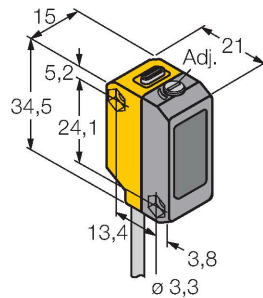


# QS18VN6AF100

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



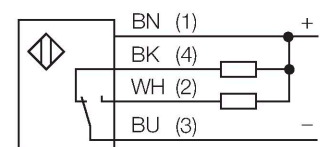
### Technical data

|                              |                                    |
|------------------------------|------------------------------------|
| Type                         | QS18VN6AF100                       |
| ID                           | 3065500                            |
| <b>Optical data</b>          |                                    |
| Function                     | Proximity switch                   |
| Operating mode               | Background suppression, adjustable |
| Light type                   | Red                                |
| Wavelength                   | 640 nm                             |
| Range                        | 1...100 mm                         |
| <b>Electrical data</b>       |                                    |
| Operating voltage            | 10...30 VDC                        |
| Residual ripple              | < 10 % U <sub>ss</sub>             |
| DC rated operational current | ≤ 100 mA                           |
| Short-circuit protection     | yes                                |
| Reverse polarity protection  | yes                                |
| Output function              | NO/NC, NPN                         |
| Switching frequency          | ≤ 700 Hz                           |
| Readiness delay              | ≤ 200 ms                           |
| Response time typical        | < 0.7 ms                           |
| Setting option               | Mechanical Screw                   |
| <b>Mechanical data</b>       |                                    |
| Design                       | Rectangular, QS18                  |
| Dimensions                   | 21.1 x 15 x 34.5 mm                |
| Housing material             | Plastic, ABS                       |
| Lens                         | plastic, Acrylic                   |
| Electrical connection        | Cable, 2 m, PVC                    |
| Number of cores              | 4                                  |

### Features

- Cable, PVC, 2 m
- Protection class IP67
- LED all-round visible
- Cut-off point adjusted via potentiometer
- Operating voltage: 10...30 VDC
- NPN switching output, changeover

### Wiring diagram



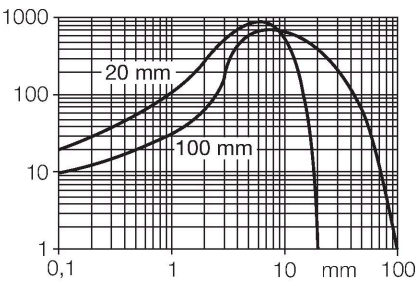
### Functional principle

Diffuse mode sensors with background suppression operate with a single emitter and several receiver elements, one for close range and one for long-range. The target position and the photoelectric structure of the sensor determine which of the receiving elements receives the most light. The optics before the receiver is modified with the adjusting screw until the boundary between close and long-range is shifted. This operation determines whether the reflecting object is within or outside the measuring range.

Excess gain curves relating to the nearest and farthest cut-off point

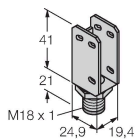
Technical data

|                        |                                           |
|------------------------|-------------------------------------------|
| Core cross-section     | 0.35 mm²                                  |
| Ambient temperature    | 0...+55 °C                                |
| Protection class       | IP67                                      |
| Power-on indication    | LED, Green                                |
| Switching state        | LED, Yellow                               |
| Error indication       | LED, green, Flashing                      |
| Excess gain indication | LED, yellow, flashing                     |
| Tests/approvals        |                                           |
| MTTF                   | 268 years acc. to SN 29500 (Ed. 99) 40 °C |
| Approvals              | CE, cURus                                 |



Accessories

|                                                     |         |
|-----------------------------------------------------|---------|
| SMBQS18A                                            | 3069721 |
| Mounting bracket, stainless steel, for 18 mm thread |         |



|                                                     |         |
|-----------------------------------------------------|---------|
| SMBQS18AF                                           | 3067467 |
| Mounting bracket, stainless steel, for 18 mm thread |         |

