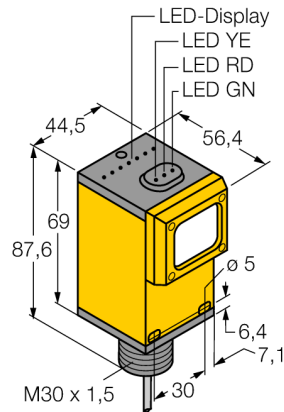


# Photoelectric Sensor

## Photoelectric Sensor for Plastic Fibers

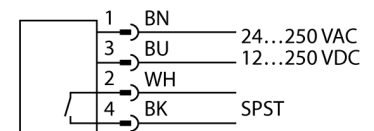
### Q45BW13FP



|                         |                                 |
|-------------------------|---------------------------------|
| Type                    | Q45BW13FP                       |
| ID                      | 3053989                         |
| <b>Optical data</b>     |                                 |
| Function                | Fiber optic sensor              |
| Operating mode          | Plastic fiber                   |
| Fiber-optic type        | plastic                         |
| Light type              | Red                             |
| Wavelength              | 660 nm                          |
| <b>Electrical data</b>  |                                 |
| Operating voltage $U_a$ | 12...250 VDC                    |
| Operating voltage $U_a$ | 24...250VAC                     |
| Output function         | NO contact, Relay output        |
| Switching frequency     | $\leq 33$ Hz                    |
| Readiness delay         | $\leq 100$ ms                   |
| Response time typical   | $< 2$ ms                        |
| Setting option          | Potentiometer                   |
| <b>Mechanical data</b>  |                                 |
| Design                  | Rectangular, Q45                |
| Housing material        | Plastic, Thermoplastic material |
| Lens                    | plastic, Acrylic                |
| Electrical connection   | Cable, 2 m, PVC                 |
| Number of cores         | 4                               |
| Core cross-section      | 0.34 mm <sup>2</sup>            |
| Ambient temperature     | -25...+55 °C                    |
| Relative humidity       | 0...90%                         |
| Protection class        | IP67                            |
| <b>Special features</b> |                                 |
|                         | keep/defer                      |
|                         | Wash down                       |
| Power-on indication     | LED, Green                      |
| Switching state         | LED, Yellow                     |
| Error indication        | LED, green                      |
| Excess gain indication  | LED, red                        |

- Cable, PVC, 2 m
- Protection class IP67
- Sensitivity adjusted via potentiometer
- Adapter set PFK-B for connecting plastic optical fibers are available separately
- Operating voltage: 12...250 VDC or 24...250 VAC
- Relay output, NO (SPST)
- Light or dark operation, adjusted via selector switch

#### Wiring Diagram



#### Functional principle

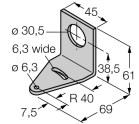
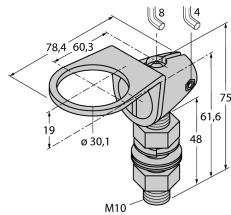
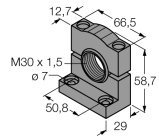
Glass or fibre optic sensors are the optimum choice for high temperature or space restricted applications. Fibre optics transfer the light from the sensor to a remote object. Individual fibre optics are used for opposed mode sensing, whereas bifurcated fibre optics are suited for retro-reflective or diffuse mode operation.

#### Excess gain curve

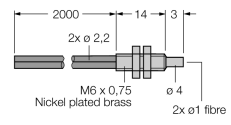
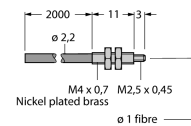
Excess gain in relation to the distance

| Tests/approvals |                                          |
|-----------------|------------------------------------------|
| MTTF            | 67 years acc. to SN 29500 (Ed. 99) 40 °C |
| Approvals       | CE, cURus, CSA                           |

## Accessories

| Type code  | Ident no. |                                                                                                  | Dimension drawing                                                                    |
|------------|-----------|--------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| SMB30A     | 3032723   | Mounting bracket, rectangular, stainless steel, for sensors with 30mm thread                     |   |
| SMB30FAM10 | 3011185   | Mounting bracket, stainless steel, for M10 x 1.5 thread, thread length 30 mm                     |   |
| SMB30SC    | 3052521   | Mounting bracket, PBT black, for sensors with 30 mm thread, rotatable                            |  |
| PFK-B      | 3093520   | Adapter set with 4 adapters per set to connect plastic optical fibers to Q45 fiber-optic sensors |                                                                                      |

## Function accessories

| Type code | Ident no. |                                                                                                                                                                                         | Dimension drawing                                                                     |
|-----------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| 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 |  |
| 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  |  |