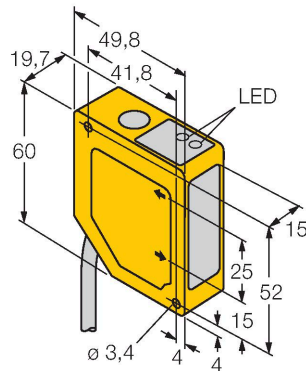


**Q50BI**

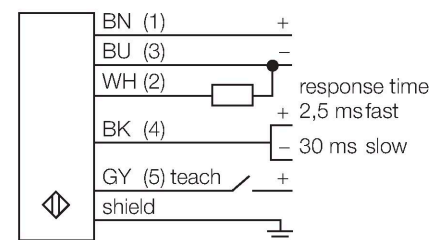
## Photoelectric Sensor – Triangulation Sensor with Analog Output



## Features

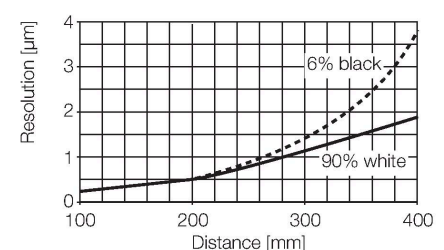
- Foreground and background suppression
- Operating range 100...400 mm
- 2 m cable, 5-pole
- Operating voltage 15...30 VDC
- Analog current output 4...20 mA
- Selectable output response of 4 ms (fast) and 64 ms (slow)

## Wiring diagram



## Functional principle

The function principle of the Q50 is based on optical triangulation. The emitter and the optics create a light source that is directed towards a target. The target reflects the light back to the receiver lens of the sensor, from where it then falls onto the position sensitive device (PSD) . The target's distance from the receiver determines the angle at which the light meets the receiver element. The integrated microprocessor uses this angle to analyse the target position and to create a corresponding output signal.



## Technical data

|                        |                            |
|------------------------|----------------------------|
| Type                   | Q50BI                      |
| ID                     | 3063865                    |
| Optical data           |                            |
| Function               | Proximity switch           |
| Operating mode         | Triangulation              |
| Light type             | IR                         |
| Wavelength             | 880 nm                     |
| Repeatability          | 1 mm                       |
| Range                  | 100...400 mm               |
| Ambient light immunity | 10000 lux                  |
| Electrical data        |                            |
| Operating voltage      | 15...30 VDC                |
| No-load current        | ≤ 70 mA                    |
| Output function        | Analog output              |
| Type of analog output  | 4...20 mA                  |
| Current output         | 4...20 mA                  |
| Readiness delay        | ≤ 2 s                      |
| Readiness delay        | ≤ 2000 ms                  |
| Response time typical  | < 4 ms                     |
| Mechanical data        |                            |
| Design                 | Rectangular, Q50           |
| Dimensions             | 49.8 x 19.7 x 60 mm        |
| Housing material       | Plastic, ABS/Polycarbonate |
| Lens                   | plastic, Acrylic           |
| Electrical connection  | Cable, 2 m, PVC            |
| Number of cores        | 5                          |

## Technical data

|                     |                     |
|---------------------|---------------------|
| Core cross-section  | 0.5 mm <sup>2</sup> |
| Ambient temperature | -10...+55 °C        |
| Relative humidity   | 90 %                |
| Protection class    | IP67                |
| Tests/approvals     |                     |