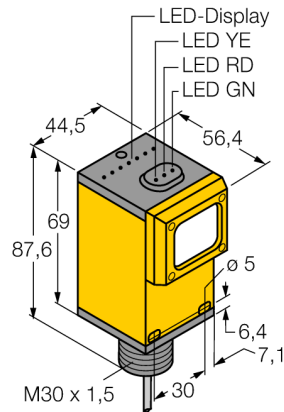


# Photoelectric Sensor

## Diffuse Mode Sensor

### Q45BW22DL W/30



|                         |                                          |
|-------------------------|------------------------------------------|
| Type                    | Q45BW22DL W/30                           |
| ID                      | 3038479                                  |
| <b>Optical data</b>     |                                          |
| Function                | Proximity switch                         |
| Operating mode          | Diffuse                                  |
| Light type              | IR                                       |
| Wavelength              | 880 nm                                   |
| Range                   | 0...1800 mm                              |
| <b>Electrical data</b>  |                                          |
| Operating voltage $U_a$ | 90...250VAC                              |
| No-load current $I_o$   | ≤ 50 mA                                  |
| Output function         | NO contact, Relay output                 |
| Readiness delay         | ≤ 100 ms                                 |
| Response time typical   | < 2 ms                                   |
| Setting option          | Potentiometer                            |
| <b>Mechanical data</b>  |                                          |
| Design                  | Rectangular, Q45                         |
| Dimensions              | Ø 30 x 56.4 x 44.5 x 87.6 mm             |
| Housing material        | Plastic, Thermoplastic material          |
| Lens                    | plastic, Acrylic                         |
| Electrical connection   | Cable, 9 m, PVC                          |
| Number of cores         | 3                                        |
| Core cross-section      | 0.34 mm <sup>2</sup>                     |
| Ambient temperature     | -40...+70 °C                             |
| Protection class        | IP67                                     |
| <b>Special features</b> |                                          |
| Power-on indication     | LED, Green                               |
| Switching state         | LED, Yellow                              |
| Error indication        | LED, green                               |
| Excess gain indication  | LED, red                                 |
| <b>Tests/approvals</b>  |                                          |
| MTTF                    | 67 years acc. to SN 29500 (Ed. 99) 40 °C |
| Approvals               | CE, cURus, CSA                           |

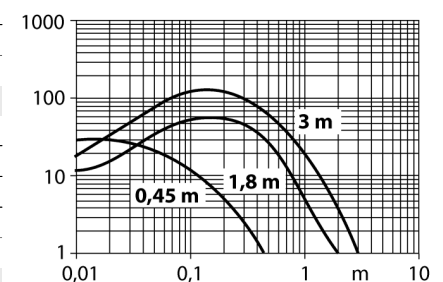
- Cable, PVC, 2 m
- Protection class IP67
- Sensitivity adjusted via potentiometer
- Operating voltage: 90...250 VAC
- Relay output, NO (SPST)
- Light or dark operation, adjusted via selector switch

#### Functional principle

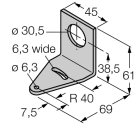
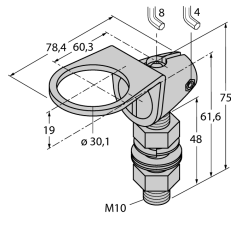
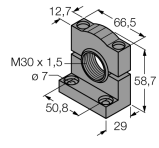
Like retroreflective sensors, diffuse mode sensors also contain emitter and receiver circuitry in the same housing. However, diffuse mode sensors do not detect the interruption of the light beam but the reflection of the object. An object is detected if it reflects sufficient light back to the receiver. The switching distance of diffuse mode sensors thus largely depends on the object's reflectivity. This type of sensor is especially suited for detection of transparent objects (diffuse mode sensor with or without background suppression or convergent mode sensors).

#### Excess gain curve

Excess gain in relation to distance



## 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        |  |