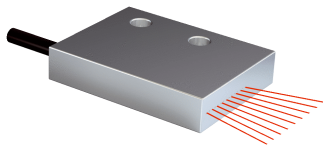


# LL3-TS14

Fiber-optic cables

**FIBER-OPTIC SENSORS**

**SICK**  
Sensor Intelligence.



## Ordering information

Type	part no.
LL3-TS14	5313039

Included in delivery: FC (1)

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, consisting of a sender and a receiver
<b>Fiber-optic head design</b>	Flat type, Array
<b>Application</b>	Area detection
<b>Special features</b>	Long fiber optic cable cell
<b>Compatible fiber-optic amplifiers</b>	GLL70, WLL80, WLL180, GLL170(T), WLL24 Ex
<b>Sensing range max.</b>	3,600 mm (Sensing range of WLL80 at 8 ms)
<b>Minimal object diameter</b>	0.5 mm <sup>1)</sup>
<b>Optical fiber head</b>	
Angle of dispersion	60°
Integrated lens	No
Compatibility tip adapters	No
<b>Optical fiber</b>	
Compatibility with infrared light	No
Optical fiber cable can be shortened	✓
Adapter end sleeves required	No
<b>Included with delivery</b>	FC fiber cutter (5304141)

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

## Mechanics

<b>Optical fiber head</b>	
Light emission	Axial
Fiber-optic head array width	11 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	Multi-fiber
Core structure	16 x Ø 0,25 mm Multi-fiber
<b>Material</b>	
Optical fiber head	Copper-zinc alloy (CuZn)

	Sheath	Polyethylen (PE)
	Fibers	Polymethylmethacrylat (PMMA)
<b>Weight</b>		59 g

## Ambient data

<b>Ambient operating temperature</b>	-40 °C ... +70 °C
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## Sensing ranges with WLL80

<b>Operating mode 16 µs</b>	330 mm
<b>Operating mode 70 µs</b>	975 mm
<b>Operating mode 250 µs</b>	1,535 mm
<b>Operating mode 500 µs</b>	1,950 mm
<b>Operating mode 1 ms</b>	2,215 mm
<b>Operating mode 2 ms</b>	2,940 mm
<b>Operating mode 8 ms</b>	3,600 mm
<b>Note</b>	Sensing ranges related to fiber-optic sensors with type of light: visible red light

## Sensing ranges with WLL180T

<b>Operating mode 16 µs</b>	130 mm
<b>Operating mode 70 µs</b>	400 mm
<b>Operating mode 250 µs</b>	800 mm
<b>Operating mode 2 ms</b>	2,000 mm
<b>Operating mode 8 ms</b>	3,500 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>	450 mm
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## Sensing ranges with GLL170T

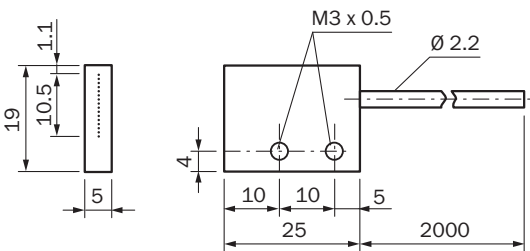
<b>Operating mode 50 µs</b>	430 mm
<b>Operating mode 250 µs</b>	1,050 mm

## 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

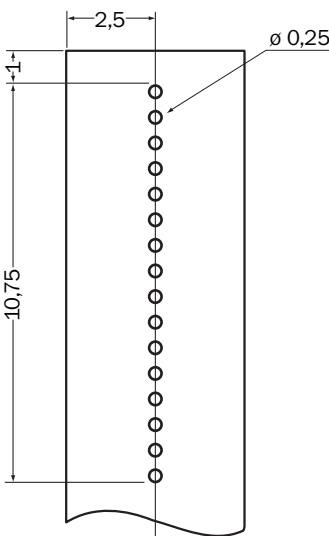
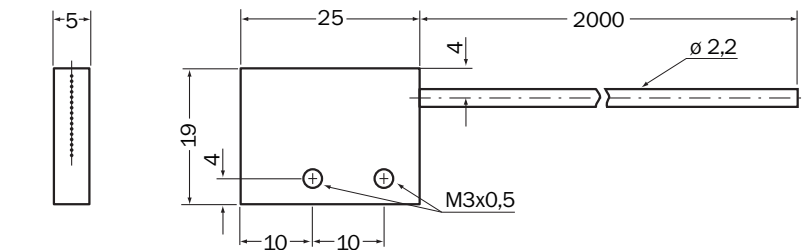
ETIM 6.0	EC002651
ETIM 7.0	EC002651
ETIM 8.0	EC002651
UNSPSC 16.0901	39121528

Dimensional drawing LL3-TS14



Dimensions in mm (inch)

Dimensional drawing



Dimensions in mm (inch)

## 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)