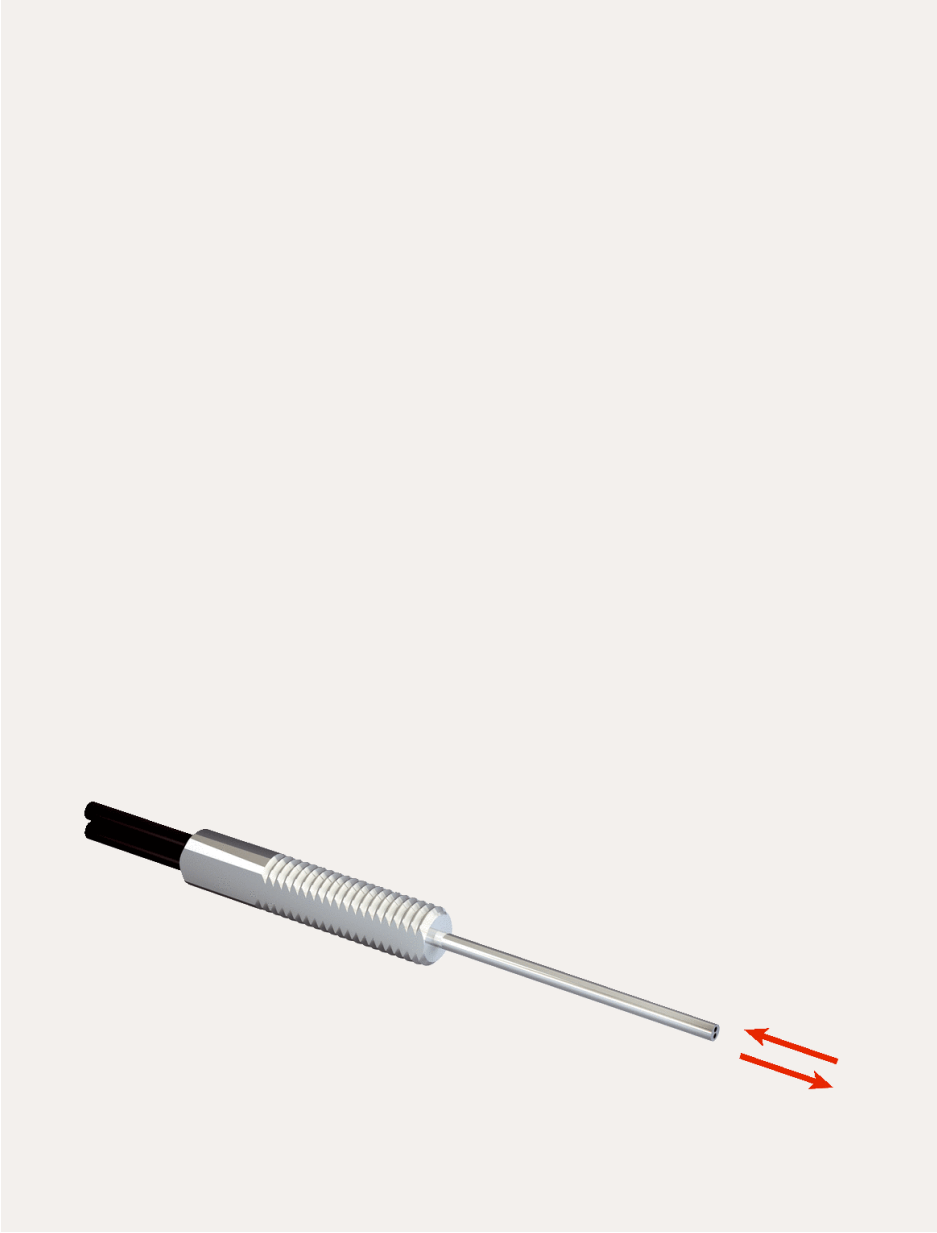
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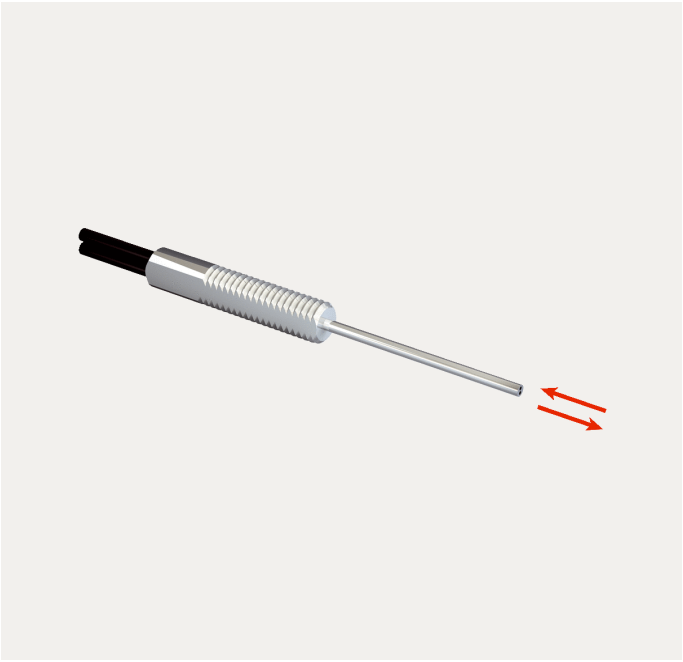


DATA SHEET

LL3-DT02

Fiber-optic cables
Fiber-optic sensors

SICK Sensor Intelligence



FIBER-OPTIC SENSORS

LL3-DT02

ORDERING INFORMATION

Type	part no.
LL3-DT02	5308085

Further device versions and accessories at www.sick.com/Fiber-optic_cables

DETAILED TECHNICAL DATA

FEATURES

Device type	Fiber-optic cables
Functional principle	Proximity system
Fiber-optic head design	Threaded sleeve, Long end sleeve
Application	High flexible (static), Robotics (dynamic flexible)
Compatible fiber-optic amplifiers	GLL70, WLL80, WLL180, GLL170(T)
Sensing range max.	240 mm (Sensing range of WLL80 at 8 ms)
Minimal object diameter	0.015 mm [1]
Optical fiber head	
Angle of dispersion	60°
Integrated lens	No
Compatibility tip adapters	No
Optical fiber	
Compatibility with infrared light	No
Optical fiber cable can be shortened	✓
Adapter end sleeves required	Yes
Included with delivery	Mounting, 2 x M3 hexagon nut, 2 x washer, adapter sleeves, BF-WLL160-10 (1.0 mm) adapter sleeves, FC fiber cutter (5304141)

[1] Minimum detectable object was determined at optimum measuring distance and optimum setting.

MECHANICS

Optical fiber head	
Light emission	Axial
Thread diameter (housing)	M3
Optical fiber taper diameter	≥ 0.82 mm

[1] C = Coaxial, S = Sender, E = Receiver.

Optical fiber taper length after 2 mm	≥ 15 mm
Optical fiber	
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 [1] Singlefiber
Material	
Optical fiber head	Stainless steel
Sheath	Polyethylen (PE)
Fibers	Polymethylmethacrylat (PMMA)
Weight	16 g

[1] C = Coaxial, S = Sender, E = Receiver.

AMBIENT DATA

Ambient operating temperature	–40 °C ... +70 °C

SENSING RANGES WITH GLL70

Operating mode 50 µs	10 mm
Operating mode 250 µs	35 mm
Operating mode 1 ms	55 mm
Operating mode 4 ms	120 mm

SENSING RANGES WITH WLL80

Operating mode 16 µs	10 mm
Operating mode 70 µs	35 mm
Operating mode 250 µs	65 mm
Operating mode 500 µs	80 mm
Operating mode 1 ms	95 mm
Operating mode 2 ms	150 mm
Operating mode 8 ms	240 mm
Note	Sensing ranges related to fiber-optic sensors with type of light: visible red light

SENSING RANGES WITH WLL180T

Operating mode 16 µs	10 mm
Operating mode 70 µs	30 mm
Operating mode 250 µs	60 mm
Operating mode 2 ms	140 mm
Operating mode 8 ms	225 mm
Note	Sensing ranges related to fiber-optic sensors with type of light: visible red light

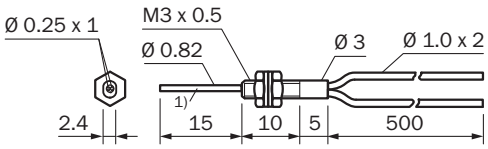
SENSING RANGES WITH GLL170

Operating mode 250 µs	10 mm

SENSING RANGES WITH GLL170T

Operating mode 50 µs	10 mm
Operating mode 250 µs	30 mm

DIMENSIONAL DRAWING LL3-DT02



1) End tip cannot be bent

Dimensions in mm (inch)

Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at www.sick.com/5308085

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SICK AT A GLANCE

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Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions

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