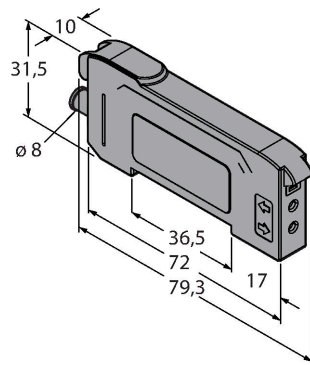


# DF-G3-KD-Q7

## Photoelectric Sensor – Photoelectric Sensor for Plastic Fibers



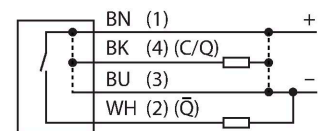
### Technical data

|                              |                              |
|------------------------------|------------------------------|
| Type                         | DF-G3-KD-Q7                  |
| ID                           | 3097711                      |
| <b>Optical data</b>          |                              |
| Function                     | Fiber optic sensor           |
| Operating mode               | Plastic fiber                |
| Fiber-optic type             | Plastic                      |
| Light type                   | Red                          |
| Wavelength                   | 635 nm                       |
| <b>Electrical data</b>       |                              |
| Operating voltage            | 10...30 VDC                  |
| Residual ripple              | < 10 % U <sub>ss</sub>       |
| DC rated operational current | ≤ 40 mA                      |
| Short-circuit protection     | yes                          |
| Reverse polarity protection  | yes                          |
| Communication protocol       | IO-Link                      |
| Output function              | 2 normally open contact, PNP |
| Output 2                     | Switching output             |
| Current output               | 100 mA                       |
| Switching frequency          | 1 kHz                        |
| Readiness delay              | ≤ 500 ms                     |
| Response time typical        | < 0.5 ms                     |
| Setting option               | Push Button<br>Remote Teach  |
| <b>IO-Link</b>               |                              |
| IO-Link specification        | V 1.1                        |
| IO-Link port type            | Class A                      |
| Communication mode           | COM 2 (38.4 kBaud)           |

### Features

- Male connector, 8 mm, 4-pin
- Visible red light
- Programming via teach cable or multi-function button
- Operating voltage: 10...30 VDC
- IO-Link
- 2 × PNP output, changeover contact
- Light/dark operation

### Wiring diagram



### Functional principle

Glass or plastic fibers are the optimum choice for high-temperature applications and limited spaces. Optical fibers transfer the light from the sensor to a remote object. Single optical fibers are suited for opposed sensing mode, while bifurcated optical fibers are best suited for diffuse sensing mode.

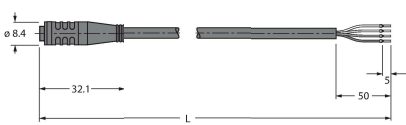
The basic units of the third generation of the DF-G series offer very long ranges with standard optical fibers. You have also two 4-digit 7-segment displays for simultaneous display of limit value and instant reading of the amount of received light.

Via the multifunction button, you can make various settings and change the switching threshold.

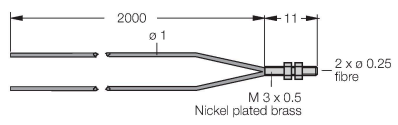
Technical data

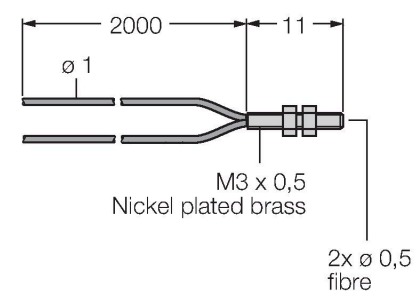
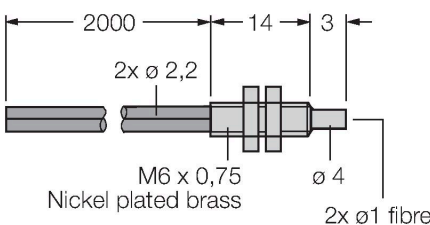
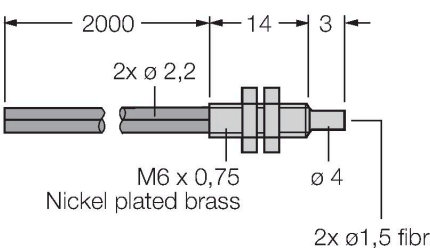
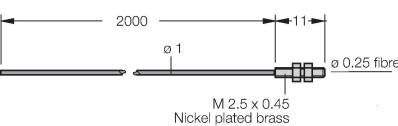
|                            |                                        |
|----------------------------|----------------------------------------|
| Process data width         | 16 bit                                 |
| Function Pin 4             | IO-Link                                |
| Function Pin 2             | DI                                     |
| Maximum cable length       | 20 m                                   |
| Profile support            | Smart Sensor Profil                    |
| Included in the SIDI GSDML | Yes                                    |
| Mechanical data            |                                        |
| Design                     | Rectangular, DF-G3                     |
| Dimensions                 | 79.3 x 10 x 33 mm                      |
| Housing material           | Plastic, Thermoplastic material, Black |
| Electrical connection      | Connector, M8 × 1, PVC                 |
| Number of cores            | 4                                      |
| Ambient temperature        | -10...+55 °C                           |
| Relative humidity          | 0...90 %                               |
| Protection class           | IP50                                   |
| Special features           | keep/defer                             |
| Switching state            | LED, Yellow                            |
| Excess gain indication     | Dual Digital Displays                  |
| Tests/approvals            |                                        |
| Approvals                  | CE, cULus listed                       |

Accessories

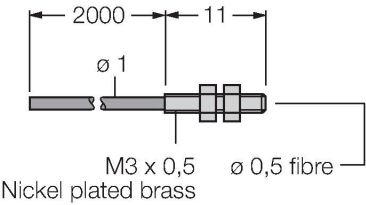
| Dimension drawing                                                                   | Type        | ID      |                                                                                                                                                                                                                                 |
|-------------------------------------------------------------------------------------|-------------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | PKG4S-2/TEL | 6627370 | Connection cable, female Ø M8, straight, 4-pin, snap-on type, cable length: 2 m, jacket material: PVC, black; cULus approval; other cable lengths and qualities available, see <a href="http://www.turck.com">www.turck.com</a> |
|  | PKW4S-2/TEL | 6627373 | Connection cable, Ø 8 mm female, snap-on type, angled, 4-pin, cable length: 2 m, jacket material: PVC, black; cULus approval; other cable lengths and qualities available, see <a href="http://www.turck.com">www.turck.com</a> |

Accessories

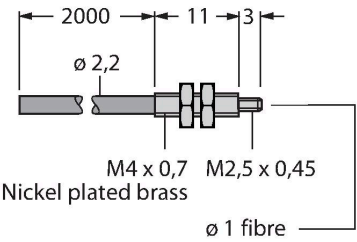
| Dimension drawing                                                                   | Type   | ID      |                                                                                                                                                                                        |
|-------------------------------------------------------------------------------------|--------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | PBT16U | 3042822 | Plastic fiber-optic sensor, operating mode: Diffuse mode, threaded sleeve M3 x 0.75 mm, field wireable wire without end tip, polyethylene sheath, ambient temperatures -30 °C...+70 °C |

| Dimension drawing                                                                   | Type   | ID      |                                                                                                                                                                                        |
|-------------------------------------------------------------------------------------|--------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | PBT26U | 3026080 | Plastic fiber, sensing mode: Diffuse mode, threaded bush M3 x 0.75 mm, preassembled wire without end tip, polyethylene jacket, ambient temperatures -30 °C...+70 °C                    |
|   | PBT46U | 3025967 | Plastic fiber-optic sensor, operating mode: Diffuse mode, threaded sleeve M3 x 0.75 mm, field wireable wire without end tip, polyethylene sheath, ambient temperatures -30 °C...+70 °C |
|  | PBT66U | 3039982 | Plastic fiber-optic sensor, operating mode: Diffuse mode, threaded sleeve M6 x 0.75 mm, pre-assembled wire without end tip, polyethylene sheath, ambient temperatures -30 °C...+70 °C  |
|  | PIT16U | 3039983 | Plastic fiber-optic sensor, operating mode: Opposed mode, threaded sleeve M3 x 0.5 mm, field wireable wire without end tip, polyethylene sheath, ambient temperatures -30 °C...+70 °C  |

| Dimension drawing | Type   | ID      |                                                                                                                                                                    |
|-------------------|--------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                   | PIT26U | 3026079 | Plastic fiber, sensing mode: Opposed mode, threaded bush M3 x 0.5 mm, preassembled wire without end tip, polyethylene jacket, ambient temperatures -30 °C...+70 °C |



|        |         |                                                                                                                                                                                       |
|--------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PIT46U | 3026034 | Plastic fiber-optic sensor, operating mode: Opposed mode, threaded sleeve M3 x 0.5 mm, field wireable wire without end tip, polyethylene sheath, ambient temperatures -30 °C...+70 °C |
|--------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|



|        |         |                                                                                                                                                                                       |
|--------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PIT66U | 3039899 | Plastic fiber-optic sensor, operating mode: Opposed mode, threaded sleeve M3 x 0.5 mm, field wireable wire without end tip, polyethylene sheath, ambient temperatures -30 °C...+70 °C |
|--------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

