

DATA SHEET

LL3-TR01

Fiber-optic cables
Fiber-optic sensors

SICK

Sensor Intelligence



FIBER-OPTIC SENSORS

LL3-TR01

ORDERING INFORMATION

Type	part no.
LL3-TR01	5308052

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	High flexible (static), Robotics (dynamic flexible)
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	0.3 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 M3 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	4 mm
	Dynamic flexibility (robotics)	Yes
	Outside diameter, optical fiber cable connection	2.2 mm
	Fiber arrangement	Multi-fiber
Material	Core structure	16 x Ø 0,265 mm Multi-fiber
	Optical fiber head	Copper-zinc alloy (CuZn)
	Sheath	Polyethylen (PE)
	Fibers	Polymethylmethacrylat (PMMA)
Weight		35 g

AMBIENT DATA

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

Operating mode 16 µs	320 mm
Operating mode 70 µs	955 mm
Operating mode 250 µs	1,505 mm
Operating mode 500 µs	1,835 mm
Operating mode 1 ms	2,055 mm
Operating mode 2 ms	2,880 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	200 mm
Operating mode 70 µs	600 mm
Operating mode 250 µs	1,000 mm
Operating mode 2 ms	2,400 mm
Operating mode 8 ms	4,000 mm
Note	Sensing ranges related to fiber-optic sensors with type of light: visible red light

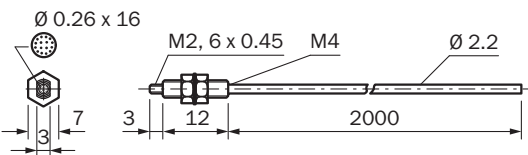
SENSING RANGES WITH GLL170

Operating mode 250 µs	470 mm
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SENSING RANGES WITH GLL170T

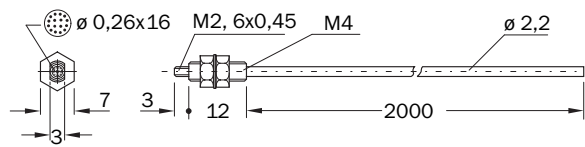
Operating mode 50 µs	380 mm
Operating mode 250 µs	680 mm

DIMENSIONAL DRAWING LL3-TR01



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/5308052



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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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