



# LL3-DT02

Fiber-optic cables

FIBERS

**SICK**  
Sensor Intelligence.



### Ordering information

Type	Part no.
LL3-DT02	5308085

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>	Proximity system
<b>Fiber-optic head design</b>	Threaded sleeve, Long end sleeve
<b>Application</b>	High flexible (static), Robotics (dynamic flexible)
<b>Compatible fiber-optic amplifiers</b>	WLL80, WLL180, GLL170(T)
<b>Sensing range max.</b>	240 mm (Sensing range of WLL80 at 8 ms)
<b>Minimal object diameter</b>	0.015 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	Yes
<b>Included with delivery</b>	Mounting, 2 x M3 hexagon nut, 2 x washer, adapter sleeves, BF-WLL160-10 (1.0 mm) adapter sleeves, 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
Thread diameter (housing)	M3
Optical fiber taper diameter	≥ 0.82 mm
Optical fiber taper length after 2 mm	≥ 15 mm
<b>Optical fiber</b>	
Fiber length	500 mm
Bending radius	4 mm
Dynamic flexibility (robotics)	Yes
Outside diameter, optical fiber cable connection	1 mm
Fiber arrangement	Singlefiber
Core structure	2 x Ø 0,25 mm <sup>1)</sup> Singlefiber

<sup>1)</sup> C = Coaxial, S = Sender, E = Receiver.

<b>Material</b>	Optical fiber head	Stainless steel
	Sheath	Polyethylen (PE)
	Fibers	Polymethylmethacrylat (PMMA)
<b>Weight</b>		16 g

<sup>1)</sup> C = Coaxial, S = Sender, E = Receiver.

## Ambient data

<b>Ambient operating temperature</b>	-40 °C ... +70 °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>	10 mm
<b>Operating mode 70 µs</b>	35 mm
<b>Operating mode 250 µs</b>	65 mm
<b>Operating mode 500 µs</b>	80 mm
<b>Operating mode 1 ms</b>	95 mm
<b>Operating mode 2 ms</b>	150 mm
<b>Operating mode 8 ms</b>	240 mm
<b>Note</b>	10 mm 30 mm 60 mm 140 mm 225 mm Sensing ranges related to fiber-optic sensors with type of light: visible red light

## Sensing ranges with WLL180T

<b>Operating mode 16 µs</b>	10 mm
<b>Operating mode 70 µs</b>	30 mm
<b>Operating mode 250 µs</b>	60 mm
<b>Operating mode 2 ms</b>	140 mm

<b>Operating mode 8 ms</b>	225 mm
<b>Note</b>	Sensing ranges related to fiber-optic sensors with type of light: visible red light

Sensing ranges with GLL170

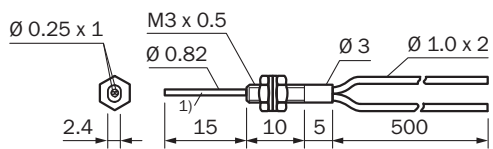
<b>Operating mode 250 <math>\mu</math>s</b>	10 mm
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Sensing ranges with GLL170T

<b>Operating mode 50 <math>\mu</math>s</b>	10 mm
<b>Operating mode 250 <math>\mu</math>s</b>	30 mm

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

LL3-DT02



1) End tip cannot be bent

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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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