



# LL3-TB03

LL3

FIBERS

**SICK**  
Sensor Intelligence.



### Ordering information

Type	Part no.
LL3-TB03	5308056

Other models and accessories → [www.sick.com/LL3](http://www.sick.com/LL3)

### Detailed technical data

#### Features

<b>Device type</b>	Fibers
<b>Functional principle</b>	Through-beam system
<b>Functional principle detail</b>	Consisting of a sender and a receiver
<b>For fiber-optic sensor</b>	GLL170(T), WLL180, WLL24 Ex, WLL80
<b>Fiber length</b>	2,000 mm
<b>Fiber material</b>	Polymethylmethacrylat (PMMA)
<b>Jacket material</b>	Polyethylen (PE)
<b>Fiber head material</b>	Stainless steel
<b>Outer diameter, fiber-optic cable connection</b>	2.2 mm
<b>Fiber-optic cable cuttable</b>	✓
<b>Thread diameter (housing)</b>	M4
<b>Fiber-optic head design</b>	Threaded sleeve, Long end sleeve, Bendable sleeve
<b>Fiber arrangement</b>	Monofiber
<b>Core structure</b>	Ø 1,0 mm Monofiber
<b>Angle of dispersion &lt; 60°</b>	No
<b>Compatibility with infrared light (1,450 nm)</b>	No
<b>Diameter/thread size from 2 mm taper</b>	≥ 1.5 mm
<b>Length of taper</b>	≥ 90 mm
<b>Diameter of taper</b>	≥ 1.5 mm
<b>Highly flexible/elastic fibers (bend radius 1–4 mm)</b>	No
<b>Adapter end sleeves required</b>	No
<b>Angle of dispersion</b>	60°
<b>Integrated lens</b>	No
<b>Minimum bend radius of end sleeve</b>	15 mm
<b>Minimal object diameter</b>	0.2 mm <sup>1)</sup>
<b>Included with delivery</b>	Mounting, 4 x M4 hexagon nut, 4 x washer, FC fiber cutter (5304141)
<b>Compatibility tip adapters</b>	No
<b>Special features</b>	Bendable end sleeve, ideal for inaccessible objects

<sup>1)</sup> Minimum detectable object was determined at optimum measuring distance and optimum setting.

Mechanics/electronics

<b>Bend radius, fibre-optic cable</b>	25 mm
<b>Bend radius, end sleeve</b>	15 mm
<b>Ambient operating temperature</b>	-40 °C ... +70 °C

Classifications

<b>ECLASS 5.0</b>	27270905
<b>ECLASS 5.1.4</b>	27270905
<b>ECLASS 6.0</b>	27270905
<b>ECLASS 6.2</b>	27270905
<b>ECLASS 7.0</b>	27270905
<b>ECLASS 8.0</b>	27270905
<b>ECLASS 8.1</b>	27270905
<b>ECLASS 9.0</b>	27270905
<b>ECLASS 10.0</b>	27270905
<b>ECLASS 11.0</b>	27270905
<b>ECLASS 12.0</b>	27270905
<b>ETIM 5.0</b>	EC002651
<b>ETIM 6.0</b>	EC002651
<b>ETIM 7.0</b>	EC002651
<b>ETIM 8.0</b>	EC002651
<b>UNSPSC 16.0901</b>	39121528

Sensing ranges with WLL80

<b>Operating mode 16 µs</b>	325 mm
<b>Operating mode 70 µs</b>	975 mm
<b>Operating mode 250 µs</b>	1,455 mm
<b>Operating mode 500 µs</b>	1,960 mm
<b>Operating mode 1 ms</b>	2,215 mm
<b>Operating mode 2 ms</b>	2,780 mm
<b>Operating mode 8 ms</b>	3,600 mm

Sensing ranges with WLL180T

<b>Operating mode 16 µs</b>	240 mm
<b>Operating mode 70 µs</b>	700 mm
<b>Operating mode 250 µs</b>	1,400 mm
<b>Operating mode 2 ms</b>	2,500 mm
<b>Operating mode 8 ms</b>	2,900 mm
<b>Note</b>	Sensing ranges related to fiber-optic sensors with type of light: visible red light

Sensing ranges with GLL170

<b>Operating mode 250 µs</b>	550 mm
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Sensing ranges with GLL170T

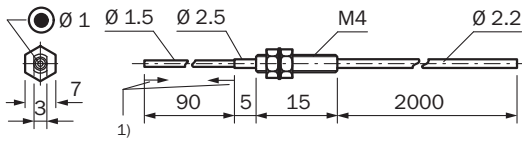
<b>Operating mode 50 µs</b>	580 mm
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Operating mode 250  $\mu$ s

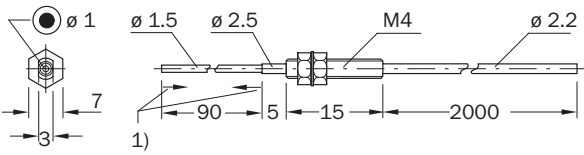
1,040 mm

### Dimensional drawing (Dimensions in mm (inch))

LL3-TB03



1) Flexible end tip, do not bend in this area (10 mm), bend radius R15 mm



1) Biegsame Endhülse, in diesem Bereich (10 mm) nicht biegen, Biegeradius R15 mm

## 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.”

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