

# LL3-TM03

LL3

FIBERS

**SICK**  
Sensor Intelligence.



## Ordering information

Type	Part no.
LL3-TM03	5308070

**Included in delivery:** BF-WLL160-10 (1), FC (1)

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), WLL180T, 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 <sup>1)</sup>
<b>Outer diameter, fiber-optic cable connection</b>	1 mm
<b>Fiber-optic cable cuttable</b>	✓
<b>Smooth sleeve diameter (greatest diameter)</b>	1.5 mm
<b>Fiber-optic head design</b>	Smooth sleeve
<b>Fiber arrangement</b>	Monofiber
<b>Core structure</b>	Ø 0,5 mm Monofiber
<b>Angle of dispersion &lt; 60°</b>	No
<b>Compatibility with infrared light (1,450 nm)</b>	No
<b>Highly flexible/elastic fibers (bend radius 1–4 mm)</b>	No
<b>Adapter end sleeves required</b>	Yes
<b>Angle of dispersion</b>	60°
<b>Integrated lens</b>	No
<b>Minimal object diameter</b>	0.1 mm <sup>2)</sup>
<b>Included with delivery</b>	Adapter sleeves, BF-WLL160-10 (1.0 mm) adapter sleeves, FC fiber cutter (5304141)
<b>Compatibility tip adapters</b>	No
<b>Special features</b>	Thinnest, shortest end sleeve

<sup>1)</sup> Stainless steel.

<sup>2)</sup> Minimum detectable object was determined at optimum measuring distance and optimum setting.

### Mechanics/electronics

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

## Classifications

<b>ECl@ss 5.0</b>	27270905
<b>ECl@ss 5.1.4</b>	27270905
<b>ECl@ss 6.0</b>	27270905
<b>ECl@ss 6.2</b>	27270905
<b>ECl@ss 7.0</b>	27270905
<b>ECl@ss 8.0</b>	27270905
<b>ECl@ss 8.1</b>	27270905
<b>ECl@ss 9.0</b>	27270905
<b>ECl@ss 10.0</b>	27270905
<b>ECl@ss 11.0</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 <math>\mu</math>s</b>	100 mm
<b>Operating mode 70 <math>\mu</math>s</b>	290 mm
<b>Operating mode 250 <math>\mu</math>s</b>	465 mm
<b>Operating mode 500 <math>\mu</math>s</b>	600 mm
<b>Operating mode 1 ms</b>	680 mm
<b>Operating mode 2 ms</b>	965 mm
<b>Operating mode 8 ms</b>	1,540 mm

## Sensing ranges with WLL180T

<b>Operating mode 16 <math>\mu</math>s</b>	55 mm
<b>Operating mode 70 <math>\mu</math>s</b>	175 mm
<b>Operating mode 250 <math>\mu</math>s</b>	300 mm
<b>Operating mode 2 ms</b>	700 mm
<b>Operating mode 8 ms</b>	1,100 mm

## Sensing ranges with GLL170

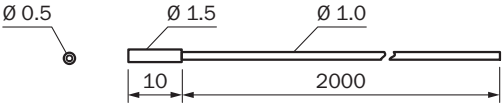
<b>Operating mode 250 <math>\mu</math>s</b>	150 mm
---	--------

## Sensing ranges with GLL170T

<b>Operating mode 50 <math>\mu</math>s</b>	140 mm
<b>Operating mode 250 <math>\mu</math>s</b>	230 mm

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

LL3-TM03



## 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:

Contacts and other locations –[www.sick.com](http://www.sick.com)