

# LL3-DZ02

Fiber-optic cables

**FIBER-OPTIC SENSORS** 





#### Ordering information

Туре	part no.
LL3-DZ02	5326014

Included in delivery: FC(1)

Other models and accessories → www.sick.com/Fiber-optic\_cables

#### Detailed technical data

#### **Features**

Device type	Fiber-optic cables
Functional principle	Proximity system
Fiber-optic head design	Flat type, Array
Application	Area detection
Compatible fiber-optic amplifiers	GLL70, WLL80, WLL180, GLL170(T), WLL24 Ex
Sensing range max.	1,050 mm (Sensing range of WLL80 at 8 ms)
Minimal object diameter	0.02 mm <sup>1)</sup>
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	No
Included with delivery	FC fiber cutter (5304141)

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

#### Mechanics

Optical fiber head	
Light emission	Axial
Fiber-optic head array width	11 mm
Optical fiber	
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	S: 16 x Ø 0,265 mm R: 16 x Ø 0,265 mm Multi-fiber
Material	
Optical fiber head	Copper-zinc alloy (CuZn)
Sheath	Polyethylen (PE)

Ambient data Ambient operating temperature  Classifications  ECLASS 5.0  ECLASS 6.0  ECLASS 6.0  ECLASS 6.0  ECLASS 6.0  ECLASS 6.0  ECLASS 7.0  ECLASS 8.0  ECLASS 8.0  ECLASS 8.0  ECLASS 8.0  ECLASS 8.0  ECLASS 8.0  ECLASS 9.0  ECLASS 1.0  ECLASS 2.0  ECLAS		Fibers	Polymethylmethacrylat (PMMA)
Ambient operating temperature  -40 °C +70 °C  Classifications  ECLASS 5.0  27270905  ECLASS 5.4.4  27270905  ECLASS 6.0  27270905  ECLASS 7.0  27270905  ECLASS 8.0  27270905  ECLASS 8.0  27270905  ECLASS 8.0  27270905  ECLASS 8.1  27270905  ECLASS 8.1  27270905  ECLASS 8.1  27270905  ECLASS 9.0  27270905  ECLASS 1.0  27270905  ECHM 5.0  ECLASS 1.0  27270905  ECHM 5.0  ECLASS 1.0  27270905  ECHM 8.0  ECO02651  ETIM 6.0  ECO02651  ETIM 8.0  ECO	Weight		55 g
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Censing ranges with GLL70  Operating mode 50 μs  Operating mode 250 μs  Operating mode 1 ms  Operating mode 4 ms  Operating mode 4 ms  Operating mode 4 ms  Operating mode 16 μs  Operating mode 16 μs  Operating mode 250 μs  Operating mode 250 μs  Operating mode 250 μs  Operating mode 250 μs  Operating mode 500 μs  Operating mode 1 ms  Operating mode 2 ms  Operating mode 2 ms  Operating mode 8 ms  Note  Sensing ranges with WLL180T  Operating mode 16 μs  Operating mode 70 μs  Operating mode 70 μs  Operating mode 70 μs  Operating mode 250 μs  310 mm	ETIM 8.0		EC002651
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Operating mode 500 μs  Operating mode 1 ms  Operating mode 2 ms  Operating mode 8 ms  1,050 mm  Sensing ranges related to fiber-optic sensors with type of light: visible red light  Operating mode 16 μs  Operating mode 70 μs  Operating mode 250 μs  535 mm  575 mm  1,050 mm  57 mm  57 mm  190 mm  310 mm	Operating mode 70 µs		285 mm
Operating mode 1 ms Operating mode 2 ms Operating mode 8 ms 1,050 mm Note Sensing ranges related to fiber-optic sensors with type of light: visible red light  Sensing ranges with WLL180T Operating mode 16 μs Operating mode 70 μs Operating mode 250 μs 310 mm	Operating mode 250 µs		455 mm
Operating mode 2 ms Operating mode 8 ms 1,050 mm Sensing ranges related to fiber-optic sensors with type of light: visible red light Sensing ranges with WLL180T Operating mode 16 µs Operating mode 70 µs Operating mode 250 µs  725 mm 57 mm 190 mm 310 mm	Operating mode 500 µs		535 mm
Operating mode 8 ms  1,050 mm  Sensing ranges related to fiber-optic sensors with type of light: visible red light  Sensing ranges with WLL180T  Operating mode 16 µs  Operating mode 70 µs  Operating mode 250 µs  1,050 mm  57 mm  190 mm  310 mm	Operating mode 1 ms		575 mm
Note  Sensing ranges related to fiber-optic sensors with type of light: visible red light  Sensing ranges with WLL180T  Operating mode 16 µs  Operating mode 70 µs  Operating mode 250 µs  310 mm	Operating mode 2 ms		725 mm
Sensing ranges with WLL180T  Operating mode 16 μs  Operating mode 70 μs  Operating mode 250 μs  310 mm	Operating mode 8 ms		1,050 mm
Operating mode 16 μs57 mmOperating mode 70 μs190 mmOperating mode 250 μs310 mm	Note		Sensing ranges related to fiber-optic sensors with type of light: visible red light
Operating mode 70 μs 190 mm Operating mode 250 μs 310 mm	Sensing ranges with WLL180T		
Operating mode 250 μs 310 mm	Operating mode 16 µs		57 mm
	Operating mode 70 µs		190 mm
Operating mode 2 ms 630 mm	Operating mode 250 µs		310 mm
	Operating mode 2 ms		630 mm

# **LL3-DZ02** | Fiber-optic cables

#### FIBER-OPTIC SENSORS

 Operating mode 8 ms
 670 mm

 Note
 Sensing ranges related to fiber-optic sensors with type of light: visible red light

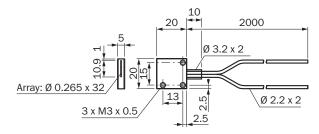
### Sensing ranges with GLL170

Operating mode 250 μs	210 mm
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#### Sensing ranges with GLL170T

Operating mode 50 µs	120 mm
Operating mode 250 μs	220 mm

#### Dimensional drawing LL3-DZ02



All dimensions in mm

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

