Two is better than one

Product description

The MultiLine sensor: two sensors in one housing with an intelligent logical linking. The MultiLine sensor proves itself in challenging situations as a rugged detector of flat and structured objects with an availability not achieved until now.

At a glance

- Two logical and intelligently linked sensors with background suppression in one miniature housing offer the highest ruggedness for object detection
- Consistent, reliable detection of structures and perforated objects such as e-cards
- Consistent, reliable detection of reflective and irregular objects such as blister packs and soup sachets on conveyor belts
- Maximum sensing range 120 mm
- Simple adjustment via teach-in button

Your benefits

- The MultiLine sensor facilitates faster production sequences since the distances between objects can be reduced
- The sensor position no longer needs to be modified for format changes since the sensor is able to detect objects independently of their position. This saves time and money
- The reliable signal of the sensor from the arriving to the departing edge places less demands on the control software since it no longer needs to be debounced or evaluated
- The MultiLine sensor offers high process reliability because all objects are detected independently of their structure, geometry and surface properties
- And placing the sensor into operation is as easy as pressing a button. A fast and reliable commissioning without complicated operating algorithms is thus given

Additional information

→ **www.mysick.com/en/MultiLine_Sensor**
For more information, just enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples and much more.

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Subject to change without notice

Detailed technical data

Features

Sensor principle	Photoelectric proximity sensor
Detection principle	Multi-background suppression
Dimensions (W x H x D)	16 mm x 39.5 mm x 12 mm
Housing design (light emission)	Rectangular
Sensing range max.	5 mm ... 120 mm
Sensing range	15 mm ... 120 mm
Type of light	Visible red light
Light source [1]	PinPoint LED
Light spot size (distance)	5 mm x 22 mm (40 mm)/3 mm x 25 mm (40 mm)/(depending on type)
Wave length	650 nm
Adjustment	Single teach-in button
Special feature	Detection of transparent objects

[1] Average service life of 100,000 h at T_A = +25 °C.

Mechanics/electronics

Supply voltage [1]	10 V DC ... 30 V DC
Ripple [2]	< 5 V_{pp}
Power consumption [3]	≤ 30 mA
Output type	PNP/NPN (depending on type)
Output function	Complementary
Switching mode	Light switching /Light/dark-switching (depending on type)
Output current $I_{max.}$	≤ 100 mA
Response time [4]	< 1.2 ms
Switching frequency [5]	400 Hz
Connection type	Male connector [6]/Cable, 2 m [6] (depending on type)
Circuit protection	A [7], C [8], D [9]
Protection class	III
Weight	30 g
Housing material	ABS
Optics material	PMMA
Enclosure rating	IP 66, IP 67
Ambient operating temperature	–40 °C ... +60 °C
Ambient storage temperature	–40 °C ... +75 °C

[1] Limit values, operation in short-circuit protected network max. 8 A.

[2] May not exceed or fall short of V_S tolerances.

[3] Without load.

[4] Signal transit time with resistive load.

[5] With light/dark ratio 1:1.

[6] Do not bend below 0 °C.

[7] A = V_S connections reverse-polarity protected.

[8] C = interference suppression.

[9] D = outputs overcurrent and short-circuit protected.

Ordering information

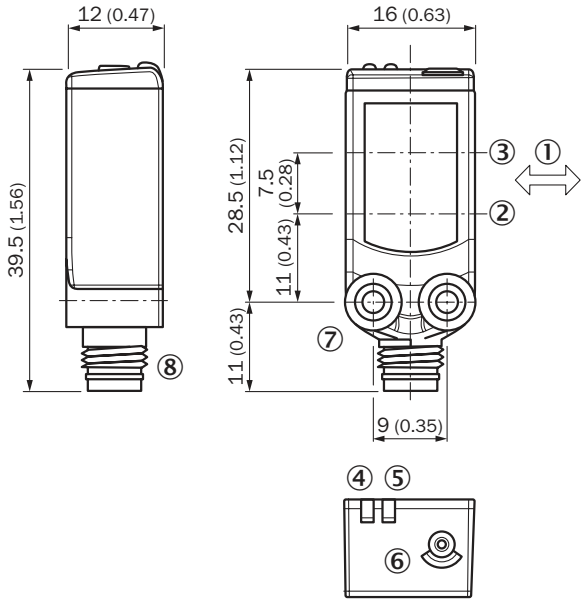
Other models available at www.mysick.com/en/MultiLine_Sensor

- **Sensor principle:** photoelectric proximity sensor
- **Detection principle:** multi-background suppression
- **Sensing range max.:** 5 mm ... 120 mm
- **Adjustment:** single teach-in button

Sensing range max.	Light spot size (distance)	Output type	Switching mode	Connection	Connection diagram	Model name	Part no.
5 mm ... 120 m	5 mm x 22 mm (40 mm)	PNP	Light switching	Connector M8, 3-pin	Cd-043	WTB4-3P2192	1058268
			Light/dark-switching	Connector M8, 4-pin	Cd-084	WTB4-3P2292	1062850
	3 mm x 25 mm (40 mm)	NPN	Light/dark-switching	Cable, 4-wire, 2 m	Cd-094	WTB4-3N1192	1059272

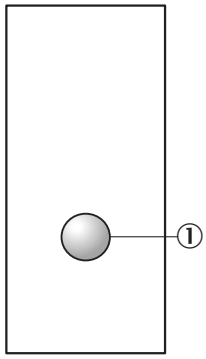
Dimensional drawings

Dimensions in mm (inch)



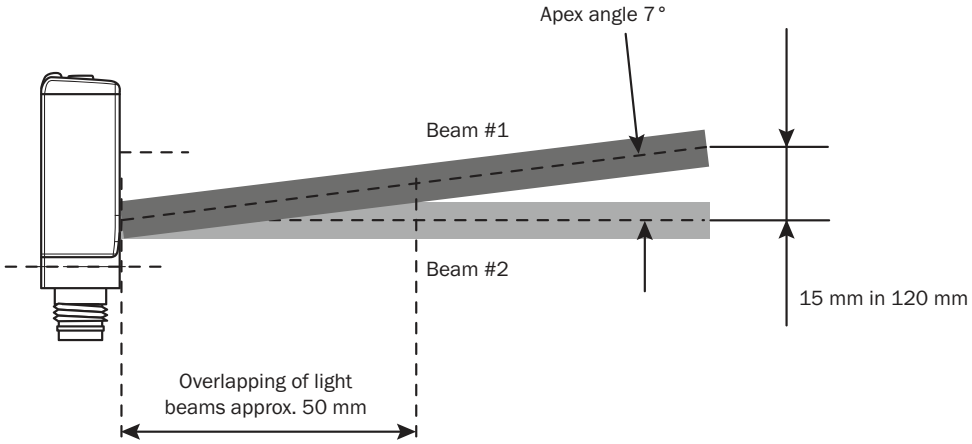
① Standard direction of the material being detected
② Optical axis sender
③ Optical axis receiver
④ Status indicator LED, yellow: Status of received light beam
⑤ Status indicator LED green: power on
⑥ Teach-in button
⑦ Threaded mounting hole M3
⑧ Connection

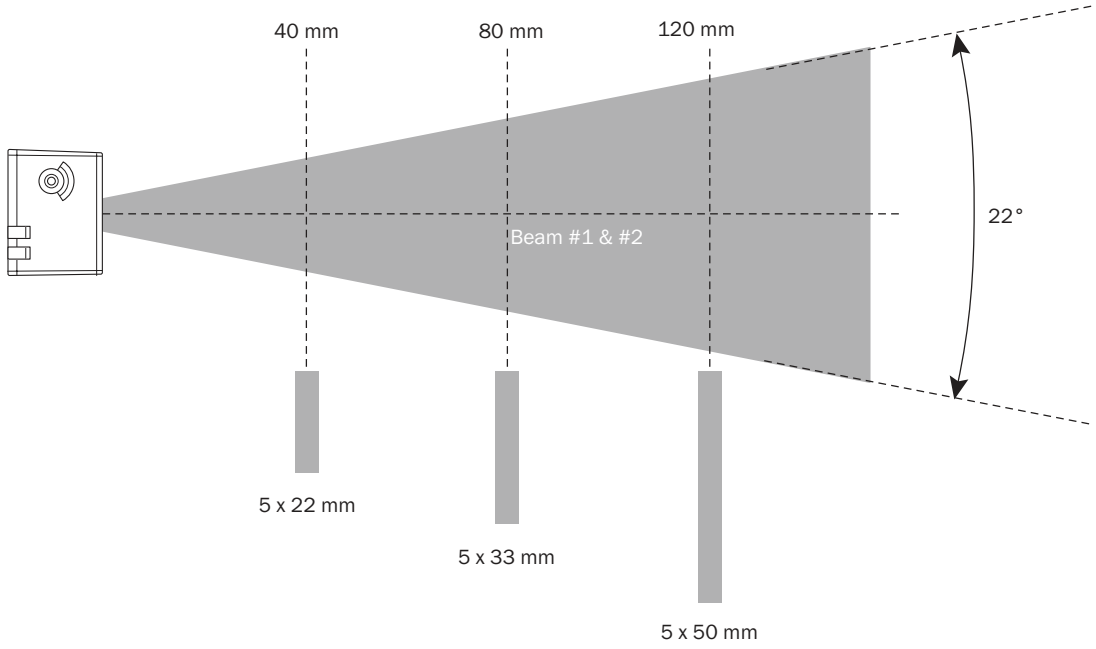
Adjustments



① Teach-in button

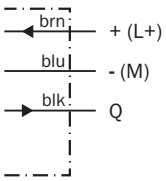
Light spot diameter



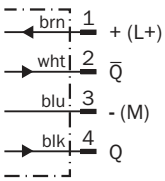


Connection diagram

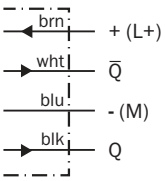
Cd-043



Cd-084



Cd-094



Recommended accessories

Mounting brackets/plates

Mounting brackets

Figure	Material	Description	Model name	Part no.
	Stainless steel 1.4571	Mounting bracket for wall mounting	BEF-W4-A	2051628
		Mounting bracket for floor mounting	BEF-W4-B	2051630

Plug connectors and cables

Connecting cable (female connector-open)

- **Cable material:** PVC
- **Description:** IP 67, IP 69K

Figure	Connection type head A	Connection type head B	Connecting cable	Connector material	Model name	Part no.
	Female connector, M8, 3-pin, straight	Cable, open conductor heads	2 m, 3-wire	TPU	DOL-0803-G02M	6010785
			5 m, 3-wire	TPU	DOL-0803-G05M	6022009
	Female connector, M8, 3-pin, angled	Cable, open conductor heads	2 m, 3-wire	TPU	DOL-0803-W02M	6008489
			5 m, 3-wire	TPU	DOL-0803-W05M	6022010
	Female connector, M8, 4-pin, straight	Cable, open conductor heads	2 m, 4-wire	PVC	DOL-0804-G02M	6009870
			5 m, 4-wire	PVC	DOL-0804-G05M	6009872
	Female connector, M8, 4-pin, angled	Cable, open conductor heads	2 m, 4-wire	PVC	DOL-0804-W02M	6009871
			5 m, 4-wire	PVC	DOL-0804-W05M	6009873

Female connector (ready to assemble)

Figure	Connection type head A	Connection type head B	Connector material	Enclosure rating	Model name	Part no.
	Female connector, M8, 3-pin, straight	Screw-type terminals	PBT	IP 67	DOS-0803-G	7902077
	Female connector, M8, 3-pin, angled	Pin penetration	PBT	IP 67	DOS-0803-W	7902078
	Female connector, M8, 4-pin, straight	Screw-type terminals	PBT	IP 67	DOS-0804-G	6009974
	Female connector, M8, 4-pin, angled	Pin penetration	PBT	IP 67	DOS-0804-W	6009975

Male connector (ready to assemble)

Figure	Connection type head A	Connection type head B	Connector material	Enclosure rating	Model name	Part no.
	Male connector, M8, 3-pin, straight	Screw-type terminals	PBT	IP 67	STE-0803-G	6037322
	Male connector, M8, 4-pin, straight	Screw-type terminals	PBT	IP 67	STE-0804-G	6037323

Universal bar clamp systems

Figure	Material	Description	Model name	Part no.
	Zinc plated steel (sheet), Diecast zinc (clamp)	Plate N05 for universal clamp bracket	BEF-KHS-N05	2051611
		Plate N08 for universal clamp bracket	BEF-KHS-N08	2051607

Terminal and alignment brackets

Alignment brackets

Figure	Material	Description	Model name	Part no.
	Plastic	Ball clamp bracket	BEF-GH-MINI01	2023160

→ **For additional accessories, please see page L-861**