

LL3-TB02

Fiber-optic cables

FIBER-OPTIC SENSORS

SICK
Sensor Intelligence.



Ordering information

Type	part no.
LL3-TB02	5308048

Other models and accessories → 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	
Core structure	Ø 1,0 mm Singlefiber	
Material		
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

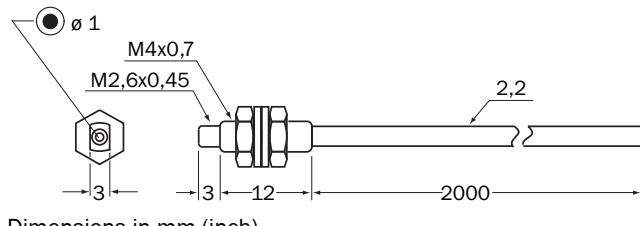
Operating mode 50 µs	550 mm
Operating mode 250 µs	890 mm

Classifications

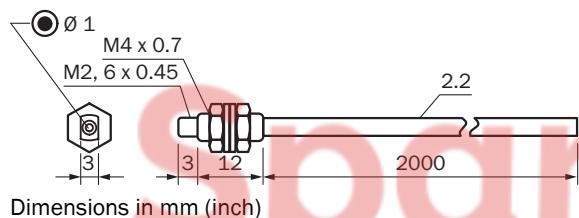
ECLASS 5.0	27270905
ECLASS 5.1.4	27270905
ECLASS 6.0	27270905
ECLASS 6.2	27270905
ECLASS 7.0	27270905
ECLASS 8.0	27270905
ECLASS 8.1	27270905
ECLASS 9.0	27270905
ECLASS 10.0	27270905
ECLASS 11.0	27270905
ECLASS 12.0	27270905
ETIM 5.0	EC002651

ETIM 6.0	EC002651
ETIM 7.0	EC002651
ETIM 8.0	EC002651
UNSPSC 16.0901	39121528

Dimensional drawing



Dimensional drawing LL3-TB02



SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is "Sensor Intelligence."

WORLDWIDE PRESENCE:

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