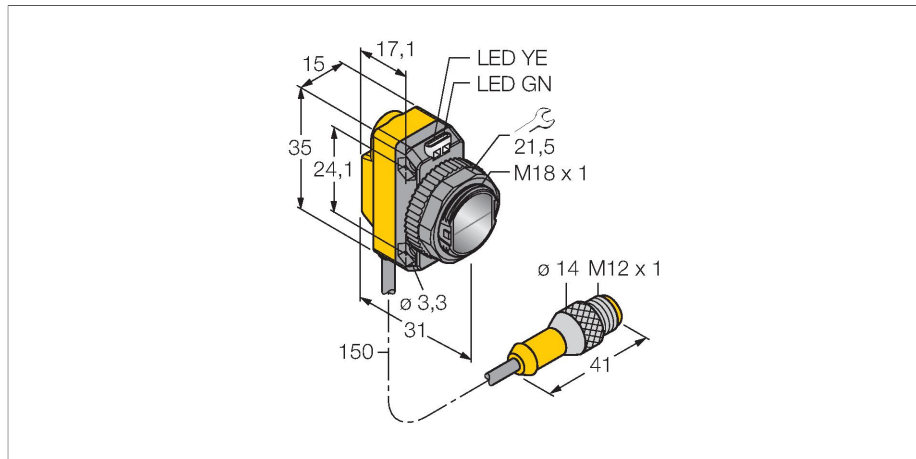


# QS18VP6FF150Q5

## Photoelectric Sensor – Diffuse Mode Sensor with Fixed-Field Background Suppression



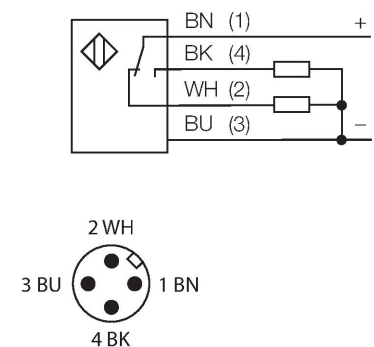
### Technical data

|                              |                                            |
|------------------------------|--------------------------------------------|
| Type                         | QS18VP6FF150Q5                             |
| ID                           | 3801160                                    |
| <b>Optical data</b>          |                                            |
| Function                     | Proximity switch                           |
| Operating mode               | Background suppression, non-adjustable     |
| Light type                   | Red                                        |
| Wavelength                   | 632 nm                                     |
| Range                        | 0...150 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, PNP                                 |
| Current output               | 100 mA                                     |
| Switching frequency          | ≤ 625 Hz                                   |
| Readiness delay              | ≤ 100 ms                                   |
| Response time typical        | < 0.85 ms                                  |
| <b>Mechanical data</b>       |                                            |
| Design                       | Rectangular with thread, QS18              |
| Dimensions                   | 31 x 15 x 35 mm                            |
| Housing material             | Plastic, ABS                               |
| Lens                         | plastic, Acrylic                           |
| Electrical connection        | Cable with connector, M12 × 1, 0.15 m, PVC |

### Features

- Cable with male end, M12 × 1, 4-pin, PVC, 150 mm
- Protection class IP67
- LED all-round visible
- Operating voltage: 10...30 VDC
- PNP switching output, changeover

### Wiring diagram



### Functional principle

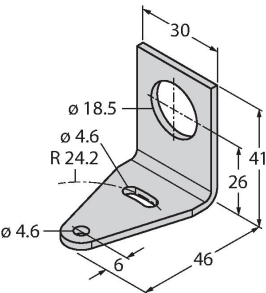
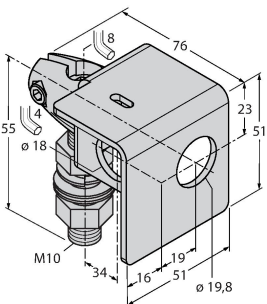
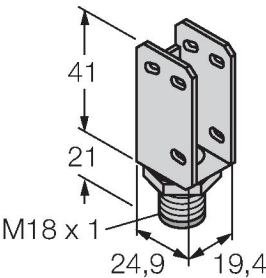
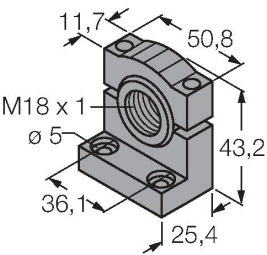
Diffuse mode sensors with background suppression operate with a single emitter and several receiver elements. The target position and the photoelectric structure of the sensor determine which of the receiving elements receives the most light. The sensor electronics determine whether the reflecting object is within or outside the measuring range. These sensors come with a fixed cut-off point.

Excess gain curve  
Excess gain in relation to the distance

## Technical data

|                        |                                           |
|------------------------|-------------------------------------------|
| Number of cores        | 4                                         |
| Ambient temperature    | -20...+70 °C                              |
| Protection class       | IP67                                      |
| Power-on indication    | LED, Green                                |
| Switching state        | LED, Yellow                               |
| Error indication       | LED, green, Flashing                      |
| Excess gain indication | LED, yellow, flashing                     |
| <b>Tests/approvals</b> |                                           |
| MTTF                   | 965 years acc. to SN 29500 (Ed. 99) 40 °C |
| Approvals              | CE, cURus                                 |

## Accessories

|                                                                                                        |                                                                                                 |                                                                                                           |                                                                                                   |
|--------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| <b>SMB18A</b><br>    | <b>3033200</b><br>Mounting bracket, rectangular, stainless steel, for sensors with 18 mm thread | <b>SMB18AFAM10</b><br> | <b>3012558</b><br>Mounting bracket, material VA 1.4401, for M10 x 1.5 thread, thread length 18 mm |
| <b>SMBQS18A</b><br> | <b>3069721</b><br>Mounting bracket, stainless steel, for 18 mm thread                           | <b>SMB18SF</b><br>    | <b>3052519</b><br>Mounting bracket, PBT black, for sensors with 18 mm thread, rotatable           |