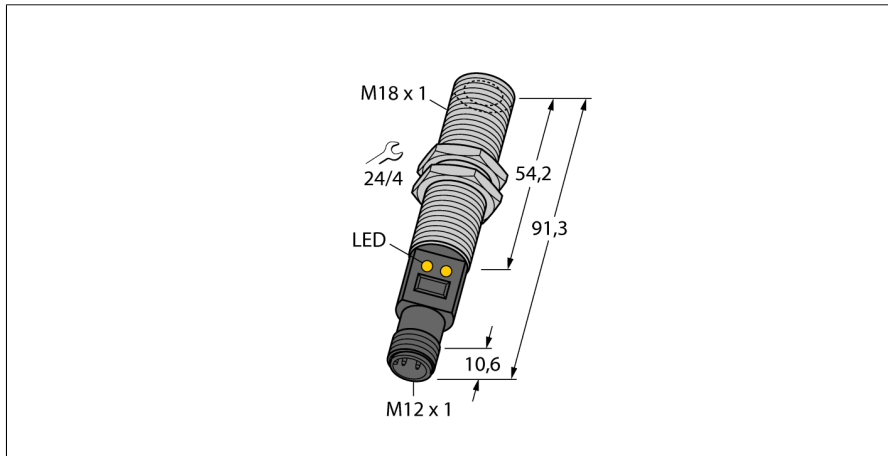
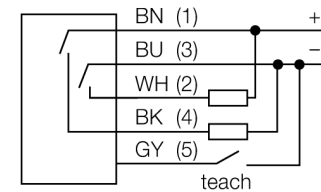


temperature sensors  
infrared sensor  
M18TB8Q



- connection via M12 x 1 connector
- D:S ratio 8:1
- Operating voltage 10...30 VDC
- Switchpoint adjustable via teach-in
- Temperature range 0...300°C

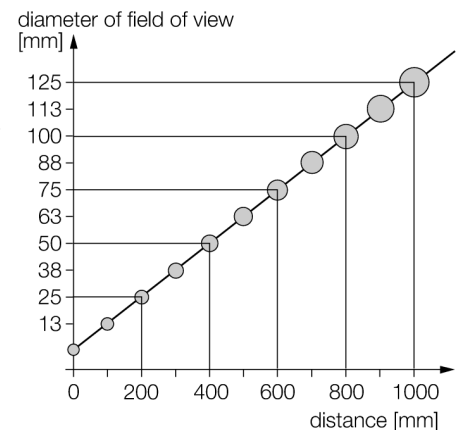
**Wiring diagram**



**Functional principle**

Temperature sensors are used in applications where temperatures for control and optimisation of processes must be captured and monitored. The sensor operates only as a receiver. The thermal radiation of an object within a wave length range of 8 to 14  $\mu\text{m}$  is transformed into an electrical signal via a thermopile and then further processed to become an output signal. Here the D:S (distance: spot) ratio is very important because it specifies the diameter of the spot at a defined distance. The sensor is optimally aligned, if the spot is completely covered by the object, whose temperature is to be monitored.

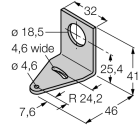
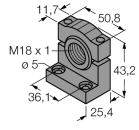
**D:S ratio**



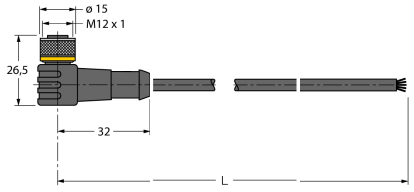
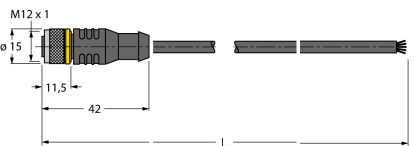
|                                |                               |
|--------------------------------|-------------------------------|
| <b>Type code</b>               | M18TB8Q                       |
| Ident no.                      | 3073646                       |
| <b>Operating mode</b>          | infrared sensor               |
| Ambient temperature            | -20...+70 °C                  |
| Temperature range              | ≥0...≤300 °C                  |
| Switching point accuracy       | ± 0.5 °C                      |
| <b>Operating voltage</b>       | 10...30VDC                    |
| DC rated operational current   | ≤ 100 mA                      |
| No-load current I <sub>0</sub> | ≤ 35 mA                       |
| Short-circuit protection       | yes/ cyclic                   |
| Reverse polarity protection    | yes                           |
| Output function                | NO contact, PNP/NPN           |
| Switching frequency            | ≤ 20 Hz                       |
| Readiness delay                | ≤ 1.5 s                       |
| <b>Design</b>                  | cylindrical/threaded, M18T    |
| Dimensions                     | 91.3 mm                       |
| Housing material               | stainless steel, V2A (1.4301) |
| Lens                           | plastic                       |
| Connection                     | male, M12 x 1                 |
| Protection class               | IP67                          |
| <b>Power-on indication</b>     | LED green                     |
| Switching state                | LED yellow                    |

temperature sensors  
infrared sensor  
M18TB8Q

**Accessories**

| Type code | Ident no. | Description  | Dimension drawing   |
|-----------|-----------|--|---|
| SMB18A    | 3033200   | Mounting bracket, stainless steel, for sensors with 18 mm thread   |  |
| SMB18SF   | 3052519   | Mounting bracket, PTB black steel, for sensors with 18 mm thread   |  |
| SMB18UR   | 3052517   | Mounting bracket, for wall mounting, stainless steel 300, 2-piece, rotatable, 18 mm bore hole, screw set included  |   |
| LAT1812   | 3074262   | Laser alignment aid, visible red, contains M12 laser emitter (laser class 2) and mounting bracket SMB1812, for sensors with 18 mm thread, 10 ... 30 VDC supply necessary |   |

**Wiring accessories**

| Type code     | Ident no. | Description  | Dimension drawing   |
|---------------|-----------|--|---|
| 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> |  |