

# TM18RP6RQ5

## Photoelectric Sensor – Opposed Mode Sensor (Receiver)

### Technical data

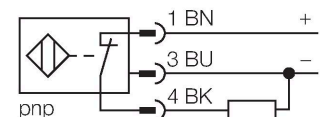
|                             |                                            |
|-----------------------------|--------------------------------------------|
| Type                        | TM18RP6RQ5                                 |
| ID                          | 3042056                                    |
| <b>Optical data</b>         |                                            |
| Function                    | Opposed mode sensor                        |
| Operating mode              | Receiver                                   |
| Range                       | 0...20000 mm                               |
| <b>Electrical data</b>      |                                            |
| Operating voltage           | 10...30 VDC                                |
| No-load current             | ≤ 25 mA                                    |
| Short-circuit protection    | yes / Cyclic                               |
| Reverse polarity protection | yes                                        |
| Output function             | NO contact, dark operation, PNP            |
| Switching frequency         | ≤ 440 Hz                                   |
| Readiness delay             | ≤ 100 ms                                   |
| Response time typical       | < 1.5 ms                                   |
| <b>Mechanical data</b>      |                                            |
| Design                      | Tube, TM18                                 |
| Dimensions                  | Ø 18 x 30 x 30 x 41 mm                     |
| Housing material            | Metal, Zinc Die-Cast with Nickel-Plating   |
| Lens                        | plastic, Polycarbonate                     |
| Electrical connection       | Cable with connector, M12 × 1, 0.15 m, PVC |
| Number of cores             | 4                                          |
| Core cross-section          | 0.5 mm <sup>2</sup>                        |
| Ambient temperature         | -40...+70 °C                               |
| Protection class            | IP67<br>IP69                               |
| Special features            | Encapsulated<br>Wash down                  |
| Power-on indication         | LED, Green                                 |
| Switching state             | LED, Yellow                                |
| Error indication            | LED, green, Flashing                       |
| Excess gain indication      | LED                                        |
| Alarm display               | LED yellow Flashing                        |
| <b>Tests/approvals</b>      |                                            |
| Approvals                   | CE, UL                                     |



### Features

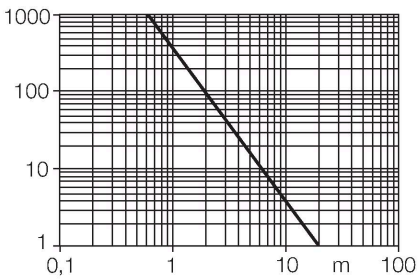
- Cable with male end M12 × 1, 4-pin, PUR, 150 mm
- Protection class IP67
- Ambient temperature: -40 °C...+70 °C
- Metal housing
- Operating voltage: 10...30 VDC
- PNP switching output, dark operation

### Wiring diagram



### Functional principle

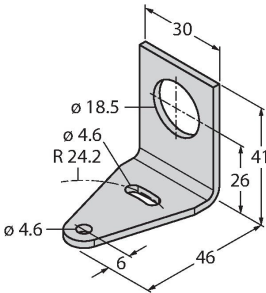
Opposed mode sensors consist of an emitter and receiver. They are installed opposite each other so that the light from the emitter is aimed directly at the receiver. When an object interrupts or weakens the light beam, the sensor switches. Opposed mode sensors are the most reliable photoelectric sensors for detection of opaque targets. An excellent contrast between light and dark conditions and an extremely high excess gain are typical of this sensing mode, thus allowing operation over larger distances and under difficult conditions. Excess gain curve  
Excess gain in relation to the distance



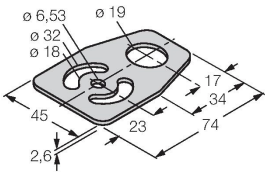
Accessories

|                                                                                                         |         |
|---------------------------------------------------------------------------------------------------------|---------|
| SMBT18Y                                                                                                 | 3069554 |
| mounting bracket, rectangular, for sensors with 18 mm thread, 15.3 mm cable feedthrough or M12 x 1 male |         |

|                                                                               |         |
|-------------------------------------------------------------------------------|---------|
| 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 |         |



Accessories

| Dimension drawing | Type          | ID      |                                                                                                                                                                                                                  |
|-------------------|---------------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                   | RKC4.4T-2/TEL | 6625013 | Connection cable, female M12, straight, 4-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> |
|                   | WKC4.4T-2/TEL | 6625025 | Connection cable, female M12, angled, 4-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>   |