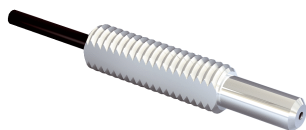


# LL3-TM02

LL3

FIBER-OPTIC SENSORS AND FIBERS

**SICK**  
Sensor Intelligence.



### Ordering information

Type	Part no.
LL3-TM02	5308069

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

### Detailed technical data

#### Features

<b>Device type</b>	Fibers
<b>Detection principle</b>	Through-beam system
<b>For fiber-optic sensor</b>	GLL170(T), WLL180T
<b>Fiber length</b>	2 m
<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>	✓ <sup>2)</sup>
<b>Thread size</b>	M3
<b>Fiber-optic head design</b>	Threaded sleeve
<b>Fiber arrangement</b>	Monofiber
<b>Core structure</b>	Ø 0,5 mm Monofiber
<b>Bend radius, fibre-optic cable</b>	15 mm
<b>Angle of dispersion &lt; 60°</b>	No
<b>Compatibility with infrared light (1,450 nm)</b>	No
<b>Ambient operating temperature</b>	-40 °C ... +70 °C
<b>Diameter/thread size from 2 mm taper</b>	≥ 2 mm
<b>Length of taper</b>	≥ 5 mm
<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>3)</sup>
<b>Special features</b>	Compact end sleeve
<b>Included with delivery</b>	Mounting, 4 x M3 hexagon nut, 4 x washer, adapter sleeves, BF-WLL160-10 (1.0 mm) adapter sleeves, FC fiber cutter (5304141)
<b>Compatibility tip adapters</b>	No

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

<sup>2)</sup> FC fiber optic cable cutter included in delivery.

<sup>3)</sup> Minimum detectable object was determined at optimum measuring distance and optimum setting.

## Classifications

<b>ECI@ss 5.0</b>	27270905
<b>ECI@ss 5.1.4</b>	27270905
<b>ECI@ss 6.0</b>	27270905
<b>ECI@ss 6.2</b>	27270905
<b>ECI@ss 7.0</b>	27270905
<b>ECI@ss 8.0</b>	27270905
<b>ECI@ss 8.1</b>	27270905
<b>ECI@ss 9.0</b>	27270905
<b>ETIM 5.0</b>	EC002651
<b>ETIM 6.0</b>	EC002651
<b>UNSPSC 16.0901</b>	39121528

## 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

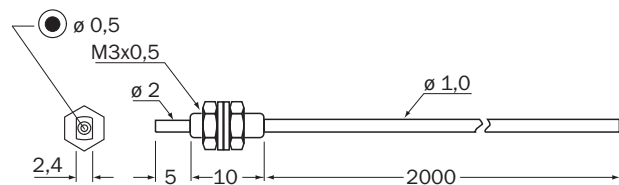
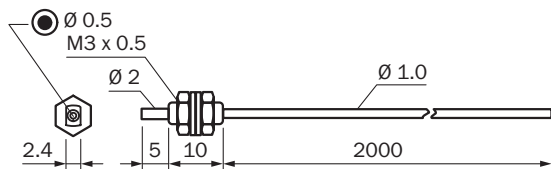
<b>Operating mode 250 <math>\mu</math>s</b>	150 mm
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## Sensing ranges with GLL170T

<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-TM02



## 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)