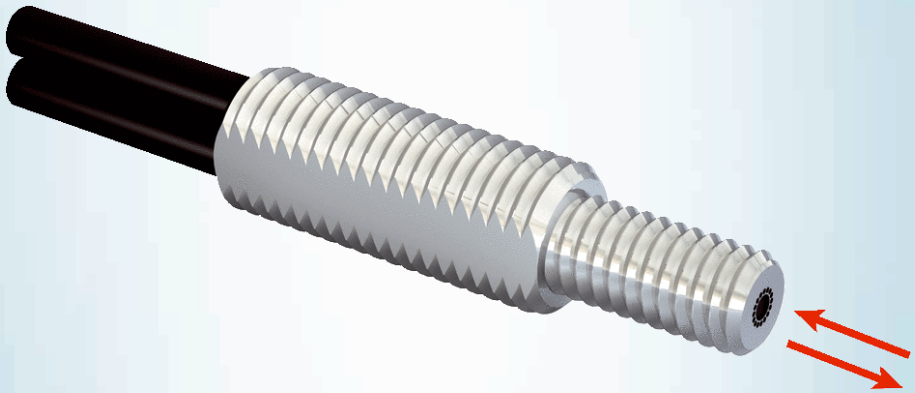
Data sheet



LL3-DB04

Fiber-optic cables

FIBER-OPTIC SENSORS

SICK
Sensor Intelligence.

Ordering information

Type	part no.
LL3-DB04	5325990

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	Threaded sleeve
Application	Standard
Compatible fiber-optic amplifiers	GLL70, WLL80, WLL180, GLL170(T), KTL180
Sensing range max.	1,250 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	Yes
Optical fiber	
Compatibility with infrared light	No
Optical fiber cable can be shortened	✓
Adapter end sleeves required	No
Included with delivery	Mounting, 2 x M6 hexagon nut, 2 x washer, FC fiber cutter (5304141)
For fiber-optic	LL3-DA05, LL3-DA06, LL3-DA07, LL3-DA09

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

Mechanics

Optical fiber head	
Light emission	Axial
Thread diameter (housing)	M6
Optical fiber taper diameter	≥ 4 mm
Optical fiber taper length after 2 mm	≥ 8 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	Coaxial
Core structure	S: Ø 1 mm, R: 16 x Ø 0,25 mm Coaxial

Material	
Optical fiber head	Stainless steel
Sheath	Polyethylen (PE)
Fibers	Polymethylmethacrylat (PMMA)
Weight	34 g

Ambient data

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

Sensing ranges with GLL70

Operating mode 50 µs	185 mm
Operating mode 250 µs	500 mm
Operating mode 1 ms	700 mm
Operating mode 4 ms	1,200 mm

Sensing ranges with WLL80

Operating mode 16 µs	120 mm
Operating mode 70 µs	300 mm
Operating mode 250 µs	500 mm
Operating mode 500 µs	600 mm
Operating mode 1 ms	700 mm
Operating mode 2 ms	800 mm
Operating mode 8 ms	1,250 mm
Note	Sensing ranges related to fiber-optic sensors with type of light: visible red light

Sensing ranges with WLL180T

Operating mode 16 µs	90 mm
Operating mode 70 µs	280 mm
Operating mode 250 µs	500 mm
Operating mode 2 ms	900 mm
Operating mode 8 ms	1,350 mm
Note	Sensing ranges related to fiber-optic sensors with type of light: visible red light

Sensing ranges with GLL170

Operating mode 250 µs	170 mm

Sensing ranges with GLL170T

Operating mode 50 µs	180 mm
Operating mode 250 µs	320 mm

Sensing ranges with KTL180

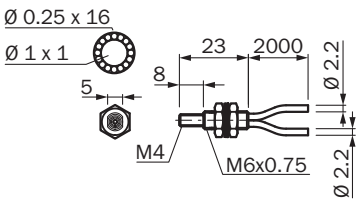
Operating mode 16 µs	2 mm
Operating mode 200 µs	2 mm

Classifications

ECLASS 5.0	27270905

ECLASS 5.1.4	27270905
ECLASS 6.0	27270905
ECLASS 6.2	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 LL3-DB04



Dimensions in mm (inch)

Recommended accessories

Other models and accessories ➜ www.sick.com/Fiber-optic_cables

	Brief description	Type	part no.
device protection and care			
	• **Description:** Metal protection hose for LL3-Fibers with M6 threaded head; length 1000 mm • **Items supplied:** 1 pieces	BEF-LL3M61000	5331291
	• **Description:** Metal protection hose for LL3-Fibers with M6 threaded head; length 500 mm • **Items supplied:** 1 pieces	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