area/length (mm)	Angle of reflected beam (°)	Size (mm)	Service voltage (VDC)	Integrated power output control	Light intensity can be adjusted	Trigger, pnp/npn switchable	Protection class	Casing material	Connector	Connecting cable	Light colour (refer to Colour Code)	
Backlights													Purchase order table*
	50x50 100x100	–	90x93,5x15 140x143,5x15	10 ... 35 10 ... 35	■	■	■	IP 67 IP 67	Aluminium Aluminium	M12 M12	VK ... VK ...	...-GxTI-... ...-GxTI-...	BEK 1-F50/50-GxTI-IBS BEK 1-F100/100-GxTI-IBS
Barlights													
	130 240	–	18x20x144 18x20x254	24				IP 20	Aluminium	M12	VK ...	...-GxTI-...	BE 1-A130-Gx-K-BS BE 1-A240-Gx-K-BS
	100 200 300 400 500	–	40x40x145 40x40x245 40x40x345 40x40x445 40x40x545	15 ... 35	■	■	■	IP 65	Aluminium	M12	VK ...	...-GxTI-...	BEK 1-A100-GxTI-IBS BEK 1-A200-GxTI-IBS BEK 1-A300-GxTI-IBS BEK 1-A400-GxTI-IBS BEK 1-A500-GxTI-IBS
Spotlights													
	–	10° 14° 30° 60°	30x32x60 30x32x60	– 10 ... 35	■	■	■	IP 67 IP 67	Aluminium Aluminium	M12 M12	VK ... VK ...	UV ...-GxTI-...	BEK 1-P10-G7TI-IBS BEK 1-P14-GxTI-IBS BEK 1-P30-GxTI-IBS BEK 1-P60-GxTI-IBS
	–	14° 30° 60°	30x32x70	10 ... 35	■	■	■	IP 67	Aluminium	M12	VK ...	...-GxTI-...	BEK 1-P14R-GxTI-IBS BEK 1-P30R-GxTI-IBS BEK 1-P60R-GxTI-IBS
Ringlights													
	∅70 ∅70	20° 30°	∅130x29 ∅130x29	18 ... 35 18 ... 35	■	■	■	IP 67 IP 67	Aluminium Aluminium	M12 M12	VK ... VK ...	White ...-GxTI-...	BEK-R70/20-G5TI-IBS-xxx ¹⁾ BEK-R70/30-GxTI-IBS-xxx ¹⁾
Darkfield Lights													
	∅120	–	170x200x15	10 ... 35	■	■	■	IP 67	Aluminium	M12	VK ...	...-GxTI-...	BEK 1-D120-GxTI-IBS
Backlights with stainless steel casing													
	50x50 70x100	–	70x70x15 90x120x15	10 ... 35	■	■	■	IP 69K	Stainless steel	M12	VK ...	...-GxTI-...	BEE-F50/50V-GxTI-IBS BEE-F70/100V-GxTI-IBS
Barlights with stainless steel casing													
	100 200 300 400 500	–	40x40x145 40x40x245 40x40x345 40x40x445 40x40x545	15 ... 35	■			IP 69K	Stainless steel	M12	VK ...	...-GxTI-...	BEK 1-A100V-GxTI-IBS BEK 1-A200V-GxTI-IBS BEK 1-A300V-GxTI-IBS BEK 1-A400V-GxTI-IBS BEK 1-A500V-GxTI-IBS
Spotlights with stainless steel casing													
	–	10° 14° 30° 60°	30x32x60 30x32x60	10 ... 35 10 ... 35	■			IP 69K IP 69K	Stainless steel Stainless steel	M12 M12	VK ... VK ...	UV ...-GxTI-...	BEK-P10V-G7TI-IBS BEK-P14V-GxTI-IBS BEK-P30V-GxTI-IBS BEK-P60V-GxTI-IBS

* Excerpt from our delivery programme

Photoelectric Sensors

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

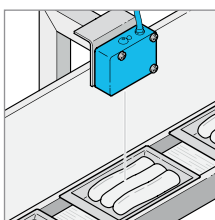
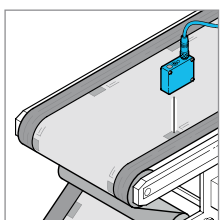
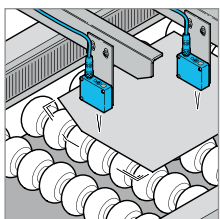
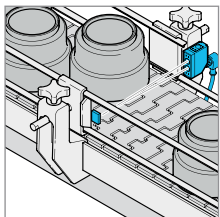
- High resolution
- Ranges up to 50 m
- Alignment aid
- Stainless steel casing with protection class IP 69K

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 steel V2A	–	–	OTV 40 V 10 P1K
	... 20	M8	–	–	■			pnp, 100 mA, NO	0 ... +55	IP 67		M8	TK ...	OTV 05 V 20 P1K-TSSL
	... 50	40x5x7	–	–	■			pnp, 100 mA, NO	0 ... +55	IP 67	ABS Metal	–	TK ...	OTV Q5 M 50 P1LK
	... 400	M18	Poti	–	■			pnp, 100 mA, NO/NC	–25 ... +50	IP 66		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 steel 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
	0 ... 600	38x27x15	Teach	–	■			pnp, 100 mA, NO pnp, 100 mA, NC	–25 ... +60	IP 67	Plastic	M8	TK ...	OT 6-41 K 0.6 P1-T3 OT 6-41 K 0.6 P2-T3
Diffuse sensors with background suppression														
	10 ... 120	M18	Poti	–	■			pnp, 200 mA, NO	–25 ... +55	IP 65	Ms vernickelt	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
	40 ... 200	41x31,5x16	Teach	–	■			Push pull, 200 mA, NO/NC	0 ... +50	IP 67				Die-cast zinc	M8	TK ...	OHT 41 M 0.2 G3-T3
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 steel		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
	0 ... 4.000	38x27x15	Teach	–	■			pnp, 100 mA, NO pnp, 100 mA, NC	–25 ... +60	IP 67				Plastic	M8	TK ...	OR 6-41 K 4 P1-T3 OR 6-41 K 4 P2-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 OEV 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 OEV 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 OEV 50 V 20000 G2LK-0.3BS/IP69K

* Excerpt from our delivery programme

Laser Photoelectric Sensors

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

Laser photoelectric sensors

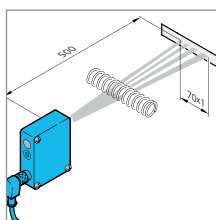
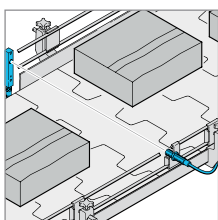
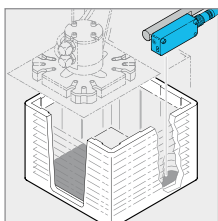
- Resolution 0,2 mm
- High switching frequency
- Collimated red light laser, clocked
- Range up to 50 m
- Robust metal casing
- Compact design

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		
Lasers 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
Lasers sensors with background suppression ⚠													
	40 ... 200	41x31,5x16	Teach	–	Push pull, 200 mA, NO/NC	500	40	0 ... +50	50.000	Die-cast zinc	M8	TK ...	LHT 41 M 0.2 G3-T3 ³⁾
	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 ... 300 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 300 G4L-IBS ²⁾³⁾ 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 ³⁾
	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	
Lasers 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
Lasers 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 / ³⁾class 1 laser product

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

High Performance Photoelectric Sensors

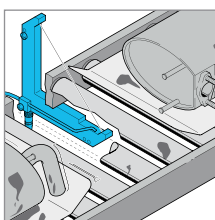
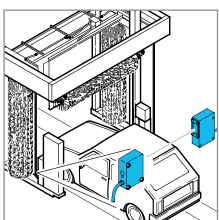
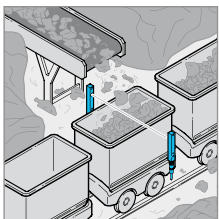
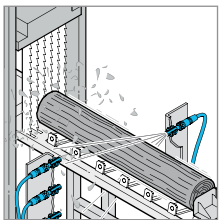
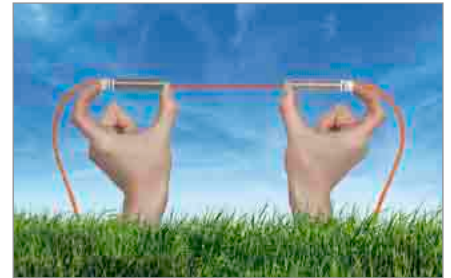
High performance photoelectric sensors are the more powerful versions of the various photoelectric sensors series. Thanks to their extremely high performance, chips, dust, oil and waste water can all be reliably penetrated.

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 ...)
Contamination output	200 mA, pnp (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 (VDC)	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	Aluminium anodised	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 OEV 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⁾ OEV 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 OEV 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	-	10 ... 30	pnp, 200 mA, NO/NC	300	30	> 20.000	Die-cast zinc	M8	TK ...	OGUP 050 P3K-TSSL
	80	100x80x10	-	10 ... 30	pnp, 200 mA, NO/NC	300	30	> 20.000	Die-cast zinc	M8	TK ...	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	-	10 ... 35	pnp, 200 mA, NO/NC	300	30	> 20.000	Die-cast zinc	M8	TK ...	OGLP 080 P3K-TSSL
	120	150x150x12	-	10 ... 35	pnp, 200 mA, NO/NC	2.000	40	> 50.000	Die-cast zinc	M8	TK ...	OGLP 120 P3K-TSSL
	150	180x180x12	-	10 ... 35	pnp, 200 mA, NO/NC	2.000	40	> 50.000	Aluminium	M8	TK ...	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 ... 35	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 ... 35	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

Angled Light Barriers

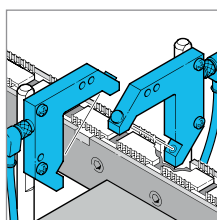
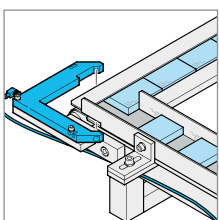
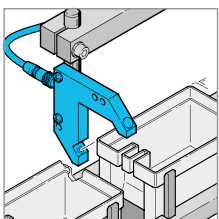
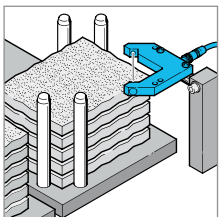
The angled light barrier is of particular use when removing workpieces or detecting parts. With high operating frequency, short response time and high resolution; exact positioning as well as the safe detection of extremely fast motion sequences of the smallest parts is possible.

Angled light barriers

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

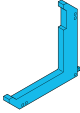
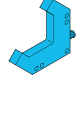
Angled laser light barriers

- 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)	Connector	Connecting cable	
Angled light barriers												Purchase order table*	
	50	75x75x10	■		pnp, 200 mA, NO/NC nnp, 200 mA, NO/NC	< 30	ø 0,5	4.000	> 80.000	0,06	M8	TK ...	OGL 051 P3K-TSSL
				■	pnp, 200 mA, NO/NC nnp, 200 mA, NO/NC				> 25.000				OGL 051 N3K-TSSL
	80	105x105x10	■		pnp, 200 mA, NO/NC nnp, 200 mA, NO/NC	< 30	ø 0,7	4.000	> 70.000	0,06	M8	TK ...	OGL 081 P3K-TSSL
				■	pnp, 200 mA, NO/NC nnp, 200 mA, NO/NC				> 20.000				OGL 081 N3K-TSSL
	120	150x150x12	■		pnp, 200 mA, NO/NC nnp, 200 mA, NO/NC	< 40	ø 1,0	2.000	> 80.000	0,06	M8	TK ...	OGL 121 P3K-TSSL
				■	pnp, 200 mA, NO/NC nnp, 200 mA, NO/NC				> 50.000				OGL 121 N3K-TSSL
Angled laser light barriers ⚠													
	50	81x81x10		■	pnp, 200 mA, NO/NC nnp, 200 mA, NO/NC	< 30	ø 0,05	3.000	> 100.000	0,01	M8	TK ...	LGL 051 P3K-TSSL
	80	106x106x10		■	pnp, 200 mA, NO/NC nnp, 200 mA, NO/NC	< 30	ø 0,05	3.000	> 100.000	0,01	M8	TK ...	LGL 081 P3K-TSSL
	120	146x146x12		■	pnp, 200 mA, NO/NC nnp, 200 mA, NO/NC	< 30	ø 0,05	3.000	> 100.000	0,01	M8	TK ...	LGL 121 P3K-TSSL
High performance angled light barriers see page 12 until 13													

* Excerpt from our delivery programme

Fork Light Barriers

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

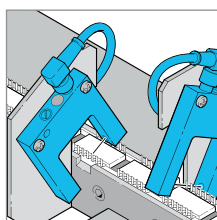
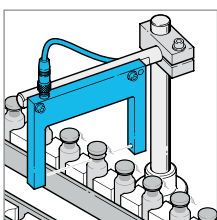
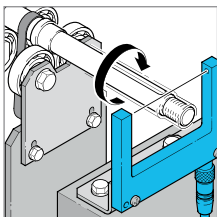
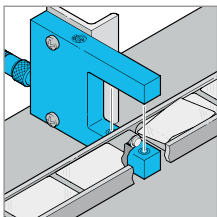
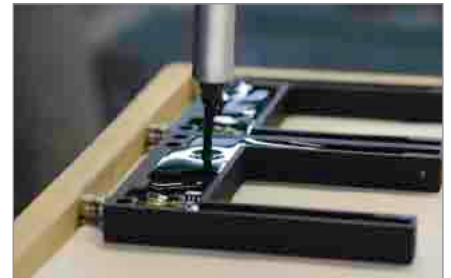
- Potentiometer or teach function
- Static or dynamic operating principle
- Analogue/switching output
- Fork widths from 2 to 250 mm
- High operating frequency
- Sensitivity adjustable
- Light/dark switching
- OGUFIX
 - does not require any adjustment elements
- Versions in V4A
- 3-years function guarantee*

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 ...)
Minimum speed	5 cm/s (only OGUTID ...)
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 anodised (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 (mW)	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	25x45x10	Poti	■	■	40	∅ 0,3	2,4	10.000	0,1	0,01	20.000	M8	TK ...	OGU 010 G3K-TSSL
	20	40x50x10		■		30	∅ 0,4	2,8	4.000	0,1	0,02	70.000			OGU 021 P3K-TSSL
	30	50x60x10		■		30	∅ 0,5	2,8	4.000	0,25	0,02	30.000			OGU 031 P3K-TSSL
	50	70x80x10		■		30	∅ 0,5	2,8	4.000	0,25	0,04	25.000			OGU 051 P3K-TSSL
	80	100x80x10		■		30	∅ 0,5	2,8	4.000	0,25	0,06	25.000			OGU 081 P3K-TSSL
120	144x90x12	■		45	∅ 0,8	2,0	2.000	0,2	0,06	20.000	OGU 121 P3K-TSSL				
Fork light barriers in stainless steel casing															
	30	50x60x10	Poti	■		30	∅ 0,5	2,8	4.000	0,25	0,02	30.000	M8	TK ...	OGU 031 P3K-TSSL/V4A
	50	70x80x10		■		30	∅ 0,5	2,8	4.000		0,04	15.000			OGU 051 P3K-TSSL/V4A
	80	100x80x10		■		30	∅ 0,5	2,8	4.000		0,06	25.000			OGU 081 P3K-TSSL/V4A
	120	144x90x12		■		45	∅ 0,8	2,0	2.000		0,06	20.000			OGU 121 P3K-TSSL/V4A
Fork light barriers with teach function															
	30	50x60x10	Teach	■		30	∅ 0,3	2,0	3.000	0,1	0,03	20.000	M8	TK ...	OGUTI 031 P3K-TSSL
	50	70x80x10		■		30	∅ 0,3		3.000	0,1	0,03	20.000			OGUTI 051 P3K-TSSL
	80	100x80x10		■		30	∅ 0,3		3.000	0,1	0,03	12.000			OGUTI 081 P3K-TSSL
	120	144x90x12		■		50	∅ 0,7		1.500	0,15	0,05	15.000			OGUTI 121 G3K-TSSL
Fork light barriers with teach function and dynamic evaluation															
	30	50x60x10	Teach	■		30	∅ 0,15	2,0	100	-	-	10.000	M8	TK ...	OGUTID 031 P3K-TSSL ¹⁾
	50	70x80x10		■		30	∅ 0,15	2,0	100	-	-	10.000			OGUTID 051 P3K-TSSL ¹⁾
	80	100x80x10		■		30	∅ 0,15	2,0	100	-	-	10.000			OGUTID 081 P3K-TSSL ¹⁾
Differential fork light barriers															
	30	50x70x10	Poti		■	35	∅ 0,07	2,5	5.000	0,2	0,01	-	M8	TK ...	ODG 30 P3K-TSSL ¹⁾
	50	70x90x10		■		35	∅ 0,1								ODG 50 P3K-TSSL ¹⁾
	90	110x115x10		■		35	∅ 0,25								ODG 90 P3K-TSSL ¹⁾
Laser fork light barriers 															
	30	60x60x10	Poti		■	30	∅ 0,05	2,8	3.000	0,02	0,01	100.000	M8	TK ...	LGU 031 P3K-TSSL
	50	80x80x10		■		30	∅ 0,05	2,8	3.000	0,02	0,01	100.000			LGU 051 P3K-TSSL
	80	110x80x10		■		30	∅ 0,05	2,8	3.000	0,02	0,01	100.000			LGU 081 P3K-TSSL
	120	150x90x12		■		30	∅ 0,05	2,8	3.000	0,02	0,01	100.000			LGU 121 P3K-TSSL
High performance fork light barriers see page 12 until 13															

* Excerpt from our delivery programme

¹⁾without UL-approval

Frame & Ring Light Barriers

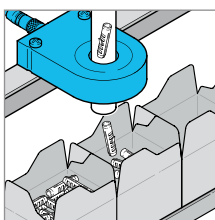
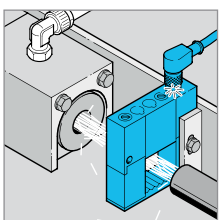
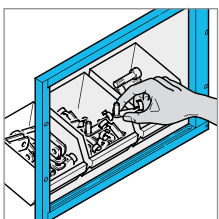
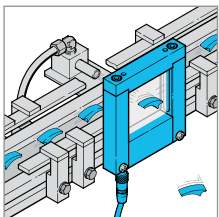
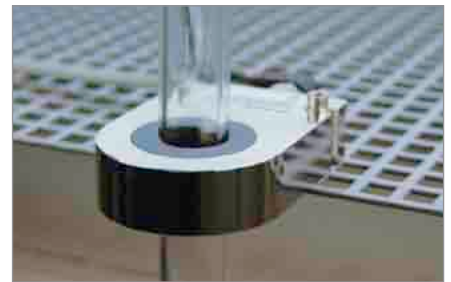
The optimum solution for detecting metallic and non-metallic parts, for counting small parts or for checking ejection or removal of workpieces in press and stamping plants.

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



CE

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, anodised (only OGWSD .../OTZ .../OVx ...) Plastic (only ORSD ...)

	Active zone/Ring diameter (mm)	Size (mm)	Functional principles Static (S)/Dynamic (D)	Output	Internal power consumption (mA)	Resolution, dynamic mode (mm)	Resolution, static mode (mm)	Ambient light immunity (Lux)	Service voltage (V DC)	External amplifier	Connector	Connecting cable	
Frame light barriers												Purchase order table*	
	25 x 23	60 x 60 x 15	S/D	pnp, 200 mA, NO/NC nnp, 200 mA, NO/NC	25	∅ 0,7	∅ 1,0	30.000	10 ... 35		M8	TK ...	OGWSD 25 P3K-TSSL OGWSD 25 N3K-TSSL
	40 x 49	85 x 80 x 15	S/D	pnp, 200 mA, NO/NC nnp, 200 mA, NO/NC	30	∅ 0,7	∅ 1,0	20.000	18 ... 35	■	M8	TK ...	OGWSD V 4055 P3K-TSSL OGWSD V 4055 N3K-TSSL
	40 x 49	80 x 125 x 20	S/D	pnp, 200 mA, NO/NC nnp, 200 mA, NO/NC	30	∅ 0,7	∅ 1,0	20.000	18 ... 35		M8	TK ...	OGWSD 4055 P3K-TSSL OGWSD 4055 N3K-TSSL
	70 x 62	110 x 123 x 20	S/D	pnp, 200 mA, NO/NC nnp, 200 mA, NO/NC	30	∅ 1,5	∅ 2,0	20.000	18 ... 35		M8	TK ...	OGWSD 70 P3K-TSSL OGWSD 70 N3K-TSSL
	100 x 92	140 x 153 x 20	S/D	pnp, 200 mA, NO/NC nnp, 200 mA, NO/NC	35	∅ 2,5	∅ 3,0	20.000	18 ... 35		M8	TK ...	OGWSD 100 P3K-TSSL OGWSD 100 N3K-TSSL
	150 x 142	190 x 203 x 20	S/D	pnp, 200 mA, NO/NC nnp, 200 mA, NO/NC	45	∅ 3,0	∅ 5,0	20.000	18 ... 35		M8	TK ...	OGWSD 150 P3K-TSSL OGWSD 150 N3K-TSSL
	250 x 242	290 x 303 x 20	S/D	pnp, 200 mA, NO/NC nnp, 200 mA, NO/NC	45	∅ 5,0	∅ 8,0	10.000	22 ... 26		M8	TK ...	OGWSD 250 P3K-TSSL OGWSD 250 N3K-TSSL
	300 x 397,5	340 x 458,5 x 20	S/D	pnp, 200 mA, NO/NC nnp, 200 mA, NO/NC	50	∅ 5,0	∅ 10,0	8.000	22 ... 26		M8	TK ...	OGWSD 300 P3K-TSSL OGWSD 300 N3K-TSSL
Ring light barrier													
	20,6	60 x 85 x 20	S/D	pnp, 200 mA, NO	30	∅ 1,5	∅ 1,5	5.000	10 ... 35		M12	VK ...	ORS20 P2K-IBS
Ring light barriers to be used with external amplifier, connecting cable 500 mm													
	10,6	35 x 30 x 20	–	–	–	–	∅ 1,0	–	–	■	–	–	OTZ 510
	15,6	40 x 35 x 20	–	–	–	–	∅ 2,0	–	–	■	–	–	OTZ 515
	20,6	40 x 35 x 20	–	–	–	–	∅ 3,0	–	–	■	–	–	OTZ 520
Amplifier for ring light barrier OTZ ...													
	–	35 x 70 x 15	S	pnp, 200 mA, NC pnp, 200 mA, NO	60	–	–	–	12 ... 30		M8	TK ...	OV 70 P1K-TSSL OV 70 P2K-TSSL
	–	35 x 70 x 15	D	pnp, 200 mA, NC pnp, 200 mA, NO	60	–	–	–	20 ... 35		M8	TK ...	OV 70 P1K-TSSL OV 70 P2K-TSSL

* Excerpt from our delivery programme

Fibre-optic Cables/-Amplifiers

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

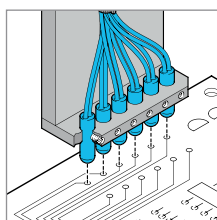
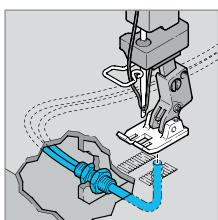
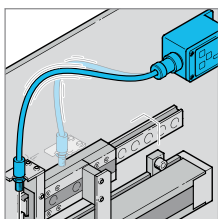
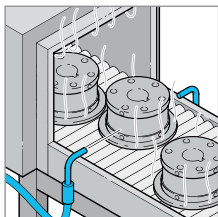
- High switching frequency
- Analog and digital outputs
- Infrared, red and green light, clocked
- Potentiometer or teach function
- Robust metal casing

Plastic fibre-optic cables

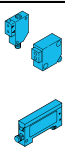

- High resolution
- Large operating distances
- Fine internal fibres
- Auxiliary optics
- Bendable sensor probe
- Versions with coaxial arrangement

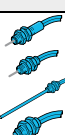

Amplifiers for plastic fibre-optic cables

- 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 ...)

Size (mm)	Sensitivity adjustment by means of	Service voltage (V)	Operating frequency (Hz)	Infrared light, clocked	Red light, clocked	NO/NC switchable	Switching hysteresis (%)	Temperature drift (%/K)	Ambient light immunity (Lux)	Protection class	Internal power consumption (mA)	Connector	Connecting cable	
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.../4	OLVK 61 P3FK-TSSL/3 OLVK 61 P3FK-TSSL
	60x31x10	Teach	10 ... 30	1.500 4.000		■	10 5	0,2	10.000	IP 64	25 30	M8	TK.../4	OLVKTI 61 P3FK-TSSL 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 15	0,3	20.000	IP 65	55	M12	VK...	OLV 40 P3K-IBS OLV 41 P3K-IBS
	40x41x75	Teach	10 ... 35	1.500	■	■	12 12	0,1 0,25	50.000	IP 65	45	M12	VK.../4	OLVTI 40 P3K-IBS OLVTI 41 P3K-IBS

Application as diffuse sensor	Application as through beam sensor	Operating distance up to (mm) depending on amplifier	Sensor probe	Thread sleeves (brassnickel-plated)	Thread sleeves (VA)	Mounting	Coating cable (PE)	Coating cable (silicone metal coating)	Length fibre-optic cable ¹⁾ (mm)	Temperature resistance (°C)	Protection class	
Plastic fibre-optic cables (PMMA)												Purchase order table*
	■	70	-	■		M3						WRBT 2000 K-M3-0.5
	■	140	-	■		M5	■	2.000 ²⁾	-25 ... +70	IP 67		WRBT 2000 K-M5-Z8
	■	150	VA	■		M6						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 WRB 220SB 2.0-1.0
	■	70	VA			Ø8x35						WRB 120SR-8.0-2.5 WRB 220SR-8.0-2.5
	■	85	VA			Ø8x15	■	600 ²⁾	-40 ... +180	IP 67		WRB 120S-8-2.5 WRB 220S-8-2.5
	■	85	VA			M4x20						WRB 120S-M4-2.5 WRB 20S-M4-2.5
	■	85	AL			30x16x10						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

Light Curtains

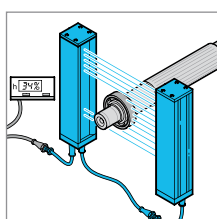
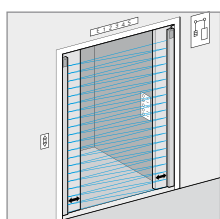
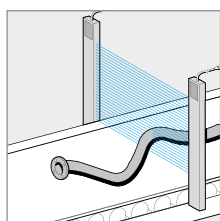
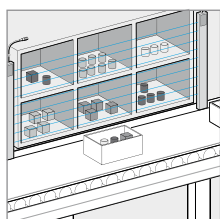
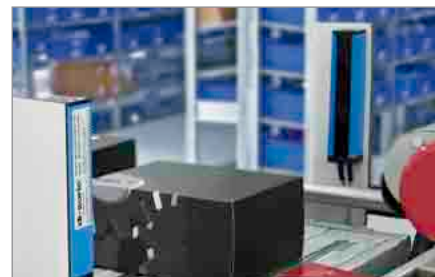
Specified areas for checking individual parts are safely monitored with invisible, infrared light beams in di-soric light curtains.

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




CE

Technical data (typ.)	+20 °C, 24 VDC	+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–	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	LA-D		D	LA-D		D	LA-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	LA-D		D	LA-D		D	LA-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	LA-D		D	LA-D		D	LA-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	LA-D		D	LA-D		D	LA-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	LA-D		D	LA-D		D	LA-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	LA-D		D	LA-D		D	LA-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	LA-D	–	D	LA-D		D	LA-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	LA-D	–	D	LA-D		D	LA-D		D

Purchase order table * measuring light curtains MLE 64/02 A 300.../MLS 64/02 A 300...		
Evaluation receiver/transmitter	Model A (absolute)	Model B (percentaged)
 Receiver	MLE 64/02 A 300-A-F250	MLE 64/02 A 300-B-F250
Transmitter	MLS 64/02 A 300-A-F250	MLS 64/02 A 300-B-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

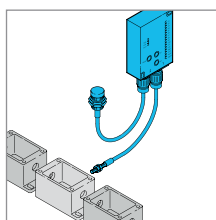
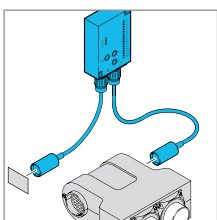
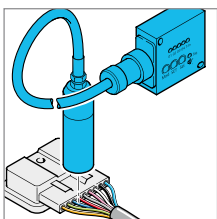
* Excerpt from our delivery programme

Colour Sensors

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




Colour sensors

- ◆ Perceptive operating mode (depending on sensitivity)
- ◆ Measurement in colorimetric colour spaces e. g. L^*a^*b and L^*u^*v
- ◆ Up to 350 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
- ◆ Fibre-optic cable with various auxiliary optics
- ◆ Software included in the scope of delivery



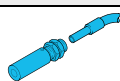
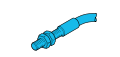
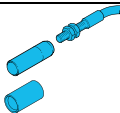
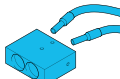
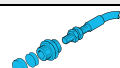
CE

Technical data (typ.)	+20 °C, 24 VDC		
Emitted light source	white light, can be switched off		
Colour resolution	DE Lab < 1		
Response time / Scan frequency	0,2 ms	5.000 Hz:	up to 350 colour evaluable
	0,1 ms	10.000 Hz:	up to 30 colour evaluable
	0,05 ms	20.000 Hz:	3 colour evaluable

	Measuring channels (nos)	Teach-In colour channels (nos)	Colour channels with binary coding (nos)	Internal colour storage	4x npn + pnp	12x npn + pnp	Illumination with age compensating white light-LED	Profibus	Service voltage (VDC)	Internal power consumption (mA)	Protection class	
Colour sensors												Purchase order table *
	1	4	15	350	■		■		18 ... 28	500	IP 54	FS 12-50 M G3-B8
	1					■	■					FS 12-100-1 M G8-B8 ¹⁾
	2	12	15	350		■			18 ... 28	500	IP 54	FS 12-100-2 M G8-B8 ¹⁾
	2							■				FS 12-100-2 M G8-B8-PB ²⁾
	Adapter cable 0,25 m (USB/RS232)											RS232S-0.25-USB
	Connecting cable 5 m											BSHM-Z-5/8-A
	Connecting cable 2 m (USB)											BSHM-Z-2/4-USB
	Connecting cable 2 m (RS232)											BSHM-Z-2/4-RS232K

* Excerpt from our delivery programme

¹⁾ Versions with CANopen and fast Ethernet Feldbus interface available upon request / ²⁾ Profibus

	Focus optics	Fibre-optic cable to be used as diffuse sensor	Fibre-optic cable to be used as through beam sensor	Measuring spot Ø (mm)	Active Ø (mm)	Acceptance angle	Working distance (mm)	Scanning distance (mm)	Size (mm) Dimensions sensor probe (mm)	Mounting Fibre-optic cable / Focus optics	Material fokus optics Aluminium, anodised	Material sensor probe stainless steel	Protection class	
Fibre-optic cables and focus optics														Purchase order table
	■	■		–	2,5	67°	–	–	Ø 4,5x12	Ø 4,5	■	■	IP 67	WRB 120 S-SG-4.5-2.5
				2,0	–	–	10	10 ... 15	Ø 15x60	Ø 4,5	■	–	–	VO-M12/10-4.5-2.5
		■		–	2,5	67°	–	–	M4x20	M4	■	■	IP 67	WRB 120 S-SG-M4-2.5
	■	■		–	2,5	67°	–	–	M6x30	M6	■	■	IP 67	WRB 120 S-SG-M6x30-2.5
	■			6,0	–	–	35	30 ... 60	Ø 22x63	M6	■	–	–	VO-M6/35-M6x30-2.5
	■			6,0	–	–	50	35 ... 60	Ø 22x39	M6	■	–	–	VO-M6/50-M6x30-2.5
	■		■	–	2,5	67°	–	–	Ø 4,5x12	Ø 4,5	■	■	IP 67	WRB 220 S-4.5-2.5
				14	–	–	90	70 ... 150	40x50x22	Ø 4,5	■	–	–	VO-F/90-4.5-2.5
Stabilisation target for external drift stabilisation and matching fibre-optic cable														
	Target colours: RAL 9003 / RAL 7046 / Schwarz			–	–	–	–	–	M6	■	–	–	–	FS-STAB
	Fibre-optic cable 300 mm			67°	–	–	–	M6x20	M6	■	■	IP 67	WRB 110 S-M6-2.5	

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

Ring & Tube Sensors

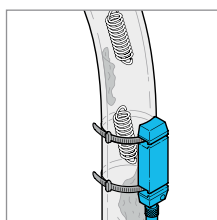
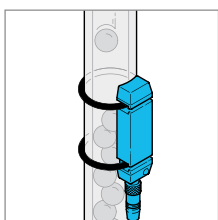
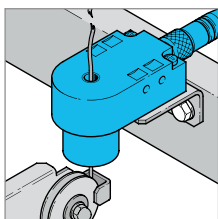
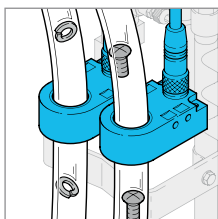
Extremely simple mounting and safe detection of fed metallic objects and small parts, e. g. springs.

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	–					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	–					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	–					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	–					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	–					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	–					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	–					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	–					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	–					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					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					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
		M12	VK ...			IS 70 PSLK-K-BS	IS 70 NSLK-K-BS				
	D	25	**	–	200 mA, NO	M8	TK ...		ISD 70 PSK-TSSL	ISD 70 NSK-TSSL ¹⁾	
		M12	VK ...			ISD 70 PSLK-K-BS	ISD 70 NSLK-K-BS ¹⁾				
–	D	25	**	–	200 mA, NO	M8	TK ...			ISDP 70 PSK-TSSL	ISDP 70 NSK-TSSL ²⁾
										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⁾ increased sensitivity / ²⁾ standard sensitivity

Optical Movement Sensors

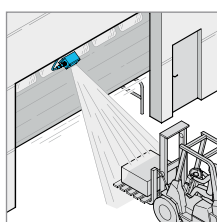
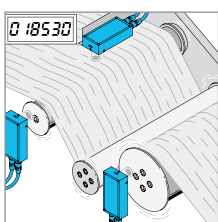
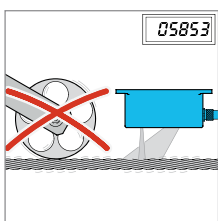
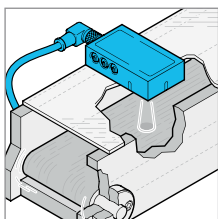
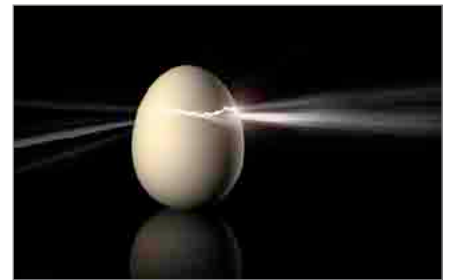
Movements will be safely and contactless detected or measured with optical movement sensors. Radar sensors are used for larger distances and for outdoor use.

Optical movement sensors

- Incremental outputs for measuring speed, length and rpm
- 2 detection axes (along and across the casing)
- Direction detection
- 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 IP 67 for outdoor use
- Robust metal casing



CE

Technical data (typ.)	+20 °C, 24 VDC
Pulse stretching	2 ... 1.000 ms adjustable (only OBS 60 ...)
	1 ... 100 ms adjustable (only OBS 105 .../OBS 120 ...)
	0,1 ... 30 sec. adjustable (only RS ...)
Laser class (EN 60825-1)	1M (only OBS 60 .../OBS 105 ...)
Ambient temperature	+5 ... +45 °C (only OBS ...) / -20 ... +60 °C (only RS ...)
Protection class	IP 67 / IP 65 (only OBS 105 ...)
Casing material	Aluminium, black anodised (only OBS ...) / Die-cast zinc, black lacquered (only RS ...)

	Working distance, Material dependent (mm)	Speed (m/s)	Service voltage (V DC)	Internal power consumption (mA)	Redlicht 650 nm	Infrared laser 850 nm	Radar 24, 1,25 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	< 1	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 for smooth surfaces ⚠																
	30 ± 5	< 4	10 ... 30	50	■			Push Pull RS 422	■	■			M12	VxHM ...	OBS 105 M 30 INC-3 OBS 105 M 30 INC-4	
Optical movement sensor with incremental- and two configurable switching outputs for rough surfaces																
	40 ± 4	< 4	10 ... 30	250	■			Push Pull RS 422	■	■			M12	VxHM ...	OBS 120 M 40 INC-1 OBS 120 M 40 INC-2	
	Connecting cable for X-axis, length 5.000 mm, coupler M12													-	-	VKHM-Z-5/8-A
	Connecting cable for Y-axis, length 5.000 mm, connector M12													-	-	VSHM-Z-5/8-A
	Programming adapter to connect to RS-232 interface													-	-	OBS 105 PROG ²⁾
Radar sensors																
	500 ... 6.000 ¹⁾	> 0,1	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	

¹⁾measured on walking speed. Distance depends on reflection and speed of object.

Accessories for OBS 105 ... and OBS 120 ...	
Evaluation of X and Y-axis: Connection through connecting cable (VKHM-Z-5/8-A male connector / VSHM-Z-5/8-A connector)	Evaluation of X-axis: Connection through programming adapter OBS 105 PROG to RS-232 interface

²⁾OBS 105 PROG is only necessary for connecting OBS 105 ... / OBS 120 ... to a RS-232 interface

Label Sensors

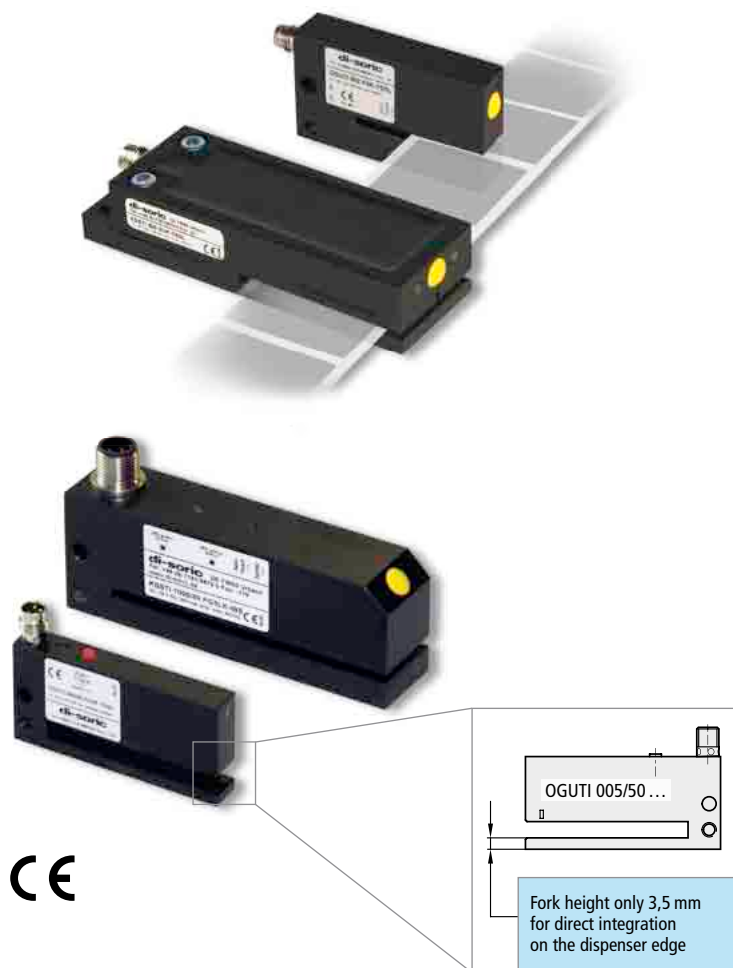
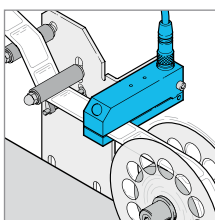
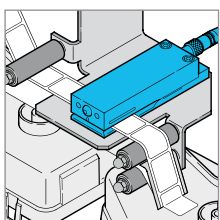
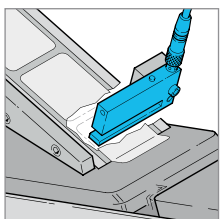
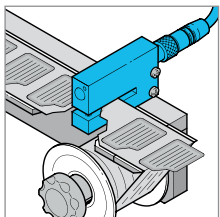
Are you a labelling machine manufacturer or do you work with labels and want to position them exactly on a product? di-soric label sensors detect all label materials and have a high repeat accuracy.

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, lacquered (only OGUTI ...) Aluminium / black anodised (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 ... TK.../4	OGUTI 002 P3K-TSSL OGUTI 002 FP3K-TSSL
	5	40	■	Push pull, 200 mA, NO/NC	35	2,0	> 100.000	■	■	M8	TK ... TK.../4	OGUTI 005 G3K-TSSL OGUTI 005 FG3K-TSSL
	5	50	■	Push pull, 200 mA, NO/NC	35	2,0	> 100.000	■	■	M8	TK ... TK.../4	OGUTI 005/50 G3K-TSSL OGUTI 005/50 FG3K-TSSL
	5	100	■	pnp, 200 mA, NO/NC	35	2,0	> 100.000	■	■	M8	TK ... TK.../4	OGUTI 005/100 P3K-TSSL OGUTI 005/100 FP3K-TSSL
Capacitive label sensors												
	0,4	50	-	Push pull, 200 mA, NO/NC	70	2,5	-	■	■	M8	TK ... TK.../4	KSSTI 400 G3K-TSSL KSSTI 400 FG3K-TSSL
	0,6	50	-	Push pull, 200 mA, NO/NC	70	2,5	-	■	■	M8	TK ... TK.../4	KSSTI 600 G3K-TSSL KSSTI 600 FG3K-TSSL
	1,0	50	-	Push pull, 200 mA, NO/NC	70	2,5	-	■	■	M8	TK ... TK.../4	KSSTI 1000 G3K-TSSL KSSTI 1000 FG3K-TSSL
	0,6	85	-	Push pull, 200 mA, NO/NC	70	2,5	-	■	■	M12	VK .../4	KSSTI 600/80 FG3LK-IBS KSSTI 1000/80 FG3LK-IBS
	1,0	85	-	Push pull, 200 mA, NO/NC	70	2,5	-	■	■	M12	VK .../4	KSSTI 600/80 FG3LK-AIBS 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

Proximity Switches

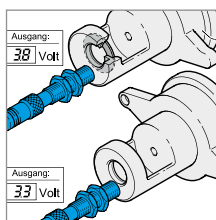
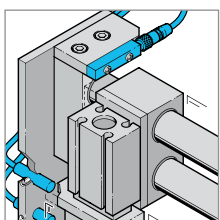
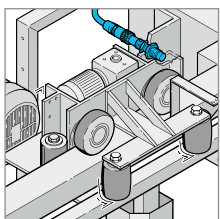
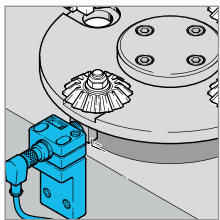
Depending on the functional principle, proximity switches detect metallic or non-metallic materials. Various designs and versions offer a diverse range of possible applications.

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 \varnothing 3 mm up to M30
- Cuboid designs from 5 x 5 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 \varnothing 6,5 mm to M30
- Disk design \varnothing 50 x 10 mm
- Cuboid form 34 x 16 x 8 mm



* for all current types

Technical data (typ.)	+20 °C, 24 VDC
Service voltage	10 ... 30 VDC 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

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)	Purchase order table *	Operating distance (mm)	Flush-fitted (b)/non flush-fitted (nb)/quasi flush-fitted (qb)	Purchase order table *	
Inductive proximity switches in cylindrical designs									Purchase order table *			
	∅3x22	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
	∅4x25	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
	∅6.5x16	5.000	pnp, 200 mA, NO	VA	-	2,0 m, PVC	1,5	b	DCCKR 6.5 V 1.5 PSLK	2	b	DCCKR 6.5 V 02 PSLK
	M4x0,5	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
	M5x0,5	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
	M8x1	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
	M8x1	500	pnp, 200 mA, NO	MS	M8	TK ...	3	qb	DCC 08 M 03 PSK-TSL	6	nb	DCC 08 M 06 PSK-TSL
	M12x1	300	pnp, 200 mA, NO	MS	M12	VK ...	6	qb	DCC 12 M 06 PSK-IBSL	8	qb	DCC 12 M 08 PSK-IBSL
	M12x1	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									Purchase order table *			
	5x5x25	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
	8x8x40	2.000	pnp, 200 mA, NO	AL	-	2,0 m, PUR	-	-	-	1,5	b	DCQZ 08 M 1.5 PSLK
	8x8x59	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
	28x16x10	2.000	pnp, 200 mA, NO	Ks	M8	TK ...	-	-	-	2,0	b	DCR 30 K 02 PSK-TSL
	30x20x11,5	3.000	pnp, 200 mA, NO	AL	M8	TK ...	-	-	-	1,5	b	DCR 20 M 1.5 PSK-K-TSL
	40x26x12	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 casing									Purchase order table *			
	M8x1	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
	M12x1	400	pnp, 200 mA, NO	VA	M12	VK ...	6	b	D7C 12 V 06 PSK-IBSL	10	nb	D7C 12 V 10 PSK-IBSL
	M18x1	200	pnp, 200 mA, NO	VA	M12	VK ...	10	b	D7C 18 V 10 PSK-IBSL	20	nb	D7C 18 V 20 PSK-IBSL
	M30x1,5	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									Purchase order table *			
	∅6.5x54	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
	∅50x10	50	pnp/npn, 150 mA, NO/NC	Ks	-	2,0 m, PUR	25	b	KDC 50 K 25 PNSOLK	-	-	-
	M8x1	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
	M12x1	100	pnp, 200 mA, NO	VA	M12	VK ...	4	b	KDC 12 M 04 PSK-IBSL	-	-	-
	M18x1	100	pnp, 200 mA, NO	VA	M12	VK ...	8	b	KDC 18 M 08 PSK-IBSL	-	-	-
	M18x1	100	pnp, 200 mA, NO	Ks	M12	VK ...	-	-	-	15	nb	KDC 18 K 15 PSK-IBSL
	M30x1,5	100	pnp, 300 mA, NO/NC	VA	M12	VK ...	20	b	KDC 30 M 20 PSOK-BSL	-	-	-
	34x16x8	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)
<p>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.</p> <p>They have the following advantages:</p> <ul style="list-style-type: none"> - 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 	<p>These proximity switches possess a higher operating distance than proximity switches for flush-mounting.</p> <p>They may be mounted into conductive materials only quasi-flush mounted, i. e. not completely flush mounted.</p> <p>The proximity switches must exceed a little bit over the installation surface (see installation notes).</p> <p>Flush mounting in non-conductive materials is permissible.</p>	<p>These proximity switches must not be flush-mounted with the surface of conductive materials.</p> <p>They have the greatest possible operating distance. Special installation notes are applicable for these proximity switches.</p> <p>Flush mounting in non-conductive materials is permissible.</p>

* Excerpt from our delivery programme

Contact sensors

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

Contact and vibration sensors

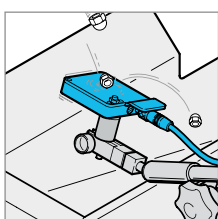
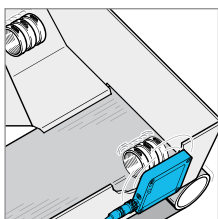
- Detects with direct contact to ejected parts or parts in free fall
- For screws, studs, springs and non-metallic parts
- Adjustable suppression of multiple pulses
- Up to 100 parts can be detected per second
- Long service life thanks to replaceable baffle plate
- Functional assurance even under the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








di-kus®



CE



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

Cylinder Sensors

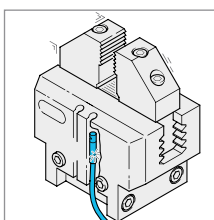
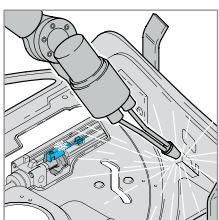
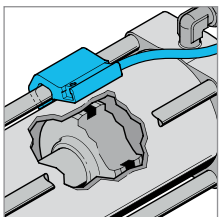
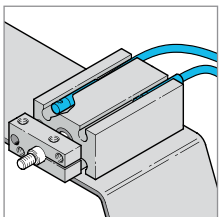
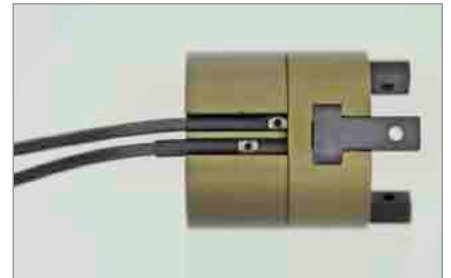
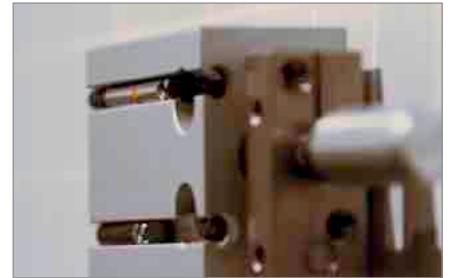
Cylinder sensors are designed for pneumatic cylinders with integrated magnets. The piston position is detected through the cylinder wall.

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



CE

Technical data (typ.)	+20 °C, 24 VDC
Service voltage	10 ... 30 VDC
Output	Transistor pnp / NO
Voltage drop	2,0 V 2,5 V 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)	Current-carrying capacity	Short-circuit-proof	Polarity-safe	Internal power consumption	Reproducibility	Protection class	Cable length (mm)	Connector	Matching connecting cable	Connecting cable PUR, Welding spark resistant	
	Cylinder sensors for C-shaped slot													Purchase order table*
	∅ 3,7x21	←	b	100 mA	■	■	11 mA	0,1 mm	IP 68	2.500	–	–	■	MZEC 3.7 PSL
										300	M8	TK...		MZEC 3.7 PS-K-TSSL
	∅ 4,0x25	←	b	100 mA	■	■	11 mA	0,1 mm	IP 68	2.500	–	–	■	MZEC 4.0 PSL
										300	M8	TK...		MZEC 4.0 PS-K-TSSL
	2,8x7,7x17,5	↓	nb	100 mA	■	■	10 mA	0,2 mm	IP 67	2.000	–	–		MZEC 9-18 PSL
										300	M8	TK...		MZEC 9-18 PSL-K-TSS
	2,8x5x25,8	↓	nb	100 mA	■	■	10 mA	0,2 mm	IP 67	2.000	–	–		MZEC 9-26 PSL
										300	M8	TK...		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	–	–	■	MZET 25 PSLK
										300	M8	TK...		MZET 25 PSK-K-TSSL
	6,1x5x25	↓	nb	200 mA	■	■	10 mA	0,1 mm	IP 68	2.500	–	–	■	MZET 28 PSLK
										300	M8	TK...		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	–	–	■	MZEK 25 PSLK
										300	M8	TK...		MZEK 25 PSK-K-TSSL
	5x6,5x25	↓	b	100 mA	■	■	10 mA	0,2 mm	IP 67	2.000	–	–		MZET 9-25 PSL
										300	M8	TK...		MZET 9-25 PSL-K-TSS
										300	M12	VK...		MZET 9-25 PSL-K-IBS
	Sensors for gripper systems for C-shaped slot													
	∅ 3,9x21	←	b	100 mA	■	■	12 mA	0,1 mm	IP 67	2.500	–	–	■	MZES 3.9 PSL
										5.000	–	–	■	MZES 3.9 PSL/5
										300	M8	TK...		MZES 3.9 PS-K-TSSL
										600	M8	TK...		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	–	–	■	MZES 25 PSL
										300	M8	TK...		MZES 25 PS-K-TSSL
										2.500	–	–	■	MZEKS 25 PSL
										300	M8	TK...		MZEKS 25 PS-K-TSSL

* Excerpt from our delivery programme

Distance Sensors

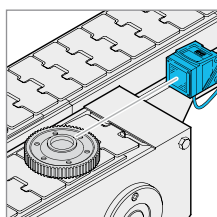
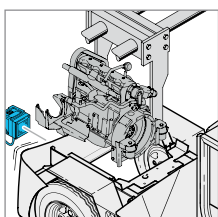
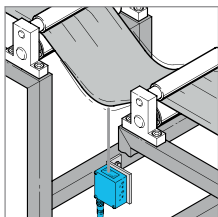
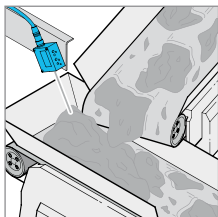
Distance sensors with switching and/or analogue output use infrared or laser light. The field of applications are e.g. height/loopcontrol on conveyor belts up to accurate measurement of distances on linear units.

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)
Threshold	0 ... 10 V, min. 5.000 Ω (only LHT 9-45 M 10 P3IU-B4)
Internal power consumption	0 ... 100 % adjustable (only OAA ...)
	2 ... 100 % adjustable (only LHT ...)
Ambient temperature	< 60 mA (only OAA ...)
	< 150 mA (only LHT ...)
Ambient light immunity	-10 ... +60 °C
Protection class	> 2.000 Lux bei 30° incoming light angle (only OAA ...)
Protection degree	> 8.000 Lux (only LHT ...)
Casing material	IP67 (only OAA ...)
Window casing	IP65 (only LHT ...)
	Operation with class 2 supply voltage
	Aluminium, black anodised (only OAA ...)
	Die-cast zinc, black lacquered (only LHT ...)
	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 (II): Transistor pnp, 200 mA, NO/NC programmable	Output (III): 4 ... 20 mA, unlinearised	Output (IV): 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	
	200 ... 10.000	45x52x42	■	■	■	■	■	10 ... 30	5	-	1 ... 33	∅ 6	M12	VK ...	Purchase order table*
								18 ... 30	5					VK ... /4	LHT 9-45 M 10 P3-B4 ¹⁾
															LHT 9-45 M 10 P3IU-B4 ¹⁾

¹⁾Digital display

	20 ... 280	80 ... 800	180 ... 1.500	60x60x30	■	■	■	15 ... 35	10	24	∅ 7 ... 26	∅ 7 ... 26	∅ 15 ... 26	M12	VK ... /5	OAA 280 IPP3K-IBS
																OAA 800 IPP3K-IBS
																OAA 1500 IPP3K-IBS

Mounting set for distance sensors LHT 9-45 ...																
<ul style="list-style-type: none"> Adjustable Robust design Stainless steel 																
																SH-LHT9-45

* Excerpt from our delivery programme

Ultrasonic Sensors

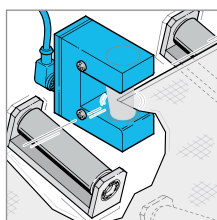
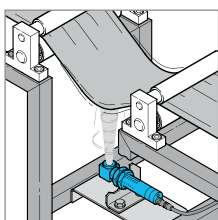
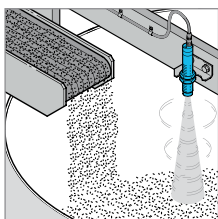
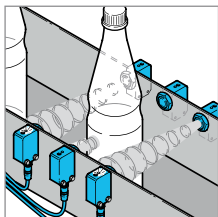
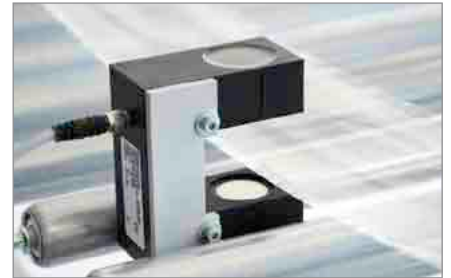
Ultrasonic sensors are used to measure distance in automation tasks. These sensors measure the duration of the noise and can thereby detect even transparent, fluid and powdery objects.

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



CE

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	M12x91	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	M12x70	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	M18x90 M18x96	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	M18x90 M18x96	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	M18x90	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	M18x63,5 M18x81,5	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	M18x101	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 ... 1.300 600 ... 6.000 600 ... 6.000	M30x131 M30x153 M30x153	Axial	300 mA, NO	– 0 ... 10 V 4,0 ... 20 mA	2 mm 9 mm 9 mm	–25 ... 70	IP 65	Brassnickel-plated	M12	VK.../4 VK/5... VK/5...	USC 30 M 1300 IPSK-BSL USC 30 M 6000 IO/10PSK-BSL USC 30 M 6000 I4/20PSK-BSL
	120 ... 500	46x30x18	Radial	100 mA, NO	–	–	–20 ... 50	IP 67	Polyamide V2A	M8	TK...	US 46 K 500 PSK-TSSL
	80 ... 500 250 ... 2.500 400 ... 5.000	60x41x32 60x41x33 60x41x38	Radial	100 mA, 2xNO 100 mA, NO 100 mA, NO	– 5,6 ... 20 mA 5,3 ... 20 mA	– 1%/Sn max.	–20 ... 50	IP 67	Polyamide	M8	TK.../4	US 60 K 500 PSS-TSSL US 60 K 2500 PSI-TSSL US 60 K 5000 PSI-TSSL
Ultrasonic retroreflective sensors												
	0 ... 200	M18x63,5	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	M18x81,5	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 40/13 60/8 70/13	74x30x65 92x39x80 104x30x65 122x39x80	– – – –	– – – –	10 ... 0 V	0,15 mm ¹⁾	0 ... 60	IP 67	Aluminium anodised	M12	VK.../4	USGT 30/8 A-B4 USGT 40/13 A-B4 USGT 60/8 A-B4 USGT 70/13 A-B4

* Excerpt from our delivery programme

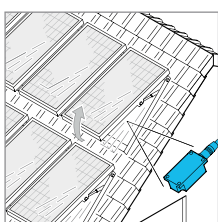
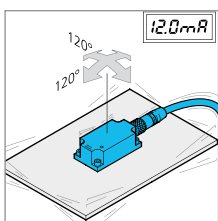
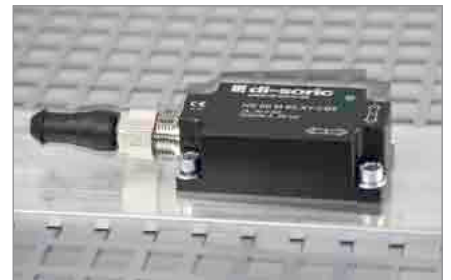
¹⁾at 50% coverage

Inclination Sensors

The NS 60 ... inclination sensor from di-soric is designed to reliably detect changes in angle. The detection range of 120°, the separate evaluation of the x and y axes and the robust metal housing make this a versatile piece of equipment. Thanks to IP 67 protection, the sensor can even be used outdoors.


Inclination sensor

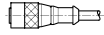
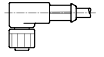
- Independent evaluation of two axes at the same time
- Measuring range $\pm 60^\circ$
- Teach-in for zero position
- Two linearised analog outputs
- Durable metal casing



CE

Technical data (typ.)	+20 °C, 24 VDC
Service voltage	12 ... 30 VDC
Internal power consumption	< 25 mA plus 2 x 20 mA under load
Inverse polarity protection present	present (on all connection cables)
Resolution	0,3°
Reproducibility	0,5°
Shock resistance	< 30g
Temperature stability	± 0,03 ° / K
Cross-sensitivity to the other axis	± 3 %
Remote teach entry	UB (> 6V) = start teach-in process immediately, open = normal mode
Readiness delay	< 300 ms
Ambient temperature	-25 ... +70 °C
Protection class	IP 67
Protection degree	III, operation on protective low voltage
Switching output/teach-in status display	LED, green
Absolute accuracy	1,0° (Teach on 0° horizontally)

	Detection area (per axis)	Size (mm)	Analog output 0 ... 10V, linearised	Analog output 4 ... 20mA, linearised	Analog signal at 0°	Casing material	Connecting cable	
Inclination sensors								Purchase order table
	± 60°	32 x 20 x 60	■	■	5 V 12 mA	Aluminium, anodized	VK ... /5	NS 60 M 60XY-U-B5 NS 60 M 60XY-I-B5

	Size	Socket	Cable length (m)	Metal coupling ring	Maximal allowed service voltage (VAC/DC)	Connector material	Cable material PVC, PU cladding	Protection class	
Connecting Cable									Purchase order table *
	M12, 5-poled	straight	3 5 10	■	max. 125	PU	■	IP 67	VKHM - Z - 3/5 VKHM - Z - 5/5 VKHM - Z - 10/5
	M12, 5-poled	angled	3 5 10	■	max. 125	PU	■	IP 67	VKHM - W - 3/5 VKHM - W - 5/5 VKHM - W - 10/5

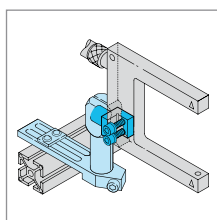
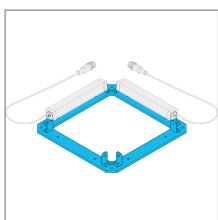
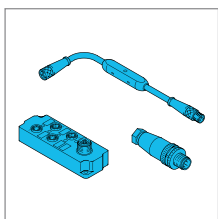
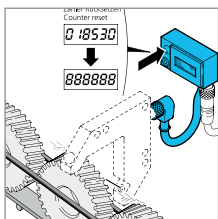
* Excerpt from our delivery programme

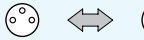

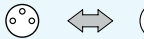

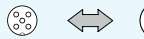

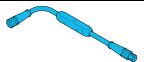
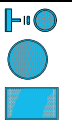
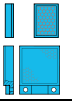
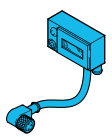
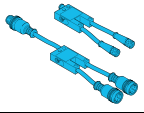
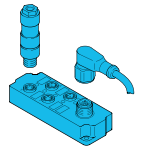
Accessories

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

Accessories

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



	Size (mm)	Male connector/ no of pins	Connection diagram	Connector / no of pins	Mounting	Switching frequency (Hz)	Output	Pulse stretching 1 ... 150 ms	Max. voltage supply (V)	Max. current-carrying capacity (A)	Heat resistant up to (°C)	
Connector												Purchase order table *
	–	M8-3		M8-4	–	–	–	24	4,0	–	–	M8K3/M8S4
	–	M8-4		M8-3	–	–	–	24	4,0	–	–	M8K4/M8S3
	–	M8-3		M12-3	–	–	–	24	4,0	–	–	M8K/M12S
	–	M8-4		M12-4	–	–	–	24	4,0	–	–	M8K/M12S/4
	–	M12-3		M12-3	–	–	–	24	4,0	–	–	M12K/M8S
	–	M12-4		M12-4	–	–	–	24	4,0	–	–	M12K/M8S/4
Pulse stretching												
	–	M8-3	–	M8-3	–	< 500 Hz	pnp	■	–	–	–	TKHM-Z/TSM-Z/T
	–	M12-3	–	M12-3	–	< 500 Hz	pnp	■	–	–	–	VKHM-Z/VSM-Z/T
Reflectors for infrared and red light												
	∅ 19x6	–	–	–	M3 x9	–	–	–	–	–	80	R 21 M3
	∅ 50x8	–	–	–	adhesive	–	–	–	–	–	80	R 50
	50 x 80x7	–	–	–	adhesive	–	–	–	–	–	80	R 50 x 80
Reflectors with laser light												
	13x17x4	–	–	–	adhesive	–	–	–	–	–	80	RL 13 x 17
	42x35x8,4	–	–	–	∅ 3,3 (2x)	–	–	–	–	–	80	RL 42 x 35
Counting module with reset function												
	Service voltage	10 ... 35 VDC			Counting frequency	10.000 Hz						
	Display	6 lines LCD display			Protection class	IP 40						
	Input	pnp/npn			Casing material	Aluminium, black anodised						
	Typ											Purchase order table
	Counting module with reset button, male, female M8, 3poled Stecker / Buchse M8, 3-polig											ZR 06B-TSSL
	Counting module with reset button and remote reset, male/female M12, 4-poled											ZRR 06B-IBS
Logic distributor, 2 options												
	Supply voltage	10 ... 35V			Output	pnp, 200 mA, AND / OR						
					Protection class	IP 67						
	Typ											Purchase order table
	Logic distributor M8, AND / OR switchable											AV2-AND/OR-PS-TS
	Logic distributor M12, AND / OR switchable											AV2-AND/OR-PS-IBS
Logic distributor, 4 options												
	Supply voltage	10 ... 30V			Output	pnp 4x, pnp-AND 1x, pnp-OR 1x						
	Current-carrying capacity AND/OR	je 300 mA / Logic contact			Protection class	IP 67 (with all slots occupied)						
	Typ											Purchase order table
	AND-M8 open connection socket											BS-Z-8-AND
	Connecting cable angled 5,0 m / 8-pole											VKHM-W-5/8
	Logic distributor M8, 4 options											AV4-AND/OR

* Excerpt from our delivery programme

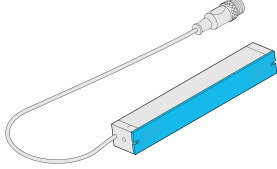
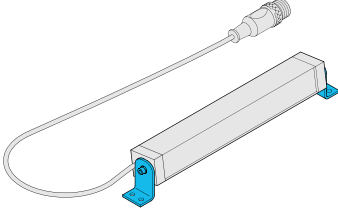
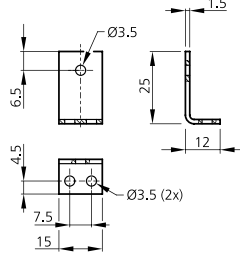
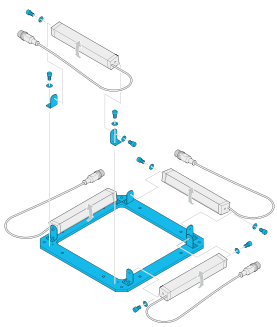
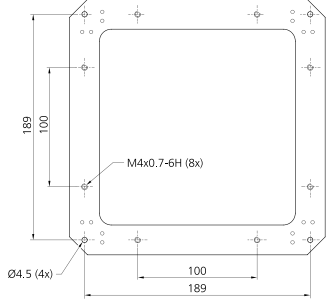
Further information and types will be found under www.di-soric.com

Accessories

	Size	Nos/ wires	Socket	Cable length (m)	Metal nut	maximal allowed service voltage (VAC/DC)	Connector material	Cable material PVC, PU cladding	Cable material PUR	Protection class	
Connecting cable											Purchase order table*
	M8	3	straight	2,5	■	60	PU	■		IP 67	TKHM - Z - 2,5
		4		5,0							TKHM - Z - 5
	M8	3	angled	2,5	■	60	PU	■		IP 67	TKHM - W - 2,5
		4		5,0							TKHM - W - 5
	M12	4	straight	2,5	■	250	TPU	■		IP 68	VKHM - Z - 2,5/4
				5,0							10,0	VKHM - Z - 5/4
	M12	4	angled	2,5	■	250	TPU	■		IP 68	VKHM - W - 2,5/4
				5,0							10,0	VKHM - W - 5/4
										IP 69K	VKHM - Z - 10/4
										IP 69K	VKHM - W - 10/4

Holders																			
	<p>For fork- /angled light barriers hole spacing 8 mm</p> <p>SH-UGU-08-14</p>																		
	<p>For fork light barriers hole spacing 20 mm</p> <p>SH-UGU-20-14</p>																		
	<p>For cylindrically designed casings</p> <table border="1"> <thead> <tr> <th>A</th> <th>D</th> <th>SH...</th> </tr> </thead> <tbody> <tr> <td>4</td> <td>10</td> <td>SH-4-10</td> </tr> <tr> <td>5</td> <td>10</td> <td>SH-5-10</td> </tr> <tr> <td>6,5</td> <td>10</td> <td>SH-6.5-10</td> </tr> <tr> <td>8</td> <td>10</td> <td>SH-8-10</td> </tr> <tr> <td>12</td> <td>10</td> <td>SH-12-10</td> </tr> </tbody> </table>	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
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																	
	<p>For photoelectric sensors size 50</p> <p>SH-S50-34-44-14</p>																		
	<p>For barlight BE 1-A ...</p> <p>SH-BE 1-A</p>																		
	<p>For barlight BEK 1-A ...</p> <p>SH-BEK-A</p>																		
	<p>For back-spot- and darkfield light BEK 1 F.../BEK 1-P.../BEK 1-D 120...</p> <p>SH-BEK</p>																		

System holders																																					
	<p>Cross connector</p> <table border="1"> <thead> <tr> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th></th> </tr> </thead> <tbody> <tr> <td>10</td> <td>25</td> <td>14</td> <td>7</td> <td>10</td> <td>SH-KVB-L-10</td> </tr> <tr> <td>14</td> <td>32</td> <td>18</td> <td>9</td> <td>12</td> <td>SH-KVB-X-14</td> </tr> <tr> <td>20</td> <td>38</td> <td>27</td> <td>12,5</td> <td>15</td> <td>SH-KVB-X-20</td> </tr> </tbody> </table>	A	B	C	D	E		10	25	14	7	10	SH-KVB-L-10	14	32	18	9	12	SH-KVB-X-14	20	38	27	12,5	15	SH-KVB-X-20												
A	B	C	D	E																																	
10	25	14	7	10	SH-KVB-L-10																																
14	32	18	9	12	SH-KVB-X-14																																
20	38	27	12,5	15	SH-KVB-X-20																																
	<p>Angle clamp</p> <table border="1"> <thead> <tr> <th>A</th> <th>B</th> <th>C</th> <th>D</th> <th>E</th> <th></th> </tr> </thead> <tbody> <tr> <td>10</td> <td>-</td> <td>-</td> <td>16</td> <td>18</td> <td>SH-WST-L-10-U</td> </tr> <tr> <td>14</td> <td>-</td> <td>-</td> <td>18</td> <td>18</td> <td>SH-WST-L-14-U</td> </tr> <tr> <td>20</td> <td>-</td> <td>-</td> <td>25</td> <td>40</td> <td>SH-WST-JU-20-U</td> </tr> </tbody> </table>	A	B	C	D	E		10	-	-	16	18	SH-WST-L-10-U	14	-	-	18	18	SH-WST-L-14-U	20	-	-	25	40	SH-WST-JU-20-U												
A	B	C	D	E																																	
10	-	-	16	18	SH-WST-L-10-U																																
14	-	-	18	18	SH-WST-L-14-U																																
20	-	-	25	40	SH-WST-JU-20-U																																
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Accessories for barlights BE 1-A...			
Optical accessories		Länge (mm)	Purchase order table*
	Diffusor	130	BE 1-A130-DIF
	Polarisator	130	BE 1-A130-POL
	Diffusor	240	BE 1-A240-DIF
	Polarisator	240	BE 1-A240-POL
Mounting bracket			
<ul style="list-style-type: none"> Smooth adjustment 			
			BW-BE 1-A (2 pieces)
Mounting frame for up to four BE 1-A 130 ...			
<ul style="list-style-type: none"> Smooth adjustment Mounting bracket for four illuminations included. 			
			BE1-A130-FRAMESET

* Excerpt from our delivery programme

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