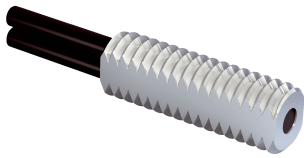


**LL3-DM02**

LL3

**FIBERS**

**SICK**  
Sensor Intelligence.



## Ordering information

Type	Part no.
LL3-DM02	5308077

Other models and accessories → [www.sick.com/LL3](http://www.sick.com/LL3)

## Detailed technical data

### Features

<b>Device type</b>	Fibers
<b>Functional principle</b>	Proximity system
<b>For fiber-optic sensor</b>	GLL170(T), WLL180, KTL180, WLL80
<b>For fiber-optic</b>	LL3-DA06, LL3-DA09
<b>Sensing range max.</b>	710 mm (Sensing range WLL80 at 8 ms)
<b>Fiber length</b>	2,000 mm
<b>Fiber material</b>	Polymethylmethacrylat (PMMA)
<b>Jacket material</b>	Polyethylen (PE)
<b>Fiber head material</b>	Stainless steel
<b>Outer diameter, fiber-optic cable connection</b>	1.3 mm
<b>Fiber-optic cable cuttable</b>	✓
<b>Thread diameter (housing)</b>	M4
<b>Fiber-optic head design</b>	Threaded sleeve
<b>Fiber arrangement</b>	Coaxial arrangement
<b>Core structure</b>	S: Ø 0,5 mm, R: 9 x Ø 0,25 mm <sup>1)</sup> Coaxial arrangement
<b>Angle of dispersion &lt; 60°</b>	No
<b>Compatibility with infrared light (1,450 nm)</b>	No
<b>Highly flexible/elastic fibers (bend radius 1–4 mm)</b>	No
<b>Adapter end sleeves required</b>	Yes
<b>Angle of dispersion</b>	60°
<b>Integrated lens</b>	No
<b>Minimal object diameter</b>	0.015 mm <sup>2)</sup>
<b>Included with delivery</b>	Mounting, 2 x M4 hexagon nut, 2 x washer, adapter sleeves, BF-WLL160-13 (1.3 mm) adapter sleeves, FC fiber cutter (5304141)
<b>Compatibility tip adapters</b>	Yes
<b>Special features</b>	Coaxial construction for exact switching. Compact head

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

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

### Mechanics/electronics

<b>Bend radius, fibre-optic cable</b>	15 mm
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<b>Ambient operating temperature</b>	-40 °C ... +70 °C
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#### 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
<b>ECLASS 7.0</b>	27270905
<b>ECLASS 8.0</b>	27270905
<b>ECLASS 8.1</b>	27270905
<b>ECLASS 9.0</b>	27270905
<b>ECLASS 10.0</b>	27270905
<b>ECLASS 11.0</b>	27270905
<b>ECLASS 12.0</b>	27270905
<b>ETIM 5.0</b>	EC002651
<b>ETIM 6.0</b>	EC002651
<b>ETIM 7.0</b>	EC002651
<b>ETIM 8.0</b>	EC002651
<b>UNSPSC 16.0901</b>	39121528

#### Sensing ranges with WLL80

<b>Operating mode 16 µs</b>	45 mm
<b>Operating mode 70 µs</b>	170 mm
<b>Operating mode 250 µs</b>	265 mm
<b>Operating mode 500 µs</b>	320 mm
<b>Operating mode 1 ms</b>	380 mm
<b>Operating mode 2 ms</b>	505 mm
<b>Operating mode 8 ms</b>	710 mm

#### Sensing ranges with WLL180T

<b>Operating mode 16 µs</b>	40 mm
<b>Operating mode 70 µs</b>	130 mm
<b>Operating mode 250 µs</b>	200 mm
<b>Operating mode 2 ms</b>	350 mm
<b>Operating mode 8 ms</b>	600 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>	70 mm
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#### Sensing ranges with GLL170T

<b>Operating mode 50 µs</b>	60 mm
<b>Operating mode 250 µs</b>	110 mm

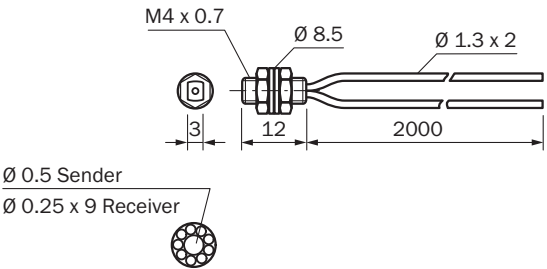
#### Sensing ranges with KTL180

<b>Operating mode 16 µs</b>	2 mm
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Operating mode 200 µs	2 mm
When using LL3-DA06	16 mm
When using LL3-DA09	6 mm

Dimensional drawing (Dimensions in mm (inch))

LL3-DM02



## 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)