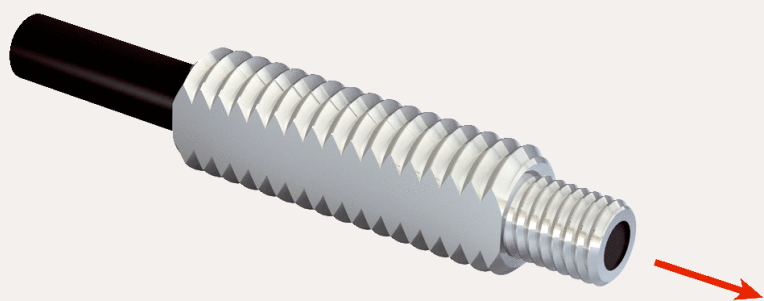




DATA SHEET

LL3-TB02

Fiber-optic cables
Fiber-optic sensors

SICK

Sensor Intelligence



FIBER-OPTIC SENSORS

LL3-TB02

ORDERING INFORMATION

Type	part no.
LL3-TB02	5308048

Further device versions and accessories at www.sick.com/Fiber-optic_cables

DETAILED TECHNICAL DATA

FEATURES

Device type	Fiber-optic cables
Functional principle	Through-beam system, consisting of a sender and a receiver
Fiber-optic head design	Threaded sleeve
Application	Standard
Compatible fiber-optic amplifiers	GLL70, WLL80, WLL180, GLL170(T), WLL24 Ex
Sensing range max.	3,600 mm (Sensing range of WLL80 at 8 ms)
Minimal object diameter	0.2 mm ¹⁾
Optical fiber head	
Angle of dispersion	60°
Integrated lens	No
Compatibility tip adapters	Yes
Optical fiber	
Compatibility with infrared light	No
Optical fiber cable can be shortened	✓
Adapter end sleeves required	No
Included with delivery	Mounting, 4 x M4 hexagon nut, 4 x washer, FC fiber cutter (5304141)

¹⁾ Minimum detectable object was determined at optimum measuring distance and optimum setting.

MECHANICS

Optical fiber head	
Light emission	Axial
Thread diameter (housing)	M4
Optical fiber taper diameter	≥ 2.6 mm

Optical fiber taper length after 2 mm		≥ 3 mm
Optical fiber	Fiber length	2,000 mm
	Bending radius	25 mm
	Dynamic flexibility (robotics)	No
	Outside diameter, optical fiber cable connection	2.2 mm
	Fiber arrangement	Singlefiber
Material	Core structure	Ø 1,0 mm Singlefiber
	Optical fiber head	Copper-zinc alloy (CuZn)
	Sheath	Polyethylen (PE)
	Fibers	Polymethylmethacrylat (PMMA)
Weight		32 g

AMBIENT DATA

Ambient operating temperature	-40 °C ... +70 °C
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SENSING RANGES WITH WLL80

Operating mode 16 µs	325 mm
Operating mode 70 µs	975 mm
Operating mode 250 µs	1,455 mm
Operating mode 500 µs	1,960 mm
Operating mode 1 ms	2,215 mm
Operating mode 2 ms	2,780 mm
Operating mode 8 ms	3,600 mm
Note	Sensing ranges related to fiber-optic sensors with type of light: visible red light

SENSING RANGES WITH WLL180T

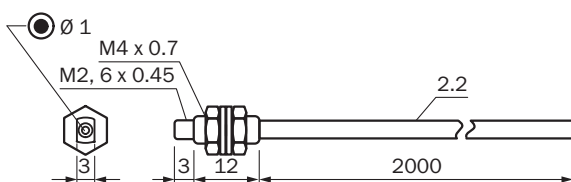
Operating mode 16 µs	225 mm
Operating mode 70 µs	650 mm
Operating mode 250 µs	1,200 mm
Operating mode 2 ms	2,500 mm
Operating mode 8 ms	4,000 mm
Note	Sensing ranges related to fiber-optic sensors with type of light: visible red light

SENSING RANGES WITH GLL170

Operating mode 250 µs	610 mm
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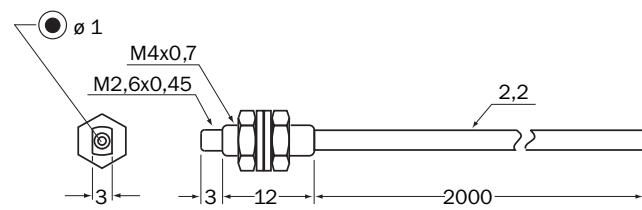
SENSING RANGES WITH GLL170T

Operating mode 50 µs	550 mm
Operating mode 250 µs	890 mm

DIMENSIONAL DRAWING LL3-TB02

Dimensions in mm (inch)

DIMENSIONAL DRAWING



Dimensions in mm (inch)

Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at www.sick.com/5308048



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SICK AT A GLANCE

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SICK combines sensor intelligence with industry expertise and certified consulting services. We provide the ideal foundation for scalable as well as tailor-made automation solutions and create added value along the entire value chain. Our close partnerships with our customers are more than just a promise: Together, we optimize productivity, improve quality, protect health and safety, and help build a sustainable future. All with empathy and trust.

Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions

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