

LL3-DK67

LL3

**FIBERS** 





### Ordering information

Туре	Part no.
LL3-DK67	5313025

Other models and accessories → www.sick.com/LL3

#### Detailed technical data

#### **Features**

Functional principle For fiber-optic sensor GLL170(T), WLL180, WLL24 Ex, WLL80 Fiber length 2,000 mm Fiber material Polymethylmethacrylat (PMMA)  Jacket material Stainless steel Outer diameter, fiber-optic cable connection Fiber-optic cable cuttable Thread diameter (housing) M6 Fiber-optic head design Fiber arrangement Monofiber Core structure Angle of dispersion < 60° No Compatibility with infrared light (1,450 nm) Application Highly flexible/elastic fibers (bend radius 1-4 mm) Adapter end sleeves required Angle of dispersion Monofiber No Monofiber Monofiber Monofiber Monofiber Monofiber Monofiber Monofiber No Monofiber Monofiber No Monofiber Monofiber Monofiber Monofiber No Monofiber		
For fiber optic sensor  Fiber length  2,000 mm  Fiber material  Jacket material  Jacket material  Jacket material  Jacket material  Jacket material  Outer diameter, fiber-optic cable connection  Fiber-optic cable cuttable  Thread diameter (housing)  M6  Fiber-optic head design  Threaded sleeve  Fiber arrangement  Core structure  Angle of dispersion < 60°  Compatibility with infrared light (1,450 nm)  Application  High flexible (static)  High spersion  High glexible elastic fibers (bend radius 1-4 mm)  Adapter end sleeves required  Angle of dispersion  Mo  Monofiber  Core structure  Angle of dispersion  High glexible (static)  High spersion  High glexible elastic fibers (bend radius 1-4 mm)  Adapter end sleeves required  No  Angle of dispersion  High glexible elastic fibers (bend radius 1-4 mm)  Adapter end sleeves required  No  Monofiber  No  Minimal object diameter  Mounting, 2 x M6 hexagon nut, 2 x washer, FC fiber cutter (5304141)  Compatibility tip adapters  No	Device type	Fibers
Fiber length  Fiber material  Polymethylmethacrylat (PMMA)  Jacket material  Polyethylen (PE)  Stainless steel  Outer diameter, fiber-optic cable connection  Fiber-optic cable cuttable  Thread diameter (housing)  M6  Fiber-optic head design  Threaded sleeve  Fiber arrangement  Core structure  Angle of dispersion < 60°  Compatibility with infrared light (1,450 nm)  Application  High flexible (static)  Highly flexible/elastic fibers (bend radius 1-4 mm)  Adapter end sleeves required  No  Angle of dispersion  Monofiber  No  No  Monofiber  No  Monofiber  No  No  Monofiber  No  No  Monofiber  No  No  Monofiber  No  No  No  No  No  No  No  Monofiber  No  No  No  No  No  Monofiber  No  No  No  No  No  No  No  Monofiber  No  No  No  No  No  No  No  No  No  N	Functional principle	Proximity system
Fiber material  Jacket material  Polymethylmethacrylat (PMMA)  Jacket material  Polymethylmethacrylat (PMMA)  Stainless steel  2.2 mm  Cuter diameter, fiber-optic cable connection  Fiber-optic cable cuttable  Thread diameter (housing)  M6  Fiber-optic head design  Threaded sleeve  Fiber arrangement  Monofiber  Core structure  2 x Ø 1,0 mm ¹¹ Monofiber  Angle of dispersion < 60°  Compatibility with infrared light (1,450 nm)  Application  High flexible (static)  Highly flexible/elastic fibers (bend radius 1-4 mm)  Adapter end sleeves required  No  Angle of dispersion  Integrated lens  Minimal object diameter  Mounting, 2 x M6 hexagon nut, 2 x washer, FC fiber cutter (5304141)  Compatibility tip adapters  No	For fiber-optic sensor	GLL170(T), WLL180, WLL24 Ex, WLL80
Jacket material Polyethylen (PE) Stainless steel  Outer diameter, fiber-optic cable connection  Fiber-optic cable cuttable ✓ Thread diameter (housing) M6  Fiber-optic head design Threaded sleeve Fiber arrangement Monofiber  Core structure 2 x Ø 1,0 mm ¹¹ Monofiber  Angle of dispersion < 60° No Compatibility with infrared light (1,450 nm) High flexible (static) Highly flexible/elastic fibers (bend radius 1-4 mm) Angle of dispersion Angle of dispersion No Angle of dispersion No Angle of dispersion No Angle of dispersion No Minimal object diameter No Minimal object diameter Mounting, 2 x M6 hexagon nut, 2 x washer, FC fiber cutter (5304141) Compatibility tip adapters No	Fiber length	2,000 mm
Fiber head material  Outer diameter, fiber-optic cable connection  Fiber-optic cable cuttable  ✓  Thread diameter (housing)  M6  Fiber-optic head design  Threaded sleeve  Monofiber  Core structure  2 x Ø 1,0 mm ¹¹) Monofiber  Angle of dispersion < 60°  Compatibility with infrared light (1,450 nm)  Application  High flexible (static)  Highly flexible/elastic fibers (bend radius 1-4 mm)  Adapter end sleeves required  Angle of dispersion  60°  Integrated lens  Mo  Minimal object diameter  Mounting, 2 x M6 hexagon nut, 2 x washer, FC fiber cutter (5304141)  Compatibility tip adapters	Fiber material	Polymethylmethacrylat (PMMA)
Outer diameter, fiber-optic cable connection  Fiber-optic cable cuttable  Thread diameter (housing)  M6  Fiber-optic head design  Threaded sleeve  Monofiber  Core structure  2 x Ø 1,0 mm 1) Monofiber  Angle of dispersion < 60°  No  Compatibility with infrared light (1,450 nm)  Application  High flexible/elastic fibers (bend radius 1-4 mm)  Adapter end sleeves required  Angle of dispersion  60°  Integrated lens  Mo  Minimal object diameter  No  Mounting, 2 x M6 hexagon nut, 2 x washer, FC fiber cutter (5304141)  No	Jacket material	Polyethylen (PE)
Fiber-optic cable cuttable  Thread diameter (housing)  M6  Fiber-optic head design  Threaded sleeve  Fiber arrangement  Core structure  Angle of dispersion < 60°  Compatibility with infrared light (1,450 nm)  Application  High flexible (static)  Highly flexible/elastic fibers (bend radius 1-4 mm)  Adapter end sleeves required  Angle of dispersion  Integrated lens  Mo  Mounting, 2 x M6 hexagon nut, 2 x washer, FC fiber cutter (5304141)  Compatibility tip adapters	Fiber head material	Stainless steel
Thread diameter (housing)  Fiber-optic head design  Threaded sleeve  Fiber arrangement  Monofiber  Core structure  Angle of dispersion < 60°  Compatibility with infrared light (1,450 nm)  Application  High flexible (static)  Yes  Adapter end sleeves required  Angle of dispersion  60°  Angle of dispersion  Mo  Mo  Minimal object diameter  U.0.015 mm²  Mounting, 2 x M6 hexagon nut, 2 x washer, FC fiber cutter (5304141)  No	Outer diameter, fiber-optic cable connection	2.2 mm
Fiber optic head design  Fiber arrangement  Monofiber  Core structure  Angle of dispersion < 60°  No  Compatibility with infrared light (1,450 nm)  Application  High flexible (static)  Highly flexible/elastic fibers (bend radius 1-4 mm)  Adapter end sleeves required  Angle of dispersion  Integrated lens  Monofiber  Mounting, 2 x M6 hexagon nut, 2 x washer, FC fiber cutter (5304141)  Compatibility tip adapters  Threaded sleeve  Angle of dispersion  Monofiber  No  Mounting, 2 x M6 hexagon nut, 2 x washer, FC fiber cutter (5304141)	Fiber-optic cable cuttable	✓
Fiber arrangement  Core structure  2 x Ø 1,0 mm 1) Monofiber  Angle of dispersion < 60°  No  Compatibility with infrared light (1,450 nm)  Application  High flexible (static)  Highly flexible/elastic fibers (bend radius 1-4 mm)  Adapter end sleeves required  Angle of dispersion  Integrated lens  Minimal object diameter  Included with delivery  Compatibility tip adapters  Monofiber  No  Nonofiber  No  No  O.015 mm 2)  Mounting, 2 x M6 hexagon nut, 2 x washer, FC fiber cutter (5304141)  No	Thread diameter (housing)	M6
Core structure  Angle of dispersion < 60°  No  Compatibility with infrared light (1,450 nm)  Application  High flexible (static)  Yes  1-4 mm)  Adapter end sleeves required  No  Angle of dispersion  Integrated lens  Minimal object diameter  Included with delivery  Mounting, 2 x M6 hexagon nut, 2 x washer, FC fiber cutter (5304141)  Compatibility tip adapters	Fiber-optic head design	Threaded sleeve
Angle of dispersion < 60°  Compatibility with infrared light (1,450 nm)  Application  High flexible (static)  Yes  Adapter end sleeves required  Angle of dispersion  Integrated lens  Minimal object diameter  Included with delivery  Compatibility tip adapters  No  No  No  No  No  No  No  No  No  N	Fiber arrangement	Monofiber
Compatibility with infrared light (1,450 nm)  Application  High flexible (static)  Yes  Adapter end sleeves required  Angle of dispersion  Integrated lens  Minimal object diameter  Included with delivery  Mounting, 2 x M6 hexagon nut, 2 x washer, FC fiber cutter (5304141)  Compatibility tip adapters	Core structure	2 x Ø 1,0 mm <sup>1)</sup> Monofiber
Application High flexible (static) Yes  1-4 mm)  Adapter end sleeves required Angle of dispersion Integrated lens Minimal object diameter Included with delivery  Mounting, 2 x M6 hexagon nut, 2 x washer, FC fiber cutter (5304141) No  Compatibility tip adapters	Angle of dispersion < 60°	No
Highly flexible/elastic fibers (bend radius 1–4 mm)  Adapter end sleeves required  No  Angle of dispersion  Integrated lens  No  Minimal object diameter  Included with delivery  Mounting, 2 x M6 hexagon nut, 2 x washer, FC fiber cutter (5304141)  No  No	Compatibility with infrared light (1,450 nm)	No
Adapter end sleeves required  No  Angle of dispersion  Integrated lens  No  Minimal object diameter  O.015 mm <sup>2</sup> Included with delivery  Mounting, 2 x M6 hexagon nut, 2 x washer, FC fiber cutter (5304141)  No  No	Application	High flexible (static)
Angle of dispersion  Integrated lens  No  Minimal object diameter  O.015 mm <sup>2)</sup> Included with delivery  Mounting, 2 x M6 hexagon nut, 2 x washer, FC fiber cutter (5304141)  No  No	Highly flexible/elastic fibers (bend radius 1–4 mm)	Yes
Integrated lens  No  Minimal object diameter  0.015 mm <sup>2)</sup> Included with delivery  Mounting, 2 x M6 hexagon nut, 2 x washer, FC fiber cutter (5304141)  Compatibility tip adapters	Adapter end sleeves required	No
Minimal object diameter  0.015 mm <sup>2)</sup> Included with delivery  Mounting, 2 x M6 hexagon nut, 2 x washer, FC fiber cutter (5304141)  Compatibility tip adapters  No	Angle of dispersion	60°
Included with delivery  Mounting, 2 x M6 hexagon nut, 2 x washer, FC fiber cutter (5304141)  Compatibility tip adapters  No	Integrated lens	No
Compatibility tip adapters No	Minimal object diameter	0.015 mm <sup>2)</sup>
	Included with delivery	Mounting, 2 x M6 hexagon nut, 2 x washer, FC fiber cutter (5304141)
Special features Highly flexible, robust head, for moving mechanical components	Compatibility tip adapters	No
	Special features	Highly flexible, robust head, for moving mechanical components

 $<sup>^{1)}</sup>$  C = Coaxial, S = Sender, E = Receiver.

### Mechanics/electronics

Bend radius, fibre-optic cable	2 mm
Ambient operating temperature	-40 °C +70 °C

<sup>&</sup>lt;sup>2)</sup> Minimum detectable object was determined at optimum measuring distance and optimum setting.

### 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	95 mm
Operating mode 70 µs	315 mm
Operating mode 250 µs	485 mm
Operating mode 500 µs	525 mm
Operating mode 1 ms	645 mm
Operating mode 2 ms	840 mm
Operating mode 8 ms	1,130 mm

### Sensing ranges with WLL180T

Operating mode 16 μs	90 mm
Operating mode 70 µs	300 mm
Operating mode 250 µs	500 mm
Operating mode 2 ms	900 mm
Operating mode 8 ms	1,400 mm
Note	Sensing ranges related to fiber-optic sensors with type of light: visible red light

### Sensing ranges with GLL170

Operating mode 250 µs	120 mm
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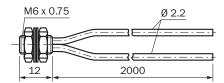
# Sensing ranges with GLL170T

Operating mode 50 µs	160 mm
Operating mode 250 µs	290 mm

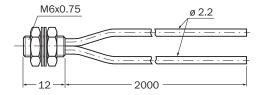
### Dimensional drawing (Dimensions in mm (inch))

#### LL3-DK67









#### Recommended accessories

Other models and accessories → www.sick.com/LL3

	Brief description	Туре	Part no.
Device protec	tion (mechanical)		
	Metal protection hose for LL3-Fibers with M6 threaded head; length 1000 mm, stainless steel, 1 pieces $$	BEF-LL3M61000	5331291
	Metal protection hose for LL3-Fibers with M6 threaded head; length 500 mm, stainless steel, 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

