



# LL3-TH16

Fiber-optic cables

FIBERS

**SICK**  
Sensor Intelligence.



### Ordering information

Type	Part no.
LL3-TH16	5325976

Other models and accessories → [www.sick.com/Fiber-optic\\_cables](http://www.sick.com/Fiber-optic_cables)

### Detailed technical data

#### Features

<b>Device type</b>	Fiber-optic cables
<b>Functional principle</b>	Through-beam system
<b>Fiber-optic head design</b>	Smooth sleeve, 90° deflection
<b>Application</b>	Heat-resistant (≥100 °C)
<b>Compatible fiber-optic amplifiers</b>	WLL80, WLL180, GLL170(T)
<b>Sensing range max.</b>	2,490 mm (Sensing range of WLL80 at 8 ms)
<b>Minimal object diameter</b>	0.16 mm <sup>1)</sup>
<b>Optical fiber head</b>	
Angle of dispersion	60.23°
Integrated lens	Yes
Compatibility tip adapters	No
<b>Optical fiber</b>	
Compatibility with infrared light	No <sup>2)</sup>
Adapter end sleeves required	No
<b>Included with delivery</b>	Mounting, 2 x M4 hexagon nut, 2 x M4 hexagon nut (plastic), 2 x washer, FC fiber cutter (5304141), LL3-TB09

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

<sup>2)</sup> Reduced sensing ranges possible when using a fiber-optic amplifier with infrared light.

#### Mechanics

<b>Optical fiber head</b>	
Light emission	Radial
Smooth sleeve diameter	4 mm
<b>Optical fiber</b>	
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 0,8 mm Singlefiber
<b>Material</b>	
Optical fiber head	Copper-zinc alloy (CuZn)
Sheath	Stainless steel

	Fibers	Glass
<b>Weight</b>		11 g

## Ambient data

<b>Ambient operating temperature</b>	-60 °C ... +200 °C
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## 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>	190 mm
<b>Operating mode 70 µs</b>	565 mm
<b>Operating mode 250 µs</b>	895 mm
<b>Operating mode 500 µs</b>	1,105 mm
<b>Operating mode 1 ms</b>	1,305 mm
<b>Operating mode 2 ms</b>	1,715 mm
<b>Operating mode 8 ms</b>	2,490 mm

## Sensing ranges with WLL180T

<b>Operating mode 16 µs</b>	90 mm
<b>Operating mode 70 µs</b>	290 mm
<b>Operating mode 250 µs</b>	480 mm
<b>Operating mode 2 ms</b>	970 mm
<b>Operating mode 8 ms</b>	1,000 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>	270 mm
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## Sensing ranges with GLL170T

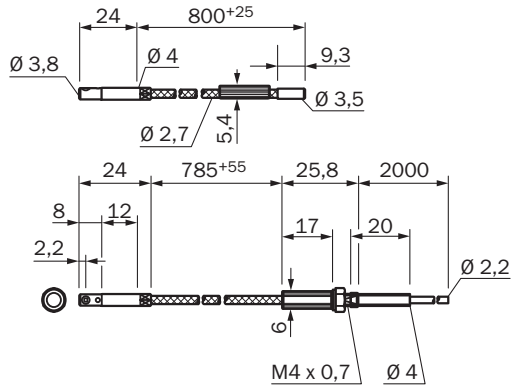
<b>Operating mode 50 µs</b>	290 mm
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Operating mode 250  $\mu$ s

410 mm

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

LL3-TH16



## 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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