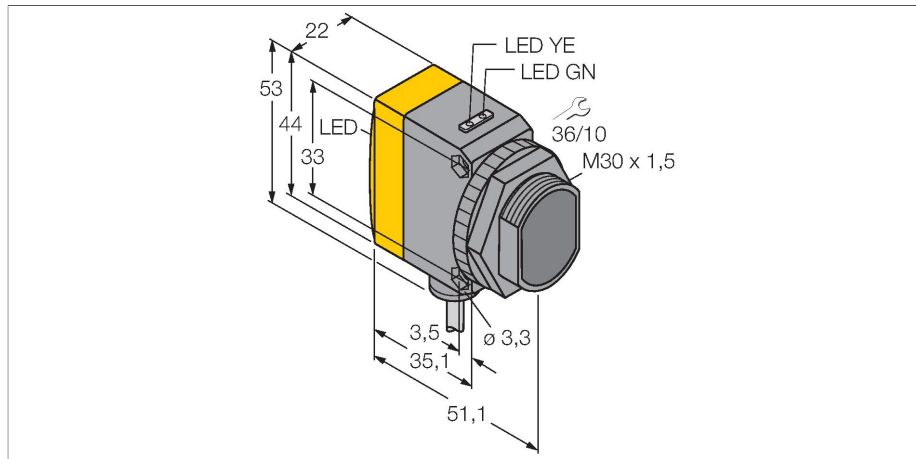


# QS30AFQPMA

## Photoelectric Sensor – Diffuse Mode Sensor with Adjustable Background Suppression



### Technical data

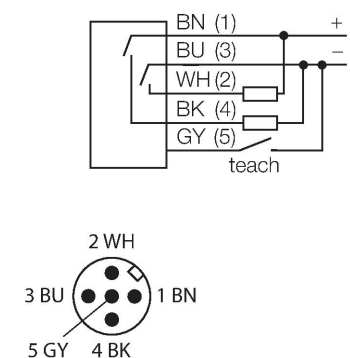
|                              |                                         |
|------------------------------|-----------------------------------------|
| Type                         | QS30AFQPMA                              |
| ID no.                       | 3072101                                 |
| <b>Optical data</b>          |                                         |
| Function                     | Proximity switch                        |
| Operating mode               | Background suppression, adjustable      |
| Light type                   | Red                                     |
| Wavelength                   | 660 nm                                  |
| Range                        | 50...300 mm                             |
| <b>Electrical data</b>       |                                         |
| Operating voltage            | 10...30 VDC                             |
| Residual ripple              | < 10 % U <sub>ss</sub>                  |
| DC rated operational current | ≤ 150 mA                                |
| No-load current              | ≤ 45 mA                                 |
| Short-circuit protection     | yes                                     |
| Reverse polarity protection  | yes                                     |
| Output function              | NO contact, PNP/NPN                     |
| Switching frequency          | ≤ 500 Hz                                |
| Readiness delay              | ≤ 250 ms                                |
| Response time typical        | < 1 ms                                  |
| Setting option               | Push Button<br>Remote Teach             |
| <b>Mechanical data</b>       |                                         |
| Design                       | Rectangular with thread, QS30           |
| Dimensions                   | Ø 30 x 35 x 22 x 53 mm                  |
| Housing material             | Plastic, Thermoplastic material, Yellow |
| Lens                         | plastic, Acrylic                        |



### Features

- Cable with male end M12 × 1, 5-pin, PUR, 150 mm
- Protection class IP67
- LED, all-round visible
- Cut-off point adjusted via teach button
- Operating voltage: 10...30 VDC
- Switching output, bipolar
- Light or dark operation

### Wiring diagram



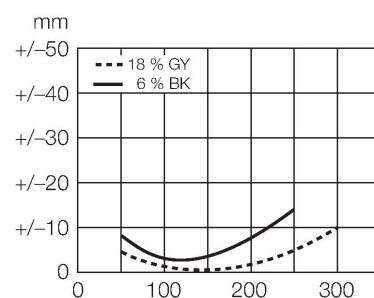
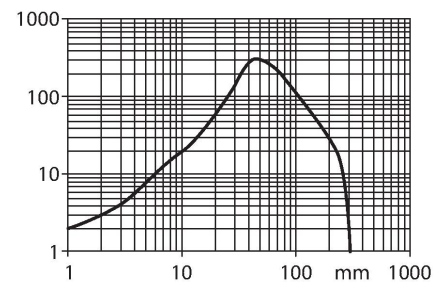
### Functional principle

Diffuse mode sensors with background suppression operate with a single emitter and several receiver elements. The target's position and the optical structure of the sensor determine which receiver element gets the most light. The sensor electronics then determines whether the reflecting target is in or outside the measuring range. The sensors are available with adjustable or fixed cut-off point.

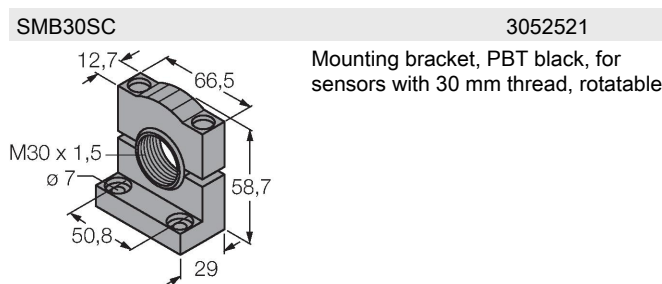
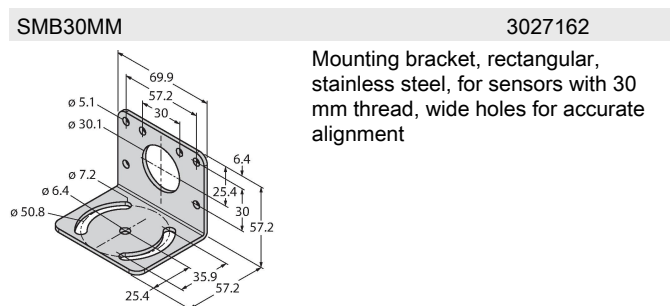
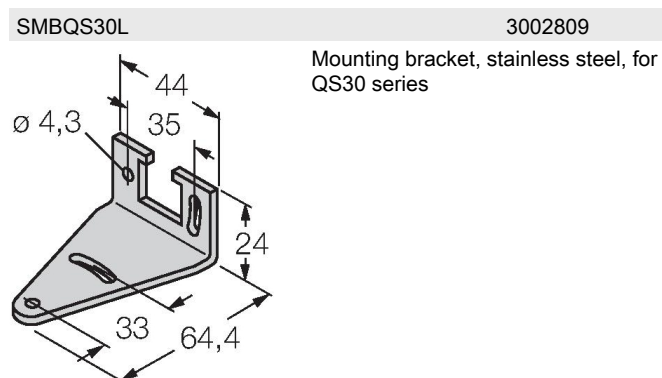
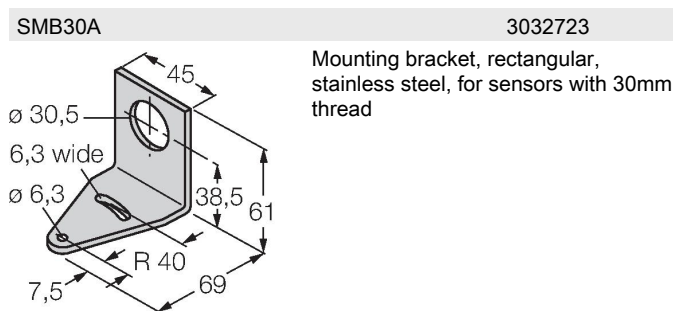
Excess gain curve  
Excess gain in relation to distance

## Technical data

|                        |                                            |
|------------------------|--------------------------------------------|
| Electrical connection  | Cable with connector, M12 × 1, 0.15 m, PUR |
| Number of cores        | 5                                          |
| Ambient temperature    | -10...+55 °C                               |
| Protection class       | IP67                                       |
| Special features       | keep/defer                                 |
| Power-on indication    | LED, Green                                 |
| Switching state        | LED, Yellow                                |
| Error indication       | LED, green, Flashing                       |
| Excess gain indication | Bargraph, red, flashing                    |
| <b>Tests/approvals</b> |                                            |
| Approvals              | CE                                         |



## Accessories



Accessories

| Dimension drawing                                                                 | Type          | ID no.  |                                                                                                                                                                                                                  |
|-----------------------------------------------------------------------------------|---------------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | WKC4.5T-2/TEL | 6625028 | Connection cable, female M12, angled, 5-pin, cable length: 2 m, sheath material: PVC, black; cULus approval; other cable lengths and qualities available, see <a href="http://www.turck.com">www.turck.com</a>   |
|  | RKC4.5T-2/TEL | 6625016 | Connection cable, female M12, straight, 5-pin, cable length: 2 m, sheath material: PVC, black; cULus approval; other cable lengths and qualities available, see <a href="http://www.turck.com">www.turck.com</a> |