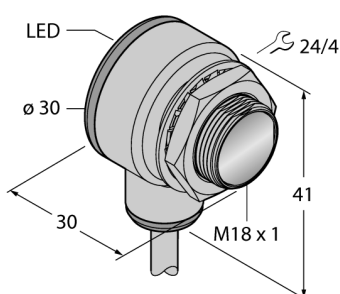


# Photoelectric Sensor

## Diffuse Mode Sensor with Fixed-Field Background Suppression

### TM18VP6FF25



|      |             |
|------|-------------|
| Type | TM18VP6FF25 |
| ID   | 3042037     |

|                |                                        |
|----------------|----------------------------------------|
| Optical data   |                                        |
| Function       | Proximity switch                       |
| Operating mode | Background suppression, non-adjustable |
| Light type     | Red                                    |
| Wavelength     | 660 nm                                 |
| Range          | 0...25 mm                              |

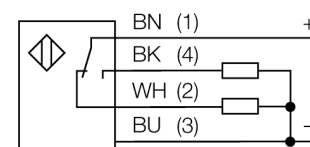
|                             |                            |
|-----------------------------|----------------------------|
| Electrical data             |                            |
| Operating voltage $U_a$     | 10...30 VDC                |
| No-load current $I_0$       | ≤ 25 mA                    |
| Short-circuit protection    | yes/Cyclic                 |
| Reverse polarity protection | yes                        |
| Output function             | Complementary contact, PNP |
| Switching frequency         | ≤ 220 Hz                   |
| Readiness delay             | ≤ 100 ms                   |
| Response time typical       | < 3 ms                     |

|                       |                                          |
|-----------------------|------------------------------------------|
| Mechanical data       |                                          |
| Design                | Tube, TM18                               |
| Dimensions            | Ø 18 x 30 x 30 x 41 mm                   |
| Housing material      | Metal, Zinc Die-Cast with Nickel-Plating |
| Lens                  | plastic, Acrylic                         |
| Electrical connection | Cable, 2 m, PVC                          |
| Number of cores       | 4                                        |
| Core cross-section    | 0.5 mm <sup>2</sup>                      |
| Ambient temperature   | -40...+70 °C                             |
| Protection class      | IP67                                     |

|                        |                      |
|------------------------|----------------------|
| Special features       |                      |
| Power-on indication    | LED, Green           |
| Switching state        | LED, Yellow          |
| Error indication       | LED, green, Flashing |
| Excess gain indication | LED                  |
| Alarm display          | LED yellow Flashing  |

- Cable, 2 m
- Protection class IP67
- Ambient temperature: -40...+70 °C
- Metal housing
- Operating voltage: 10...30 VDC
- PNP switching output, light and dark operation

#### Wiring Diagram

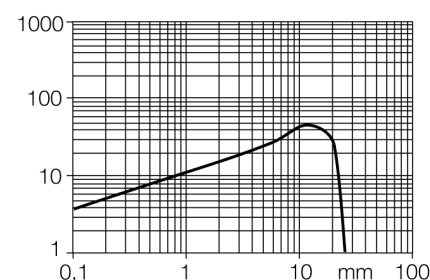


#### Functional principle

The emitter and receiver are incorporated in a single housing. The light reflection of the target is detected and triggers the sensor to switch. Thus the switching distance largely depends on the reflectivity of the target.

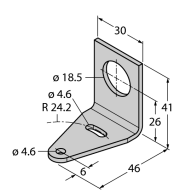
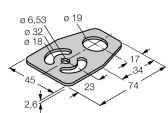
#### Excess gain curve

Excess gain in relation to the distance



| Tests/approvals |                                           |
|-----------------|-------------------------------------------|
| MTTF            | 448 years acc. to SN 29500 (Ed. 99) 40 °C |
| Approvals       | CE, UL                                    |

## Accessories

| Type code | Ident no. |                                                                                                         | Dimension drawing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------|-----------|---------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SMBT18Y   | 3069554   | mounting bracket, rectangular, for sensors with 18 mm thread, 15.3 mm cable feedthrough or M12 x 1 male |  <p>Technical drawing of the SMBT18Y mounting bracket. It is a rectangular bracket with a vertical flange. Dimensions include: top flange width 30 mm, total width 46 mm, vertical flange height 41 mm, mounting hole diameter <math>\varnothing 18.5</math>, bottom flange width 6 mm, and bottom flange thickness 2.6 mm. A cable feedthrough hole with diameter <math>\varnothing 4.6</math> and radius R 24.2 is also shown.</p> |
| SMB18A    | 3033200   | Mounting bracket, rectangular, stainless steel, for sensors with 18 mm thread                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| SMBAMS18P | 3073134   | Mounting bracket, stainless steel, for sensors with 18 mm thread                                        |  <p>Technical drawing of the SMBAMS18P mounting bracket. It is a rectangular bracket with two mounting holes. Dimensions include: total width 74 mm, total height 45 mm, mounting hole diameter <math>\varnothing 19</math>, hole spacing 34 mm, hole diameter <math>\varnothing 15</math>, and hole diameter <math>\varnothing 6.53</math>. A dimension of 23 mm is also indicated.</p>                                             |