



## fibers LL3, Fibers, through-beam system

LL3-TH09



**Model Name** > [LL3-TH09](#)  
**Part No.** > [5325979](#)



#### At a glance

- Heat-resistant plastic and glass fiber-optic cables
- Glass fiber-optic cable with metallic sheath
- Suitable for high-temperature applications up to +350°C

#### Your benefits

- Very large selection of fiber-optic cables with plastic and glass fibers, giving users more application flexibility
- Resistant to damage caused by mechanical and chemical stress, as well as high temperatures
- Standard and customer-specific types
- Simple installation saves time
- For detection of objects, surfaces, leading edges, and fluid levels

#### Features

|                                   |                                                                 |
|-----------------------------------|-----------------------------------------------------------------|
| For fiber-optic sensor:           | WLL170-2/WLL170T-2, WLL180T, WLL190T-2                          |
| Device type:                      | Fibers                                                          |
| Jacket material:                  | Stainless steel                                                 |
| Core material:                    | Glass                                                           |
| Sleeve material:                  | End head: stainless steel, jacket: stainless steel, head: brass |
| Diameter, connection:             | 2.2 mm                                                          |
| Mounting sleeve dimension:        | M4                                                              |
| Bend radius, fibre-optic cable:   | 25 mm                                                           |
| Bend radius, end sleeve:          | 10 mm                                                           |
| Heat resistance:                  | 350 °C                                                          |
| Ambient operating temperature:    | -30 °C ... 350 °C                                               |
| Minimal object diameter:          | 0.04 mm <sup>1)</sup>                                           |
| Core structure:                   | 1.2 mm                                                          |
| Fiber-optic cable cuttable:       | -                                                               |
| Thread sleeve:                    | -                                                               |
| Sleeve:                           | -                                                               |
| 90° offset:                       | -                                                               |
| Flat housing:                     | -                                                               |
| High flexible:                    | -                                                               |
| Long end sleeve:                  | -                                                               |
| Array:                            | -                                                               |
| High temperature:                 | ✓                                                               |
| Oil/chemical resistant:           | -                                                               |
| Lcd/clear material/semiconductor: | -                                                               |

|                              |                |
|------------------------------|----------------|
| Vacuum:                      | -              |
| Robotics:                    | -              |
| Retro-reflective:            | -              |
| Liquid level:                | -              |
| Category fiber-optic cables: | Heat-resistant |
| Fiber length:                | 2,000 mm       |

<sup>1)</sup> Minimum detectable object was determined at optimal measuring distance and optimal setting

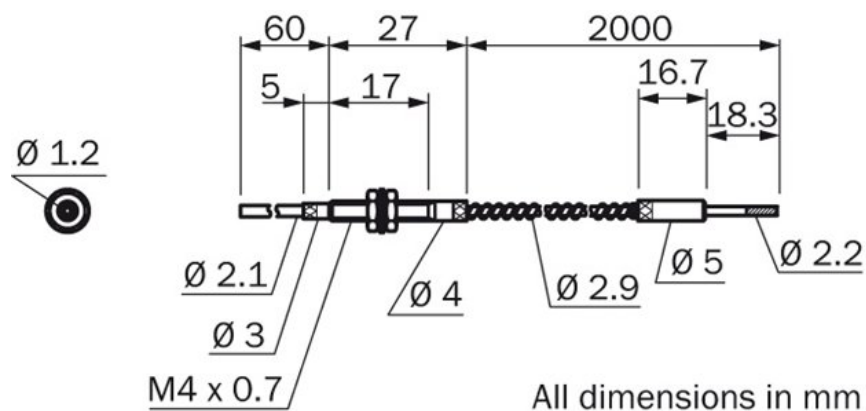
#### Sensing range with WLL180T

|                             |          |
|-----------------------------|----------|
| Operating mode 16 $\mu$ s:  | 140 mm   |
| Operating mode 70 $\mu$ s:  | 460 mm   |
| Operating mode 250 $\mu$ s: | 700 mm   |
| Operating mode 2 ms:        | 1,400 mm |
| Operating mode 8 ms:        | 1,500 mm |

#### Sensing range with WLL170-2

|                         |        |
|-------------------------|--------|
| Redlight 250 $\mu$ s:   | 350 mm |
| Greenlight 250 $\mu$ s: | 240 mm |
| Highspeed 50 $\mu$ s:   | 140 mm |

#### Dimensional drawing



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