

LL3-DM01

Fiber-optic cables

FIBER-OPTIC SENSORS





Ordering information

Туре	part no.
LL3-DM01	5308071

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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) Sensing range max. 1,120 mm (Sensing range of WLL80 at 8 ms) Minimal object diameter 0,0015 mm ¹) Optical fiber head 60° Integrated lens No Compatibility tip adapters No Compatibility with infrared light No Optical fiber No Optical fiber cable can be shortened Adapter end sleeves required ✓ Adapter end sleeves required Mounting, 2 x M4 hexagon nut, 2 x washer, adapter sleeves, BF-WLL160-13 (1.3 mm) adapter sleeves, FC fiber cutter (5304141)		
Fiber-optic head design Threaded sleeve Application Standard Compatible fiber-optic amplifiers GLL70, WLL80, WLL180, GLL170(T) Sensing range max. 1,120 mm (Sensing range of WLL80 at 8 ms) Minimal object diameter 0,0015 mm¹) Optical fiber head 60° Integrated lens No Compatibility tip adapters No Optical fiber No Compatibility with infrared light Optical fiber cable can be shortened Adapter end sleeves required No Included with delivery Mounting, 2 x M4 hexagon nut, 2 x washer, adapter sleeves, BF-WLL160-13 (1.3 mm) adapter	Device type	Fiber-optic cables
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Compatible fiber-optic amplifiers Sensing range max. Minimal object diameter Optical fiber head Angle of dispersion Integrated lens Compatibility tip adapters Compatibility with infrared light Optical fiber cable can be shortened Adapter end sleeves required Included with delivery Accompatibility adapters Mounting, 2 x M4 hexagon nut, 2 x washer, adapter sleeves, BF-WLL160-13 (1.3 mm) adapter	Fiber-optic head design	Threaded sleeve
Sensing range max. Minimal object diameter Optical fiber head Angle of dispersion Integrated lens Compatibility tip adapters Compatibility with infrared light Optical fiber cable can be shortened Adapter end sleeves required Included with delivery 1,120 mm (Sensing range of WLL80 at 8 ms) 0,0015 mm ¹) 00° No No No No Ves Mounting, 2 x M4 hexagon nut, 2 x washer, adapter sleeves, BF-WLL160-13 (1.3 mm) adapter	Application	Standard
Minimal object diameter Optical fiber head Angle of dispersion 60° Integrated lens Compatibility tip adapters Optical fiber Compatibility with infrared light Optical fiber cable can be shortened Adapter end sleeves required Included with delivery Onumber Optical fiber Cable can be shortened ✓ Adapter end sleeves required Mounting, 2 x M4 hexagon nut, 2 x washer, adapter sleeves, BF-WLL160-13 (1.3 mm) adapter	Compatible fiber-optic amplifiers	GLL70, WLL80, WLL180, GLL170(T)
Optical fiber head Angle of dispersion 60° Integrated lens No Compatibility tip adapters Compatibility with infrared light Optical fiber cable can be shortened Adapter end sleeves required Included with delivery Angle of dispersion 60° No No No Yes Included with delivery Mounting, 2 x M4 hexagon nut, 2 x washer, adapter sleeves, BF-WLL160-13 (1.3 mm) adapter	Sensing range max.	1,120 mm (Sensing range of WLL80 at 8 ms)
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Integrated lens Compatibility tip adapters Optical fiber Compatibility with infrared light Optical fiber cable can be shortened Adapter end sleeves required Included with delivery No Yes Included with delivery No No Yes	Optical fiber head	
Compatibility tip adapters Optical fiber Compatibility with infrared light Optical fiber cable can be shortened Adapter end sleeves required Included with delivery No No Yes Included with delivery No No Yes	Angle of dispersion	60°
Optical fiber Compatibility with infrared light Optical fiber cable can be shortened Adapter end sleeves required Included with delivery No Yes Mounting, 2 x M4 hexagon nut, 2 x washer, adapter sleeves, BF-WLL160-13 (1.3 mm) adapter	Integrated lens	No
Compatibility with infrared light Optical fiber cable can be shortened Adapter end sleeves required Included with delivery No Yes Mounting, 2 x M4 hexagon nut, 2 x washer, adapter sleeves, BF-WLL160-13 (1.3 mm) adapter	Compatibility tip adapters	No
Optical fiber cable can be shortened Adapter end sleeves required Included with delivery Adapter end sleeves required Mounting, 2 x M4 hexagon nut, 2 x washer, adapter sleeves, BF-WLL160-13 (1.3 mm) adapter	Optical fiber	
Adapter end sleeves required Yes Included with delivery Yes Mounting, 2 x M4 hexagon nut, 2 x washer, adapter sleeves, BF-WLL160-13 (1.3 mm) adapter	Compatibility with infrared light	No
Included with delivery Mounting, 2 x M4 hexagon nut, 2 x washer, adapter sleeves, BF-WLL160-13 (1.3 mm) adapter	Optical fiber cable can be shortened	✓
	Adapter end sleeves required	Yes
	Included with delivery	

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

Mechanics

Optical fiber head	
Light emission	Axial
Thread diameter (housing)	M4
Optical fiber	
Fiber length	2,000 mm
Bending radius	25 mm
Dynamic flexibility (robotics)	No
Outside diameter, optical fiber cable connection	1.3 mm
Fiber arrangement	Singlefiber
Core structure	2 x Ø 1,0 mm ¹⁾ Singlefiber
Material	

 $^{^{1)}}$ C = Coaxial, S = Sender, E = Receiver.

Optical fiber head	Stainless steel
Sheath	Polyethylen (PE)
Fibers	Polymethylmethacrylat (PMMA)
Weight	21 g

 $^{^{1)}}$ C = Coaxial, S = Sender, E = Receiver.

Ambient data

Ambient operating temperature -40 °C +70 °C

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

Sensing ranges with WLL80

Operating mode 16 µs	100 mm
Operating mode 70 µs	285 mm
Operating mode 250 µs	465 mm
Operating mode 500 µs	545 mm
Operating mode 1 ms	600 mm
Operating mode 2 ms	770 mm
Operating mode 8 ms	1,120 mm
Note	Sensing ranges related to fiber-optic sensors with type of light: visible red light

Sensing ranges with WLL180T

Operating mode 16 µs	75 mm
Operating mode 70 µs	255 mm
Operating mode 250 µs	420 mm
Operating mode 2 ms	800 mm
Operating mode 8 ms	1,300 mm
Note	Sensing ranges related to fiber-optic sensors with type of light: visible red light

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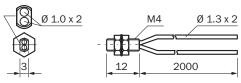
Sensing ranges with GLL170

Operating mode 250 µs	170 mm
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Sensing ranges with GLL170T

Operating mode 50 μs	130 mm
Operating mode 250 µs	240 mm

Dimensional drawing LL3-DM01



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."

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