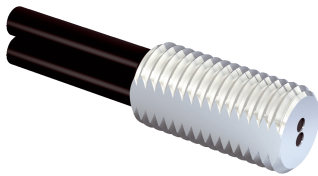


## LL3-DR01

Fiber-optic cables

**FIBER-OPTIC SENSORS**

**SICK**  
Sensor Intelligence.



### Ordering information

Type	part no.
LL3-DR01	5308078

**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>	Proximity system
<b>Fiber-optic head design</b>	Threaded sleeve
<b>Application</b>	High flexible (static), Robotics (dynamic flexible)
<b>Compatible fiber-optic amplifiers</b>	GLL70, WLL80, WLL180, GLL170(T), WLL24 Ex
<b>Sensing range max.</b>	1,250 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	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
Thread diameter (housing)	M6
<b>Optical fiber</b>	
Fiber length	2,000 mm
Bending radius	4 mm
Dynamic flexibility (robotics)	Yes
Outside diameter, optical fiber cable connection	2.2 mm
Fiber arrangement	Multi-fiber
Core structure	S: 16 x Ø 0,26 mm R: 16 x Ø 0,26 mm <sup>1)</sup> Multi-fiber
<b>Material</b>	

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

Optical fiber head	Copper-zinc alloy (CuZn)
Sheath	Polyethylen (PE)
Fibers	Polymethylmethacrylat (PMMA)
<b>Weight</b>	32 g

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

#### Ambient data

<b>Ambient operating temperature</b>	-40 °C ... +60 °C
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#### Sensing ranges with GLL70

<b>Operating mode 50 µs</b>	165 mm
<b>Operating mode 250 µs</b>	500 mm
<b>Operating mode 1 ms</b>	655 mm
<b>Operating mode 4 ms</b>	1,010 mm

#### Sensing ranges with WLL80

<b>Operating mode 16 µs</b>	120 mm
<b>Operating mode 70 µs</b>	300 mm
<b>Operating mode 250 µs</b>	500 mm
<b>Operating mode 500 µs</b>	600 mm
<b>Operating mode 1 ms</b>	700 mm
<b>Operating mode 2 ms</b>	800 mm
<b>Operating mode 8 ms</b>	1,250 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>	90 mm
<b>Operating mode 70 µs</b>	280 mm
<b>Operating mode 250 µs</b>	450 mm
<b>Operating mode 2 ms</b>	880 mm
<b>Operating mode 8 ms</b>	1,350 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>	140 mm
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#### Sensing ranges with GLL170T

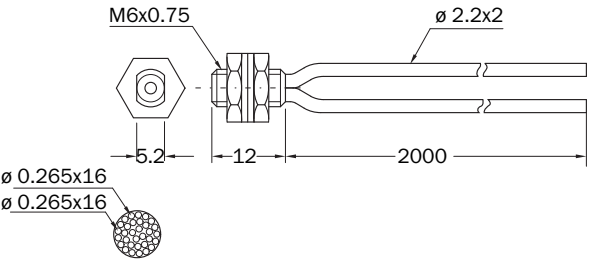
<b>Operating mode 50 µs</b>	140 mm
<b>Operating mode 250 µs</b>	260 mm

#### 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

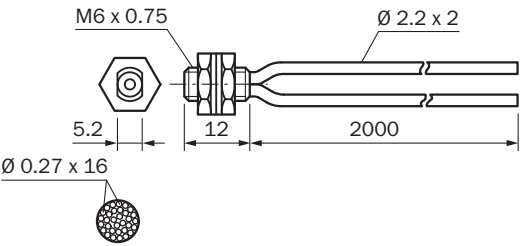
ECLASS 7.0	27270905
ECLASS 8.0	27270905
ECLASS 8.1	27270905
ECLASS 9.0	27270905
ECLASS 10.0	27270905
ECLASS 11.0	27270905
ECLASS 12.0	27270905
ETIM 5.0	EC002651
ETIM 6.0	EC002651
ETIM 7.0	EC002651
ETIM 8.0	EC002651
UNSPSC 16.0901	39121528

Dimensional drawing



Dimensions in mm (inch)



Dimensional drawing LL3-DR01



Dimensions in mm (inch)

Recommended accessories

Other models and accessories → [www.sick.com/Fiber-optic\\_cables](http://www.sick.com/Fiber-optic_cables)

	Brief description	Type	part no.
device protection and care			
	<ul style="list-style-type: none"><li>• <b>Description:</b> Metal protection hose for LL3-Fibers with M6 threaded head; length 1000 mm</li><li>• <b>Items supplied:</b> 1 pieces</li></ul>	BEF-LL3M61000	5331291
	<ul style="list-style-type: none"><li>• <b>Description:</b> Metal protection hose for LL3-Fibers with M6 threaded head; length 500 mm</li><li>• <b>Items supplied:</b> 1 pieces</li></ul>	BEF-LL3M6500	5331290

## 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)